MICHIGAN STATE
UNIVERSITY

ELECTRONIC BIDDING

PUBLICLY BID AND ADVERTISED
SPECIFICATION FOR

Central Services - Demolition

PROJECT NUMBER

CP24092

Friday, April 04, 2025

AT

MICHIGAN STATE UNIVERSITY
EAST LANSING, MICHIGAN

Infrastructure Planning and Facilities
Planning, Design and Construction

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SCHEDULE OF DRAWINGS

Project Title: **Central Services - Demolition**
Capital Project Number: **CP24092**
No. of Sheets: **12**

ADVERTISEMENT FOR BIDS

DATE: **March 28, 2025**

PROJECT TITLE: **Central Services - Demolition**

PROJECT NUMBER: **CP24092**

for

MICHIGAN STATE UNIVERSITY

located at

EAST LANSING, MICHIGAN

OWNER: BOARD OF TRUSTEES
MICHIGAN STATE UNIVERSITY

ENGINEER/ARCHITECT: PLANNING, DESIGN AND CONSTRUCTION
Infrastructure Planning and Facilities
Michigan State University

DESIGN REPRESENTATIVE: **Jason VanZee** **PHONE: 517-432-2675**

PROJECT MANAGER: **Jason VanZee** **PHONE: 517-432-2675**

Fishbeck
5913 Executive Drive
Lansing, MI **48911**

BID DUE DATE: Until **3:00 p.m.** on **Friday, May 16, 2025**, the Owner will receive bids for the work as set forth in the Bidding Documents at via the Owner's Oracle Primavera Unifier Bid Manager, at which time and place all proposals will be publicly opened. Bidders are responsible for properly registering for this process, and familiarizing themselves with the system and its requirements. Registration information can be found at https://ipf.msu.edu/construction/partners/prospective-partners.

Proposals are invited for the following work:
Proposal 1 – General Construction Work

This project involves the furnishing of all labor, materials, services, equipment, and insurance to complete the following as shown on drawing and specified herein: This project involves full building remediation and demolition, site and utility demolition, debris removal, recycling of acceptable materials, concrete pavement/curb/gutter removal, shrub removal, stump removal, earthwork, building and other disturbed site sand backfill, site restoration, new concrete curb/gutter pavement installations, asphalt pavement installations, site grading and topsoil hauling from owners stockpile and rough grade placement. Utility removal, demolition, abandonment and reconnection not being performed by the Owner or others, site fencing for construction and permanent installations.

Publicly Bid and Advertised: This project is publicly bid and advertised.

The substantial construction completion date for the project, as set forth in the project manual and drawings is **September 26, 2025**. See applicable start date and interim completion dates in the General Requirements (Division One) – Part 1 Work Sequence section.

LIQUIDATED DAMAGES:
☐ Shall, or ☒ Shall not be assessed for Substantial Completion at:
$_____PER DAY

☐ Shall, or ☒ Shall not be assessed for Final Completion at:
$_____PER DAY

EXCLUSIONS FROM MUTUAL WAIVERS OF CONSEQUENTIAL DAMAGES:
DEFAULT IS NONE. (If exclusions apply, project team to insert applicable exclusions below).

_____

The complete set of documents is also available for viewing through our new MSU Plan Room or via the MSU Planning, Design and Construction (PDC) web page at https://ipf.msu.edu/construction/partners/prospective-partners and then select “dedicated plan room”.

PLAN ROOMS

The Bidding documents are on file and may be examined at the following locations during regular business hours, Monday through Friday:

Builders Exchange of Lansing &
Central Michigan
1240 East Saginaw
Lansing, MI 48906

Dodge Data & Analytics
25330 Telegraph Road, Suite 350
Southfield, MI 48009

Dodge Data & Analytics
914 E. Vine Street
Kalamazoo, MI 49001

Dodge Data & Analytics
1311 South Linden Road, Suite B
Flint, MI 48532

Builders Exchange
P.O. Box 2031
Grand Rapids, MI 49501

Tri-City Builders & Traders Exchange
334 South Water
Saginaw, MI 48607

Construction Association of Michigan
43636 Woodward Avenue
P. O. Box 3204
Bloomfield Hills, MI 48302-3204

Builders Exchange
3431 East Kilgore
Kalamazoo, MI 49001

CNS Construction News Service
of West Michigan, Inc.
1793 R. W. Berends Dr. SW.
Wyoming, MI 49509-4993

MMSDC Michigan Minority Supplier
Development Council.
100 River Place STE 300
Detroit, MI 48207

Builders Exchange of NW MI, Inc.
1373 Barlow St. , Suite 4
Traverse City, MI 49686

Capital Imaging
2521 East Michigan Avenue
Lansing, MI 48912

A pre-bid site inspection will be held on **Thursday, April 17, 2025** at **2:00 p.m.**. All interested Contractors or Bidders are encouraged to attend. Interested parties should meet at the **Central Services Building West Loading Dock**. All Contractors submitting bids for the work will be held to have visited the site prior to submitting bids.

Each proposal shall be accompanied by a bid security as set forth in the Instructions to Bidders.

The Owner reserves the right to reject any or all proposals either in whole or in part and to waive any irregularities.

Withdrawal of any proposal is prohibited for a period of 120 days after the actual date of the opening thereof.

Performance and Labor and Material Bonds are required as set forth in the Instructions to Bidders.

All prospective Bidders, their Subcontractors and suppliers must be awardable by and in compliance with the directives and guidelines of the Contract Compliance Division of the Michigan Civil Rights Commission.

SUBCONTRACTING AND SUPPLIER DIVERSITY

The University makes a continuous effort to broaden its business relationships with Minority Business Enterprise (MBE) contractors, Women Business Enterprise (WBE) contractors, and small business concerns (including veteran-owned small business, service-disabled veteran owned small business, HUB Zone small business, and small disadvantaged business concerns certified by the U.S. Small Business Administration). For the purposes of this provision, suppliers are considered subcontractors. If third parties are needed to fulfill contractual obligations to the University, you are strongly encouraged to consider all qualified sources, including WBE, MBE, and small business subcontractors. For purposes of this paragraph, MBE is defined as a business enterprise of which more than 50% of the voting shares or interest in the business is owned, controlled, and operated by individuals who are members of a minority and with respect to which more than 50% of the net profit or loss attributable to the business accrues to shareholders who are members of a minority. WBE is defined as a business enterprise of which more than 50% of the voting shares or interest in the business is owned, controlled, and operated by women and with respect to which more than 50% of the net profit or loss attributable to the business accrues to the women shareholders.

The apparent Low Bidder shall, within 24 hours, after receipt of bids, provide the names of any MBE/WBE/small business subcontractors, description of work to be done by each, dollar value of work, and percentage of contract price. This information shall be included with the contract breakdown specified in Section 012000.1.4 of the specifications.

The Michigan State University Purchasing Department maintains a list of known Minority and Women Business Enterprises in the region for informational purposes. Bidders can obtain a copy of this list by calling (517) 355-0357. This list is not intended to be comprehensive. Similarly, it does not constitute an endorsement or certification of acceptability of the contractors and vendors included.

INSTRUCTION TO BIDDERS

ARTICLE 1

DEFINITIONS

1.1 Bidding Documents include the Advertisement or Invitation to Bid, Instruction to Bidders, the Bid Form, other sample bidding and Contract forms and the proposed Contract Documents including any Addenda issued prior to receipt of Bids.

1.2 All definitions set forth in ConsensusDocs 200- Standard Agreement and General Conditions Between Owner and Constructor (as modified by MSU) and in other Contract Documents are applicable to the Bidding Documents.

1.3 **Addenda** are written or graphic instruments, issued by the Architect prior to the receipt of Bids, which modify or interpret the Bidding Documents by addition, deletions, clarifications or corrections.

1.4 A **Bid** is a complete and properly signed proposal to do the Work or designated portion thereof, for the sums stipulated therein, supported by data called for by the Bidding Documents.

1.5 **Base Bid** is the sum stated in the Bid for which the Bidder offers to perform the Work described as the base, to which Work may be added or deducted for sums stated in Alternate Bids.

1.6 An **Alternate Bid** (or Alternate) is an amount stated in the Proposal to be added to or deducted from the amount of the Base Bid if the corresponding change in project scope or materials or methods of construction described in the Bidding Documents is accepted.

1.7 A **Unit Price** is an amount stated in the Bid as a price per unit of measurement for materials or services as described in the Contract Documents.

1.8 A **Bidder** is one who submits a Bid for a prime Contract with the Owner for the Work described in the proposed Contract Documents.

1.9 A **Sub-bidder** is one who submits a Bid to a Bidder for materials or labor for a portion of the Work.

1.10 **Bid Manager** is the Oracle Primavera Unifier Bid Manager application used by the Owner to receive competitive bids for this project. The Bid Manager is an electronic platform.

ARTICLE 2

BIDDER'S REPRESENTATION

2.1 Each Bidder, by making his/her Bid, represents that:

2.1.1 They have read and understand the Bidding Documents and their Bid is made in accordance therewith.

2.1.2 They have visited the site and are familiar with the local conditions under which the Work is to be performed.

2.1.3 Their Bid is based upon the materials, systems and equipment described in the Bidding Documents, without exceptions.

ARTICLE 3

BIDDING DOCUMENTS

3.1 COPIES

3.1.1 Bidders may obtain complete sets of the Bidding Documents via the MSU PLANNING, DESIGN AND CONSTRUCTION web page at https://ipf.msu.edu/construction/partners/prospective-partners, or as outlined in the Advertisement for Bids, page AB-2.

3.1.2 Complete sets of Bidding Documents shall be used in preparing Bids; neither the Owner nor the Architect assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

3.1.3 The Owner or Architect, in making copies of the Bidding Documents available on the above terms, does so only for the purpose of obtaining Bids on the Work and does not confer a license or grant for any other use.

3.2 INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

3.2.1 Bidders shall promptly notify the Architect of any ambiguity, inconsistency or error which they may discover upon examination of the Bidding Documents or of the site and local conditions.

3.2.2 Bidders requiring clarification or interpretation of the Bidding Documents shall make a written request to be received by the Architect at least fourteen days prior to the date for receipt of Bids.

3.2.3 Any interpretation, correction or change of the Bidding Documents will be made by Addendum. Interpretations, corrections or changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon such interpretations, corrections and changes.

3.3 SUBSTITUTIONS

3.3.1 The materials, products and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution.

3.3.2 No substitution will be considered unless written request for approval has been submitted by the Bidder and has been received by the Architect at least fourteen days prior to the date for receipt of Bids. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including drawings, cuts, performance and test data, and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or work that incorporation of the substitute would require shall be included. It is the burden of the bidder proposing the substitution to establish its merits. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

3.3.3 If the Architect approves any proposed substitution, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.

3.4 ADDENDA

3.4.1 The Architect and Owner will endeavor to notify all known plan holders of addenda issued, but it is the Bidder's responsibility to verify receipt of all addenda.

3.4.2 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

3.4.3 Normally Addenda will not be issued later than five days prior to the date for receipt of Bids except an Addendum, if necessary, postponing the date for receipt of Bids or withdrawing the request for Bids.

3.4.4 Each Bidder shall ascertain prior to submitting their Bid that they have received all Addenda issued, and receipt of all Addenda shall be acknowledged on their bid.

ARTICLE 4

BIDDING PROCEDURE

4.1 FORM AND STYLE OF BIDS

4.1.1 Bidders will receive an invitation from Oracle Primavera Unifier to the Bid Manager.

4.1.2 Bids shall be submitted via the Bid Manager on the form specified.

4.1.3 All fields on the Bid Specification shall be completed within the Bid Manager.

4.1.4 All requested Alternates shall be listed and quoted in the Bid Manager. Failure to quote a requested Alternate will be cause to reject the Bid.

4.1.4.1 If an alternate is added via Addendum, bidders will include by [adding new line to bid form, clearly labeling ALTERNATE X(x being the number)] or [providing pricing on an attachment, also clearly labeling pricing for Alternate.]

4.1.5 All requested Unit Prices shall be listed and quoted via attachment in the Bid Manager. Failure to quote a requested Unit Price will be cause to reject the Bid.

4.1.6 Acknowledge the receipt of the last Addendum on the Bid Form. By acknowledging this addendum, Bidder also acknowledges receipt of all prior consecutive addenda (e.g., acknowledging Addendum 3 also acknowledges Addendum 1 and 2).

4.1.7 Bidder shall make no additional stipulations on the Bid Form nor qualify its Bid in any manner.

4.1.8 By submitting a Bid via the Bid Manager, the Bidder has committed the offer to perform the Work. The Owner will rely on this document as properly signed by the Bidder. The Owner may rely on this commitment, including submitting a claim on the Bidder's Bid Bond if they fail to enter into a contract per the project manual.

4.2 BID SECURITY

4.2.1 Any base bid greater than $50,000 shall be accompanied by a Bid Security in the form of a bid bond made payable to the Board of Trustees, Michigan State University, in the amount of not less than five percent (5%) of the Base Bid, as a proposal guarantee, pledging that the Bidder will enter into a Contract with the Owner on the terms stated in its Bid, and will furnish bonds as described hereunder in Article 8 covering the faithful performance of the Contract and the payment of all obligations arising thereunder. Bidder shall attach a scanned copy of the bid bond to the bid in Unifier Bid Manager.

As an alternative to a bid bond, Bidders may provide certified check, cashiers' check, or money order made payable to the Board of Trustees, Michigan State University, in the amount of not less than five percent (5%) of the Base Bid, to be delivered to MSU Infrastructure Planning and Facilities, 1147 Chestnut Road, Room 101, East Lansing, MI 48824. The proposal guarantee of Bidders under consideration will be returned immediately after approval of contracts by the Owner; those of all others will normally be returned upon request within 48 hours after bid opening.

Should the Bidder refuse to enter into a Contract or fail to furnish such bonds within 30 days of notification of intent to award, the amount of the Bid Security shall be forfeited to the Owner as liquidated damages, not as penalty.

4.2.2 The bonding firm must be listed on the current U.S. Department of Treasury Circular 570, rated A- or better by Best, and be licensed to do business in the State of Michigan. The bonds are to be made out to "Michigan State University, Board of Trustees."

4.2.3 The Owner will have the right to retain the Bid Security of Bidders under consideration until either (a) the Contract has been executed and bonds have been furnished, or (b) the specified time has elapsed so that Bids may be withdrawn, or (c) all Bids have been rejected.

4.3 SUBMISSION OF BIDS

4.3.1 Bids shall be completed prior to the time and date for receipt of Bids indicated in the Advertisement or Invitation to Bid, or any extension thereof made by Addendum. Bids received after the time and date for receipt of Bids will not be considered.

4.3.2 Bidder shall assume full responsibility for timely delivery at location designated for receipt of Bids.

4.3.3 Oral, telephone, paper, or faxed Bids are invalid and will not receive consideration.

4.4 MODIFICATION OR WITHDRAWAL OF BID

4.4.1 A Bid may not be modified, withdrawn, or canceled by the Bidder during the stipulated time period following the time and date designated for the receipt of Bids, and Bidder so agrees in submitting his/her Bid.

4.4.2 Prior to the time and date designated for receipt of Bids, Bids submitted early may be modified or withdrawn only by withdrawing current Bid, and resubmitting within the Bid Manager.

4.4.3 Bid security shall be in an amount sufficient for the Bid as modified or resubmitted.

4.5 BIDDER REGISTRATION

4.5.1 The Owner will only receive Bids via the Bid Manager, which requires prior registration and invitation. The Bidder is responsible to familiarize itself with this system and request access in a timely manner.

4.5.2 The Owner will endeavor to maintain a list of all interested bidders and invite to all public bids. Bidders interested in being added to this list must register. Registration information can be found at https://ipf.msu.edu/construction/partners/prospective-partners.

4.5.3 Bidders are encouraged to continue to monitor projects via plan rooms and other advertising venues. They must express interest to bid on MSU projects by request at least 7 days prior to a bid opening. Owner takes no responsibility for inviting a bidder after that date.

ARTICLE 5

CONSIDERATION OF BIDS

5.1 OPENING OF BIDS

5.1.1 Unless stated otherwise in the Advertisement or Invitation to Bid, the properly identified Bids received on time will be opened publicly and will be read aloud virtually via a Zoom meeting. A Zoom meeting link will be listed in the Bid Manager.

5.1.1.1 Unless stated otherwise in the Advertisement or Invitation to Bid, the Owner will endeavor to share bid results within 24 hours of opening.

5.1.1.2 The Owner will endeavor to stream the bid opening, and will share details in the bid invitation

5.2 REJECTION OF BIDS

5.2.1 The Owner shall have the right to reject any or all Bids.

5.3 ACCEPTANCE OF BID (AWARD)

5.3.1 The Owner shall have the right to waive any informality or irregularity in any Bid received.

5.3.2 If the University accepts any alternates, it will do so in the order representing the Owner's opinion of the best value to Michigan State University. The Owner shall be the sole judge of value. The low bidder will be determined on the basis of the sum of the base bid and the alternates accepted.

5.4 ACCEPTANCE OF CONTRACTOR AND SUBCONTRACTORS

5.4.1 Each portion of the Work shall be performed by an organization equipped and experienced to do the Work in each particular field, and no portion shall be reserved by the Contractor unless they are so equipped and experienced. Within 24 hours after the receipt of Bids, the successful Contractor shall submit a list of each Subcontractor proposed for each section of the Work. Subcontractors shall be satisfactory to the Owner. Unless authorized to the contrary in writing from the Owner, Subcontracts shall be awarded to the firms named in this list. Acceptance of the Bid does not imply approval of the Subcontractors subsequently named, but each Subcontractor shall be approved individually.

ARTICLE 6

QUALIFICATION OF CONTRACTORS

6.1 SUBMISSION OF QUALIFICATION STATEMENT

6.1.1 Bidders to whom award of a Contract is under consideration shall submit to the Architect upon his/her request, a properly executed Contractor's Qualification Statement, Consensus Docs 221 – Constructor's Statement of Qualifications for a Specific Project, unless such a Statement has been previously required and submitted as a prerequisite to the issuance of Bidding Documents.

6.2 NONDISCRIMINATION

6.2.1 In performing under this Contract, the Contractor agrees not to discriminate against any employee, or applicant for employment, with respect to hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of race, color, religion, national origin, age, sex, height or weight, marital status or handicap. Subcontracts with each Subcontractor will contain a provision requiring nondiscrimination in employment, as herein specified. Any breach of this covenant may be regarded as a material breach of this Contract. The foregoing is included as a part of the University's institutional Affirmative Action/Equal Opportunity commitment.

6.3 APPROVED ASBESTOS ABATEMENT CONTRACTORS

6.3.1 The Department of Environmental Health and Safety (EHS) annually prequalifies asbestos abatement contractors to perform asbestos abatement work on Campus. Asbestos abatement work shall only be performed by one of the asbestos abatement contractors on the approved list. The current list is available from the PDC Project Representative, the Environmental Coordinator for EHS, and at https://ehs.msu.edu/_assets/docs/asbestos/2025-asbestos-contractors.pdf.

ARTICLE 7

POST-BID INFORMATION

7.1 SUBMISSIONS

7.1.1 Unless waived by the Architect, the apparent low Bidder shall, within 24 hours after receipt of bids, submit the following information to the Architect:

7.1.1.1 A designation of the Work to be performed by the Bidder with their own forces.

7.1.1.2 The proprietary names and the suppliers of principal items or systems of material and equipment proposed for the Work.

7.1.1.3 A list of names of the Subcontractors or other persons or organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for each division and/or major subdivision, for the Owner’s approval.

7.1.1.4 The names of the MBE/WBE and a description of work to be done by each, dollar value of Work and percentage of Contract price.

7.1.1.5 List of representatives authorized to perform Unifier functions on behalf of the contractor using the Unifier New Company Request, available at Unifier System Vendor Information Form.

7.1.1.6 Certificate of Insurance demonstrating compliance with project requirements.

7.1.2 At the option of the Owner, the Bidder may be required to establish to the satisfaction of the Architect and the Owner the capability, reliability, and responsibility of the proposed Contractor and Subcontractors to furnish and perform the Work.

7.1.3 Subcontractors and other persons and organizations proposed by the Bidder and accepted by the Owner and the Architect must be used on the Work for which they were proposed and accepted and shall not be changed except with the written approval of the Owner and the Architect.

ARTICLE 8

PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

8.1 OWNER'S RIGHT TO REQUIRE BONDS

8.1.1 Each Bidder under a proposal in which the base bid exceeds $50,000, shall include the premiums for furnishing a Performance Bond and also Labor Material Bond, each in the full amount of the proposal sum as specified in the Owner / Constructor Agreement.

8.1.2 The bonding firm must be listed on the current U.S. Department of Treasury Circular 570, rated A- or better by Best, and be licensed to do business in the State of Michigan. The bonds are to be made out to "Michigan State University, Board of Trustees."

8.1.3 In assuming assigned Subcontractor by the successful Bidder for general building work as specified, each assigned Subcontractor for each Subcontract shall reimburse the General Contractor his/her proportionate share of the premiums for bonds.

8.2 TIME OF DELIVERY AND FORM OF BONDS AND INSURANCE

8.2.1 The Bidder shall deliver two (2) copies of the required bonds and insurance to the Owner not later than the date of execution of the Contract.

8.2.2 The Bidder shall require the Attorney-In-Fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of his/her Power of Attorney.

ARTICLE 9

FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

9.1 FORM TO BE USED

9.1.1 The Agreement for the Work will be governed by the project manual, and by the terms and conditions of ConsensusDocs 200- Standard Agreement and General Conditions Between Owner and Constructor (as modified by MSU).

9.1.2 If the project is under $250,000, an MSU Purchase Order will be used and the terms and conditions of ConsensusDocs 200- Standard Agreement and General Conditions Between Owner and Constructor (as modified by MSU), will serve as the applicable General Conditions for administration of the Work.

9.1.3 If the project is over $250,000, the ConsensusDocs 200- Standard Agreement and General Conditions Between Owner and Constructor will be used and the terms and conditions of that Agreement will be formalized through the execution of a Contract Finalization Form.

ARTICLE 10

APPLICATION FOR PAYMENT

10.1 FORM TO BE USED

10.1.1 Applications for Payment shall be submitted in Unifier in accordance with the Pay Apps (Pay Applications) business process. Refer to the MSU IPF website for more information

ARTICLE 11

ELECTRONIC TRANSACTIONS

11.1 UNIFIER

11.1.1 The Owner reserves the right to require that any or all transactions and submissions be conducted and delivered electronically through Unifier, a web-based project management software system. Unifier functions on most popular web browsers. If the owner requires the use of Unifier, the owner will provide the necessary licenses for access into Unifier and the initial training necessary to use Unifier. Access to Unifier will be password restricted, and any proposal, acceptance, quote or other information submitted through Unifier through the use of a party's password shall be deemed to be the submission of such party and any proposal, acceptance, quote or other information in the submission shall be binding on such party as if such proposal, acceptance, quote or other information was in a writing signed by such party. Owner shall not be required to verify the validity of any such submission or inquire as to the authority of the user gaining access to Unifier through the use of a party's password. The following are the minimum Unifier user software and hardware requirements. It is the responsibility of the vendor to verify compatibility of their systems with Unifier. For more information, see Unifier System Vendor Information Form.

11.2 CONTRACT EXECUTION

11.2.1 The Owner may choose to accept a scanned signed contract, provided through Unifier, as acceptance of the agreement. The Owner will rely on this document as properly signed by the Constructor.

STATE OF MICHIGAN

Informational Sheet: Prevailing Wages on State Projects

General Information Regarding Fringe Benefits

Certain fringe benefits **may** be credited toward the payment of the Prevailing Wage Rate:

- If a fringe benefit is paid directly to a construction mechanic
- If a fringe benefit contribution or payment is made on behalf of a construction mechanic
- If a fringe benefit, which may be provided to a construction mechanic**,** is pursuant to a written contract or policy
- If a fringe benefit is paid into a fund, for a construction mechanic

When a fringe benefit is not paid by an hourly rate, the hourly credit will be calculated based on the annual value of the fringe benefit divided by 2080 hours per year (52 weeks @ 40 hours per week). The following is an example of the types of fringe benefits allowed and how an hourly credit is calculated:

Vacation	40 hours X $14.00 per hour = $560/2080 =	$.27
Dental insurance	$31.07 monthly premium X 12 mos. = $372.84 /2080 =	$.18
Vision insurance	$5.38 monthly premium X 12 mos. = $64.56/2080 =	$.03
Health insurance	$230.00 monthly premium X 12 mos. = $2,760.00/2080 =	$1.33
Life insurance	$27.04 monthly premium X 12 mos. = $324.48/2080 =	$.16
Tuition	$500.00 annual cost/2080 =	$.24
Bonus	4 quarterly bonus/year x $250 = $1000.00/2080 =	$.48
401k Employer Contribution	$2000.00 total annual contribution/2080 =	$.96
	Total Hourly Credit	$3.65

Other examples of the types of fringe benefits allowed:

- Sick pay
- Holiday pay
- Accidental Death & Dismemberment insurance premiums

The following are examples of items that **will not** be credited toward the payment of the Prevailing Wage Rate

- Legally required payments, such as:
  - Unemployment Insurance payments
  - Workers' Compensation Insurance payments
  - FICA (Social Security contributions, Medicare contributions)
- Reimbursable expenses, such as:
  - Clothing allowance or reimbursement
  - Uniform allowance or reimbursement
  - Gas allowance or reimbursement
  - Travel time or payment
  - Meals or lodging allowance or reimbursement
  - Per diem allowance or payment
- Other payments to or on behalf of a construction mechanic that are not wages or fringe benefits, such as:
  - Industry advancement funds
  - Financial or material loans

OVERTIME PROVISIONS for MICHIGAN PREVAILING WAGE RATE COMMERCIAL SCHEDULE

1. Overtime is represented as a nine character code. Each character represents a certain period of time after the first 8 hours Monday thru Friday.

	Monday thru Friday	Saturday	Sunday & Holidays	Four 10s
First 8 Hours		**4**	**8**	**9**
9th Hour	**1**	**5**		
10th Hour	**2**	**6**		
Over 10 hours	**3**	**7**		

Overtime for Monday thru Friday after 8 hours:
the 1st character is for time worked in the 9th hour *(8.1 - 9 hours)*
the 2nd character is for time worked in the 10th hour *(9.1 - 10 hours)*
the 3rd character is for time worked beyond the 10th hour *(10.1 and beyond)*

Overtime on Saturday:
the 4th character is for time worked in the first 8 hours on Saturday *(0 - 8 hours)*
the 5th character is for time worked in the 9th hour on Saturday *(8.1 - 9 hours)*
the 6th character is for time worked in the 10th hour *(9.1 - 10 hours)*
the 7th character is for time worked beyond the 10th hour *(10.01 and beyond)*

Overtime on Sundays & Holidays
The 8th character is for time worked on Sunday or on a holiday

Four Ten Hour Days
The 9th character indicates if an optional 4-day 10-hour per day workweek can be worked ***between Monday and Friday*** **without paying overtime after 8 hours worked, unless otherwise noted in the rate schedule. To *utilize a 4 ten workweek, notice is required from the employer to employee prior to the start of work on the project.***

2. Overtime Indicators Used in the Overtime Provision:
   H - means TIME AND ONE-HALF due
   X - means TIME AND ONE-HALF due after 40 HOURS worked
   D - means DOUBLE PAY due
   Y - means YES an optional 4-day 10-hour per day workweek can be worked without paying overtime after 8 hours worked
   N - means NO an optional 4-day 10-hour per day workweek *cannot* be worked without paying overtime after 8 hours worked

3. EXAMPLES:
   HHHHHHHDN - This example shows that the 1½ rate must be used for time worked after 8 hours Monday thru Friday *(characters 1 - 3);* for all hours worked on Saturday, 1½ rate is due *(characters 4 - 7).* Work done on Sundays or holidays must be paid double time *(character 8).* The N *(character 9)* indicates that 4 ten-hour days is not an acceptable workweek at regular pay.

   XXXHHHHDY - This example shows that the 1½ rate must be used for time worked after 40 hours are worked Monday thru Friday *(characters 1-3);* for hours worked on Saturday, 1½ rate is due *(characters 4 – 7)*. Work done on Sundays or holidays must be paid double time *(character 8).* The Y *(character 9)* indicates that 4 ten-hour days is an acceptable alternative workweek.

ENGINEERS - CLASSES OF EQUIPMENT LIST

UNDERGROUND ENGINEERS

CLASS I

Backfiller Tamper, Backhoe, Batch Plant Operator, Clam-Shell, Concrete Paver (2 drums or larger), Conveyor Loader (Euclid type), Crane (crawler, truck type or pile driving), Dozer, Dragline, Elevating Grader, End Loader, Gradall (and similar type machine), Grader, Power Shovel, Roller (asphalt), Scraper (self propelled or tractor drawn), Side Broom Tractor (type D-4 or larger), Slope Paver, Trencher (over 8' digging capacity), Well Drilling Rig, Mechanic, Slip Form Paver, Hydro Excavator.

CLASS II

Boom Truck (power swing type boom), Crusher, Hoist, Pump (1 or more 6" discharge or larger gas or diesel powered by generator of 300 amps or more, inclusive of generator), Side Boom Tractor (smaller than type D-4 or equivalent), Tractor (pneu-tired, other than backhoe or front end loader), Trencher (8' digging capacity and smaller), Vac Truck.

CLASS III

Air Compressors (600 cfm or larger), Air Compressors (2 or more less than 600 cfm), Boom Truck (non-swinging, non-powered type boom), Concrete Breaker (self-propelled or truck mounted, includes compressor), Concrete Paver (1 drum, ½ yard or larger), Elevator (other than passenger), Maintenance Man, Mechanic Helper, Pump (2 or more 4" up to 6" discharge, gas or diesel powered, excluding submersible pump), Pumpcrete Machine (and similar equipment), Wagon Drill Machine, Welding Machine or Generator (2 or more 300 amp or larger, gas or diesel powered).

CLASS IV

Boiler, Concrete Saw (40HP or over), Curing Machine (self-propelled), Farm Tractor (w/attachment), Finishing Machine (concrete), Firemen, Hydraulic Pipe Pushing Machine, Mulching Equipment, Oiler (2 or more up to 4", exclude submersible), Pumps (2 or more up to 4" discharge if used 3 hrs or more a day-gas or diesel powered, excluding submersible pumps), Roller (other than asphalt), Stump Remover, Vibrating Compaction Equipment (6' wide or over), Trencher (service) Sweeper (Wayne type and similar equipment), Water Wagon, Extend-a-Boom Forklift.

HAZARDOUS WASTE ABATEMENT ENGINEERS

CLASS I

Backhoe, Batch Plant Operator, Clamshell, Concrete Breaker when attached to hoe, Concrete Cleaning Decontamination Machine Operator, Concrete Pump, Concrete Paver, Crusher, Dozer,
Elevating Grader, Endloader, Farm Tractor (90 h.p. and higher),
Gradall, Grader, Heavy Equipment Robotics Operator, Hydro Excavator, Loader, Pug Mill, Pumpcrete Machines, Pump Trucks, Roller, Scraper (self-propelled or tractor drawn), Side Boom Tractor, Slip Form Paver, Slope Paver, Trencher, Ultra High Pressure Waterjet Cutting Tool System Operator, Vactors, Vacuum Blasting Machine Operator, Vertical Lifting Hoist, Vibrating Compaction Equipment (self-propelled), and Well Drilling Rig.

CLASS II

Air Compressor, Concrete Breaker when not attached to hoe, Elevator, End Dumps, Equipment Decontamination Operator, Farm Tractor (less than 90 h.p.), Forklift, Generator, Heater, Mulcher, Pigs (Portable Reagent Storage Tanks), Power Screens, Pumps (water), Stationary Compressed Air Plant, Sweeper, Water Wagon and Welding Machine.

CARPENTER CRAFT JURISDICTION

Michigan recognizes the Carpenters for any and all work related to weatherization that has historically been the work of the Carpenter. This work shall include, but not be limited to: all work defined under the Federal Weatherization Assistance Program.

The jurisdiction of Carpenters, as to all work that has historically and traditionally been performed consisting of the milling, fashioning, joining, assembling, erecting, fastening or dismantling of all materials of wood, plastic, metal, fiber, cork, or composition and all other substitute materials, as well as the handling, cleaning, erecting, installing and dismantling of all machinery, equipment and all materials used by Carpenters.

The jurisdiction, therefore, extends over the following divisions and subdivisions of the trade: Carpenters and Joiners, Millwrights, Pile Drivers, Bridge, Dock and Wharf Carpenters, Underpinners, Timbermen, and Core-drillers, Shipwrights, Boat Builders, Ship- hand, Stair-Builders, Millmen, Wood and Resilient Floor Decorators, Floor Finishers, Carpet-layers, Shinglers, Siders, Insulators, Acoustic and Drywall Applicators, Sharers and House Movers, Loggers, Lumber and Sawmill Workers, Reed and Rattan Workers, Shingle Weavers, Casket and Coffin Makers, Railroad Carpenters and Car Builders, regardless of material used and all those engaged in the operation of woodworking or other machinery required in fashioning, milling or manufacturing of products used in the trade, and the handling, erecting and installing materials on any of the above divisions or sub-divisions, burning, welding and rigging incidental to the trade. When the term "Carpenter and Joiner" is used, it shall mean all the subdivisions of the trade. The trade autonomy of Carpenters therefore extends over the divisions and subdivisions of the trade, which are set forth as follows:

(a) The framing, erecting and prefabrication of roofs, partitions, floors and other parts of buildings of wood, metal, plastic or other substitutes; application of all metal flashing used for hips, valleys and chimneys; the erection of Stran Steel section or its equal. The building and setting of all forms and centers for brick and masonry. The fabrication and erection of all forms for concrete and decking, the dismantling of same (as per International Agreement) when they are to be re-used on the job or stored for re-use. The cutting and handling of all falsework for fireproofing and slabs. Where power is used in the setting or dismantling of forms, all signaling and handling shall be done by carpenters. The setting of templates for anchor bolts for structural members and for machinery, and the placing, leveling and bracing of these bolts. All framing in connection with the setting or metal columns. The setting of all bulkheads, footing forms and the setting of and fabrication of, screeds and stakes for concrete and mastic floors where the screed is notched or fitted, or made up of more than one member. The making of forms for concrete block, bulkheads, figures, posts, rails, balusters and ornaments, etc.

(b) The handling and erecting of rough material and drywall, the handling, assembly, setting and leveling of all fixtures, display cases, all furniture such as tables, chairs, desks, coat racks, etc., all de-mountable or moveable partitions such as Von wall, E Wall, Steel Case, Herman Miller, Haworth, American Seating, Westinghouse, Lazy Boy, rosewood, etc. All rebuilding, remodeling and setting up of all kinds of partitions, finished lumber, metal and plastic trim to be erected by Carpenters shall be handled from the truck or vehicle delivering same to the job by Carpenters.

CARPENTER CRAFT JURISDICTION

(c) The building and moving of all scaffolding runways and staging where carpenters' tools are used, the building from the ground up of all scaffolds over fourteen (14) feet in height including metal and specially designed scaffolding. The building and construction of all hoists and derricks made of wood; the making of mortar boards, boxes, trestles, all shoring, razing and moving of buildings. Lift type trucks are to be considered a tool of the trade. Metal siding and metal roofing fall within the scope of jurisdiction for the carpenters.

(d) The cutting or framing and fireproofing of the openings for pipes, conduits, ducts, etc., where they pass through floors, partitions, walls, roofs or fixtures composed in whole or in part of wood. The laying out of making and installation of all inserts and sleeves for pipes, ducts, etc., where carpenters' tools and knowledge are required. The making and installing of all wooden meter boards, crippling and backing for fixtures. The welding of studs and other fastenings to receive material being applied by carpenters.

(e) The installation of all grounds, furring or stripping, ceilings and sidewalks, application of all types of shingling and siding, etc.

(f) The installation of all interior and exterior trim or finish of wood, aluminum, kalamein, hollow or extruded metal, plastic, doors, transoms, thresholds, mullions and windows. The setting of jambs, bucks, window frames of wood or metal where braces or wedges are used. The installation of all wood, metal or other substitutes of casing, molding, chair rail, wainscoting, china closets, base of mop boards, wardrobes, metal partitions as per National Decisions or specific agreements, etc. The complete laying out, fabrication and erection of stairs. The making and erecting of all fixtures, cabinets, shelving, racks, louvers, etc. The mortising and application of all hardware in connection with our work. The sanding and refinishing of all wood, cork or composition floors to be sanded or scraped, filled, sized and buffed, either by hand or power machines. The assembling and setting of all seats in theaters, halls, churches, schools, auditorium, grandstands and other buildings. All bowling alley work.

(g) The manufacture, fabrication and installation of all screens, storm sash, storm doors and garage doors; the installation of wood, canvas, plastic or metal awnings or eye shades, door shelters, jalousies, etc. The laying of wood, wood block and wood composition in floors.

(h) The installation of all materials used in drywall construction, such as plasterboard, all types of asbestos boards, transite and other composition board. The application of all material which serves as base for acoustic tile, except plaster. All acoustical applications as per National Agreement or specific agreement.

(i) The building and dismantling of all barricades, hand rails, guard rails, partitions and temporary partitions. The erection and dismantling of all temporary housing on construction projects.

(j) The installation of rock wool, cork and other insulation material used for sound or weatherproofing. The removal of caulking and placing of staff bead and brick mold and all Oakum caulking, substitutes, etc., and all caulking in connection with carpentry work.

(k) The installation of all chalk boards/marker boards.

CARPENTER CRAFT JURISDICTION

(l) The operation of all hand operated winches used to raise wooden structures.

(m) The erection of porcelain enameled panels and siding.

(n) The unloading and distribution of all furnished, prefabricated and built-up sections such as door bucks, window frames, cupboards, cabinets, store fixtures, counters and show cases or comparably finished or prefabricated materials, to the job sites or points of installation as used in the construction, alteration and remodeling industry.

(o) The handling of doors, metal, wood or composite, partitions and other finished bulk materials used for trim from the point of delivery.

(p) All processing of these materials and handling after processing.

(q) The making up of panels and fitting them into walls, all bracing and securing, all removal of panels from the casting including all braces, whalers, hairpins, etc.

(r) The handling and setting of all metal pans and sections from the stock piles of reasonable distance as required by job needs shall be performed by carpenters. The stripping of such metal pans, panels or sections is to be performed by carpenters.

(s) The sharpening of all carpenter hand or power tools, or those used by carpenters.

(t). The layout, fabrication, assembling of and erection and dismantling of all displays made of wood, metal, plastic, composition board or any substitute material; the covering of same with any type of material, the crating and un-crating, the handling from the point of unloading and back to the point of loading of all displays and other materials or components.

(u) The same shall apply to all other necessary component parts used for display purposes such as turntables, platforms, identification towers and fixtures, regardless of how constructed, assembled or erected or dismantled.

(v) The make-up, handling, cutting and sewing of all materials used in buntings, flags, banners, decorative paper, fabrics and similar materials used in the display decorative industry for draperies and back drops. The decorative framing of trucks, trailers and autos used as floats or moving displays. The slatting of walls to hand fabrics and other decorative materials, drilling of all holes to accommodate such installations. Setting up and removal of booths constructed of steel or aluminum tubing as stanchions, railings, etc., handling and placing of furniture, appliances, etc., which are being used to complete the booth at the request of the exhibitor. Fabricating and application of leather, plastic and other like materials used for covering of booths. The handling of all materials, fabricating of same. The loading and unloading, erecting and assembling at the exhibit of show area, also in or out of storage when used in booth decorations.

CARPENTER CRAFT JURISDICTION

(w) A display shall be construed as any exhibit or medium of advertising, open to private or public showing, which is constructed of wood, metal, plastic or any other substitute to accomplish the objectives of advertising or displaying.

(x) Handling, fitting, draping, measuring and installation of fixtures and other hardwares for draperies, all manner of making, measuring, repairing, sizing, hanging and installation of necessary fixtures and hardware for shades and Venetian blinds.

(y) Work consisting of cutting and/or forming of all materials in preparation for installing of floors, walls and ceilings; the installation of all resilient floor and base; wall and ceiling materials to include cork, linoleum, prefabricated, laminated, rubber, asphalt, vinyl, metal, plastic, seamless floors and all other similar materials in sheet, interlocking liquid or tile form; the installation of all artificial turf, the installation, cutting and/or fitting of carpets; installation of padding, matting, linen crash and all preformed resilient floor coverings; the fitting of all devices for the attachment of carpet and other floor, wall and ceiling coverings; track sewing of carpets, drilling of holes for sockets and pins, putting in dowels and slats; and all metal trimmings used; the installation of all underlayments, sealants in preparation of floors, walls and ceilings, the unloading and handling of all materials to be installed and the removal of all materials in preparing floors when contracted for by the employer, shall be done only by employees covered under this Agreement.

(z) The installation of all sink-tops and cabinets, to include all metal trim and covering for same. All cork, linoleum, congo-wall, linewall, veos tile, plexiglass, vinawall tile, composition tile, plastic tile, aluminum tile and rubber in sheets or tile form and the application thereof. All bolta-wall and bolta-wall tile and similar products.

(aa) The handling and placing of all pictures and frames and the assembly of bed frames and accessories. The hanging and placing of all signage.

(bb) The installation of all framework partitions and trim materials for toilets and bathrooms made of wood, metal, plastics or composition materials; fastening of all wooden, plastic or composition cleats to iron or any other material for accessories.

(cc) The erection of cooling towers and tanks.

(dd) The setting, lining, leveling and bracing of all embedded plates, rails and angles. The setting of all stay in place forms.

(ee) Environmental: Clean room, any type of environmental chamber, walk in refrigerated coolers and all refrigerated rooms or buildings.

CARPENTER CRAFT JURISDICTION

PILE DRIVING AND CAISSON DRILLING

(ff) All unloading, handling, signaling and driving of piles, whether wood, steel, pipe, beam pile, composite, concrete or molded in place, wood and steel sheeting, cofferdam work, trestle work, dock work, floating derricks, caisson work, foundation work, bridge work, whether old or new, crib work, pipe line work and submarine work. Cutting of all wood, steel or concrete pile, whether by machine or hand; welding and cutting, peeling, and heading of all wood pile, steel sheeting and wood sheeting. The erecting and dismantling of all pile driving rigs, also derricks whether on land or water; also the moving, shoring and underpinning of all buildings. The loading and unloading of all derricks, cranes and pile driving materials. The tending, maintenance and operation of all valves pertaining to the operation of driving of pile. All diving and tending essential to the completion of jurisdictional claims.

All work done in the established yards of the Company and all work not enumerated above, shall be handled and manned as the Employer decides.

The pile driver will unload all material shipped in by rail from the point that the rail car is spotted.

All cleaning and preparation of all piling prior to driving.

The welding and attachment of all boot plates, pile points, splice plates, connectors, rock crosses, driving crosses, driving rigs, point reinforcements and overboots.

The construction, reconstruction, repair, alteration, demolition and partial or complete removal of all marine work including, but not limited to, docks, piers, wharves, quays, jetties, cribs, causeways, breakwaters, lighthouses and permanent buoys, etc. (mixing and placing of concrete excepted).

The driving and pulling of all wood, steel and concrete foundation piles and sheet piling.

The heading, pointing, splicing, cutting and welding of all piles.

The placing of all wales, bolts, studs, lagging, rods and washers including the cutting, drilling, boring or breaking of all holes or openings thereof.

The removal of all materials and/or obstructions of any nature (rip-rap included) that retard or interfere with the driving of piles or with the placing of wales, bolts and rods.

CARPENTER CRAFT JURISDICTION

This is to be subject to the discretion of the contractor who may choose to use blasting specialists or other demolition specialists.

The handling on the job of all materials used in the work.

The manning of all floating equipment (towing equipment excepted) engaged in the work enumerated, including deck engines, except machinery manned by Operating Engineers.

The placing of all rip-rap, fill stone, bedding stone, cover stone and concrete blocks in connection with marine construction. Work normally performed by Employers, such as soil tests, shoring, underpinning of buildings, cribbing, driving of sheet piling, marine divers, tenders, underwater construction workers and similar operations shall continue to be included in the jurisdiction of this Agreement.

All burning, cutting, welding and fabrication of pipe, H-beams, sheet pile (metal or wood), done on the job site or in the yard of the Employer shall be done by pile drivers. The driving of bearing piles, sheet piling with heavy equipment, caissons, pile caps, auger drilling and boring, the setting up for load testing for any type of piling, all layout and spotting for piling, caisson and boring work, all earth retention, ditch boarding, installing tiebacks.

ASBESTOS ABATEMENT CARPENTERS

(gg) All erection and maintenance of barriers and partitions used in the removing of asbestos or any abatement work. The abatement of any materials previously installed by the carpenter such as transite, ceiling and floor tiles. All operating and maintaining of current equipment used in any abatement work.

ELECTRICIAN – SOUND AND COMMUNICATION / DATA/ VOICE JURISDICTION

The installation, testing, service and maintenance, of systems which utilize the transmission and/or transference of voice, sound, vision or digital for commercial, education, security and entertainment purposes for the following: TV monitoring and surveillance, CATV and CCTV, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, radio page, school intercom and sound, burglar alarms, low voltage fire alarm systems, low voltage master clock systems, distributed antenna systems (DAS), IP data networks, and all surface-mounted (non-power) telecommunications wiremold. Shall additionally include the installation of all raceway systems of unlimited length in telecommunications rooms, entrance facilities, equipment rooms, and similar areas. Energy management systems. Security systems; perimeter, vibration, card access, access control and sonar/infrared monitoring equipment. Communications systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems; SCADA (Supervisory Control and Data Acquisition), PCM (Pulse Code Modulation), Digital Data Systems, Broadband and Baseband and Carriers, POS (Point of Sale systems), VSAT Data Systems, RF and Remote Control Systems, Fiber Optic Data Systems and Voice and Data Infrastructure and Backbone.

STATE OF MICHIGAN

Wage and Hour Division
PO Box 30476
Lansing, MI 48909
517-284-7800

Informational Sheet: Prevailing Wages on State Funded Projects

REQUIREMENTS

Effective February 13, 2024

The purpose of establishing prevailing rates is to provide minimum rates of pay that must be paid to workers on construction projects that are financed or financially supported by the state Prevailing rates compiled from the rates contained in collectively bargained agreements which cover the locations of the state projects. While the prevailing wage rates are compiled through surveys of collectively bargained agreements, a collective bargaining agreement is not required for contractors to be on or be awarded state projects. The prevailing rate schedule provides an hourly rate which includes wage and fringe benefit totals for designated construction mechanic classifications. The overtime rates also include wage and fringe benefit totals. Please pay special attention to the overtime and premium pay requirements. The prevailing wage is satisfied when wages plus fringe benefits are equal to or greater than the required rate.

State of Michigan responsibilities:

- The department establishes the prevailing rate for each classification of construction mechanic requested by the contracting agents prior to contracts being let out for bid on a state project.

DTMB responsibilities

- If a contract is not awarded or construction does not start within 90 days of the date of the issuance of rates, a re- determination of rates must be requested by the contracting agents.
- Rates for classifications needed but not provided on the Prevailing Rate Schedule, ***must*** be obtained ***prior*** to contracts being let out for bid on a state project.

Contractor responsibilities:

- Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing rates prescribed in a contract.
- Every contractor and subcontractor shall keep an accurate record showing the name and occupation of and the actual wages and benefits paid to each construction mechanic. This record shall be available for reasonable inspection by DTMB or the department.
- Each contractor or subcontractor is liable for the payment of the prevailing rate to its employees.
- The prime contractor is responsible for advising all subcontractors of the requirement to pay the prevailing rate prior to commencement of work.
- A construction mechanic *shall only* be paid the apprentice rate if registered with the United States Department of Labor, Bureau of Apprenticeship and Training and the rate is included in the contract.

Enforcement:

A person who has information of an alleged prevailing wage violation on a prevailing wage project may file a complaint with the State of Michigan. The department will investigate and attempt to resolve the complaint informally. During the course of an investigation, if the requested records and posting certification are not made available in compliance with contractual requirements, the Contracting Agent may consider the Contractor to be in material breach of the contract and may terminate the contract for cause at the sole discretion. There are also civil penalties for failure to be in compliance with Act 10. View the entire text of Act 10 of 2023 at michigan.gov/wagehour.

GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF LABOR AND ECONOMIC OPPORTUNITY
WAGE AND HOUR DIVISION

SUSAN CORBIN
DIRECTOR

Prevailing Wage Rates for State Funded Projects
Official Rate Schedule

ORS#:	ORS-002226
Date Issued:	03/21/2025
Contract Award By Date:	06/19/2025
Contracting Agency:	Michigan State University (CA-0059)
Contracting Agency Representative:	Kelsey Delaney (weilerk1@msu.edu)
Project Number:	CP24092
Project Name:	Central Services – Demolition

Project Description: Building demolition

FOR ALL AWARDED CONTRACTS ONLY

- Every Contractor and Subcontractors shall keep Posted on the Construction Site, in a conspicuous place, a copy of all applicable prevailing wage rate schedules contained in a contract.
- The Prevailing rate schedule provides an hourly rate which includes wage and fringe benefit totals for designated classifications.
- Please refer to WHD-9917 & WHD 9918 for any additional information.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Boilermaker	**Boilermaker**	**05/10/2024**

Classification Description: Boilermaker

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$72.47	$107.55	$142.63
Apprentice: 1st Period	$53.53	$79.15	$104.75
Apprentice: 2nd Period	$55.14	$81.56	$107.97
Apprentice: 3rd Period	$56.73	$83.94	$111.15
Apprentice: 4th Period	$58.31	$86.31	$114.31
Apprentice: 5th Period	$59.85	$88.62	$117.39
Apprentice: 6th Period	$63.03	$93.39	$123.75
Apprentice: 7th Period	$66.17	$98.10	$130.03
Apprentice: 8th Period	$69.32	$102.83	$136.33

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$90.82
10th hour	$90.82
Beyond 10 hours	$90.82
Saturday	
First 8 hours	$90.82
9th hour	$90.82
10th hour	$90.82
Beyond 10 hours	$90.82
Sunday/Holiday	$109.17

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Bricklayers, Stone Mason, Pointer, Cleaner & Caulker - BAC 2 - Lansing	**Bricklayer**	**09/24/2024**

Classification Description: Bricklayers, Stone Mason, Pointer, Cleaner & Caulker

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$59.46	$75.04	$90.62
Apprentice: Bricklayer Apprentice 5th Level	$52.80	$66.05	$79.30
Apprentice: Bricklayer Apprentice Level 6	$54.61	$68.77	$82.92
Apprentice: Bricklayers Apprentice 1st Level	$45.58	$55.22	$64.86
Apprentice: Bricklayers Apprentice 2nd Level	$47.39	$57.94	$68.48
Apprentice: Bricklayers Apprentice 3rd level	$49.19	$60.64	$72.08
Apprentice: Bricklayers Apprentice 4th level	$51.00	$63.35	$75.70
Apprentice: Bricklayers Apprentice 7th & 8th Levels	$56.41	$71.47	$86.52

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$59.46
10th hour	$59.46
Beyond 10 hours	$59.46
Saturday	
First 8 hours	$59.46
9th hour	$59.46
10th hour	$59.46
Beyond 10 hours	$59.46
Sunday/Holiday	$90.62

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Between Nov. 1 and Apr 30, if inclement weather, or other conditions beyond the Employer’s control, Saturdays may be worked as make-up days. Make-up time shall be paid at the straight time rate until forty hrs are worked unless the standard workweek included a holiday, then 32 hrs straight time

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Carpenter - J	**Carpenter**	**05/10/2024**

Classification Description: Carpenter 4- 10s allowed Monday-Thursday. Friday make up day for inclement weather. Hours worked on Friday except for inclement weather make up shall be paid at time and one half.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$50.02	$64.59	$79.15
Apprentice: 1st Year	$41.28	$51.48	$61.67
Apprentice: 2nd Year	$42.74	$53.67	$64.59
Apprentice: 3rd Year	$45.65	$58.03	$70.41
Apprentice: 4th Year	$48.56	$62.40	$76.23

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$64.59
10th hour	$64.59
Beyond 10 hours	$64.59
Saturday	
First 8 hours	$64.59
9th hour	$64.59
10th hour	$64.59
Beyond 10 hours	$64.59
Sunday/Holiday	$79.15

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Saturday

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Carpenter/Piledriver-1004-Lansing Area	**Carpenter**	**09/17/2024**

Classification Description: Carpenter/Piledriver

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$54.10	$71.11	$88.11
Apprentice: Apprentice 1st Year	$43.90	$55.81	$67.71
Apprentice: Apprentice 2nd Year	$45.60	$58.36	$71.11
Apprentice: apprentice 3rd Year	$49.00	$63.46	$77.91
Apprentice: Apprentice 4th Year	$52.40	$68.56	$84.71

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$71.11
10th hour	$71.11
Beyond 10 hours	$71.11
Saturday	
First 8 hours	$71.11
9th hour	$71.11
10th hour	$71.11
Beyond 10 hours	$71.11
Sunday/Holiday	$88.11

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

If the job is delayed due to inclement weather, a make-up day on Friday may
be scheduled by the Employer for completion of the forty (40) hour week. Make-up work scheduled for Friday shall not be less than eight (8) hours.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Resilient floorlayer-1004-Lansing Area	**Carpenter**	**09/17/2024**

Classification Description: Resilient floorlayer

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$54.55	$71.85	$89.14
Apprentice: Apprentice 1st Year	$44.32	$56.50	$68.68
Apprentice: Apprentice 2nd Year	$46.03	$59.07	$72.10
Apprentice: Apprentice 3rd Year	$49.44	$64.18	$78.92
Apprentice: Apprentice 4th Year	$52.85	$69.30	$85.74

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$71.84
10th hour	$71.84
Beyond 10 hours	$71.84
Saturday	
First 8 hours	$71.84
9th hour	$71.84
10th hour	$71.84
Beyond 10 hours	$71.84
Sunday/Holiday	$89.14

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

If the job is delayed due to inclement weather, a make-up day on Friday may
be scheduled by the Employer for completion of the forty (40) hour week. Make-up work scheduled for
Friday shall not be less than eight (8) hours.

Overtime Rate Comment: Time and one-half (11/2) shall be paid for all hours worked over ten (10) hours per day or over forty (40) hours per week in a five (5) day, eight (8) hours work week.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Communication Technician	**Communication Technician**	**05/13/2024**

Classification Description:

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$67.89	$98.24	$128.58

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$98.24
10th hour	$98.24
Beyond 10 hours	$98.24
Saturday	
First 8 hours	$98.24
9th hour	$98.24
10th hour	$98.24
Beyond 10 hours	$98.24
Sunday/Holiday	$128.58

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

ONLY due to inclement weather or customer requirements may Friday be used as a make up day if the normal scheduled work week was interrupted and time lost of five (5) hours or more was incurred by workmen covered under the terms of the 6-17-C/6-876-T agreement.

Base Rate Comment: Foreman (112.5% above JL Rate)

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Drywall Taper & Finisher	**Drywall**	**05/10/2024**

Classification Description: Drywall Taper and Finisher

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$44.64	$58.17	$71.75
Apprentice: 1st level	$31.06	$37.80	$44.59
Apprentice: 2nd level	$36.49	$45.95	$55.45
Apprentice: 3rd level	$41.92	$54.09	$66.31

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$58.22
10th hour	$58.22
Beyond 10 hours	$58.22
Saturday	
First 8 hours	$58.22
9th hour	$58.22
10th hour	$58.22
Beyond 10 hours	$58.22
Sunday/Holiday	$71.80

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Electrician - IW	**Electrician**	**05/10/2024**

Classification Description: Inside wireman

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$81.89	$105.17	$128.45
Apprentice: 1st Period	$46.80	$57.51	$68.21
Apprentice: 2nd Period	$53.31	$66.94	$80.55
Apprentice: 3rd Period	$59.03	$73.00	$86.97
Apprentice: 4th Period	$64.73	$81.03	$97.32
Apprentice: 5th Period	$70.47	$87.60	$106.22
Apprentice: 6th Period	$76.17	$97.12	$118.07

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$105.17
10th hour	$105.17
Beyond 10 hours	$128.45
Saturday	
First 8 hours	$105.17
9th hour	$128.45
10th hour	$128.45
Beyond 10 hours	$128.45
Sunday/Holiday	$128.45

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Additional Jurisdiction Detail: Onondaga, Leslie, Stockbridge & Bunker Hill townships

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Electrician - IW	**Electrician**	**05/10/2024**

Classification Description: Inside wireman

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$81.89	$105.17	$128.45
Apprentice: 1st Period	$46.80	$57.51	$68.21
Apprentice: 2nd Period	$53.31	$66.94	$80.55
Apprentice: 3rd Period	$59.03	$73.00	$86.97
Apprentice: 4th Period	$64.73	$81.03	$97.32
Apprentice: 5th Period	$70.47	$87.60	$106.22
Apprentice: 6th Period	$76.17	$97.12	$118.07

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$105.17
10th hour	$105.17
Beyond 10 hours	$128.45
Saturday	
First 8 hours	$105.17
9th hour	$128.45
10th hour	$128.45
Beyond 10 hours	$128.45
Sunday/Holiday	$128.45

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Additional Jurisdiction Detail: Townships of Onondaga, Leslie, Stockbridge and Bunker Hill ONLY.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Electrician - IW	**Electrician**	**05/10/2024**

Classification Description: Inside Wireman

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$66.98	$89.65	$112.32
Apprentice: 1st Period	$31.68	$41.89	$52.09
Apprentice: 2nd period	$33.95	$45.28	$56.62
Apprentice: 3rd Period	$38.44	$50.92	$63.38
Apprentice: 4th Period	$51.42	$66.16	$80.90
Apprentice: 5th Period	$53.68	$69.56	$85.42
Apprentice: 6th Period	$55.95	$72.96	$89.96

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$89.65
10th hour	$89.65
Beyond 10 hours	$112.32
Saturday	
First 8 hours	$89.65
9th hour	$89.65
10th hour	$89.65
Beyond 10 hours	$112.32
Sunday/Holiday	$112.32

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Additional Jurisdiction Detail: Lansing, Meridian, Williamston, Locke, Delhi, Alaiedon, Wheatfield, Leroy, Aurelius, Vevay, Ingham and White Oak townships

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Electrician - SC	**Electrician**	**05/10/2024**

Classification Description: Sound and Communications Installer
Technician BICSI certified & 6,000 OJT Straight time Rate $54.32 Time and Half $73.16 Double Time $91.99

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$51.10	$66.96	$83.79
Apprentice: Period 1	$33.56	$40.49	$48.72
Apprentice: Period 2	$35.31	$43.02	$52.07
Apprentice: Period 3	$37.07	$45.56	$55.43
Apprentice: Period 4	$38.82	$48.11	$58.80
Apprentice: Period 5	$40.57	$50.63	$62.14
Apprentice: Period 6	$44.09	$55.70	$68.85
Apprentice: Period 7	$47.59	$60.76	$75.56
Apprentice: Period 8	$49.34	$63.29	$78.92
Apprentice: Technician BICSI certification & 6,000 OJT	$54.32	$73.16	$91.99

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$65.91
10th hour	$65.91
Beyond 10 hours	$80.72
Saturday	
First 8 hours	$65.91
9th hour	$80.72
10th hour	$80.72
Beyond 10 hours	$80.72
Sunday/Holiday	$80.72

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Additional Jurisdiction Detail: Onondaga, Leslie, Stockbridge & Bunker Hill townships

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Electrician - SC	**Electrician**	**05/10/2024**

Classification Description: Sound and Communications Installer
Technician BICSI certified & 6,000 OJT Straight time Rate $54.32 Time and Half $73.16 Double Time $91.99

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$51.10	$66.96	$83.79
Apprentice: Period 1	$33.56	$40.49	$48.72
Apprentice: Period 2	$35.31	$43.02	$52.07
Apprentice: Period 3	$37.07	$45.56	$55.43
Apprentice: Period 4	$38.82	$48.11	$58.80
Apprentice: Period 5	$40.57	$50.63	$62.14
Apprentice: Period 6	$44.09	$55.70	$68.85
Apprentice: Period 7	$47.59	$60.76	$75.56
Apprentice: Period 8	$49.34	$63.29	$78.92
Apprentice: Technician BICSI certification & 6,000 OJT	$54.32	$73.16	$91.99

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$65.91
10th hour	$65.91
Beyond 10 hours	$80.72
Saturday	
First 8 hours	$65.91
9th hour	$80.72
10th hour	$80.72
Beyond 10 hours	$80.72
Sunday/Holiday	$80.72

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Additional Jurisdiction Detail: Townships of Onondaga, Leslie, Stockbridge and Bunker Hill ONLY.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Electrician - SC	**Electrician**	**05/10/2024**

Classification Description: Sound and Communications Installer
Technician BICSI certified & 6,000 OJT Straight time Rate $54.32 Time and Half $73.16 Double Time $91.99

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$44.37	$44.43	$59.24
Apprentice: Period 1	$33.56	$40.49	$48.72
Apprentice: Period 2	$35.31	$43.02	$52.07
Apprentice: Period 3	$37.07	$45.56	$55.43
Apprentice: Period 4	$38.82	$48.11	$58.80
Apprentice: Period 5	$40.57	$50.63	$62.14
Apprentice: Period 6	$44.09	$55.70	$68.85
Apprentice: Period 7	$47.59	$60.76	$75.56
Apprentice: Period 8	$49.34	$63.29	$78.92
Apprentice: Technician BICSI certification & 6,000 OJT	$54.32	$73.16	$91.99

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$0.00
10th hour	$0.00
Beyond 10 hours	$0.00
Saturday	
First 8 hours	$0.00
9th hour	$0.00
10th hour	$0.00
Beyond 10 hours	$0.00
Sunday/Holiday	$0.00

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Additional Jurisdiction Detail: Onondaga, Leslie, Stockbridge & Bunker Hill townships

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Electrician - SC	**Electrician**	**05/10/2024**

Classification Description: Sound and Communications Installer
Technician BICSI certified & 6,000 OJT Straight time Rate $54.32 Time and Half $73.16 Double Time $91.99

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$44.37	$44.43	$59.24
Apprentice: Period 1	$33.56	$40.49	$48.72
Apprentice: Period 2	$35.31	$43.02	$52.07
Apprentice: Period 3	$37.07	$45.56	$55.43
Apprentice: Period 4	$38.82	$48.11	$58.80
Apprentice: Period 5	$40.57	$50.63	$62.14
Apprentice: Period 6	$44.09	$55.70	$68.85
Apprentice: Period 7	$47.59	$60.76	$75.56
Apprentice: Period 8	$49.34	$63.29	$78.92
Apprentice: Technician BICSI certification & 6,000 OJT	$54.32	$73.16	$91.99

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$0.00
10th hour	$0.00
Beyond 10 hours	$0.00
Saturday	
First 8 hours	$0.00
9th hour	$0.00
10th hour	$0.00
Beyond 10 hours	$0.00
Sunday/Holiday	$0.00

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Additional Jurisdiction Detail: Townships of Onondaga, Leslie, Stockbridge and Bunker Hill ONLY.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Electrician - SD	**Electrician**	**05/10/2024**

Classification Description: Sound and Communication Journeyman a 4 day schedule of ten hours a day is allowed Monday thru Friday.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$66.56	$86.06	$105.56
Apprentice: 1st period	$26.80	$35.03	$43.26
Apprentice: 2nd period	$28.86	$38.11	$47.37
Apprentice: 3rd period	$32.98	$43.26	$53.55
Apprentice: 4th period	$47.07	$60.45	$73.82
Apprentice: 5th period	$49.13	$63.53	$77.94
Apprentice: 6th period	$51.19	$66.63	$82.05

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$86.06
10th hour	$86.06
Beyond 10 hours	$105.56
Saturday	
First 8 hours	$86.06
9th hour	$86.06
10th hour	$86.06
Beyond 10 hours	$105.56
Sunday/Holiday	$105.56

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Additional Jurisdiction Detail: Lansing, Meridian, Williamston, Locke, Delhi, Alaiedon, Wheatfield, Leroy, Aurelius, Vevay, Ingham and White Oak townships

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Elevator Constructor Mechanic	**Elevator Constructor**	**05/10/2024**

Classification Description: Elevator Constructor Mechanic

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$96.72	$83.78	$152.57
Apprentice: 1st year	$68.96	$46.08	$99.68
Apprentice: 2nd year	$74.88	$54.45	$111.18
Apprentice: 3rd year	$77.85	$58.65	$116.95
Apprentice: 4th year	$84.65	$67.02	$129.33

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$152.57
10th hour	$152.57
Beyond 10 hours	$152.57
Saturday	
First 8 hours	$152.57
9th hour	$152.57
10th hour	$152.57
Beyond 10 hours	$152.57
Sunday/Holiday	$152.57

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Fiber Optic Splicer	**Fiber Optic Splicer**	**05/13/2024**

Classification Description:

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$67.89	$98.24	$128.58

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$98.24
10th hour	$98.24
Beyond 10 hours	$98.24
Saturday	
First 8 hours	$98.24
9th hour	$98.24
10th hour	$98.24
Beyond 10 hours	$98.24
Sunday/Holiday	$128.58

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

ONLY due to inclement weather or customer requirements may Friday be used as a make up day if the normal scheduled work week was interrupted and time lost of five (5) hours or more was incurred by workmen covered under the terms of the 6-17-C/6-876-T agreement.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Glazier	**Glazier**	**05/10/2024**

Classification Description: Glazier
4 tens allowed on consecutive days

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$49.84	$67.73	$85.62
Apprentice: 1st level	$31.62	$40.40	$49.18
Apprentice: 2nd level	$35.12	$45.66	$56.18
Apprentice: 3rd Level	$40.38	$53.54	$66.70
Apprentice: 4th level	$45.66	$61.46	$77.26

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$66.72
10th hour	$66.72
Beyond 10 hours	$66.72
Saturday	
First 8 hours	$66.72
9th hour	$66.72
10th hour	$66.72
Beyond 10 hours	$66.72
Sunday/Holiday	$83.59

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Heat & Frost Insulator	**Heat and Frost Insulator and Asbestos Worker**	**05/10/2024**

Classification Description: Heat and Frost Insulators and Asbestos Workers

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$52.00	$68.89	$85.77
Apprentice: 1st year	$26.38	$33.69	$40.99
Apprentice: 2nd year	$30.15	$38.92	$47.68
Apprentice: 3rd year	$33.92	$44.15	$54.37
Apprentice: 4th year	$37.70	$49.39	$61.08
Apprentice: 5th year	$41.48	$54.63	$67.78

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$68.89
10th hour	$68.89
Beyond 10 hours	$68.89
Saturday	
First 8 hours	$68.89
9th hour	$68.89
10th hour	$68.89
Beyond 10 hours	$68.89
Sunday/Holiday	$85.77

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Friday for cancelled work in a 4 10 schedule

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Electrician - Installor Technician	**IBEW 252**	**06/18/2024**

Classification Description: Installor Technician

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$55.15	$70.91	$86.67
Apprentice: Apprentice Level 1	$36.49	$15.76	$15.76
Apprentice: Apprentice Level 2	$38.08	$17.34	$17.34
Apprentice: Apprentice Level 3	$40.14	$18.91	$18.91
Apprentice: Apprentice Level 4	$42.08	$20.49	$20.49
Apprentice: apprentice Level 5	$43.94	$22.06	$22.06
Apprentice: Apprentice Level 6	$47.68	$25.22	$25.22
Apprentice: Apprentice Level 7	$51.41	$28.37	$28.37
Apprentice: Apprentice Level 8	$53.27	$29.94	$29.94

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$55.15
10th hour	$55.15
Beyond 10 hours	$55.15
Saturday	
First 8 hours	$55.15
9th hour	$55.15
10th hour	$55.15
Beyond 10 hours	$55.15
Sunday/Holiday	$55.15

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Additional Jurisdiction Detail: Onondaga, Leslie, Stockbridge & Bunker Hill townships

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Electrician - Installor Technician	**IBEW 252**	**06/18/2024**

Classification Description: Installor Technician

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$55.15	$70.91	$86.67
Apprentice: Apprentice Level 1	$36.49	$15.76	$15.76
Apprentice: Apprentice Level 2	$38.08	$17.34	$17.34
Apprentice: Apprentice Level 3	$40.14	$18.91	$18.91
Apprentice: Apprentice Level 4	$42.08	$20.49	$20.49
Apprentice: apprentice Level 5	$43.94	$22.06	$22.06
Apprentice: Apprentice Level 6	$47.68	$25.22	$25.22
Apprentice: Apprentice Level 7	$51.41	$28.37	$28.37
Apprentice: Apprentice Level 8	$53.27	$29.94	$29.94

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$55.15
10th hour	$55.15
Beyond 10 hours	$55.15
Saturday	
First 8 hours	$55.15
9th hour	$55.15
10th hour	$55.15
Beyond 10 hours	$55.15
Sunday/Holiday	$55.15

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Additional Jurisdiction Detail: Townships of Onondaga, Leslie, Stockbridge and Bunker Hill ONLY.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Ironworker - Rigger Machinery Mover	**Ironworker**	**01/07/2025**

Classification Description: Rigging Work

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$78.78	$96.21	$113.63
Apprentice: Level 1	$54.18	$65.03	$75.87
Apprentice: Level 2	$54.18	$65.03	$75.87
Apprentice: Level 3	$57.29	$69.02	$80.75
Apprentice: Level 4	$60.00	$72.45	$84.89
Apprentice: Level 5	$63.12	$76.45	$89.78
Apprentice: Level 6	$65.82	$79.86	$93.90
Apprentice: Level 7	$68.94	$83.87	$98.80
Apprentice: Level 8	$72.05	$87.87	$103.69

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$96.21
10th hour	$96.21
Beyond 10 hours	$113.63
Saturday	
First 8 hours	$96.21
9th hour	$96.21
10th hour	$96.21
Beyond 10 hours	$113.63
Sunday/Holiday	$113.63

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Reinforced Ironworker	**Ironworker**	**01/07/2025**

Classification Description: Reinforced Iron Work

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$65.70	$82.42	$99.13
Apprentice: Level 1	$54.67	$66.54	$78.41
Apprentice: Level 2	$57.24	$69.61	$81.98
Apprentice: Level 3	$59.13	$71.84	$84.54
Apprentice: Level 4	$62.02	$75.56	$89.10
Apprentice: Level 5	$64.92	$79.30	$93.67
Apprentice: Level 6	$72.26	$88.98	$105.69
Apprentice: Level 7	$72.26	$88.98	$105.69
Apprentice: Level 8	$72.26	$88.98	$105.69

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$82.41
10th hour	$82.41
Beyond 10 hours	$99.13
Saturday	
First 8 hours	$82.41
9th hour	$82.41
10th hour	$82.41
Beyond 10 hours	$99.13
Sunday/Holiday	$99.13

Four 10-hour days allowed? - No

Make Up Day Allowed? - Yes

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Structural Ironworker	**Ironworker**	**01/07/2025**

Classification Description: Structural, ornamental, welder and pre-cast

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$78.91	$105.80	$132.69
Apprentice: Level 1	$54.18	$65.03	$75.87
Apprentice: Level 2	$55.00	$66.20	$77.40
Apprentice: Level 3	$57.29	$69.02	$80.75
Apprentice: Level 4	$60.00	$72.45	$84.89
Apprentice: Level 5	$63.12	$76.45	$89.78
Apprentice: Level 6	$65.82	$79.86	$93.90
Apprentice: Level 7	$68.94	$83.87	$98.80
Apprentice: Level 8	$72.05	$87.87	$103.69

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$96.69
10th hour	$96.69
Beyond 10 hours	$114.46
Saturday	
First 8 hours	$96.69
9th hour	$96.69
10th hour	$96.69
Beyond 10 hours	$114.46
Sunday/Holiday	$114.46

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Friday

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Journeyman Signal Technician	**Journeyman Signal Technician**	**05/13/2024**

Classification Description:

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$67.89	$98.24	$128.58
Apprentice: Apprentice 1st 6 months	$43.61	$61.82	$80.02
Apprentice: Apprentice 2nd 6 months	$46.65	$66.38	$86.10
Apprentice: Apprentice 3rd 6 months	$49.68	$70.92	$92.16
Apprentice: Apprentice 4th 6 months	$52.71	$75.47	$98.22
Apprentice: Apprentice 5th 6 months	$55.75	$80.03	$104.30
Apprentice: Apprentice 6th 6months	$61.82	$89.13	$116.44

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$98.24
10th hour	$98.24
Beyond 10 hours	$98.24
Saturday	
First 8 hours	$98.24
9th hour	$98.24
10th hour	$98.24
Beyond 10 hours	$98.24
Sunday/Holiday	$128.58

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

ONLY due to inclement weather or customer requirements may Friday be used as a make up day if the normal scheduled work week was interrupted and time lost of five (5) hours or more was incurred by workmen covered under the terms of the 6-17-C/6-876-T agreement.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Journeyman Specialist	**Journeyman Specialist**	**05/13/2024**

Classification Description:

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$76.98	$111.88	$146.76

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$111.87
10th hour	$111.87
Beyond 10 hours	$111.87
Saturday	
First 8 hours	$111.87
9th hour	$111.87
10th hour	$111.87
Beyond 10 hours	$111.87
Sunday/Holiday	$146.76

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

ONLY due to inclement weather or customer requirements may Friday be used as a make up day if the normal scheduled work week was interrupted and time lost of five (5) hours or more was incurred by workmen covered under the terms of the 6-17-C/6-876-T agreement.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Labor Crew Foreman	**Labor Crew Foreman**	**05/13/2024**

Classification Description:

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$61.86	$89.19	$116.52

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$89.19
10th hour	$89.19
Beyond 10 hours	$89.19
Saturday	
First 8 hours	$89.19
9th hour	$89.19
10th hour	$89.19
Beyond 10 hours	$89.19
Sunday/Holiday	$116.52

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

ONLY due to inclement weather or customer requirements may Friday be used as a make up day if the normal scheduled work week was interrupted and time lost of five (5) hours or more was incurred by workmen covered under the terms of the 6-17-C/6-876-T agreement.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Asbestos & Lead Abatement Laborer	**Laborer**	**05/10/2024**

Classification Description: Asbestos & Lead Abatement Laborer
4 ten hour days @ straight time allowed Monday-Saturday, must be consecutive calendar days

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$50.60	$65.37	$80.13
Apprentice: Trainee 600 hours +1 year	$34.07	$18.89	$20.54

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$65.37
10th hour	$65.37
Beyond 10 hours	$65.37
Saturday	
First 8 hours	$65.37
9th hour	$65.37
10th hour	$65.37
Beyond 10 hours	$65.37
Sunday/Holiday	$80.13

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Ground Burner	**Laborer**	**08/02/2024**

Classification Description: Ground Burner

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$45.03	$60.70	$76.36

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$60.69
10th hour	$60.69
Beyond 10 hours	$60.69
Saturday	
First 8 hours	$60.69
9th hour	$45.03
10th hour	$45.03
Beyond 10 hours	$45.03
Sunday/Holiday	$76.36

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
High Burner	**Laborer**	**08/02/2024**

Classification Description: High Burner

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$51.83	$68.65	$85.46

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$68.65
10th hour	$68.65
Beyond 10 hours	$68.65
Saturday	
First 8 hours	$68.65
9th hour	$68.65
10th hour	$68.65
Beyond 10 hours	$68.65
Sunday/Holiday	$85.46

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Saturday

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer - Class 1 - RZ2	**Laborer**	**05/10/2024**

Classification Description: Laborer Road Class 1: asphalt shoveler or loader, yard man, fence erector tender, dumper, joint filling, form setting, form stripper, pavement reinforcing, waterproofing, seal coating, bridge painting, sandblasting, pressure grouting, RC equipment

Wage Rates

	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$45.39	$58.38	$71.36
Apprentice: 0-1,000 hours	$38.90	$48.64	$58.38
Apprentice: 1,001-2,000 hours	$40.20	$50.59	$60.98
Apprentice: 2,001-3,000 hours	$41.49	$52.52	$63.56
Apprentice: 3,001-4,000 hours	$44.09	$56.42	$68.76

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$58.38
10th hour	$58.38
Beyond 10 hours	$58.38
Saturday	
First 8 hours	$58.38
9th hour	$58.38
10th hour	$58.38
Beyond 10 hours	$58.38
Sunday/Holiday	$71.36

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer - Class 2 - RZ2	**Laborer**	**05/10/2024**

Classification Description: Laborer Road Class 2: mixer operator, air or electric tool operator, spreader, boxman, concreter paddler, power chain saw operator, paving patch truck dumper, tunnel mucker, concrete saw operator, dry pack macine and roto-mill grounds person

Wage Rates

	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$45.59	$58.18	$71.26
Apprentice: 0-1,000 hours	$39.05	$48.36	$58.18
Apprentice: 1,001-2,000 hours	$40.36	$50.33	$60.80
Apprentice: 2,001-3,000 hours	$41.66	$52.28	$63.40
Apprentice: 3,001-4,000 hours	$44.28	$56.21	$68.64

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$58.68
10th hour	$58.68
Beyond 10 hours	$58.68
Saturday	
First 8 hours	$58.68
9th hour	$58.68
10th hour	$58.68
Beyond 10 hours	$58.68
Sunday/Holiday	$71.76

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer - Class 3 - RZ2	**Laborer**	**05/10/2024**

Classification Description: Laborer Road Class 3: tunnel miner, finish tenders, guard rail builder, median barrier installer, earth retention barrier and wall installer, fence erector, bottom man, powder man, wagon drill and air track operator, curb and side rail setter

Wage Rates

	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$45.43	$58.64	$71.84
Apprentice: 0-1,000 hours	$38.83	$48.74	$58.64
Apprentice: 1,001-2,000 hours	$40.15	$50.72	$61.28
Apprentice: 2,001-3,000 hours	$41.47	$52.70	$63.92
Apprentice: 3,001-4,000 hours	$44.11	$56.66	$69.20

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$58.64
10th hour	$58.64
Beyond 10 hours	$58.64
Saturday	
First 8 hours	$58.64
9th hour	$58.64
10th hour	$58.64
Beyond 10 hours	$58.64
Sunday/Holiday	$71.84

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer - Class 4 - RZ2	**Laborer**	**05/10/2024**

Classification Description: Laborer Road Class 4: asphalt raker

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$46.18	$59.56	$72.94
Apprentice: 0-1,000 hours	$39.49	$49.52	$59.56
Apprentice: 1,001-2,000 hours	$40.83	$51.54	$62.24
Apprentice: 2,001-3,000 hours	$42.17	$53.54	$64.92
Apprentice: 3,001-4,000 hours	$44.84	$57.55	$70.26

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$59.56
10th hour	$59.56
Beyond 10 hours	$59.56
Saturday	
First 8 hours	$59.56
9th hour	$59.56
10th hour	$59.56
Beyond 10 hours	$59.56
Sunday/Holiday	$72.94

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer - Class 5 - RZ2	**Laborer**	**05/10/2024**

Classification Description: Laborer Road Class 5: pipe layers, oxy-gun

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$46.05	$59.37	$72.68
Apprentice: 0-1,000 hours	$39.39	$49.38	$59.36
Apprentice: 1,001-2,000 hours	$40.72	$51.37	$62.02
Apprentice: 2,001-3,000 hours	$42.06	$53.38	$64.70
Apprentice: 3,001-4,000 hours	$44.72	$57.37	$70.02

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$59.37
10th hour	$59.37
Beyond 10 hours	$59.37
Saturday	
First 8 hours	$59.37
9th hour	$59.37
10th hour	$59.37
Beyond 10 hours	$59.37
Sunday/Holiday	$72.68

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer - Class 6 - RZ2	**Laborer**	**05/10/2024**

Classification Description: Laborer Road Class 6: line form setter for curb or pavement, asphalt screed checker/screw man on asphalt paving machines

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$46.39	$59.88	$73.36
Apprentice: 0-1,000 hours	$39.65	$49.76	$59.88
Apprentice: 1,001-2,000 hours	$41.00	$51.79	$62.58
Apprentice: 2,001-3,000 hours	$42.34	$53.80	$65.26
Apprentice: 3,001-4,000 hours	$45.04	$57.85	$70.66

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$59.88
10th hour	$59.88
Beyond 10 hours	$59.88
Saturday	
First 8 hours	$59.88
9th hour	$59.88
10th hour	$59.88
Beyond 10 hours	$59.88
Sunday/Holiday	$73.36

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer - Class 7 - RZ2	**Laborer**	**05/10/2024**

Classification Description: Laborer Road Class 7: concrete specialist - including finishing and trowling, cast in place or precast by any method

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$48.96	$63.73	$78.50
Apprentice: 0-1,000 hours	$41.58	$52.66	$63.74
Apprentice: 1,001-2,000 hours	$43.05	$54.86	$66.68
Apprentice: 2,001-3,000 hours	$44.53	$57.08	$69.64
Apprentice: 3,001-4,000 hours	$47.48	$61.51	$75.54

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$63.73
10th hour	$63.73
Beyond 10 hours	$63.73
Saturday	
First 8 hours	$63.73
9th hour	$63.73
10th hour	$63.73
Beyond 10 hours	$63.73
Sunday/Holiday	$78.50

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer - L	**Laborer**	**05/10/2024**

Classification Description: Journeyperson - building and heavy construction craft laborer, portable concrete mixer operator, air, electric or gasoline tool operator, hot dope carrier, tar kettle tender, gasoline vibrators, concrete gas buggies, concrete saw, signal person and top pe

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$38.53	$51.20	$63.86
Apprentice: 0-1,000 hours	$32.20	$41.70	$51.20
Apprentice: 1,001-2,000 hours	$33.46	$43.60	$53.73
Apprentice: 2,001-3,000 hours	$34.73	$45.50	$56.26
Apprentice: 3,001-4,000 hours	$37.26	$49.30	$61.33

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$51.20
10th hour	$51.20
Beyond 10 hours	$51.20
Saturday	
First 8 hours	$51.20
9th hour	$51.20
10th hour	$51.20
Beyond 10 hours	$51.20
Sunday/Holiday	$63.86

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Saturday

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer - Hazardous - Class A - Z6	**Laborer - Hazardous**	**05/10/2024**

Classification Description: Class A Laborer - performing work in conjunction with site preparation and other preliminary work prior to actual removal, handling, or containment of hazardous waste substances not requiring use of personal protective equipment required by state or feder

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$38.53	$51.20	$63.86
Apprentice: 0-1,000 work hours	$32.20	$41.70	$51.20
Apprentice: 1,001-2,000 work hours	$33.46	$47.09	$60.72
Apprentice: 2,001-3,000 work hours	$34.73	$45.50	$56.26
Apprentice: 3,001-4,000 work hours	$37.26	$49.29	$61.32

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$51.20
10th hour	$51.20
Beyond 10 hours	$51.20
Saturday	
First 8 hours	$51.20
9th hour	$51.20
10th hour	$51.20
Beyond 10 hours	$51.20
Sunday/Holiday	$63.86

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th or T-F; inclement weather makeup day Friday

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer - Hazardous - Class B - Z6	**Laborer - Hazardous**	**05/10/2024**

Classification Description: Class B Laborer - performing work in conjunction with the removal, handling, or containment of hazardous waste substances when the use of personal protective equipment levels "A", "B" or "C" is required.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$39.53	$52.70	$65.86
Apprentice: 0-1,000 work hours	$32.95	$42.82	$52.70
Apprentice: 1,001-2,000 work hours	$34.26	$44.79	$55.32
Apprentice: 2,001-3,000 work hours	$35.58	$46.77	$57.96
Apprentice: 3,001-4,000 work hours	$38.21	$50.72	$63.22

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$52.70
10th hour	$52.70
Beyond 10 hours	$52.70
Saturday	
First 8 hours	$52.70
9th hour	$52.70
10th hour	$52.70
Beyond 10 hours	$52.70
Sunday/Holiday	$65.86

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th or T-F; inclement weather makeup day Friday

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer - Landscape - Class B2 - Z2	**Laborer - Landscape**	**05/10/2024**

Classification Description: Class B2: Skilled Landscape Laborer: small power tool operator, lawn sprinkler installers' tender, irrigation installers' tender material mover

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$30.40	$39.93	$49.45

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$39.93
10th hour	$39.93
Beyond 10 hours	$39.93
Saturday	
First 8 hours	$39.93
9th hour	$39.93
10th hour	$39.93
Beyond 10 hours	$39.93
Sunday/Holiday	$49.45

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer - Landscape - Class C - Z2	**Laborer - Landscape**	**05/10/2024**

Classification Description: Class C: landscape laborer with 90 or more calendar days worked

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$24.66	$33.27	$41.87

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$31.98
10th hour	$31.98
Beyond 10 hours	$31.98
Saturday	
First 8 hours	$31.98
9th hour	$31.98
10th hour	$31.98
Beyond 10 hours	$31.98
Sunday/Holiday	$39.30

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer - Landscape - Class D - Z2	**Laborer - Landscape**	**05/10/2024**

Classification Description: Class D: Inexperienced landscape laborer - individual who has worked less than 90 calendar days

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$15.54	$23.31	$31.08

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$22.03
10th hour	$22.03
Beyond 10 hours	$22.03
Saturday	
First 8 hours	$22.03
9th hour	$22.03
10th hour	$22.03
Beyond 10 hours	$22.03
Sunday/Holiday	$28.51

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer -Underground Open Cut - Class I - Z3	**Laborer -Underground Open Cut, Class I**	**05/10/2024**

Classification Description: Construction Laborer

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$36.91	$47.01	$57.10
Apprentice: 0-1,000 work hours	$31.39	$40.40	$49.41
Apprentice: 1,001-2,000 work hours	$32.38	$41.88	$51.39
Apprentice: 2,001-3,000 work hours	$33.38	$43.38	$53.39
Apprentice: 3,001-4,000 work hours	$35.37	$46.37	$57.37

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$47.01
10th hour	$47.01
Beyond 10 hours	$47.01
Saturday	
First 8 hours	$47.01
9th hour	$47.01
10th hour	$47.01
Beyond 10 hours	$47.01
Sunday/Holiday	$57.10

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer -Underground Open Cut - Class II - Z3	**Laborer -Underground Open Cut, Class II**	**05/10/2024**

Classification Description: Mortar and material mixer, concrete form man, signal man, well point man, manhole, headwall and catch basin builder, guard rail builders, headwall, seawall, breakwall, dock builder and fence erector.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$37.05	$47.22	$57.38
Apprentice: 0-1,000 work hours	$31.49	$40.55	$49.61
Apprentice: 1,001-2,000 work hours	$32.49	$42.05	$51.61
Apprentice: 2,001-3,000 work hours	$33.50	$43.56	$53.63
Apprentice: 3,001-4,000 work hours	$35.50	$46.56	$57.63

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$47.22
10th hour	$47.22
Beyond 10 hours	$47.22
Saturday	
First 8 hours	$47.22
9th hour	$47.22
10th hour	$47.22
Beyond 10 hours	$47.22
Sunday/Holiday	$57.38

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer -Underground Open Cut - Class III - Z3	**Laborer -Underground Open Cut, Class III**	**05/10/2024**

Classification Description: Air, gasoline and electric tool operator, vibrator operator, drillers, pump man, tar kettle operator, bracers, rodder, reinforced steel or mesh man (e.g. wire mesh, steel mats, dowel bars, etc.), cement finisher, welder, pipe jacking and boring man, wagon

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$37.17	$47.40	$57.62
Apprentice: 0-1,000 work hours	$31.58	$40.68	$49.79
Apprentice: 1,001-2,000 work hous	$32.59	$42.20	$51.81
Apprentice: 2,001-3,000 work hours	$33.60	$43.72	$53.83
Apprentice: 3,001-4,000 work hours	$35.61	$46.73	$57.85

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$47.40
10th hour	$47.40
Beyond 10 hours	$47.40
Saturday	
First 8 hours	$47.40
9th hour	$47.40
10th hour	$47.40
Beyond 10 hours	$47.40
Sunday/Holiday	$57.62

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer -Underground Open Cut - Class IV - Z3	**Laborer -Underground Open Cut, Class IV**	**05/10/2024**

Classification Description: Trench or excavating grade man.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$37.22	$47.47	$57.72
Apprentice: 0-1,000 work hours	$31.62	$40.74	$49.87
Apprentice: 1,001-2,000 work hours	$32.63	$42.26	$51.89
Apprentice: 2,001-3,000 work hours	$33.64	$43.78	$53.91
Apprentice: 3,001-4,000 work hours	$35.66	$46.80	$57.95

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$47.47
10th hour	$47.47
Beyond 10 hours	$47.47
Saturday	
First 8 hours	$47.47
9th hour	$47.47
10th hour	$47.47
Beyond 10 hours	$47.47
Sunday/Holiday	$57.72

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer -Underground Open Cut - Class V - Z3	**Laborer -Underground Open Cut, Class V**	**05/10/2024**

Classification Description: Pipe Layer (including crock, metal pipe, multiplate or other conduits)

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$37.36	$47.68	$58.00
Apprentice: 0-1,000 work hours	$31.73	$40.91	$50.09
Apprentice: 1,001-2,000 work hours	$32.74	$42.42	$52.11
Apprentice: 2,001-3,000 work hours	$33.76	$43.96	$54.15
Apprentice: 3,001-4,000 work hours	$35.79	$47.00	$58.21

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$47.68
10th hour	$47.68
Beyond 10 hours	$47.68
Saturday	
First 8 hours	$47.68
9th hour	$47.68
10th hour	$47.68
Beyond 10 hours	$47.68
Sunday/Holiday	$58.00

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer -Underground Open Cut - Class VI - Z3	**Laborer -Underground Open Cut, Class VI**	**05/10/2024**

Classification Description: Grouting man, top man assistant, audio visual television operations and all other operations in connection with closed circuit television inspection, pipe cleaning and pipe relining work and the installation & repair of water service pipe & appurtenances

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$34.66	$43.63	$52.60
Apprentice: 0-1,000 work hours	$29.70	$37.86	$46.03
Apprentice: 1,001-2,000 work hours	$30.58	$39.18	$47.79
Apprentice: 2,001-3,000 work hours	$31.46	$40.50	$49.55
Apprentice: 3,001-4,000 work hours	$33.23	$43.16	$53.09

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$43.63
10th hour	$43.63
Beyond 10 hours	$43.63
Saturday	
First 8 hours	$43.63
9th hour	$43.63
10th hour	$43.63
Beyond 10 hours	$43.63
Sunday/Holiday	$52.60

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer -Underground Open Cut - Class VII - Z3	**Laborer -Underground Open Cut, Class VII**	**05/10/2024**

Classification Description: Restoration laborer, seeding, sodding, planting, cutting, mulching and topsoil grading and the restoration of property such as replacing mail boxes, wood chips, planter boxes, flagstones etc.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$31.81	$39.36	$46.90
Apprentice: 0-1,000 work hours	$27.56	$34.66	$41.75
Apprentice: 1,001-2,000 work hours	$28.30	$35.76	$43.23
Apprentice: 2,001-3,000 work hours	$29.04	$36.88	$44.71
Apprentice: 3,001-4,000 work hours	$30.52	$39.10	$47.67

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$39.36
10th hour	$39.36
Beyond 10 hours	$39.36
Saturday	
First 8 hours	$39.36
9th hour	$39.36
10th hour	$39.36
Beyond 10 hours	$39.36
Sunday/Holiday	$46.90

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer - Landscape - Class A - Z2	**Landscape Laborer**	**05/10/2024**

Classification Description: Class A: Irrigation Foremen and Construction Foremen.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$32.40	$42.96	$53.48

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$42.93
10th hour	$42.93
Beyond 10 hours	$42.93
Saturday	
First 8 hours	$42.93
9th hour	$42.93
10th hour	$42.93
Beyond 10 hours	$42.93
Sunday/Holiday	$53.45

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Laborer - Landscape - Class A - Z2	**Landscape Laborer**	**05/10/2024**

Classification Description: Class A: Irrigation Foremen and Construction Foremen.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$34.62	$46.26	$57.89

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$46.26
10th hour	$46.26
Beyond 10 hours	$46.26
Saturday	
First 8 hours	$46.26
9th hour	$46.26
10th hour	$46.26
Beyond 10 hours	$46.26
Sunday/Holiday	$57.89

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Class I	**Operating Engineer**	**05/10/2024**

Classification Description: Class I - diver/wet tender, engineer, blaster, leverman

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$82.82	$107.82	$132.82

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$32.82
10th hour	$107.82
Beyond 10 hours	$107.82
Saturday	
First 8 hours	$107.82
9th hour	$107.82
10th hour	$107.82
Beyond 10 hours	$107.82
Sunday/Holiday	$132.82

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Class II (A)	**Operating Engineer**	**05/10/2024**

Classification Description: Class II (A) - Crane/backhoe operator, material handler, all self-propelled drill rigs, mechanic/welder, hydraulic dredge, diver tender

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$81.32	$105.57	$129.82

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$32.82
10th hour	$105.57
Beyond 10 hours	$105.57
Saturday	
First 8 hours	$105.57
9th hour	$105.57
10th hour	$105.57
Beyond 10 hours	$105.57
Sunday/Holiday	$129.82

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Class II (B)	**Operating Engineer**	**05/10/2024**

Classification Description: Class II (B) - friction, lattice boom, tug or tug boat operator

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$84.32	$110.07	$135.82

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$110.07
10th hour	$110.07
Beyond 10 hours	$110.07
Saturday	
First 8 hours	$110.07
9th hour	$110.07
10th hour	$110.07
Beyond 10 hours	$110.07
Sunday/Holiday	$135.82

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Class III	**Operating Engineer**	**05/10/2024**

Classification Description: Class III - Deck equip. operator, maintenance of crane or excavator, tug/launch operator, loader/dozer on barge/deck machinery, truck-able tug, lead surveyor, ROV operator, AB deckhand, welder

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$76.82	$98.82	$120.82

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$98.82
10th hour	$98.82
Beyond 10 hours	$98.82
Saturday	
First 8 hours	$98.82
9th hour	$98.82
10th hour	$98.82
Beyond 10 hours	$98.82
Sunday/Holiday	$120.82

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Class IV	**Operating Engineer**	**05/10/2024**

Classification Description: Class IV - Deck equipment operator, machineryman/fireman, off road trucks, deck hand, tug engineer, assistant tug operator, blaster helper, deck hand, jet machine, subsea plow, trencher, tug engineer

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$72.32	$92.07	$111.82

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$32.82
10th hour	$92.07
Beyond 10 hours	$92.07
Saturday	
First 8 hours	$92.07
9th hour	$92.07
10th hour	$92.07
Beyond 10 hours	$92.07
Sunday/Holiday	$111.82

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Extended Boom Forklift Operator - Over 5,000	**Operating Engineer**	**05/10/2024**

Classification Description: Extended boom forklift/forktruck over 5,000lb capacity, 1 drum hoist

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$41.43	$54.43	$67.42

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$54.43
10th hour	$54.43
Beyond 10 hours	$67.42
Saturday	
First 8 hours	$54.43
9th hour	$54.43
10th hour	$54.43
Beyond 10 hours	$67.42
Sunday/Holiday	$67.42

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Extended Boom Forklift Operator - Over 5,000	**Operating Engineer**	**05/10/2024**

Classification Description: Extended boom forklift/forktruck over 5,000lb capacity, 1 drum hoist

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$58.82	$73.32	$87.81

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$73.32
10th hour	$73.32
Beyond 10 hours	$87.81
Saturday	
First 8 hours	$73.32
9th hour	$73.32
10th hour	$73.32
Beyond 10 hours	$87.81
Sunday/Holiday	$87.81

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Extended Boom Forklift Operator - Over 5,000	**Operating Engineer**	**05/10/2024**

Classification Description: Extended boom forklift/forktruck over 5,000lb capacity, 1 drum hoist

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$64.70	$81.75	$98.80

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$81.75
10th hour	$81.75
Beyond 10 hours	$98.80
Saturday	
First 8 hours	$81.75
9th hour	$81.75
10th hour	$81.75
Beyond 10 hours	$98.80
Sunday/Holiday	$98.80

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Extended Boom Forklift Operator - Over 5,000	**Operating Engineer**	**05/10/2024**

Classification Description: Extended boom forklift/forktruck over 5,000lb capacity, 1 drum hoist

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$69.61	$88.88	$108.15

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$88.88
10th hour	$88.88
Beyond 10 hours	$108.15
Saturday	
First 8 hours	$88.88
9th hour	$88.88
10th hour	$88.88
Beyond 10 hours	$108.15
Sunday/Holiday	$108.15

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Extended Boom Forklift Operator - Over 5,000	**Operating Engineer**	**05/10/2024**

Classification Description: Extended boom forklift/forktruck over 5,000lb capacity, 1 drum hoist

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$63.29	$79.73	$96.16

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$79.73
10th hour	$79.73
Beyond 10 hours	$96.16
Saturday	
First 8 hours	$79.73
9th hour	$79.73
10th hour	$79.73
Beyond 10 hours	$96.16
Sunday/Holiday	$96.16

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Journeyman - Class I	**Operating Engineer**	**05/17/2024**

Classification Description: Journeyman - Class I
Asphalt Transfer Machine (Shuttle Buggy)
Concrete/Asphalt Pavers
Excavators Installing Utilities over 20 feet in depth
GPS or Electronic Grade Equipment (employee must be able to set up and use it on machine themselves, and employee can install it and calibrate it on their own)
Hydraulic/Lattice Lifting Cranes over 25 tons
Mechanic
**On bridge construction projects when a Class I Crane Operator is erecting structural components as part of a composite crew with Structural Ironworkers, the Base Rate and Vacation and Holiday pay shall be at the Crane Operator rate as set forth in the current agreement between the Union and the Great Lakes Fabricators and Erectors Association.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$69.17	$88.16	$107.14
Apprentice: Apprentice Engineer 0-6 months	$56.03	$71.32	$86.60
Apprentice: Apprentice Engineer 13-18	$60.40	$77.87	$95.34
Apprentice: Apprentice Engineer 19-24 months	$62.21	$80.59	$98.96
Apprentice: Apprentice Engineer 25-30 months	$64.76	$84.42	$104.06
Apprentice: Apprentice Engineer 31-36 months	$67.08	$87.90	$108.70
Apprentice: Apprentice Engineer 7-12 months	$58.21	$74.58	$90.96

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$88.16
10th hour	$88.16
Beyond 10 hours	$88.16
Saturday	
First 8 hours	$88.16
9th hour	$88.16
10th hour	$88.16
Beyond 10 hours	$88.16
Sunday/Holiday	$107.14

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

In the event work is unable to be performed on account of weather, Monday through Thursday, the Friday work may be scheduled for ten (10) hours, at straight time, as a make-up day.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Journeyman - Class II	**Operating Engineer**	**05/17/2024**

Classification Description: Journeyman - Class II
Air Compressors in Manifold with throttle valve +750 cfm
Asphalt Bituminous Compactor / Roller
Asphalt Planner self-propelled
Asphalt Plant on project including operating from on site or operating remotely
Asphalt Screed or Screw (per Employer Past Practice)
Auto Grade or similar type machine
Backhoe on Farm Type Tractor 45 H.P. & over
Ballast Jack Tamper
Ballast Regulator (R.R.)
Batch Plant (concrete-central mix)
Bituminous Paver (self-propelled)
Blade Grader
Bull Dozer
Caisson Drilling Machine
Cherry Picker – 15 ton or over
Chip Spreader
Concrete Batch or Drum Mix Plant on project including operating from on site or operating remotely
Concrete Belt Placer (Formless)
Concrete Cure / Finish Machine (burlap, tinning or grooving)
Concrete Mixer 21 cu. Ft. Or over
Concrete Pump (Truck Mount)
Concrete Pump (3 inch and over)
Concrete / Asphalt Saw Power Driven (3 yrs experience or more)
Conveyor Loader (Euclid type)
Core Drilling Machine
Curb-Barrier Wall Machine CMI type
Directional Drill / Boring Machine
Dredge Engineer
Dredge
Drilling Machine on which the drill is an integral part
Earth Mover – rubber tired – (paddle wheel, Cat 619, 631, TS-24 or similar type)
Earth Mover rubber tired-tandem

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$68.02	$86.51	$104.99

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$86.50
10th hour	$86.50
Beyond 10 hours	$86.50
Saturday	
First 8 hours	$86.50
9th hour	$86.50
10th hour	$86.50
Beyond 10 hours	$86.50
Sunday/Holiday	$104.99

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Journeyman - Class III	**Operating Engineer**	**05/17/2024**

Classification Description: Journeyman - Class III
Air Compressor with Throttle Valve or Clever Brooks type comb.
Backhoe less than 1 cyd. Including Farm Type
Bituminous Plant Engineer
Chemical / Grout Machine 21 cft. Or larger
Cherry Picker under 15 ton
Chip Spreader (self-propelled)
Crusher
Concrete Barrier Moving Machine (per Employer Past Practice)
Concrete Pump
Concrete Spreader--Power Driven
End Loader under 1-1/2 cu yd.
Grease Truck
Gunite Machine
Lowboy (per Employer Past Practice)
Mesh or Steel Placer (motorized)
Multiple Tamping Machine (R.R.)
Refrigerating Machine--Freezing operation
Roller-Waterbound Macadam, Bituminous Macadam, Brick
Ross Carrier
Self-propelled convey transfer devise.
Side Boom Tractor (smaller than D-4 type or equivalent)
Sweeper (Wayne type and similar equipment)
Macadam, Brick Surface
Trench Machine 24" and under
Tube Float (motorized)

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$61.29	$76.85	$92.41

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$30.17
10th hour	$76.85
Beyond 10 hours	$76.85
Saturday	
First 8 hours	$76.85
9th hour	$76.85
10th hour	$76.85
Beyond 10 hours	$76.85
Sunday/Holiday	$92.41

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Journeyman - Class IV	**Operating Engineer**	**05/17/2024**

Classification Description: Journeyman - Class IV
Air Compressor
All mulching equipment
All Walk Behind or Remote Control Powered Equipment (autonomous equipment)
Assistant to Engineer Automatic Dry Batch Plant Belt Spreader (motorized including transfer device by remote, wireless or cable)
Bituminous Distributor
Bituminous Patching Machine
Broom & Belt Machine
Chair Cart (self-propelled)
Concrete Pumps (under 3")
Concrete Breaker
Curb Machine
Curing Equipment (self-propelled)
Deck Hand
Digger Post Hole (power-driven)
Dump Truck
End Dumps (per Employer Past Practice)
End Loader (under ¾ yard capacity)
Farm Tractor-incl. farm tractor with all attachments except backhoe and incl. highlift end loaders of 1 cu. Yard capacity or less
Fireman (on boiler)
Fork Lift – under 10 ton
Form Grader (if motorized)
Georgia Buggy – Power wheel barrel ¾ yard with a seat
Generator (15 kw or greater)
Greaser Helper
Guard Post Driver (power driven)

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$60.73	$76.05	$91.36

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$76.05
10th hour	$76.05
Beyond 10 hours	$76.05
Saturday	
First 8 hours	$76.05
9th hour	$76.05
10th hour	$76.05
Beyond 10 hours	$76.05
Sunday/Holiday	$91.36

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Journeyman - Class V	**Operating Engineer**	**05/17/2024**

Classification Description: Journeyman - Class V
Concrete/Asphalt Saw - Power Driven (Less than 3 yrs. experience)
Density/Soil Engineer
Directional Boring Utility Man
Discharge Pumps 4" or less (1-4 units)
Dumper (Wagon, Truck, Etc.)-½ yard or less
Fence Erector/Power Driven
Light Plants (1 to 5 units)
Paving Batch Truck Dumper
Roto Mill Utility Grade Control
Sign Installer/Sign Installer with Remote Control Operated Equipment
Top Man, And Railroad Track and Trestle Engineer
Utility Engineer
Water Blasting Utility Engineer
1 to 4 pcs. of minor equip.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$42.35	$55.33	$68.31

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$55.33
10th hour	$55.33
Beyond 10 hours	$55.33
Saturday	
First 8 hours	$55.33
9th hour	$55.33
10th hour	$55.33
Beyond 10 hours	$55.33
Sunday/Holiday	$68.31

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - 324 A140	**Operating Engineer**	**05/10/2024**

Classification Description: Crane with boom & jib or leads 140' or longer

Work in excess of 12 per day M-F shall be paid at double time.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$77.59	$100.24	$122.89

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$100.24
10th hour	$100.24
Beyond 10 hours	$100.24
Saturday	
First 8 hours	$100.24
9th hour	$100.24
10th hour	$100.24
Beyond 10 hours	$100.24
Sunday/Holiday	$122.89

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time after 12 hours Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - 324 A220	**Operating Engineer**	**05/10/2024**

Classification Description: Crane with boom & jib or leads 220' or longer
Work in excess of 12 per day M-F shall be paid at double time.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$77.86	$100.63	$123.40

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$100.63
10th hour	$100.63
Beyond 10 hours	$100.63
Saturday	
First 8 hours	$100.63
9th hour	$100.63
10th hour	$100.63
Beyond 10 hours	$100.63
Sunday/Holiday	$123.40

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time after 12 hours Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - 324 B120	**Operating Engineer**	**06/20/2024**

Classification Description: Crane Operator w/120' of Boom or Longer w/Oiler

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$77.41	$99.99	$122.56

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$99.98
10th hour	$99.98
Beyond 10 hours	$99.98
Saturday	
First 8 hours	$99.98
9th hour	$99.98
10th hour	$99.98
Beyond 10 hours	$99.98
Sunday/Holiday	$122.56

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time after 12 Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - 324 GM	**Operating Engineer**	**06/20/2024**

Classification Description: Ground Man/Light Plants/Welder/Pumps Under 6"

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$43.83	$57.87	$71.91

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$57.87
10th hour	$57.87
Beyond 10 hours	$57.87
Saturday	
First 8 hours	$57.87
9th hour	$57.87
10th hour	$57.87
Beyond 10 hours	$57.87
Sunday/Holiday	$71.91

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time after 12 Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - AC	**Operating Engineer**	**05/10/2024**

Classification Description: Compressor or Welding Machine

Four 10 hour days may be scheduled Monday-Thursday or Tuesday-Friday. Work not performed due to weather, Monday-Thursday may be scheduled on Friday.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$56.05	$69.32	$82.58

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$69.32
10th hour	$69.32
Beyond 10 hours	$69.32
Saturday	
First 8 hours	$69.32
9th hour	$82.58
10th hour	$82.58
Beyond 10 hours	$82.58
Sunday/Holiday	$82.58

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Friday

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - Below 5,000lb Capacity	**Operating Engineer**	**06/20/2024**

Classification Description: Ind. forklift/forktruck under 5,000lb capacity power jacks/power packs, composite crew only

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$67.10	$85.19	$103.28

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$85.19
10th hour	$85.19
Beyond 10 hours	$85.19
Saturday	
First 8 hours	$85.19
9th hour	$85.19
10th hour	$85.19
Beyond 10 hours	$85.19
Sunday/Holiday	$103.28

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time after 12 Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - Crane Operator w/Oiler	**Operating Engineer**	**06/20/2024**

Classification Description: Crane Operator w/Oiler

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$77.05	$99.47	$121.89

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$99.47
10th hour	$99.47
Beyond 10 hours	$99.47
Saturday	
First 8 hours	$99.47
9th hour	$99.47
10th hour	$99.47
Beyond 10 hours	$99.47
Sunday/Holiday	$121.89

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time after 12 Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - Crane, TDH, Excavator	**Operating Engineer**	**06/20/2024**

Classification Description: Crane Operator, Job Mechanic, Three Drum Hoist and Excavator

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$76.05	$98.04	$120.02
Apprentice: Apprentice Engineer 0-6 months	$60.84	$78.54	$96.24
Apprentice: Apprentice Engineer 13-18 months	$65.90	$86.13	$106.36
Apprentice: Apprentice Engineer 19-24 months	$68.42	$89.92	$111.40
Apprentice: Apprentice Engineer 25-30 months	$70.95	$93.71	$116.46
Apprentice: Apprentice Engineer 31-36 months	$73.48	$97.50	$121.52
Apprentice: Apprentice Engineer 7-12 months	$63.40	$82.38	$101.36

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$98.03
10th hour	$98.03
Beyond 10 hours	$98.03
Saturday	
First 8 hours	$98.03
9th hour	$98.03
10th hour	$98.03
Beyond 10 hours	$98.03
Sunday/Holiday	$120.02

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time after 12 Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - CW	**Operating Engineer**	**05/10/2024**

Classification Description: Compressor or welding machine
Work in excess of 12 per day M-F shall be paid at double time.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$54.86	$69.72	$84.58

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$67.78
10th hour	$67.78
Beyond 10 hours	$67.78
Saturday	
First 8 hours	$67.78
9th hour	$80.70
10th hour	$80.70
Beyond 10 hours	$80.70
Sunday/Holiday	$80.70

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - F	**Operating Engineer**	**05/10/2024**

Classification Description: Forklift, lull, extend-a-boom forklift
Work in excess of 12 per day M-F shall be paid at double time.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$63.36	$79.81	$96.25

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$79.81
10th hour	$79.81
Beyond 10 hours	$79.81
Saturday	
First 8 hours	$79.81
9th hour	$96.25
10th hour	$96.25
Beyond 10 hours	$96.25
Sunday/Holiday	$96.25

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - FO	**Operating Engineer**	**05/10/2024**

Classification Description: Fireman or Oiler

Four 10 hour days may be scheduled Monday-Thursday or Tuesday-Friday. Work not performed due to weather, Monday-Thursday may be scheduled on Friday.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$55.02	$67.84	$80.65

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$67.84
10th hour	$67.84
Beyond 10 hours	$67.84
Saturday	
First 8 hours	$67.84
9th hour	$80.65
10th hour	$80.65
Beyond 10 hours	$80.65
Sunday/Holiday	$80.65

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Friday

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - FO	**Operating Engineer**	**05/10/2024**

Classification Description: Fireman or oiler
Work in excess of 12 per day M-F shall be paid at double time.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$53.83	$68.18	$82.52

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$66.31
10th hour	$66.31
Beyond 10 hours	$66.31
Saturday	
First 8 hours	$66.31
9th hour	$78.78
10th hour	$78.78
Beyond 10 hours	$78.78
Sunday/Holiday	$78.78

Four 10-hour days allowed? - Yes
Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - FSM	**Operating Engineer**	**05/10/2024**

Classification Description: Forklift or Straight Mast

Four 10 hour days may be scheduled M-Th or T-F. Work not performed due to weather on M-Th may be scheduled on Friday

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$57.50	$71.40	$85.29

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$71.40
10th hour	$71.40
Beyond 10 hours	$71.40
Saturday	
First 8 hours	$71.40
9th hour	$85.29
10th hour	$85.29
Beyond 10 hours	$85.29
Sunday/Holiday	$85.29

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Friday

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - I	**Operating Engineer**	**05/10/2024**

Classification Description: Lull or Extend-a-Boom Forklift

Four 10 hour days may be scheduled M-Th or T-F. Work not performed due to weather on M-Th may be scheduled on Friday

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$59.73	$77.09	$94.45

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$74.83
10th hour	$74.83
Beyond 10 hours	$74.83
Saturday	
First 8 hours	$74.83
9th hour	$89.92
10th hour	$89.92
Beyond 10 hours	$89.92
Sunday/Holiday	$89.92

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Friday

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - OE 324 A120	**Operating Engineer**	**01/09/2025**

Classification Description: Crane with boom & jib or leads 120' or longer

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$76.41	$98.55	$120.69

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$98.55
10th hour	$98.55
Beyond 10 hours	$98.55
Saturday	
First 8 hours	$98.55
9th hour	$98.55
10th hour	$98.55
Beyond 10 hours	$98.55
Sunday/Holiday	$120.69

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time over 12 Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - os120	**Operating Engineer**	**05/10/2024**

Classification Description: Crane with main boom & jib 120' or longer

Four 10 hour days may be scheduled Monday-Thursday or Tuesday-Friday. Worked not performed due to weather, Monday-Thursday may be scheuled Friday

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$63.27	$82.40	$101.53

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$79.91
10th hour	$79.91
Beyond 10 hours	$79.91
Saturday	
First 8 hours	$79.91
9th hour	$96.54
10th hour	$96.54
Beyond 10 hours	$96.54
Sunday/Holiday	$96.54

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Friday

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - OSA	**Operating Engineer**	**05/10/2024**

Classification Description: Crane w/ main Boom & Jib 220' or longer

Four 10 hour days may be scheduled Monday-Thursday or Tuesday-Friday. Work not performed due to weather, Monday-Thursday may be scheduled on Friday.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$64.38	$84.07	$103.75

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$81.50
10th hour	$81.50
Beyond 10 hours	$81.50
Saturday	
First 8 hours	$81.50
9th hour	$98.61
10th hour	$98.61
Beyond 10 hours	$98.61
Sunday/Holiday	$98.61

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Friday

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - OSA3	**Operating Engineer**	**05/10/2024**

Classification Description: Crane w/ main Boom & Jib 300' or longer

Four 10 hour days may be scheduled Monday-Thursday or Tuesday-Friday. Work unabled to be performed due to weather, Monday-Thursday may be scheduled on Friday.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$65.89	$86.33	$106.77

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$83.67
10th hour	$83.67
Beyond 10 hours	$83.67
Saturday	
First 8 hours	$83.67
9th hour	$101.44
10th hour	$101.44
Beyond 10 hours	$101.44
Sunday/Holiday	$101.44

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Friday

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - OSA4	**Operating Engineer**	**05/10/2024**

Classification Description: Crane w/ main Boom & Jib 400' or longer

Four 10 hour days may be scheduled Monday-Thursday or Tuesday-Friday. Work not performed due to weather, Monday-Thursday may be scheduled on Friday.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$78.46	$101.49	$124.52

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$101.49
10th hour	$101.49
Beyond 10 hours	$101.49
Saturday	
First 8 hours	$101.49
9th hour	$101.49
10th hour	$101.49
Beyond 10 hours	$101.49
Sunday/Holiday	$124.52

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Friday

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - OSB	**Operating Engineer**	**05/10/2024**

Classification Description: Crane with main boom and jib 140' or longer

Four 10 hour days may be scheduled Monday-Thursday or Tuesday-Friday. Work unabled to be performed due to weather, Monday-Thursday may be scheduled on Friday.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$64.09	$83.63	$103.17

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$81.08
10th hour	$81.08
Beyond 10 hours	$81.08
Saturday	
First 8 hours	$81.08
9th hour	$98.07
10th hour	$98.07
Beyond 10 hours	$98.07
Sunday/Holiday	$98.07

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Friday

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - RC	**Operating Engineer**	**05/10/2024**

Classification Description: Regular Crane Operator, Job Mechanic, Concrete Pump with Boom

Four 10 hour days may be scheduled Monday-Thursday or Tuesday-Friday. Work not performed due to weather, Monday-Thursday may be scheduled on Friday.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$66.04	$83.65	$101.26
Apprentice: 0-999 hours	$51.13	$64.18	$77.22
Apprentice: 1,000-1,999 hours	$52.99	$66.96	$80.94
Apprentice: 2,000-2,999 hours	$54.86	$69.77	$84.68
Apprentice: 3,000-3,999 hours	$56.72	$72.56	$88.40
Apprentice: 4,000-4,999 hours	$58.59	$75.36	$92.14
Apprentice: 5,000-5,999 hours	$60.44	$78.15	$95.84

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$83.65
10th hour	$83.65
Beyond 10 hours	$83.65
Saturday	
First 8 hours	$83.65
9th hour	$101.26
10th hour	$101.26
Beyond 10 hours	$101.26
Sunday/Holiday	$101.26

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Friday

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - RE	**Operating Engineer**	**05/10/2024**

Classification Description: Regular Engineer, Hydro Excavator & Remote Controlled Concrete Breaker

Four 10 hour days may be scheduled Monday-Thursday or Tuesday-Friday. Work not performed due to weather, Monday-Thursday may be scheduled on Friday.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$65.07	$82.26	$99.44
Apprentice: 1,000-1,999 hours	$55.19	$70.02	$84.84
Apprentice: 1-999 hours	$53.21	$67.02	$80.85
Apprentice: 2,000-2,999 hours	$57.16	$72.97	$88.78
Apprentice: 3,000-3,999 hours	$59.13	$75.93	$92.72
Apprentice: 4,000-4,999 hours	$61.11	$78.90	$96.68
Apprentice: 5,000-5,999 hours	$63.09	$81.87	$100.64

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$82.26
10th hour	$82.26
Beyond 10 hours	$82.26
Saturday	
First 8 hours	$82.26
9th hour	$99.44
10th hour	$99.44
Beyond 10 hours	$99.44
Sunday/Holiday	$99.44

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Friday

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - Skidsteer Operator	**Operating Engineer**	**06/20/2024**

Classification Description: Skidsteer forklift when working with fence and Door companies

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$65.69	$83.17	$100.65

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$83.17
10th hour	$83.17
Beyond 10 hours	$83.17
Saturday	
First 8 hours	$83.17
9th hour	$83.17
10th hour	$83.17
Beyond 10 hours	$83.17
Sunday/Holiday	$100.65

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time after 12 Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - TDH, Backhoe	**Operating Engineer**	**06/20/2024**

Classification Description: Hoisting Operator, Two Drum Hoist, Rubber Tire Backhoe

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$75.41	$97.11	$118.82

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$97.11
10th hour	$97.11
Beyond 10 hours	$97.11
Saturday	
First 8 hours	$97.11
9th hour	$97.11
10th hour	$97.11
Beyond 10 hours	$97.11
Sunday/Holiday	$118.82

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time after 12 Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Marine Construction and Dredging Class I - OE324	**Operating Engineer - Marine Construction**	**01/16/2025**

Classification Description: Craft Foreman, Diver/Wet Tender, Engineer, Engineer (hydraulic dredge), Blaster

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$84.30	$110.05	$135.80

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$110.05
10th hour	$110.05
Beyond 10 hours	$110.05
Saturday	
First 8 hours	$110.05
9th hour	$110.05
10th hour	$110.05
Beyond 10 hours	$110.05
Sunday/Holiday	$135.80

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Marine Construction and Dredging Class II A - OE324	**Operating Engineer - Marine Construction**	**01/16/2025**

Classification Description: Crane, Backhoe, Material Handler, All Self-Propelled Drill Rigs, Mechanic/Welder, Asst. Engineer (hydraulic dredge), Leverman (hydraulic dredge), Diver Tender.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$82.80	$107.80	$132.80

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$107.80
10th hour	$107.80
Beyond 10 hours	$107.80
Saturday	
First 8 hours	$107.80
9th hour	$107.80
10th hour	$107.80
Beyond 10 hours	$107.80
Sunday/Holiday	$132.80

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Marine Construction and Dredging Class II B - OE324	**Operating Engineer - Marine Construction**	**01/16/2025**

Classification Description: Friction, Lattice Boom, or Crane License Cert., Endorse Tug or Tow Boat Operator

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$85.80	$112.30	$138.80

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$112.30
10th hour	$112.30
Beyond 10 hours	$112.30
Saturday	
First 8 hours	$112.30
9th hour	$112.30
10th hour	$112.30
Beyond 10 hours	$112.30
Sunday/Holiday	$138.80

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Marine Construction and Dredging Class III - OE324	**Operating Engineer - Marine Construction**	**01/16/2025**

Classification Description: Deck Equipment Operator, (Machineryman), Maintenance of Crane, Tug/Launch Operator, Loader/Dozer on Barge, Deck Machinery, etc.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$78.30	$101.05	$123.80

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$101.05
10th hour	$101.05
Beyond 10 hours	$101.05
Saturday	
First 8 hours	$101.05
9th hour	$101.05
10th hour	$101.05
Beyond 10 hours	$101.05
Sunday/Holiday	$123.80

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Marine Construction and Dredging Class IV - OE324	**Operating Engineer - Marine Construction**	**01/16/2025**

Classification Description: Deck Equipment Operator, Machineryman/Fireman, (4 equipment units or more), Off Road Trucks, Deck
Hand, Tug/Engineer, Crane Maint. (50 ton and under/Backhoe 115,000 lbs. or less), Asst. Tug Operator, Blaster Helper.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$73.35	$93.85	$114.35

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$93.85
10th hour	$93.85
Beyond 10 hours	$93.85
Saturday	
First 8 hours	$93.85
9th hour	$93.85
10th hour	$93.85
Beyond 10 hours	$93.85
Sunday/Holiday	$114.35

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Crane Operator - 324 B400	**Operating Engineer Steel Work**	**06/20/2024**

Classification Description: Crane Operator w/400' Boom or Longer w/Oiler

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$81.86	$106.37	$130.88

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$106.37
10th hour	$106.37
Beyond 10 hours	$106.37
Saturday	
First 8 hours	$106.37
9th hour	$106.37
10th hour	$106.37
Beyond 10 hours	$106.37
Sunday/Holiday	$130.88

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time over 12 hours Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - 324 A300	**Operating Engineer Steel Work**	**06/20/2024**

Classification Description: Crane with boom & jib or leads 300' or longer
Work in excess of 12 per day M-F shall be paid at double time.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$79.36	$102.78	$126.20

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$102.78
10th hour	$102.78
Beyond 10 hours	$102.78
Saturday	
First 8 hours	$102.78
9th hour	$102.78
10th hour	$102.78
Beyond 10 hours	$102.78
Sunday/Holiday	$126.20

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time over 12 hours Mon-Sat.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - 324 A400	**Operating Engineer Steel Work**	**06/20/2024**

Classification Description: Crane with boom & jib or leads 400' or longer
Work in excess of 12 per day M-F shall be paid at double time.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$80.86	$104.94	$129.01

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$104.93
10th hour	$104.93
Beyond 10 hours	$104.93
Saturday	
First 8 hours	$104.93
9th hour	$104.93
10th hour	$104.93
Beyond 10 hours	$104.93
Sunday/Holiday	$129.01

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time over 12 hours/day Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - 324 A50	**Operating Engineer Steel Work**	**06/20/2024**

Classification Description: Tower Crane & Derrick Operator 50' or More

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$77.14	$99.59	$122.05

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$99.59
10th hour	$99.59
Beyond 10 hours	$99.59
Saturday	
First 8 hours	$99.59
9th hour	$99.59
10th hour	$99.59
Beyond 10 hours	$99.59
Sunday/Holiday	$122.05

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time after 12 Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - 324 B140	**Operating Engineer Steel Work**	**06/20/2024**

Classification Description: Crane Operator w/140' of /Boom or Longer w/Oiler

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$78.59	$101.68	$124.76

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$101.67
10th hour	$101.67
Beyond 10 hours	$101.67
Saturday	
First 8 hours	$101.67
9th hour	$101.67
10th hour	$101.67
Beyond 10 hours	$101.67
Sunday/Holiday	$124.76

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time after 12 Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - 324 B220	**Operating Engineer Steel Work**	**06/20/2024**

Classification Description: Crane Operator w/220' of Boom or Longer w/Oiler

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$78.86	$100.76	$123.97

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$102.06
10th hour	$102.06
Beyond 10 hours	$102.06
Saturday	
First 8 hours	$102.06
9th hour	$102.06
10th hour	$102.06
Beyond 10 hours	$102.06
Sunday/Holiday	$125.27

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time after 12 hours Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - 324 B300	**Operating Engineer Steel Work**	**06/20/2024**

Classification Description: Crane Operator w/300' of Boom or Longer w/Oiler

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$80.36	$104.22	$128.07

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$104.22
10th hour	$104.22
Beyond 10 hours	$104.22
Saturday	
First 8 hours	$104.22
9th hour	$104.22
10th hour	$104.22
Beyond 10 hours	$104.22
Sunday/Holiday	$128.07

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time over 12 hours Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - 324 B50	**Operating Engineer Steel Work**	**06/20/2024**

Classification Description: Tower Crane & Derrick Operator 50' or more w/Oiler

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$78.14	$101.03	$123.92

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$101.03
10th hour	$101.03
Beyond 10 hours	$101.03
Saturday	
First 8 hours	$101.03
9th hour	$101.03
10th hour	$101.03
Beyond 10 hours	$101.03
Sunday/Holiday	$123.92

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time after 12 Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - 324 PRE60118	**Operating Engineer Steel Work**	**06/20/2024**

Classification Description: Oiler/pumps over 6" **Applies to Operators who have previously worked under this classification PRIOR to 6/1/18**

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$61.22	$76.76	$92.29

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$76.75
10th hour	$76.75
Beyond 10 hours	$76.75
Saturday	
First 8 hours	$76.75
9th hour	$76.75
10th hour	$76.75
Beyond 10 hours	$76.75
Sunday/Holiday	$92.29

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Overtime Rate Comment: Double time after 12 Mon-Sat

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer - EF	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Extended boom forklift over 5,000 lb capacity, 1 Drum Hoist

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$72.21	$92.53	$112.84

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$92.53
10th hour	$92.53
Beyond 10 hours	$112.84
Saturday	
First 8 hours	$92.53
9th hour	$92.53
10th hour	$92.53
Beyond 10 hours	$112.84
Sunday/Holiday	$112.84

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Steel Work - SW120	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Crane w/ 120' boom or longer

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$74.14	$95.24	$116.33

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$95.24
10th hour	$95.24
Beyond 10 hours	$116.33
Saturday	
First 8 hours	$95.24
9th hour	$95.24
10th hour	$95.24
Beyond 10 hours	$116.33
Sunday/Holiday	$116.33

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Steel Work - SW120O	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Crane w/ 120' boom or longer w/ Oiler

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$75.01	$96.54	$118.07

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$96.54
10th hour	$96.54
Beyond 10 hours	$118.07
Saturday	
First 8 hours	$96.54
9th hour	$96.54
10th hour	$96.54
Beyond 10 hours	$118.07
Sunday/Holiday	$118.07

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Steel Work - SW140	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Crane w/ 140' boom or longer

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$75.19	$96.80	$118.41

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$96.80
10th hour	$96.80
Beyond 10 hours	$118.41
Saturday	
First 8 hours	$96.80
9th hour	$96.80
10th hour	$96.80
Beyond 10 hours	$118.41
Sunday/Holiday	$118.41

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Steel Work - SW140O	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Crane w/ 140' boom or longer W/ Oiler

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$76.19	$98.24	$120.28

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$98.24
10th hour	$98.24
Beyond 10 hours	$120.28
Saturday	
First 8 hours	$98.24
9th hour	$98.24
10th hour	$98.24
Beyond 10 hours	$120.28
Sunday/Holiday	$120.28

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Steel Work - SW220	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Boom & Jib 220' or longer

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$76.46	$98.62	$120.78

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$98.62
10th hour	$98.62
Beyond 10 hours	$120.78
Saturday	
First 8 hours	$98.62
9th hour	$98.62
10th hour	$98.62
Beyond 10 hours	$120.78
Sunday/Holiday	$120.78

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Steel Work - SW220O	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Crane w/ 220' boom or longer w/ Oiler

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$74.01	$95.11	$116.20

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$95.11
10th hour	$95.11
Beyond 10 hours	$116.20
Saturday	
First 8 hours	$95.11
9th hour	$95.11
10th hour	$95.11
Beyond 10 hours	$116.20
Sunday/Holiday	$116.20

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Steel Work - SW300	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Boom & Jib 300' or longer

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$76.96	$99.34	$121.72

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$99.34
10th hour	$99.34
Beyond 10 hours	$121.72
Saturday	
First 8 hours	$99.34
9th hour	$99.34
10th hour	$99.34
Beyond 10 hours	$121.72
Sunday/Holiday	$121.72

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Steel Work - SW300O	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Crane w/ 300' boom or longer w/ Oiler

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$77.96	$100.78	$123.59

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$100.78
10th hour	$100.78
Beyond 10 hours	$123.59
Saturday	
First 8 hours	$100.78
9th hour	$100.78
10th hour	$100.78
Beyond 10 hours	$123.59
Sunday/Holiday	$123.59

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Steel Work - SW400	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Boom & Jib 400' or longer

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$78.46	$101.49	$124.52

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$101.49
10th hour	$101.49
Beyond 10 hours	$124.52
Saturday	
First 8 hours	$101.49
9th hour	$101.49
10th hour	$101.49
Beyond 10 hours	$124.52
Sunday/Holiday	$124.52

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Steel Work - SW400O	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Crane w/ 400' boom or longer w/ Oiler

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$79.46	$102.93	$126.39

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$102.93
10th hour	$102.93
Beyond 10 hours	$126.39
Saturday	
First 8 hours	$102.93
9th hour	$102.93
10th hour	$102.93
Beyond 10 hours	$126.39
Sunday/Holiday	$126.39

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Steel Work - SWCO	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Crane Operator, Job Mechanic, 3 Drum Hoist & Excavator

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$73.65	$94.59	$115.53
Apprentice: 0-999 hours	$59.16	$76.02	$92.88
Apprentice: 1,000-1,999 hours	$61.56	$79.63	$97.68
Apprentice: 2,000-2,999 hours	$63.96	$83.22	$102.48
Apprentice: 3,000-3,999 hours	$66.38	$84.18	$101.98
Apprentice: 4,000-4,999 hours	$68.78	$90.46	$112.12
Apprentice: 5,000 hours	$71.20	$91.09	$110.99

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$94.59
10th hour	$94.59
Beyond 10 hours	$115.53
Saturday	
First 8 hours	$94.59
9th hour	$94.59
10th hour	$94.59
Beyond 10 hours	$115.53
Sunday/Holiday	$115.53

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Steel Work - SWCO-O	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Crane Operator w/ Oiler

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$74.65	$96.03	$117.40

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$96.03
10th hour	$96.03
Beyond 10 hours	$117.40
Saturday	
First 8 hours	$96.03
9th hour	$96.03
10th hour	$96.03
Beyond 10 hours	$117.40
Sunday/Holiday	$117.40

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Steel Work - SWCW	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Compressor or Welder Operator

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$37.03	$49.48	$61.92

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$47.85
10th hour	$47.85
Beyond 10 hours	$58.67
Saturday	
First 8 hours	$47.85
9th hour	$47.85
10th hour	$47.85
Beyond 10 hours	$58.67
Sunday/Holiday	$58.67

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Steel Work - SWHO	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Hoisting Operator, 2 Drum Hoist, & Rubber Tire Backhoe

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$73.01	$93.67	$114.33

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$93.67
10th hour	$93.67
Beyond 10 hours	$114.33
Saturday	
First 8 hours	$93.67
9th hour	$93.67
10th hour	$93.67
Beyond 10 hours	$114.33
Sunday/Holiday	$114.33

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Steel Work - SWO	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Oiler

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$53.42	$67.61	$81.80

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$65.74
10th hour	$65.74
Beyond 10 hours	$78.06
Saturday	
First 8 hours	$65.74
9th hour	$65.74
10th hour	$65.74
Beyond 10 hours	$78.06
Sunday/Holiday	$78.06

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Steel Work - SWTD50	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Tower Crane & Derrick where work is 50' or more

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$74.74	$96.16	$117.57

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$96.16
10th hour	$96.16
Beyond 10 hours	$117.57
Saturday	
First 8 hours	$96.16
9th hour	$96.16
10th hour	$96.16
Beyond 10 hours	$117.57
Sunday/Holiday	$117.57

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Steel Work - SWTD50 O	**Operating Engineer Steel Work**	**05/10/2024**

Classification Description: Tower Crane & Derrick 50' or more w/ Oiler

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$75.84	$97.69	$119.54

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$97.69
10th hour	$97.69
Beyond 10 hours	$119.54
Saturday	
First 8 hours	$97.69
9th hour	$97.69
10th hour	$97.69
Beyond 10 hours	$119.54
Sunday/Holiday	$119.54

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

4 10s allowed M-Th with Friday makeup day because of bad weather

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Underground-324-Class I	**Operating Engineer Underground**	**10/31/2024**

Classification Description: Class I Equipment-Air Compressors in Manifold with throttle valve Auto Grade or similar type machine
Backfill Tamper Backhoe
Backhoe on Farm Type Tractor 45 H.P. & over. Ballast Regulator (R.R.)
Batch Plant (concrete - central mix) Batch Plant Operator (concrete) Blade Grader Operator
Bulldozer
Caisson Drilling Machine Cherry Picker--15 ton or over Clamshell
Concrete/Asphalt Saw Operator - Power Driven (3yrs experience or more) Concrete Belt Placer (Formless)
Concrete Cure/Finish Machine Operator
Concrete Mixer 21 cu. ft. or over Concrete Paver [two (2) drums or larger] Concrete Pump (Truck Mount)
Concrete Pump (3 inch and over) Concrete Pump with Boom Operator Conveyor Loader Operator (Euclid type) Core Drilling Machine
Crane (Crawler, truck type or pile driving)
Crane or De1Tick with any attachment incl. clamshell, dragline, shovel, backhoe, etc. Directional Drill/Boring Machine Operator
Dozer Dragline
Dredge Engineer Dredge Operator
Drilling Machine on which the drill is an integral part
Earth Mover--rubber tired--(paddle wheel, 619, 631, TS-24 or similar type) Earth Mover rubber tired--tandem ($.50 cents per hr. added for each bowl) Elevating
Grader Operator
End Loader
End Loader Operator (1½ yard capacity and over)
Excavator
Farm type tractor with attached pan
Finishing Machine Operator (Asphalt or Concrete) Foreman/Operating Engineer
Forklift (10 ton or over)
GPS or Electronic Grade on motorized equipment Gradall and similar type machine
Grader
Gravel Processing plant (portable) Operator of Guard Rail Post Driver Haul Units (off-highway) Helicopter crew
Highlift Shovel--1-1 /2 cu. yd. or over Hoisting Engineer
Horizontal Directional Drill Hydraulic Boom Truck
Hydro demolition equipment (water blaster) Hydro Excavator
Loader--Self-propelled (Belt-Chain- Wheel) (Holland or similar type) Locomotive and/or Dinkey Engine
Mechanic Milling Machine
Mucking Machine
Operator of Guard Rail Post Driver Paver Operator - Concrete
Pile Driver--Skid or Crawler Power Shovel
Rock Breaking Plant
Rock Crushing Plant (Portable)
Root Rake, Tractor Mounted Sand Blaster Vacuum Roto Mill
Scraper Self-Propelled or Tractor Drawn

Self-propelled Widener or Gravel distributing shoulder machine Shovel Operator
Side Boom Tractor (type D-4 or equivalent or larger) Slope Paver
Stump Remover Tractor Mounted Surface Heater & Planer
Surface Roller with Dozer Blade
Swinging Boom Truck (over 12-ton capacity) Tilling Machine or (Roto Grader)
Tractor Operator
Tractor--Boom, Winch or Hoe Head Tractor--Push
Tractor with Scoop Tractor Mounted Spreader Tree Mover
Trench Machine (ladder or wheel type) Trencher (over 8ft. digging capacity) Tugboat Operator
Tunnel Boring Machine Tunnel Shield
Vacuum Machine/Truck Operator Well Drilling Machine
Well Drilling Rig
Winch Truck with A Frame

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$68.12	$87.01	$105.89
Apprentice: Apprentice Engineer 0-999 hours	$54.36	$69.57	$84.77
Apprentice: Apprentice Engineer 1,000-1,999 hours	$56.53	$72.83	$89.11
Apprentice: Apprentice Engineer 2,000-2,999 hours	$58.69	$76.06	$93.43
Apprentice: Apprentice Engineer 3,000-3,999 hours	$60.87	$79.33	$97.79
Apprentice: Apprentice Engineer 4,000-4,999 hours	$64.22	$84.36	$104.49
Apprentice: Apprentice Engineer 5,000-5,999 hours	$65.06	$85.62	$106.17

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$87.00
10th hour	$87.00
Beyond 10 hours	$87.00
Saturday	
First 8 hours	$87.00
9th hour	$87.00
10th hour	$87.00
Beyond 10 hours	$87.00
Sunday/Holiday	$105.89

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

In the event work is unable to be performed on account of weather Monday through Thursday, then Friday work may be scheduled for the ten (10) hours, at straight-time.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Underground-324-Class II	**Operating Engineer Underground**	**10/31/2024**

Classification Description: Class II Equipment
Air Compressor with Throttle Valve or Clever Brooks type comb. Backhoe (with 3/8-yard bucket or less)
Backhoe on Farm Type Tractor under 45 H.P.
Batch Plant (concrete-dry batch)
Boom Truck (power swing type boom)
Cherry Picker under 15 ton
Crusher
Crusher Operator
Concrete Pump
Concrete Mesh Depressor--independently operated Concrete Spreader--Power Driven
End Dumps when operated by an Operating Engineer End Loader under 1-1/2 cu yd.
Gunite Machine
Head Greaser
Hoist
Lowboy Operator
Mesh or Steel Placer (motorized)
Multiple Tamping Machine (R.R.)
Power Curing Spraying Machine (Formless)
P.C.C. Concrete Belt Placer (form type)
Pull Grader--Power Control
Pump Operator (6" discharge or over, gas diesel, powered or generator of 300 amp or larger)
Refrigerating Machine--Freezing operation Ross Carrier
Self-propelled convey transfer devise. Sheepfoot Roller (self-propelled)
Side Boom Tractor (smaller than D-4 type or equivalent)
Sweeper (Wayne type and similar equipment)
Telescoping laser finish machine (laser screed)
Tractor (pneu-tired, other than backhoe or front-end loader)
Trencher (8ft. digging capacity and smaller)
Trench Machine 24" and under
Tube Float (motorized)
Vac Truck
Washing Plant Operator Welder

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$64.00	$83.38	$102.75

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$80.82
10th hour	$80.82
Beyond 10 hours	$80.82
Saturday	
First 8 hours	$80.82
9th hour	$80.82
10th hour	$80.82
Beyond 10 hours	$80.82
Sunday/Holiday	$97.65

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

In the event work is unable to be performed on account of weather Monday through Thursday, then Friday work may be scheduled for the ten (10) hours, at straight-time.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Underground-324-Class III	**Operating Engineer Underground**	**10/31/2024**

Classification Description: Class III Equipment
Air Compressor (600 CFM or larger)
Air Compressor [two (2) or more - less than 600 CFM] Base Paver (Jersey or similar type machine)
Boom Truck (Non swinging, Non powered type boom) Concrete Breaker
Concrete Finishing Machine
Concrete Paver (1 drum - ½ yard or larger) Curb Machine
Elevator (other than passenger) Hoist (one drum)
Jacks - Hydraulic Power-driven multiple jack system Maintenance Man
Mechanics Helper Paving Breaker
Power Broom Self-propelled
Pump [two (2) or more 4 inch up to 6-inch discharge gas or diesel powered-excluding submersible pumps)
Pumpcrete Machine and similar equipment Roller (Earth & Sub-base material) Screening Plant Operator
Spike Machine (R.R.)
Tamper-Multiple Vibrating-Earth and Sub-base material Tractor with Drill--50 H.P. or over Well Point System Wagon Drill (multiple)
Welding Machine or Generator [two (2) or more 300 amp. Or larger -gas or diesel powered]
Well Point System
Widener (Apsco or similar type)

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$63.27	$82.28	$101.29

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$79.78
10th hour	$79.78
Beyond 10 hours	$79.78
Saturday	
First 8 hours	$79.78
9th hour	$79.78
10th hour	$79.78
Beyond 10 hours	$79.78
Sunday/Holiday	$96.29

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

In the event work is unable to be performed on account of weather Monday through Thursday, then Friday work may be scheduled for the ten (10) hours, at straight-time.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Underground-324-Class IV	**Operating Engineer Underground**	**10/31/2024**

Classification Description: Class IV Equipment
Air Compressor Operator (over 250 CFM)
All Mulching Equipment
All Walk Behind or Remote-Control Powered Equipment (autonomous equipment)
Assistant to Engineer Automatic Dry Batch Plant
Belt Spreader (motorized including transfer device by remote, wireless or cable) Boiler
Boom or Winch truck operator
Broom & Belt Machine
Chair Cart (Self-propelled) Concrete Pumps (under 3")
Curing Equipment Operator (self-propelled)
Deck Hand
Digger Post Hole (Power-driven)
End loader Operator (under 3/4-yard capacity)
Extend A Boom Forklift--under 10 Ton
Farm Tractor with attachments Finishing Machine (concrete)
Forklift under 10 ton
Form Grader (if motorized)
Georgia Buggy -Power wheel barrel l ¾ yard with a seat Generator (15 kw or greater)
Greaser Helper
Hydraulic pipe pushing machine Mechanical Heater
Mechanics Helper
Outboard or Inboard Motorboat Power Bin Operator
Pug Mill
Pumps - [two (2) or more up to 4 in. discharge if used three (3) hours or more a day - gas or diesel powered- excluding submersible pumps]
Roller (other than asphalt)
Seaman Tiller
Skid Steer
Stump Remover (Grinder)
Sweeper (Wayne type and similar equipment) Tamper
Trencher (service)
Vibratory Compaction Equipment Operator (6 ft. wide or over)
Walk Behind Forklift
Water Wagon

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$62.70	$81.43	$100.15

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$78.96
10th hour	$78.96
Beyond 10 hours	$78.96
Saturday	
First 8 hours	$78.96
9th hour	$78.96
10th hour	$78.96
Beyond 10 hours	$78.96
Sunday/Holiday	$95.22

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

In the event work is unable to be performed on account of weather Monday through Thursday, then Friday work may be scheduled for the ten (10) hours, at straight-time.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Operating Engineer Underground-324-Class V	**Operating Engineer Underground**	**10/31/2024**

Classification Description: Class V Equipment
Concrete/Asphalt Saw Operator- Power Driven (Less than 3 yrs. experience) Density/Soil Engineer
Directional Boring Utility Man
Discharge Pumps 4" or less (1 - 4 units) Dump Truck Operator
Dumper (Wagon, T1uck, Etc.) - or trade Fence Erector /Power Driven
Guard Post Driver Operator (power driven) Hydra Seeder
Light Plants (1 to 5 units) Oiler Fireman
Operator of minor equip.
Roto Mill Utility Grade Control Operator
Scissor lifts and basket lifts where used for material hoisting
Sign Installer/Sign Installer with Remote Control Operated Equipment
Straw Blower or Brush Mulcher
Top Man, And Railroad Track and Trestle Engineer Utility Engineer
Water Blasting Utility Engineer

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$39.95	$53.88	$67.80

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$52.06
10th hour	$52.06
Beyond 10 hours	$52.06
Saturday	
First 8 hours	$52.06
9th hour	$52.06
10th hour	$52.06
Beyond 10 hours	$52.06
Sunday/Holiday	$64.17

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

In the event work is unable to be performed on account of weather Monday through Thursday, then Friday work may be scheduled for the ten (10) hours, at straight-time.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Painter - BR	**Painter**	**05/10/2024**

Classification Description: Painter

A 4-10s workweek allowed Monday-Thursday.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$40.09	$52.29	$64.49
Apprentice: 1st level	$27.89	$33.99	$40.09
Apprentice: 2nd level	$30.33	$37.65	$44.97
Apprentice: 3rd level	$33.99	$43.14	$52.29
Apprentice: 4th level	$37.65	$48.63	$59.61

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$52.29
10th hour	$52.29
Beyond 10 hours	$52.29
Saturday	
First 8 hours	$52.29
9th hour	$52.29
10th hour	$52.29
Beyond 10 hours	$52.29
Sunday/Holiday	$64.49

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Pipe and Manhole Rehab - 1	**Pipe and Manhole Rehab**	**05/10/2024**

Classification Description: General Laborer for rehab work or normal cleaning and cctv work-top man, scaffold man, CCTV assistant, jetter-vac assistant

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$28.20	$38.20	$48.19

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$38.20
10th hour	$38.20
Beyond 10 hours	$38.20
Saturday	
First 8 hours	$38.20
9th hour	$38.20
10th hour	$38.20
Beyond 10 hours	$38.20
Sunday/Holiday	$38.20

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Pipe and Manhole Rehab - 2	**Pipe and Manhole Rehab**	**05/10/2024**

Classification Description: Tap cutter/CCTV Tech/Grout Equipment Operator: unit driver and operator of CCTV; grouting equipment and tap cutting equipment

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$32.70	$44.95	$57.19

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$44.95
10th hour	$44.95
Beyond 10 hours	$44.95
Saturday	
First 8 hours	$44.95
9th hour	$44.95
10th hour	$44.95
Beyond 10 hours	$44.95
Sunday/Holiday	$44.95

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Pipe and Manhole Rehab - 3	**Pipe and Manhole Rehab**	**05/10/2024**

Classification Description: CCTV Technician/Combo Unit Operator: unit driver and operator of cctv unit or combo unit in connection with normal cleaning and televising work

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$31.45	$43.07	$54.69

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$43.07
10th hour	$43.07
Beyond 10 hours	$43.07
Saturday	
First 8 hours	$43.07
9th hour	$43.07
10th hour	$43.07
Beyond 10 hours	$43.07
Sunday/Holiday	$43.07

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Pipe and Manhole Rehab - 4	**Pipe and Manhole Rehab**	**05/10/2024**

Classification Description: Boiler Operator: unit driver and operator of steam/water heater units and all ancillary equipment associated

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$33.20	$45.70	$58.19

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$45.70
10th hour	$45.70
Beyond 10 hours	$45.70
Saturday	
First 8 hours	$45.70
9th hour	$45.70
10th hour	$45.70
Beyond 10 hours	$45.70
Sunday/Holiday	$45.70

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Pipe and Manhole Rehab - 5	**Pipe and Manhole Rehab**	**05/10/2024**

Classification Description: Combo Unit driver & Jetter-Vac Operator

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$33.20	$45.70	$58.19

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$45.70
10th hour	$45.70
Beyond 10 hours	$45.70
Saturday	
First 8 hours	$45.70
9th hour	$45.70
10th hour	$45.70
Beyond 10 hours	$45.70
Sunday/Holiday	$45.70

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Pipe and Manhole Rehab - 6	**Pipe and Manhole Rehab**	**05/10/2024**

Classification Description: Pipe Bursting & Slip-lining Equipment Operator

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$34.20	$47.20	$60.19

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$47.20
10th hour	$47.20
Beyond 10 hours	$47.20
Saturday	
First 8 hours	$47.20
9th hour	$47.20
10th hour	$47.20
Beyond 10 hours	$47.20
Sunday/Holiday	$47.20

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Plumber & Pipefitter-RI-333	**Plumber & Pipefitter**	**03/18/2025**

Classification Description: Plumber, Pipefitter and HVACTech
Four 10s allowed Monday thru Thursday. Friday not a makeup, considered OT, paid @ time & one-half.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$63.77	$83.92	$104.06
Apprentice: 10th 6 months	$59.74	$77.87	$96.00
Apprentice: 1st 6 months	$41.61	$50.68	$59.74
Apprentice: 2nd 6 months	$43.62	$53.69	$63.76
Apprentice: 3rd 6 months	$45.64	$56.72	$67.80
Apprentice: 4th 6 months	$47.65	$60.34	$73.02
Apprentice: 5th 6 months	$49.67	$62.76	$75.86
Apprentice: 6th 6 months	$51.68	$65.78	$79.88
Apprentice: 7th 6 months	$53.70	$68.81	$83.92
Apprentice: 8th 6 months	$55.71	$71.82	$87.94
Apprentice: 9th 6 months	$57.73	$74.86	$91.98

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$83.91
10th hour	$83.91
Beyond 10 hours	$83.91
Saturday	
First 8 hours	$83.91
9th hour	$83.91
10th hour	$83.91
Beyond 10 hours	$83.91
Sunday/Holiday	$104.06

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Roofing and Waterproofing Journeyman	**Roofer**	**09/10/2024**

Classification Description: Journeyman

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$51.36	$67.44	$83.51
Apprentice: 1st Class Apprentice	$35.77	$44.51	$53.24
Apprentice: 2nd Class Apprentice	$37.88	$47.62	$57.35
Apprentice: 3rd Class Apprentice	$39.77	$50.42	$61.07
Apprentice: 4th Class Apprentice	$41.90	$53.59	$65.28
Apprentice: 5th Class Apprentice	$44.05	$56.76	$69.47
Apprentice: 6th Class Apprentice	$46.15	$59.86	$73.56

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$67.44
10th hour	$67.44
Beyond 10 hours	$67.44
Saturday	
First 8 hours	$67.44
9th hour	$67.44
10th hour	$67.44
Beyond 10 hours	$67.44
Sunday/Holiday	$83.51

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Saturday is the makeup day and shall be paid at the straight time rate until over forty hours apply

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Sewer Relining Operator - Class I	**Sewer Relining**	**05/10/2024**

Classification Description: Class I-Operator of audio visual CCTV system including remote in-ground cutter and other equipment used in conjunction with CCTV system.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$52.84	$69.23	$85.62
Apprentice: 0-6 months	$41.58	$54.66	$67.74
Apprentice: 6-12 months	$45.31	$60.26	$75.20

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$69.23
10th hour	$69.23
Beyond 10 hours	$69.23
Saturday	
First 8 hours	$69.23
9th hour	$69.23
10th hour	$69.23
Beyond 10 hours	$69.23
Sunday/Holiday	$85.62

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Sewer Relining Operator - Class II	**Sewer Relining**	**05/10/2024**

Classification Description: Class II-Operator of hot water heaters and circulation system; water jetters; and vacuum and mechanical debris removal systems and those assisting.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$50.80	$68.49	$86.18

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$66.30
10th hour	$66.30
Beyond 10 hours	$66.30
Saturday	
First 8 hours	$66.30
9th hour	$66.30
10th hour	$66.30
Beyond 10 hours	$66.30
Sunday/Holiday	$81.79

Four 10-hour days allowed? - No

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Sheet Metal Worker	**Sheet Metal Worker**	**05/10/2024**

Classification Description: Sheet Metal Worker
4 10s allowed as consecutive days, M-Th or T-F

Wage Rates

	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$56.87	$75.25	$93.62
Apprentice: First Year	$30.01	$39.20	$48.39
Apprentice: Fourth Year	$49.52	$64.22	$78.92
Apprentice: Second Year	$36.34	$47.37	$58.39
Apprentice: Third Year	$45.84	$58.70	$71.56

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$75.25
10th hour	$75.25
Beyond 10 hours	$75.25
Saturday	
First 8 hours	$75.25
9th hour	$93.62
10th hour	$93.62
Beyond 10 hours	$93.62
Sunday/Holiday	$93.62

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Make up day allowed for work missed due to inclement weather, make up hours to be paid at regular rate of pay.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Sprinkler Fitter	**Sprinkler Fitter**	**05/10/2024**

Classification Description: Sprinkler Fitter

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$60.34	$78.45	$96.56
Apprentice: Class 1	$24.57	$32.72	$40.87
Apprentice: Class 10	$52.07	$68.37	$84.67
Apprentice: Class 2	$26.38	$35.43	$44.49
Apprentice: Class 3	$39.14	$49.10	$59.06
Apprentice: Class 4	$40.95	$51.82	$62.68
Apprentice: Class 5	$43.01	$54.78	$66.55
Apprentice: Class 6	$44.82	$57.49	$70.17
Apprentice: Class 7	$46.63	$60.21	$73.79
Apprentice: Class 8	$48.45	$62.94	$77.43
Apprentice: Class 9	$50.26	$65.65	$81.05

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$78.45
10th hour	$78.45
Beyond 10 hours	$78.45
Saturday	
First 8 hours	$78.45
9th hour	$78.45
10th hour	$78.45
Beyond 10 hours	$78.45
Sunday/Holiday	$96.56

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Tile Setter & Terrazzo Worker	**Tile, Marble and Terrazzo**	**02/25/2025**

Classification Description: Work: Installing and finishing mosaic and terrazzo materials, including precision tasks like grinding and polishing.

Materials: Marble, mosaic, Venetian enamel, terrazzo, granules of marble, granite, bluestone, enamel, mother of pearl, quartz, ceramic-colored quartz, rubber, neoprene, vinyl, magnesium chloride, and resinous or chemical substances.

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$52.89	$67.19	$81.47
Apprentice: Apprentice Level 1	$40.51	$49.49	$58.46
Apprentice: Apprentice Level 2	$42.12	$52.03	$61.93
Apprentice: Apprentice Level 3	$43.73	$54.32	$64.90
Apprentice: Apprentice Level 4	$45.34	$56.73	$68.12
Apprentice: Apprentice Level 5	$46.95	$59.15	$71.34
Apprentice: Apprentice Level 6	$48.56	$61.56	$74.56
Apprentice: Apprentice Level 7 & 8	$50.17	$63.98	$77.78

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$67.06
10th hour	$67.06
Beyond 10 hours	$67.06
Saturday	
First 8 hours	$67.06
9th hour	$67.06
10th hour	$67.06
Beyond 10 hours	$67.06
Sunday/Holiday	$81.22

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Tower Technician	**Tower Technician**	**05/13/2024**

Classification Description:

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$67.89	$98.24	$128.58

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$98.24
10th hour	$98.24
Beyond 10 hours	$98.24
Saturday	
First 8 hours	$98.24
9th hour	$98.24
10th hour	$98.24
Beyond 10 hours	$98.24
Sunday/Holiday	$128.58

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

ONLY due to inclement weather or customer requirements may Friday be used as a make up day if the normal scheduled work week was interrupted and time lost of five (5) hours or more was incurred by workmen covered under the terms of the 6-17-C/6-876-T agreement.

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Truck Driver - RB1	**Truck Driver**	**05/10/2024**

Classification Description: on all trucks of 8 cubic yard capacity or less (except dump trucks of 8 cubic yard capacity or over, tandem axle trucks, transit mix and semis, euclid type equipment, double bottoms and low boys)

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$53.95	$70.30	$86.64

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$69.32
10th hour	$69.32
Beyond 10 hours	$69.32
Saturday	
First 8 hours	$69.32
9th hour	$69.32
10th hour	$69.32
Beyond 10 hours	$69.32
Sunday/Holiday	$84.69

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Truck Driver - RB1A	**Truck Driver**	**05/10/2024**

Classification Description: of all trucks of 8 cubic yard capacity or over semi, tractor trailer

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$54.10	$70.52	$86.94

Overtime Provisions	
Over 8-hour day/40-hour week	
9th hour	$69.55
10th hour	$69.55
Beyond 10 hours	$69.55
Saturday	
First 8 hours	$69.55
9th hour	$69.55
10th hour	$69.55
Beyond 10 hours	$69.55
Sunday/Holiday	$84.99

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Truck Driver - RB1B	**Truck Driver**	**05/10/2024**

Classification Description: on euclid type equipment, Pole drier, lowboy, doubles, fuel, bus, water

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$54.20	$69.70	$85.19

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$69.70
10th hour	$69.70
Beyond 10 hours	$69.70
Saturday	
First 8 hours	$69.70
9th hour	$69.70
10th hour	$69.70
Beyond 10 hours	$69.70
Sunday/Holiday	$85.19

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - Yes

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Truck Driver - RB2	**Truck Driver**	**05/10/2024**

Classification Description: of all trucks of 8 cubic yd capacity or over

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$44.10	$48.81	$49.80

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$56.55
10th hour	$56.55
Beyond 10 hours	$56.55
Saturday	
First 8 hours	$56.55
9th hour	$56.55
10th hour	$56.55
Beyond 10 hours	$56.55
Sunday/Holiday	$56.55

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Truck Driver - RB2A	**Truck Driver**	**05/10/2024**

Classification Description: of all trucks of 8 cubic yard capacity or less (except dump trucks of 8 cubic yard capacity or over, tandem axle trucks, transit mix and semis, euclid type equipment, double bottoms and low boys)

Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$44.00	$48.66	$49.60

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$56.40
10th hour	$56.40
Beyond 10 hours	$56.40
Saturday	
First 8 hours	$56.40
9th hour	$56.40
10th hour	$56.40
Beyond 10 hours	$56.40
Sunday/Holiday	$56.40

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No

Prevailing Wage Rates for State Funded Projects

Official Rate Schedule

Ingham

Classification Name	Category	Last Updated
Truck Driver - RB2B	**Truck Driver**	**05/10/2024**

Classification Description: on euclid type equipment

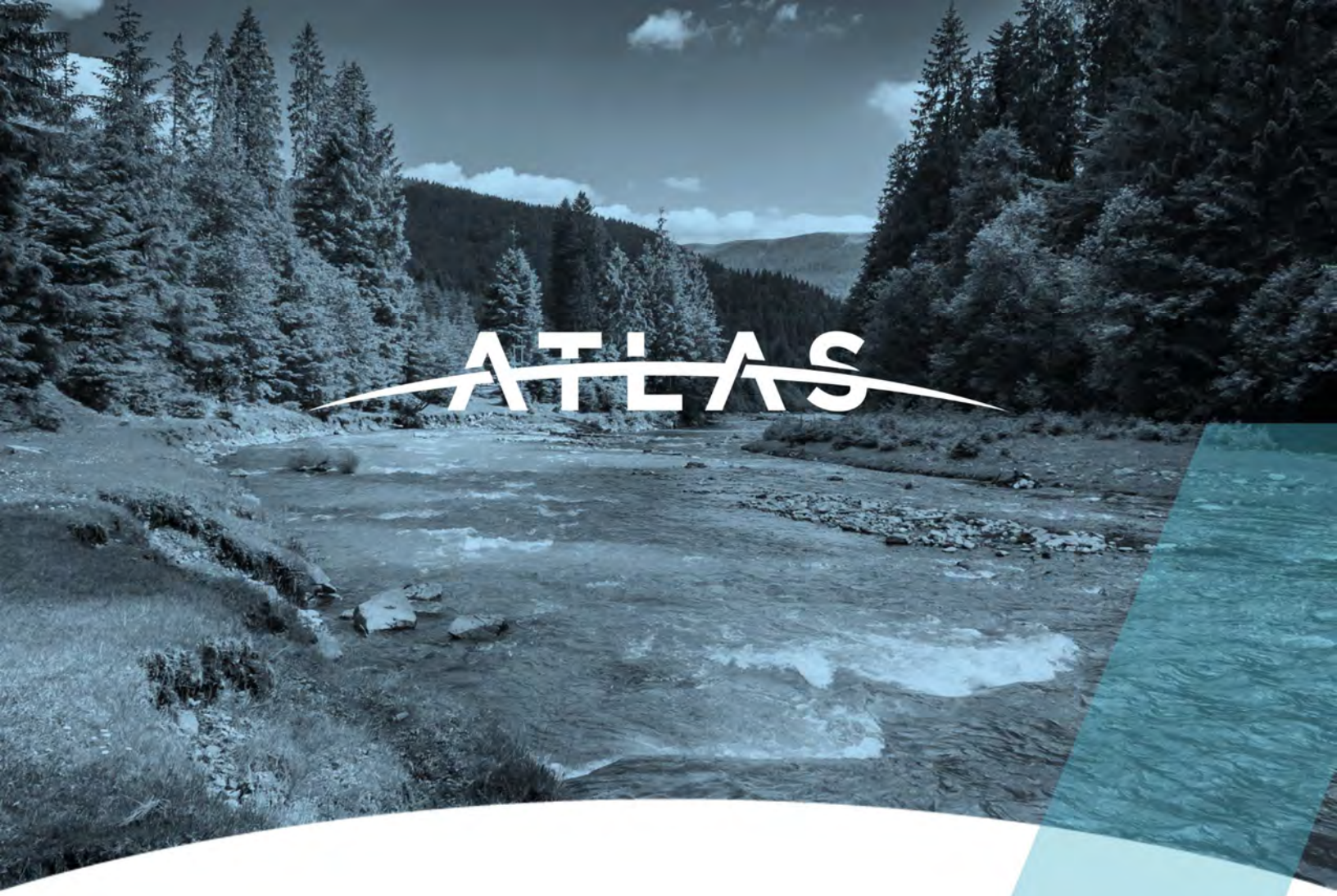
Wage Rates	Straight Time	Time and a Half	Double Time
Total Hourly Wage	$44.25	$49.04	$0.00

Overtime Provisions

Over 8-hour day/40-hour week	
9th hour	$56.78
10th hour	$56.78
Beyond 10 hours	$56.78
Saturday	
First 8 hours	$56.78
9th hour	$56.78
10th hour	$56.78
Beyond 10 hours	$56.78
Sunday/Holiday	$56.78

Four 10-hour days allowed? - Yes

Make Up Day Allowed? - No



PRE-DEMOLITION HAZARDOUS MATERIALS SURVEY REPORT

CENTRAL SERVICES

570 Red Cedar Road
East Lansing, MI 48823

188BS24700

PREPARED FOR:
Michigan State University

PREPARED BY:
Atlas Technical Consultants LLC
46555 Humboldt Drive, Ste. 100
Novi, MI 48377

Revised March 17, 2025

46555 Humboldt Dr., Ste. 100
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(248) 669-5140 | oneatlas.com

Revied Report Date: March 17, 2025

MR. GARY BOSH
MICHIGAN STATE UNIVERSITY
4000 COLLINS Rd., B-20
LANSING, MI 48910

Subject: **Pre-Demolition Hazardous Materials Survey Report**
Michigan State University
Central Services
570 Red Cedar Road
East Lansing, MI 48824

Dear Mr. Bosh:

Atlas Technical Consultants (Atlas) is pleased to submit the enclosed pre-demolition hazardous materials survey for the above-referenced location. The survey was conducted from December 2-9, 2024, and February 26, 2025, in general accordance with Michigan State University's standard operating procedure.

Please refer to the attached Report, Tables, Drawings, and Analytical results for additional information.

If you have questions or desire additional information, please contact Atlas at 248-669-5140. Please refer to Atlas Project No. 188BS24700.

Respectfully submitted,

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APPENDICES

1. EXECUTIVE SUMMARY

Atlas performed a pre-demolition hazardous materials survey including asbestos and PCB sampling as well as a visual assessment to inventory Other Regulated Materials (ORM) at Michigan State University (MSU) Central Services at 570 Red Cedar Road, East Lansing, Michigan 48824. The hazardous materials survey included accessible areas of the basement, 1st, 2nd, and 3rd floors as well as the roof and exterior areas and was conducted from December 2 through December 9, 2024. Additional samples were collected of the interior cork ceiling, paper layer, and associated asphaltic layer on February 26, 2025.

The survey was performed in general accordance with Federal, State and local rules for conducting hazardous materials surveys to meet Occupational Safety and Health Administration (OSHA) Asbestos for General Industry Standard (29 CFR 1910.1001(j)(2)(i)) and United States Environmental Protection Agency (EPA) / National Emission Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Part 61) requirements.

1.1 General Observations

1.1.1 Asbestos Analytical Results

In summary, the asbestos analytical results indicated asbestos greater than 1% by weight was detected in thirty-seven (37) of the one hundred and twenty-four (124) suspect materials collected and analyzed during the survey. Three (3) materials were found to contain asbestos but were <1% after point count analysis. **Table 1.1.1A** below provides a summary of the 37 confirmed asbestos-containing materials (ACMs) from the building:

Table 1.1.1A Summary of ACM

Sample ID	Material	Condition	Friability: RACM, Cat I, Cat II	Estimated Quantity (SF/LF)	Asbestos Content
11-IC-A,B,C	Interior caulk - Dark brown, perimeter of door/window frames	Good	Cat II	1040 LF	2% Chrysotile
16-PF-A,B,C	Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines	Fair	RACM	283 Fittings	30% Chrysotile
17-HM-A,B,C	Hanger mud - on brown colored paper wrapped fiberglass insulation lines	Good	RACM	78 Hangers	50% Chrysotile
18-PI-A,B,C	Pipe insulation - wool felt, blue colored sprinkler lines	Good	RACM	875 LF	35% Chrysotile
19-PF-A,B,C	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	Fair	RACM	159 Fittings	50% Chrysotile
20-PI-A,B,C	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	Good	RACM	468 LF	45% Chrysotile
21-PF-A,B,C	Pipe fitting - canvas covered mudded fittings, on aircell steam line	Good	RACM	93 Fittings	45% Chrysotile
24-CI-A,B,C,D	Remnants of original cork ceiling insulation with outer black paper layer adhered to concrete ceiling (associated with HA-32)	Fair	RACM	50 SF	2% Chrysotile
25-IC-A,B,C	Interior caulk - greenish grey, hard, inside electrical boxes	Good	Cat II	12 SF	10% Chrysotile
32-IC-A,B,C	Interior caulk (tar), black, perimeter of cork insulation, associated with HA-24	Good	Cat II	160 LF	3% Chrysotile
34-TI-A,B,C	Tank insulation	Good	RACM	1 Tank	30% Chrysotile

Table 1.1.1A Summary of ACM					
Sample ID	Material	Condition	Friability: RACM, Cat I, Cat II	Estimated Quantity (SF/LF)	Asbestos Content
38-WG-A,B,C	Window glaze - White glaze, metal window leaned against wall	Good	Cat II	1 Window	3% Chrysotile
44-PI-A,B,C	Pipe insulation - magnesia	Good	RACM	985 LF	30% Chrysotile
45-PF-A,B,C	Pipe fitting - canvas wrapped mudded fitting on magnesia line	Good	RACM	200 Fittings	30% Chrysotile
49-WG-A,B,C	Window glaze - beige glaze, window in metal door	Good	Cat II	11 Windows	Point Count: Trace Chrysotile
50-FT-A,B,C	Floor tile - 9" black tile, black mastic	Good	Cat I	210 SF	FT: 2% Chrysotile Mastic: ND
51-FT-A,B,C	Floor tile - 9" dark brown, black mastic	Good	Cat I	210 SF	FT: 2% Chrysotile Mastic: ND
52-FT-A,B,C	Floor tile - 9" grey with black streaks, black mastic	Good	Cat I	210 SF	FT: 7% Chrysotile Mastic: ND
57-GTM-A,B,C	Gasket material - fiber gaskets between steel fittings	Good	RACM	44 Gaskets	10% Chrysotile
59-TI-A,B,C	Tank insulation - canvas paper wrapped fiberglass over magnesia block	Good	RACM	1 Tank	30% Chrysotile
61-TPL-A,B,C	Textured plaster - rough texture, ceiling	Good	RACM	180 SF	3% Chrysotile
63-IC-A,B,C	Interior caulk - grey, hard, perimeter of metal window frame	Good	Cat II	650 LF	Point Count: 2.25% Chrysotile
64-VD-A,B,C	Vibration dampener - white canvas	Good	RACM	40 SF	20% Chrysotile
65-CA-A,B,C	Construction adhesive - black / dark brown, under steel corner guard	Good	Cat II	345 SF	3% Chrysotile
79-FS-A,B,C	Vinyl sheeting - Brown/light squares.	Good	Cat I	265 SF	15% Chrysotile
80-IC-A,B,C	Interior caulk - Brown caulk - Perimeter of glass block	Good	Cat II	390 SF	Point Count: 1.75% Chrysotile
90-EJ-A,B,C	Expansion joint - concrete foundation walls	Good	Cat II	5 LF	8% Chrysotile
91-EJ-A,B,C	Expansion joint - brick siding	Good	Cat II	300 LF	2% Chrysotile
97-WG-A,B,C	Window glaze - multi-pane steel windows	Fair	Cat II	1060 LF	Point Count: 0.25% Chrysotile
98-WG-A,B,C	Window glaze - basement steel windows	Fair	Cat II	7 Windows	Point Count: 0.25% Chrysotile
100-EC-A,B,C	Exterior caulk - grey, perimeter of door frames	Good	Cat II	70 LF	7% Chrysotile
102-EC-A,B,C	Exterior caulk - grey, perimeter of steel multi-pane windows	Good	Cat II	725 LF	5% Chrysotile
103-EC-A,B,C	Exterior caulk - grey, perimeter of steel basement windows	Good	Cat II	350 LF	6% Chrysotile
117-EC-A,B,C	Exterior caulk - dark grey, under concrete capstone	Good	Cat II	400 SF	10% Chrysotile
121-EC-A,B,C	Exterior caulk - grey, on wall vent perimeter	Good	Cat II	35 LF	5% Chrysotile
122-EC-A,B,C	Exterior caulk - black, on parapet wall seams	Good	Cat II	800 SF	5% Chrysotile
124-CI-A,B,C,D,E	Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)	Poor	RACM	120 SF	4% Chrysotile
RACM – Regulated Asbestos Containing Material SF/LF – Square Foot/Linear Foot			CAT I – Category I Non-Friable CAT II – Category II Non-Friable		

In the event additional suspect materials are discovered during abatement activities, this material should be treated as presumed asbestos-containing material (PACM) in accordance with OSHA regulations 29 CFR 1926.1101 and 1910.1001 and other applicable state and local regulations and either sampled to confirm or nullify asbestos content or be treated as ACM and handled accordingly.

Table 1.1.1B below provides a summary of materials that are considered assumed to contain asbestos:

Table 1.1.1B Summary of Assumed ACM

Sample ID	Material	Condition	Friability: RACM, Cat I, Cat II	Estimated Quantity (SF/LF)	Asbestos Content
1 – NOT SAMPLED	Fire door & frame - metal	Good	RACM	97 Doors	*ASSUMED, NOT SAMPLED*
2 – NOT SAMPLED	Fire door & frame - wood	Good	RACM	19 Doors	*ASSUMED, NOT SAMPLED*
22- MAG LAYER NOT SAMPLED	Pipe insulation - cork. Note: could be hidden layer of mag inside. Treat as ACM.	Good	RACM	11 LF	*CORK LAYER – NON-DETECT MAG LAYER ASSUMED*
78 – NOT SAMPLED	Roof drain fitting - unknown material	Good	RACM	2 Fittings	*ASSUMED, NOT SAMPLED*
86 – NOT SAMPLED	Transite window sill	Good	CAT II	20 SF	*ASSUMED, NOT SAMPLED*

A complete list of suspect asbestos-containing materials identified in the subject building including those sampled and analyzed for asbestos content and found to not contain asbestos are summarized below in **Table 2.4** and included in **Appendix I** (Homogenous Area List).

1.1.2 Polychlorinated Biphenyls (PCB) Analytical Results

Composite samples of caulks, glazes, and mastics or adhesives were collected and analyzed for PCBs. The laboratory analytical results for the limited PCB sampling conducted at the subject building indicated that one (1) of the five (5) composite material samples were found to contain PCBs above 50 parts per million (PPM). Polychlorinated biphenyls should be removed by a licensed abatement contractor prior to renovation activities that would disturb these materials. **Table 1.1.2** below provides a summary of the composite materials that were collected for PCB analysis:

Table 1.1.2 Summary of PCB Analytical Results

Sample ID	Material	Condition	PCB type: Content	Total PCB Content
1-EC-PCB	Exterior caulks (EA-1 through EA-4)	Good	None Detected	None Detected
2-EC-PCB	Exterior caulks (Roof)	Good	None Detected	None Detected
3-WG-PCB	Window glazes	Good	Aroclor 1,260: 7,910 ppm	7,910 ppm
4-IC-PCB	Interior caulks	Good	None Detected	None Detected
5-MA-PCB	Mastics / adhesives	Good	None Detected	None Detected

If any additional materials are discovered during renovation or demolition activities, such materials must be assumed to contain PCBs until sampling and analysis proves otherwise.

1.1.3 Other Regulated Materials (ORM) Inventory

Atlas conducted a visual assessment for Hazardous and/or Other Regulated Material (ORM) at the subject building and recorded the quantity and location of the items including but not limited to e-wastes, mercury devices or equipment, lights, ballasts, chemicals, etc. **Table 1.1.3** below summarized the inventory of ORM listed in the subject building.

Table 1.1.3 Summary of Other Regulated Materials

Floor	Functional Space	Quantity	Material
1	34	1	CFC's, Air Conditioners, refrigerators, freezers, dehumidifiers
	35	1	
	37	1	
	38	1	
B	9	1	
1	39	2	Exit Signs
	43	2	
	46	3	
	47	1	
2	69	3	
	70	1	
	73	1	
3	76	2	
B	24	1	
1	47	1	Fire Extinguishers
	48	1	
	57	2	
2	69	2	
	70	1	
3	76	1	
B	1	2	
	16	1	
	17	1	
	19	1	
1	30	12	Fluorescent, HID Light Fixtures, Bulbs, Ballasts
	31	5	
	32	20	
	34	8	
	35	8	
	36	2	
	37	2	
	38	6	
	39	4	
	46	6	
	47	2	
	48	3	
	51	7	
	54	2	
	56	4	
	57	4	
B	19	2	
	22	3	
	23	28	
	24	60	

Table 1.1.3 Summary of Other Regulated Materials			
Floor	**Functional Space**	**Quantity**	**Material**
2	69	3	Security Alarms/Systems
	70	1	
	73	2	
B	1	1	
1	43	1	Misc. Items (Glue, Solvents, Cleaners, etc.)
B	7	24	
	14	13	
	25	5	
1	44	3	Paint Cans
B	7	22	
1	54	1	Lead Sewer Stacks
1	33	1	Thermostats
1	34	1	
	35	1	
	37	1	
	38	1	
	41	1	
	45	1	
	48	1	
	57	1	
	58	1	
	59	1	
	60	1	
	61	1	
	62	1	
	64	1	
	65	1	
	66	1	
	67	1	
	68	1	
2	69	1	
	70	1	
	71	1	
	72	1	
3	77	1	
B	8	1	
	9	1	
	21	1	
	22	1	
	23	1	
2	69	4	Smoke Detectors
	70	2	
B	7	1	Aboveground Storage Tanks
	25	6	
1	57	1	CRTs, TV Screens, Monitors, Electronics

1.2 Discussion and Recommendations

The results of the asbestos survey conducted from December 2-9, 2024, and February 26, 2025, at MSU Central Services, indicated that thirty-seven (37) of the one hundred and twenty-four (124) suspect materials sampled by Atlas were found to be ACM as defined by the EPA and State of Michigan Occupational Safety and Health Administration (MIOSHA) regulations. Three (3) materials were found to contain asbestos but were <1% after point count analysis. Due to the destructive nature of sampling, five (5) materials were assumed to contain asbestos and should be treated as ACM until sampling proves otherwise. See **Tables 1.1.1A and 1.1.1B** above.

The results of laboratory testing during the limited PCB sampling conducted at the subject building indicated that one (1) of the five (5) composite materials sampled were found to contain concentrations of PCBs above 50 PPM. Polychlorinated biphenyls should be removed by a licensed abatement contractor prior to renovation activities that would disturb these materials. If any additional materials are discovered during renovation or demolition activities, such materials must be assumed to contain PCBs until sampling and analysis proves otherwise. See **Table 1.1.2** above.

It should be further noted that additional suspect ACMs and PCBs, beyond those identified during this survey, may be present in inaccessible areas or spaces concealed by practical and manual means of retrieval. These areas or spaces include, but are not limited to, buried piping, obstructed wall, ceiling, or floor cavities, interstitial spaces, concrete or mortar-entombed materials, mechanical pipe gaskets and packings, insulated electrical components, etc. Atlas recommends any building materials not previously sampled which are suspected to contain asbestos or PCB that are discovered during renovation or demolition activities be sampled to determine asbestos and PCB content and addressed accordingly.

Atlas also conducted a visual assessment for Hazardous and/or Other Regulated Material (ORM) at the subject building and recorded the quantity and location of materials/items including, but not limited to:

- E-Wastes
- Mercury Containing Devices or Equipment (switches, gauges, fluorescent lamps)
- Dielectric fluid in electrical equipment (transformers, capacitors, and light ballasts
- Fuels and Oils
- Tires
- Batteries
- Florescent Light Fixtures
- Miscellaneous containers of chemicals

Table 1.1.3 above summarizes the ORM inventory list from the subject building.

2. ASBESTOS SURVEY

2.1 Introduction

The survey was performed in accordance with Federal, State and local rules for conducting asbestos surveys to meet Occupational Safety and Health Administration (OSHA) Asbestos for General Industry Standard (29 CFR 1910.1001(j)(2)(i)) and United States Environmental Protection Agency (EPA) / National Emission Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Part 61) requirements.

Atlas collected 401 bulk samples comprising 437 sample layers from 124 suspect materials from various areas throughout the interior and exterior of the building. These samples were packaged and delivered to Environmental Testing Laboratory (ETL) located in Romulus, Michigan and were submitted for Polarized Light Microscopy (PLM) analyses with further analysis by Point Count Method when PLM results were <1% asbestos content by weight.

2.2 Site & Building Descriptions

MSU Central Services is located at 570 Red Cedar Road, East Lansing, Michigan 48824, and is an active campus facility. MSU Central Services consists primarily of masonry and steel frame construction. The north portion of the building primarily consists of offices, storage rooms, classrooms, restrooms, and mechanical and maintenance areas. The south portion of the building primarily consists of storage areas, storage rooms converted from former cooler rooms, offices, restrooms and mechanical and maintenance areas. Interior finishes include a variety of materials including, but not limited to masonry brick/block, ceramic tile, plaster, drywall, suspended tile; and concrete floors with predominantly carpet, vinyl/asphalt tile, or ceramic tile finishes.

2.3 Sampling Methodology

Bulk samples were collected of suspect asbestos-containing materials (ACMs) and grouped by homogeneous area (HA). An HA is characterized as surfacing material, thermal system insulation (TSI), or miscellaneous material that is uniform in use, colors, appearance, pattern, texture, and date of installation. The HA can be described within a single building (i.e., red floor tile in different buildings on the same complex, even if installed on the same day, compose different HAs).

Bulk samples were obtained with tools designed to penetrate a material without creating excessive dust. An effort was made to obtain samples that were representative of all layers of the material. The areas were pre-wetted to reduce potential dust generation during the sampling process.

Atlas's sampling procedures incorporate the use of sealable containers labeled in a unique numbering sequence to store bulk samples. Information about bulk samples, including the sample numbers and materials' descriptions, were noted on the chain-of-custody sheets after samples were collected. Laboratory analytical results and field chain-of-custody sheets are included in **Appendix III**.

The site was inspected for the presence of material that may contain asbestos as per the State of Michigan Occupational Safety and Health Administration (MIOSHA) regulations.

In accordance with the scope of work for the project, the survey areas included the roof, building exterior, and the building interior and was conducted using non-destructive sampling procedures. Site diagrams of the building areas with labeled functional space designations and bulk sample locations are included in **Appendix II**.

Samples were analyzed using PLM, utilizing dispersion staining techniques (EPA Method 600/R-93/116, July-1993) to assess the percentage of asbestos present on the basis of visual area estimation. ACMs are defined as materials that contain greater than 1% asbestos.

Several construction and finish materials were observed in the site building that were determined to be non-suspect materials. These materials may include:

- Clay/terra-cotta Structural Block
- Wood
- Carpet
- Wallpaper
- Glass

2.4 Summary of Findings

The analytical results indicated asbestos was detected in thirty-seven (37) of one hundred and twenty-four (124) suspect materials. Three (3) materials were found to contain asbestos but were <1% after point count analysis. There was a total of four hundred and one (401) bulk samples (437 layers) collected and analyzed during this portion of the survey.

Five (5) materials were assumed to contain asbestos but were not sampled because they were either inaccessible, they were located in areas excluded from the project scope of work, or non-destructive sampling could not be performed due to building occupancy. These materials should be treated as ACM until sampling proves otherwise.

Table 2.4 below provides a summary of accessible suspect materials sampled or assumed as well as confirmed ACMs from the Site building(s):

Table 2.4 Summary of Asbestos Bulk Sampling

Sample ID	Material	Condition	Friability: RACM, Cat I, Cat II	Estimated Quantity (SF/LF)	Asbestos Content
1 – Not Sampled	**Fire door & frame - metal**	**Good**	***ASSUMED, NOT SAMPLED***		
2 – Not Sampled	**Fire door & frame - wood**	**Good**	***ASSUMED, NOT SAMPLED***		
3-CC-A,B,C	Concrete chip - concrete slab foundation & decks	Good	Cat II	NA	ND
4-TZ-A,B,C	Terrazzo flooring - Grey mix with white, beige, and black stone	Good	Cat II	NA	ND
5-BM-A,B,C	Brick mortar - CMU block walls	Good	Cat II	NA	ND

Table 2.4 Summary of Asbestos Bulk Sampling					
Sample ID	Material	Condition	Friability: RACM, Cat I, Cat II	Estimated Quantity (SF/LF)	Asbestos Content
6-BM-A,B,C	Brick mortar - grey glazed ceramic block walls	Good	Cat II	NA	ND
7-BM-A,B,C	Brick mortar - skim coat on CMU block walls	Good	Cat II	NA	ND
8-GM-A,B,C	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	Good	Cat II	NA	ND
9-IC-A,B,C	Interior caulk - red, penetrations / void filler	Good	Cat II	NA	ND
10-IC-A,B,C	Interior caulk - grey, penetrations / void filler	Good	Cat II	NA	ND
11-IC-A,B,C	**Interior caulk - Dark brown, perimeter of door/window frames**	Good	Cat II	**1040 LF**	**2% Chrysotile**
12-PI-A,B,C	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	Good	RACM	NA	ND
13-PF-A,B,C	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	Good	RACM	NA	ND
14-IC-A,B,C	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	Good	Cat II	NA	ND
15-PI-A,B,C	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	Good	RACM	NA	ND
16-PF-A,B,C	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**Fair**	RACM	**283 Fittings**	**30% Chrysotile**
17-HM-A,B,C	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	Good	RACM	**78 Hangers**	**50% Chrysotile**
18-PI-A,B,C	**Pipe insulation - wool felt, blue colored sprinkler lines**	Good	RACM	**875 LF**	**35% Chrysotile**
19-PF-A,B,C	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**Fair**	RACM	**159 Fittings**	**50% Chrysotile**
20-PI-A,B,C	**Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted**	Good	RACM	**468 LF**	**45% Chrysotile**
21-PF-A,B,C	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	Good	RACM	**93 Fittings**	**45% Chrysotile**
22-PI-A,B,C	**Pipe insulation - cork. Note: could be hidden layer of mag inside. Treat as ACM.**	**Good**	**RACM**	**11 LF**	**Cork – ND Mag - Assumed**
23-CI-A,B,C	Cork wall insulation - inside wall between the two block layers	Good	RACM	NA	ND
24-CI-A,B,C	**Remnants of original cork ceiling insulation with outer black paper layer adhered to concrete ceiling (associated with HA-32)**	**Fair**	RACM	**50 SF**	**2% Chrysotile**
25-IC-A,B,C	**Interior caulk - greenish grey, hard, inside electrical boxes**	Good	Cat II	**12 SF**	**10% Chrysotile**
26-PI-A,B,C	Pipe insulation - horse hair bands under metal hangers	Good	RACM	NA	ND
27-FT-A,B,C	Floor tile - 12" beige tile with red streaks,	Good	Cat I	NA	ND
28-CB-A,B,C	Cove base - 4" brown vinyl with adhesive	Good	Cat I	NA	ND
29-CP-A,B,C	Ceiling panel - 2' white pinhole/fissure texture	Good	RACM	NA	ND
30-BM-A,B,C	Brick mortar - 12"x4" concrete bricks	Good	Cat II	NA	ND

Table 2.4 Summary of Asbestos Bulk Sampling					
Sample ID	Material	Condition	Friability: RACM, Cat I, Cat II	Estimated Quantity (SF/LF)	Asbestos Content
31-BM-A,B,C	Brick mortar - 2"x6" concrete bricks	Good	Cat II	NA	ND
32-IC-A,B,C	**Interior caulk (tar), black, perimeter of cork insulation (associated with HA-24)**	Good	Cat II	**160 LF**	**3% Chrysotile**
33-WG-A,B,C	Window glaze - grey caulk	Good	Cat II	NA	ND
34-TI-A,B,C	**Tank insulation**	Good	RACM	**1 Tank**	**30% Chrysotile**
35-WG-A,B,C	Window glaze - black, on door window	Good	Cat II	NA	ND
36-FT-A,B,C	Floor tile - 12" light brown with mottle, box of tile	Good	Cat I	NA	ND
37-FT-A,B,C	Floor tile - 12" white with black streaks, box of tile	Good	Cat I	NA	ND
38-WG-A,B,C	**Window glaze - White glaze, metal window leaned against wall**	Good	Cat II	**1 Window**	**3% Chrysotile**
39-WG-A,B,C	Window glaze - soft, grey, metal window	Good	Cat II	NA	ND
40-WBS-A,B,C	Wallboard system - buildout - wet wall	Good	RACM	NA	ND
41-CB-A,B,C	Cove base 4" black vinyl with adhesive	Good	Cat I	NA	ND
42-GP-A,B,C	Glue pod - brown	Good	Cat II	NA	ND
43-TPL-A,B,C,D,E	Textured plaster - rough texture, walls	Fair	RACM	NA	ND
44-PI-A,B,C	**Pipe insulation - magnesia**	Good	RACM	**985 LF**	**30% Chrysotile**
45-PF-A,B,C	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	Good	RACM	**200 Fittings**	**30% Chrysotile**
46-BM-A,B,C	Brick mortar - beige glazed ceramic block	Good	Cat II	NA	ND
47-IC-A,B,C	Interior caulk - white, hard, on restroom fixtures	Good	Cat II	NA	ND
48-BPI-A,B,C	Bathroom partition insulation - pressed paper	Good	RACM	NA	ND
49-WG-A,B,C	**Window glaze - beige glaze, window in metal door**	Good	Cat II	**11 Windows**	**Point Count: Trace Chrysotile**
50-FT-A,B,C	**Floor tile - 9" black tile, black mastic**	Good	Cat I	**210 SF**	**FT: 2% Chrysotile Mastic: ND**
51-FT-A,B,C	**Floor tile - 9" dark brown, black mastic**	Good	Cat I	**210 SF**	**FT: 2% Chrysotile Mastic: ND**
52-FT-A,B,C	**Floor tile - 9" grey with black streaks, black mastic**	Good	Cat I	**210 SF**	**FT: 7% Chrysotile Mastic: ND**
53-CP-A,B,C	Ceiling panel - 2' white rough texture with foil backing	Good	RACM	NA	ND
54-CP-A,B,C	Ceiling panel - 2' white composite with metal cover	Fair	RACM	NA	ND
55-CP-A,B,C	Ceiling panel - 2'x4' wallboard with vinyl cover	Fair	RACM	NA	ND

Table 2.4 Summary of Asbestos Bulk Sampling					
Sample ID	Material	Condition	Friability: RACM, Cat I, Cat II	Estimated Quantity (SF/LF)	Asbestos Content
56-WP-A,B,C	Water proofing - black spray-on, on walls/ceiling	Good	Cat II	NA	ND
57-GTM-A,B,C	**Gasket material - fiber gaskets between steel fittings**	Good	Cat I	**44 Gaskets**	**10% Chrysotile**
58 – NOT USED	NOT USED				
59-TI-A,B,C	**Tank insulation - canvas paper wrapped fiberglass over magnesia block**	Good	RACM	**1 Tank**	**30% Chrysotile**
60-WB-A,B,C	Wallboard - compressor room walls	Good	RACM	NA	ND
61-TPL-A,B,C	**Textured plaster - rough texture, ceiling**	Good	RACM	**180 SF**	**3% Chrysotile**
62-CB-A,B,C	Cove base - 4" grey vinyl with adhesive	Good	Cat II	NA	ND
63-IC-A,B,C	**Interior caulk - grey, hard, perimeter of metal window frame**	Good	Cat II	**650 LF**	**Point Count: 2.25% Chrysotile**
64-VD-A,B,C	**Vibration dampener - white canvas**	Good	RACM	**40 SF**	**20% Chrysotile**
65-CA-A,B,C	**Construction adhesive - black / dark brown, under steel corner guard**	Good	Cat II	**345 SF**	**3% Chrysotile**
66-TPL-A,B,C	Textured plaster - trawled straight	Good	RACM	NA	ND
67-CP-A,B,C	Ceiling panel - Off white pinhole and fissure (large fissure)	Good	RACM	NA	ND
68-PI-A,B,C	Pipe insulation - black, tar tape	Good	RACM	NA	ND
69-BM-A,B,C	Brick mortar - exterior siding red brick	Good	Cat II	NA	ND
70-RI-A,B,C	Rolled-in insulation - plastic wrapped fiberglass duct insulation	Good	RACM	NA	ND
71-CT-A,B,C	Ceiling tile -12" white with 1/4 inch holes	Good	RACM	NA	ND
72-CP-A,B,C	Ceiling panel - yellowish white, pinhole/fissure (small fissure), grey composite material	Good	RACM	NA	ND
73-CP-A,B,C	Ceiling panel - white, various size pinhole texture, beige composite material	Good	RACM	NA	ND
74-CA-A,B,C	Construction adhesive - black, behind plastic wall guards, dripping down wall surface	Good	Cat II	NA	ND
75-IC-A,B,C	Interior caulk - grey duct caulk	Good	Cat II	NA	ND
76-CB-A,B,C	Cove base - 6" black vinyl with adhesive	Good	Cat I	NA	ND
77-WG-A,B,C	Window glaze - black caulk, perimeter of office interior window	Good	Cat II	NA	ND
78 – NOT SAMPLED	**Roof drain fitting - unknown material**	**Good**	***ASSUMED, NOT SAMPLED***		
79-FS-A,B,C	**Vinyl sheeting - Brown/light squares.**	**Good**	Cat I	**265 SF**	**15% Chrysotile**
80-IC-A,B,C	**Interior caulk - Brown caulk - Perimeter of glass block**	**Good**	Cat II	**390 SF**	**Point Count: 1.75% Chrysotile**
81-GM-A,B,C	Ceramic tile, grout, mortar - 2" blue floor tile	Good	Cat II	NA	ND

Table 2.4 Summary of Asbestos Bulk Sampling					
Sample ID	Material	Condition	Friability: RACM, Cat I, Cat II	Estimated Quantity (SF/LF)	Asbestos Content
82-GM-A,B,C	Ceramic tile, grout, mortar - 4" blue wall tile	Good	Cat II	NA	ND
83-IC-A,B,C	Interior caulk - white, seam of counter and backsplash	Good	Cat II	NA	ND
84-EJ-A,B,C	Expansion joint - Concrete slab foundation	Good	Cat II	NA	ND
85-CM-A,B,C	Carpet mastic - green	Good	Cat II	NA	ND
86 – NOT SAMPLED	**Transite window sill**	**Good**	***ASSUMED, NOT SAMPLED***		
87-IC-A,B,C	Interior caulk - black, perimeter of aluminum window frames	Good	Cat II	NA	ND
88-FT-A,B,C	Floor tile - 12" wood pattern stick-on tile	Good	Cat I	NA	ND
89-WG-A,B,C	Window glaze - beige glaze on window interior	Fair	Cat II	NA	ND
90-EJ-A,B,C	**Expansion joint - concrete foundation walls**	Good	Cat II	**5 LF**	**8% Chrysotile**
91-EJ-A,B,C	**Expansion joint - brick siding**	Good	Cat II	**300 LF**	**2% Chrysotile**
92-EJ-A,B,C	Expansion joint - between building foundation and concrete walkway	Good	Cat II	NA	ND
93-CC-A,B,C	Concrete chip - exterior concrete	Good	Cat II	NA	ND
94-WP-A,B,C	Water proofing - black spray-on, concrete foundation, mostly below grade	Good	Cat II	NA	ND
95-GBM-A,B,C	Glass block mortar/grout, grey, between glass block window tiles, and around perimeter	Good	Cat II	NA	ND
96-EC-A,B,C	Exterior caulk - grey, perimeter of glass block windows	Good	Cat II	NA	ND
97-WG-A,B,C	**Window glaze - multi-pane steel windows**	**Fair**	Cat II	**1060 LF**	**Point Count: 0.25% Chrysotile**
98-WG-A,B,C	**Window glaze - basement steel windows**	**Fair**	Cat II	**7 Windows**	**Point Count: 0.25% Chrysotile**
99-WG-A,B,C	Window glaze, grey, soft, perimeter of glass window in metal door	Good	Cat II	NA	ND
100-EC-A,B,C	**Exterior caulk - grey, perimeter of door frames**	Good	Cat II	**70 LF**	**7% Chrysotile**
101-EC-A,B,C	Exterior caulk - black, perimeter of door frames	Good	Cat II	NA	ND
102-EC-A,B,C	**Exterior caulk - grey, perimeter of steel multi-pane windows**	Good	Cat II	**725 LF**	**5% Chrysotile**
103-EC-A,B,C	**Exterior caulk - grey, perimeter of steel basement windows**	Good	Cat II	**350 LF**	**6% Chrysotile**
104-EC-A,B,C	Exterior caulk - grey, soft, perimeter of aluminum window frames, and window sill	Good	Cat II	NA	ND
105-RM-A,B,C,D	Roofing materials - flat rubber membrane roof with vapor paper, and various tars	Good	Cat I	NA	ND
106-CC-A,B,C	Concrete chip - 16" concrete walking tiles	Poor	Cat II	NA	ND
107-TC-A,B,C	Terracotta - capstone	Good	Cat II	NA	ND

Table 2.4 Summary of Asbestos Bulk Sampling					
Sample ID	Material	Condition	Friability: RACM, Cat I, Cat II	Estimated Quantity (SF/LF)	Asbestos Content
108-EC-A,B,C	Exterior caulk - grey, between terracotta capstone	Good	Cat II	NA	ND
109-EC-A,B,C	Exterior caulk - black, flashing on parapet wall	Good	Cat II	NA	ND
110-EC-A,B,C	Exterior caulk - black, on penthouse brick flashing	Good	Cat II	NA	ND
111-EC-A,B,C	Exterior caulk - dark grey, perimeter of metal door frame	Good	Cat II	NA	ND
112-EC-A,B,C	Exterior caulk - light grey, penthouse wall penetrations	Good	Cat II	NA	ND
113-EC-A,B,C	Exterior caulk - grey, soft, elastic, on metal pipe insulation	Good	Cat II	NA	ND
114-EC-A,B,C	Exterior caulk - white, soft elastic, on plastic pipe fittings	Good	Cat II	NA	ND
115-EC-A,B,C	Exterior caulk - grey, on roof penetrations, fencing base	Good	Cat II	NA	ND
116-EC-A,B,C	Exterior caulk - grey, seams of concrete capstone	Good	Cat II	NA	ND
117-EC-A,B,C	**Exterior caulk - dark grey, under concrete capstone**	Good	Cat II	**400 SF**	**10% Chrysotile**
118-EC-A,B,C	Exterior caulk - grey, hard, on seams of HVAC vents	Good	Cat II	NA	ND
119-EC-A,B,C	Exterior caulk - pink, hard, on seams of HVAC vents	Good	Cat II	NA	ND
120-EC-A,B,C	Exterior caulk - white, on angle iron above window frame	Good	Cat II	NA	ND
121-EC-A,B,C	**Exterior caulk - grey, on wall vent perimeter**	Good	Cat II	**35 LF**	**5% Chrysotile**
122-EC-A,B,C	**Exterior caulk - black, on parapet wall seams**	Good	Cat II	**800 SF**	**5% Chrysotile**
123-CI-A,B,C,D,E,F,G	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	Good	Cat II	14,106 SF	ND
124-CI-A,B,C,D,E	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**Poor**	**RACM**	**120 SF**	**4% Chrysotile**
RACM – Regulated Asbestos Containing Material SF/LF – Square Foot/Linear Foot		CAT I – Category I Non-Friable CAT II – Category II Non-Friable		NA – Not Applicable ND – Non-Detect	

In the event additional suspect material is discovered during abatement activities, this material should be treated as presumed asbestos-containing material (PACM) in accordance with regulations 29 CFR 1926.1101 and 1910.1001 and other applicable state and local regulations and either sampled to confirm or nullify asbestos content or be treated as ACM and handled accordingly.

2.5 Quality Control

The bulk samples collected by Atlas were submitted for PLM analysis to Environmental Testing Laboratory, Inc. (ETL). located in Romulus, Michigan. ETL performs bulk PLM analysis conforming with EPA-prescribed methodologies, operates in accordance with a written Standard Operating Procedure and maintains compliance with a formal Quality Assurance (QA) Program. This program follows quality guidelines as documented in third-party accreditation authorities including the NIST National Voluntary Laboratory Accreditation Program (NVLAP). ETL is accredited by NVLAP (Lab Code 201028-0). ETL's internal Quality Control (QC) program includes 10% quality control on all samples received for analysis, proficiency testing and round- robin protocols. A copy of ETL's NVLAP-accreditation certificate is included in **Appendix IV**.

Atlas's inspectors maintain their Asbestos Building Inspector accreditation in compliance with the EPA requirements under 40 CFR 763 and Michigan Compiled Laws (MCL) 338.3403, Sec.3(1)(a) of the Michigan Asbestos Workers Accreditation Act (Act 440, P.A. 1988, as amended). Under authority of Michigan's Department of Licensing and Regulatory Affairs (LARA), MIOSHA's Asbestos Program administers asbestos accreditations. Copies of Atlas's inspectors' Asbestos Building Inspector accreditations are included in **Appendix IV**.

3. POLYCHLORINATED BIPHENYLS SAMPLING

Atlas representative Mr. Andrew DeLodder and Matthew Kreuyer conducted the limited PCB sampling of caulks, mastics, and glazes at the MSU Central Services Building on December 2-9, 2024. The PCB inspection consisted of conducting a visual inspection to identify materials and the sample collection of accessible suspect PCB containing materials.

Materials which are found to contain concentrations of PCBs greater than fifty (50) parts per million (PPM) are regulated under the Toxic Substances Control Act (TSCA) PCB regulations (40 CFR part 761).

The EPA, TSCA regulations prohibit the use of PCBs in caulk and other building materials manufactured with PCBs at levels greater than or equal to 50 ppm, including the continued use of such materials that are already in place. EPA published materials state that "Although the EPA does have enforcement tools that it can use as appropriate where the PCB concentration in the caulk or other materials is above the regulatory limit, EPA is most interested in ensuring that school districts and other building owners undertake the recommended actions to limit exposures to PCBs" and that the "EPA believes that enforcement may not be the most effective tool to reduce health risks when school districts and other building owners follow these recommendations. Thus, such buildings will in most cases be a low priority for enforcement".

3.1 Laboratory Analytical Methodology

Bulk samples were submitted under chain of custody to Quantum Laboratories, Inc. and analyzed per SW-846 utilizing Test Method 8082A.

Copies of the laboratory analytical report and corresponding chain-of-custody forms are included in **Appendix III**. Sample results are reported in parts per million (PPM).

Composite samples of caulks, glazes, and mastics or adhesives were collected and analyzed for PCBs. The laboratory analytical results for the limited PCB sampling conducted at the subject building indicated that one (1) of the five (5) composite material samples were found to contain PCBs above 50 parts per million (PPM). Polychlorinated biphenyls should be removed by a licensed abatement contractor prior to renovation activities that would disturb these materials. **Table 1.1.2** above provides a summary of the composite materials that were collected for PCB analysis.

If any additional materials are discovered during renovation/demolition activities, such materials must be assumed to contain PCBs until sampling and analysis proves otherwise.

4. DISCUSSION AND RECOMMENDATIONS

The results of the pre-demolition hazardous materials survey conducted on December 2-9, 2024 and February 26, 2025, in the MSU Central Services building in East Lansing, Michigan 48824, indicated that of the suspect asbestos-containing materials sampled by Atlas, thirty-seven (37) were found to be ACMs (>1%) as defined by the EPA and MIOSHA regulations. Three (3) materials were found to contain asbestos but were <1% after point count analysis. Due to the destructive nature of sampling, five (5) materials were assumed to contain asbestos and should be treated as ACM until sampling proves otherwise. Data tables with corresponding asbestos bulk sampling information are included in **Appendix I**. Asbestos laboratory analytical reports are included in **Appendix III**. ACMs should be removed by a State of Michigan licensed asbestos abatement contractor prior to renovation or demolition activities that would disturb these materials.

It should be noted that additional suspect ACMs, beyond those identified during this survey, may be present in inaccessible areas or spaces concealed by practical and manual means of retrieval. These areas or spaces include, but are not limited to, buried piping, obstructed wall, ceiling, floor cavities, interstitial spaces, concrete or mortar-entombed materials, mechanical pipe gaskets and packings, insulated electrical components, etc. Atlas recommends any suspect ACMs not previously sampled, that are discovered during renovations be sampled to determine asbestos content and addressed accordingly.

The laboratory analytical results for the limited PCB sampling conducted at the subject building indicated that one (1) of the five (5) composite material samples were found to contain PCBs above 50 parts per million (PPM). The laboratory analytical report with corresponding PCB sampling information is included in **Appendix III**. Polychlorinated biphenyls should be removed by a licensed abatement contractor prior to renovation or demolition activities that would disturb these materials.

Atlas conducted a visual assessment for Hazardous and/or Other Regulated Material (ORM) at the subject building and recorded the quantity and location of the items. **Table 1.1.3** above summarized the inventory of ORM listed in the subject building. The field data sheets listing materials noted can be found in **Appendix I**.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is the report to be utilized as a bidding document or as a project specification document.

APPENDIX I
TABLES

HA List

ATLAS

Homogeneous Area Listing

Homogeneous Area Description	HA#	Asbestos
Fire door & frame - metal	1	Assumed
Fire door & frame - wood	2	Assumed
Concrete chip - concrete slab foundation & decks	3	Non Detect
Terrazzo flooring - Grey mix with white, beige, and black stone	4	Non Detect
Brick mortar - CMU block walls	5	Non Detect
Brick mortar - grey glazed ceramic block walls	6	Non Detect
Brick mortar - skim coat on CMU block walls	7	Non Detect
Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	Non Detect
Interior caulk - red, penetrations / void filler	9	Non Detect
Interior caulk - grey, penetrations / void filler	10	Non Detect
Interior caulk - Dark brown, perimeter of door/window frames	11	2% Chrysotile
Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	Non Detect
Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped	13	Non Detect
Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe	14	Non Detect
Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	Non Detect
Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped	16	30 % Chrysotile
Hanger mud - on brown colored paper wrapped fiberglass insulation lines	17	50 % Chrysotile
Pipe insulation - wool felt, blue colored sprinkler lines	18	35 % Chrysotile
Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool	19	50 % Chrysotile
Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	20	45 % Chrysotile
Pipe fitting - canvas covered mudded fittings, on aircell steam line	21	45 % Chrysotile
Pipe insulation - cork. Note: could be hidden layer of mag inside. Treat as ACM.	22	Cork - Non Detect Mag - Assumed
Cork wall insulation - inside wall between the two block layers	23	Non Detect
Remnants of original cork ceiling insulation with outer black paper layer adhered to concrete ceiling (assoc. with HA-32)	24	2% Chrysotile
Interior caulk - greenish grey, hard, inside electrical boxes	25	10% Chrysotile
Pipe insulation - horse hair bands under metal hangers	26	Non Detect
Floor tile - 12" beige tile with red streaks,	27	Non Detect
Cove base - 4" brown vinyl with adhesive	28	Non Detect
Ceiling panel - 2' white pinhole/fissure texture	29	Non Detect
Brick mortar - 12"x4" concrete bricks	30	Non Detect
Brick mortar - 2"x6" concrete bricks	31	Non Detect
Interior caulk (tar), black, perimeter of cork insulation (associated with HA-24)	32	3% Chrysotile
Window glaze - grey caulk	33	Non Detect
Tank insulation	34	30% Chrysotile
Window glaze - black, on door window	35	Non Detect
Floor tile - 12" light brown with mottle, box of tile	36	Non Detect
Floor tile - 12" white with black streaks, box of tile	37	Non Detect
Window glaze - White glaze, metal window leaned against wall	38	3% Chrysotile
Window glaze - soft, grey, metal window	39	Non Detect
Wallboard system - buildout - wet wall	40	Non Detect
Cove base 4" black vinyl with adhesive	41	Non Detect
Glue pod - brown	42	Non Detect
Textured plaster - rough texture, walls	43	Non Detect
Pipe insulation - magnesia	44	30% Chrysotile
Pipe fitting - canvas wrapped mudded fitting on magnesia line	45	30% Chrysotile
Brick mortar - beige glazed ceramic block	46	Non Detect
Interior caulk - white, hard, on restroom fixtures	47	Non Detect
Bathroom partition insulation - pressed paper	48	Non Detect
Window glaze - beige glaze, window in metal door	49	PC: Trace Chrysotile

Homogeneous Area Description	HA#	Asbestos
Floor tile - 9" black tile, black mastic	50	FT: 2% Chrysotile Mastic: ND
Floor tile - 9" dark brown, black mastic	51	FT: 2% Chrysotile Mastic: ND
Floor tile - 9" grey with black streaks, black mastic	52	FT: 2% Chrysotile Mastic: ND
Ceiling panel - 2' white rough texture with foil backing	53	Non Detect
Ceiling panel - 2' white composite with metal cover	54	Non Detect
Ceiling panel - 2'x4' wallboard with vinyl cover	55	Non Detect
Water proofing - black spray-on, on walls/ceiling	56	Non Detect
Gasket material - fiber gaskets between steel fittings	57	10% Chrysotile
NOT USED	58	Non Detect
Tank insulation - canvas paper wrapped fiberglass over magnesia block	59	30% Chrysotile
Wallboard - compressor room walls	60	Non Detect
Textured plaster - rough texture, ceiling	61	3% Chrysotile
Cove base - 4" grey vinyl with adhesive	62	Non Detect
Interior caulk - grey, hard, perimeter of metal window frame	63	2.25% Chrysotile
Vibration dampener - white canvas	64	20% Chrysotile
Construction adhesive - black / dark brown, under steel corner guard	65	3% Chrysotile
Textured plaster - trawled straight	66	Non Detect
Ceiling panel - Off white pinhole and fissure (large fissure)	67	Non Detect
Pipe insulation - black, tar tape	68	Non Detect
Brick mortar - exterior siding red brick	69	Non Detect
Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	Non Detect
Ceiling tile -12" white with 1/4 inch holes	71	Non Detect
Ceiling panel - yellowish white, pinhole/fissure (small fissure), grey composite material	72	Non Detect
Ceiling panel - white, various size pinhole texture, beige composite material	73	Non Detect
Construction adhesive - black, behind plastic wall guards, dripping down wall surface	74	Non Detect
Interior caulk - grey duct caulk	75	Non Detect
Cove base - 6" black vinyl with adhesive	76	Non Detect
Window glaze - black caulk, perimeter of office interior window	77	Non Detect
Roof drain fitting - unknown material	78	Assumed
Vinyl sheeting - Brown/light squares.	79	15% Chrysotile
Interior caulk - Brown caulk - Perimeter of glass block	80	1.75% Chrysotile
Ceramic tile, grout, mortar - 2" blue floor tile	81	Non Detect
Ceramic tile, grout, mortar - 4" blue wall tile	82	Non Detect
Interior caulk - white, seam of counter and backsplash	83	Non Detect
Expansion joint - Concrete slab foundation	84	Non Detect
Carpet mastic - green	85	Non Detect
Transite window sill	86	Assumed
Interior caulk - black, perimeter of aluminum window frames	87	Non Detect
Floor tile - 12" wood pattern stick-on tile	88	Non Detect
Window glaze - beige glaze on window interior	89	Non Detect
Expansion joint - concrete foundation walls	90	8% Chrysotile
Expansion joint - brick siding, white, alligator cracking pattern	91	2% Chrysotile
Expansion joint - between building foundation and concrete walkway	92	Non Detect
Concrete chip - exterior concrete	93	Non Detect
Water proofing - black spray-on, concrete foundation, mostly below grade	94	Non Detect
Glass block mortar/grout, grey, between glass block window tiles, and around	95	Non Detect
Exterior caulk - grey, perimeter of glass block windows	96	Non Detect

Homogeneous Area Listing

Homogeneous Area Description	HA#	Asbestos
Window glaze - multi-pane steel windows	97	Point Count: 0.25% Chrysotile
Window glaze - basement steel windows	98	Point Count: 0.25% Chrysotile
Window glaze, grey, soft, perimeter of glass window in metal door	99	Non Detect
Exterior caulk - grey, perimeter of door frames	100	7% Chrysotile
Exterior caulk - black, perimeter of door frames	101	Non Detect
Exterior caulk - grey, perimeter of steel multi-pane windows	102	5% Chrysotile
Exterior caulk - grey, perimeter of steel basement windows	103	6% Chrysotile
Exterior caulk - grey, soft, perimeter of aluminum window frames, and window sill	104	Non Detect
Roofing materials - flat rubber membrane roof with vapor paper, and various tars	105	Non Detect
Concrete chip - 16" concrete walking tiles	106	Non Detect
Terracotta - capstone	107	Non Detect
Exterior caulk - grey, between terracotta capstone	108	Non Detect
Exterior caulk - black, flashing on parapet wall	109	Non Detect
Exterior caulk - black, on penthouse brick flashing	110	Non Detect
Exterior caulk - dark grey, perimeter of metal door frame	111	Non Detect
Exterior caulk - light grey, penthouse wall penetrations	112	Non Detect
Exterior caulk - grey, soft, elastic, on metal pipe insulation	113	Non Detect
Exterior caulk - white, soft elastic, on plastic pipe fittings	114	Non Detect
Exterior caulk - grey, on roof penetrations, fencing base	115	Non Detect
Exterior caulk - grey, seams of concrete capstone	116	Non Detect
Exterior caulk - dark grey, under concrete capstone	117	10% Chrysotile
Exterior caulk - grey, hard, on seams of HVAC vents	118	Non Detect
Exterior caulk - pink, hard, on seams of HVAC vents	119	Non Detect
Exterior caulk - white, on angle iron above window frame	120	Non Detect
Exterior caulk - grey, on wall vent perimeter	121	5% Chrysotile
Exterior caulk - black, on parapet wall seams	122	5% Chrysotile
Cork insulation, remnants (cork & cork adhesive on concrete)	123	Non Detect
Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, associated with HA-123 (and HA-24 which was previously abated).	124	4% Chrysotile

FS List

FS#	FS Description	Al Amo	Floor	Wing
1	Hallway - BHW1		Basement	South
2	Cooler entrance - Room 2		Basement	South
3	Cooler - Room 2A		Basement	South
4	Cooler - Room 2B		Basement	South
5	Cooler - Room 3B		Basement	South
6	Tech room - Room 3A		Basement	South
7	Mechanical - Room 3		Basement	South
8	Storage room - Room 4		Basement	South
9	Storage room - Room 5		Basement	South
10	Cooler entrance - Room 6		Basement	South
11	Cooler - Room 6A		Basement	South
12	Cooler - Room 6B		Basement	South
13	Cooler Room 6C		Basement	South
14	Storage room - Room 7		Basement	South
15	Storage room 7A		Basement	South
16	Stairwell - SW1		Basement	South
17	Stairwell - SW3		Basement	South
18	Elevator shaft		Basement	South
19	Room BHW2		Basement	North
20	Men's restroom - Room 12		Basement	North
21	Women's restroom -Room 13		Basement	North
22	Storage - Room 14		Basement	North
23	Room 15 & 15C		Basement	North
24	Room 15B		Basement	North
25	Room 15A		Basement	North
26	Storage room - Room 16 & 16A		Basement	North
27	Mechanical - Room 17 & 17A		Basement	North
28	Stairwell - SW4		Basement	North
29	Room 101		1st Floor	South
30	Room 101A		1st Floor	South
31	Room 101B		1st Floor	South
32	Room 101C		1st Floor	South
33	Room 101D		1st Floor	South
34	Room 102A		1st Floor	South
35	Room 102		1st Floor	South
36	Room 103		1st Floor	South
37	Room 103A		1st Floor	South
38	Room 104		1st Floor	South
39	Hallway 1HW1		1st Floor	South
40	Room 105		1st Floor	South
41	Room 105B		1st Floor	South
42	Room 105A		1st Floor	South
43	Receiving - Room 106, 106A, & 106B		1st Floor	South
44	Receiving - Room 106C		1st Floor	South
45	Room 111		1st Floor	North
46	Hallway 1HW2		1st Floor	North
47	Hallway 1HW3		1st Floor	North
48	Room 115		1st Floor	North
49	Room 117, 117A, & 117B		1st Floor	North
50	Room 124		1st Floor	North
51	Room 120		1st Floor	North

Functional Space Listing

FS#	FS Description	Amo	Floor	Wing
52	Room 120A		1st Floor	North
53	Room 121		1st Floor	North
54	Room 122		1st Floor	North
55	Room 123		1st Floor	North
56	Room 148A		1st Floor	North
57	Hallway 1HW4 & 135		1st Floor	North
58	Room 150		1st Floor	North
59	Women's restroom - Room 146		1st Floor	North
60	Room 152 & 154		1st Floor	North
61	Room 144		1st Floor	North
62	Men's restroom - Room 142		1st Floor	North
63	Closet - Room 140		1st Floor	North
64	Room 134		1st Floor	North
65	Room 139		1st Floor	North
66	Room 138		1st Floor	North
67	Room 136		1st Floor	North
68	Room 135A		1st Floor	North
69	Room 201, 201A,210, 210A, 210B		2nd Floor	South
70	Room 206		2nd Floor	South
71	Men's restroom - Room 207		2nd Floor	South
72	Women's restroom - Room 209		2nd Floor	South
73	Hallway 2HW1		2nd Floor	South
74	Janitorial closet - Room 208		2nd Floor	South
75	Room 114		1st Floor	South
76	Hallway 3HW1		3rd Floor	South
77	Room 306		3rd Floor	South
78	Room 301 & 301A		3rd Floor	South
79	Room 302 & 302A		3rd Floor	South
80	Room 302B		3rd Floor	South
81	Room 303		3rd Floor	South
82	Room 304		3rd Floor	South
83	Restroom - Room 305		3rd Floor	South
84	Penthouse		3rd Fl. / Roof	South
EA-1	East side of the building exterior		NA	NA
EA-2	North side of the building exterior		NA	NA
EA-3	West side of building exterior		NA	NA
EA-4	South side of building exterior		NA	NA
EA-5	Roof		Roof	NA

List by Homogeneous Area

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
1	Hallway - BHW1	B	Fire door & frame - metal	1	2	Each	Good		Assumed
2	Cooler entrance - Room 2	B	Fire door & frame - metal	1	1	Each	Good		Assumed
7	Mechanical - Room 3	B	Fire door & frame - metal	1	1	Each	Good		Assumed
8	Storage room - Room 4	B	Fire door & frame - metal	1	1	Each	Good		Assumed
9	Storage room - Room 5	B	Fire door & frame - metal	1	1	Each	Good		Assumed
16	Stairwell - SW1	S	Fire door & frame - metal	1	8	Each	Good		Assumed
17	Stairwell - SW3	S	Fire door & frame - metal	1	8	Each	Good		Assumed
19	Room BHW2	B	Fire door & frame - metal	1	3	Each	Good		Assumed
20	Men's restroom - Room 12	B	Fire door & frame - metal	1	1	Each	Good		Assumed
21	Women's restroom -Room 13	B	Fire door & frame - metal	1	2	Each	Good		Assumed
23	Room 15 & 15C	B	Fire door & frame - metal	1	2	Each	Good		Assumed
24	Room 15B	B	Fire door & frame - metal	1	4	Each	Good		Assumed
25	Room 15A	B	Fire door & frame - metal	1	2	Each	Good		Assumed
26	Storage room - Room 16 & 16A	B	Fire door & frame - metal	1	6	Each	Good		Assumed
27	Mechanical - Room 17 & 17A	B	Fire door & frame - metal	1	2	Each	Good		Assumed
28	Stairwell - SW4	S	Fire door & frame - metal	1	2	Each	Good		Assumed
34	Room 102A	1	Fire door & frame - metal	1	1	Each	Good		Assumed
35	Room 102	1	Fire door & frame - metal	1	2	Each	Good		Assumed
36	Room 103	1	Fire door & frame - metal	1	2	Each	Good		Assumed
37	Room 103A	1	Fire door & frame - metal	1	1	Each	Good		Assumed
38	Room 104	1	Fire door & frame - metal	1	1	Each	Good		Assumed
43	Receiving - Room 106, 106A, & 106B	1	Fire door & frame - metal	1	2	Each	Good		Assumed
44	Receiving - Room 106C	1	Fire door & frame - metal	1	1	Each	Good		Assumed
45	Room 111	1	Fire door & frame - metal	1	1	Each	Good		Assumed
46	Hallway 1HW2	1	Fire door & frame - metal	1	2	Each	Good		Assumed
47	Hallway 1HW3	1	Fire door & frame - metal	1	2	Each	Good	35x9	Assumed
48	Room 115	1	Fire door & frame - metal	1	2	Each	Good		Assumed
49	Room 117, 117A, & 117B	1	Fire door & frame - metal	1	3	Each	Good		Assumed
51	Room 120	1	Fire door & frame - metal	1	2	Each	Good		Assumed
52	Room 120A	1	Fire door & frame - metal	1	1	Each	Good		Assumed
53	Room 121	1	Fire door & frame - metal	1	2	Each	Good		Assumed

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
53	Room 122	1	Fire door & frame - metal	1	2	Each	Good		Assumed
55	Room 123	1	Fire door & frame - metal	1	3	Each	Good		Assumed
68	Room 135A	1	Fire door & frame - metal	1	1	Each	Good		Assumed
69	Room 201, 201A,210, 210A, 210B	2	Fire door & frame - metal	1	5	Each	Good		Assumed
70	Room 206	2	Fire door & frame - metal	1	3	Each	Good		Assumed
75	Room 114	1	Fire door & frame - metal	1	1	Each	Good		Assumed
76	Hallway 3HW1	3	Fire door & frame - metal	1	2	Each	Good		Assumed
77	Room 306	3	Fire door & frame - metal	1	2	Each	Good		Assumed
78	Room 301 & 301A	3	Fire door & frame - metal	1	2	Each	Good		Assumed
79	Room 302 & 302A	3	Fire door & frame - metal	1	1	Each	Good		Assumed
80	Room 302B	3	Fire door & frame - metal	1	1	Each	Good		Assumed
81	Room 303	3	Fire door & frame - metal	1	1	Each	Good		Assumed
84	Penthouse	3	Fire door & frame - metal	1	2	Each	Good		Assumed
22	Storage - Room 14	B	Fire door & frame - wood	2	1	Each	Good		Assumed
29	Room 101	1	Fire door & frame - wood	2	3	Each	Good		Assumed
56	Room 148A	1	Fire door & frame - wood	2	1	Each	Good		Assumed
59	Women's restroom - Room 146	1	Fire door & frame - wood	2	1	Each	Good		Assumed
60	Room 152 & 154	1	Fire door & frame - wood	2	3	Each	Good		Assumed
61	Room 144	1	Fire door & frame - wood	2	1	Each	Good		Assumed
62	Men's restroom - Room 142	1	Fire door & frame - wood	2	2	Each	Good		Assumed
63	Closet - Room 140	1	Fire door & frame - wood	2	1	Each	Good		Assumed
64	Room 134	1	Fire door & frame - wood	2	1	Each	Good		Assumed
65	Room 139	1	Fire door & frame - wood	2	1	Each	Good		Assumed
66	Room 138	1	Fire door & frame - wood	2	1	Each	Good		Assumed
67	Room 136	1	Fire door & frame - wood	2	1	Each	Good		Assumed
68	Room 135A	1	Fire door & frame - wood	2	1	Each	Good		Assumed
79	Room 302 & 302A	3	Fire door & frame - wood	2	2	Each	Good		Assumed
80	Room 302B	3	Fire door & frame - wood	2	1	Each	Good		Assumed
1	Hallway - BHW1	B	Concrete chip - concrete slab foundation & decks	3	600	SF	Good	9x70x11	Non Detect
2	Cooler entrance - Room 2	B	Concrete chip - concrete slab foundation & decks	3	200	SF	Good	9x21	Non Detect
3	Cooler - Room 2A	B	Concrete chip - concrete slab foundation & decks	3	1925	SF	Good	40x40	Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
4	Cooler - Room 2B	B	Concrete chip - concrete slab foundation & decks	3	750	SF	Good	30x21	Non Detect
5	Cooler - Room 3B	B	Concrete chip - concrete slab foundation & decks	3	750	SF	Good		Non Detect
6	Tech room - Room 3A	B	Concrete chip - concrete slab foundation & decks	3	100	SF	Good		Non Detect
7	Mechanical - Room 3	B	Concrete chip - concrete slab foundation & decks	3	1290	SF	Good	30x43	Non Detect
8	Storage room - Room 4	B	Concrete chip - concrete slab foundation & decks	3	650	SF	Good	28x14	Non Detect
9	Storage room - Room 5	B	Concrete chip - concrete slab foundation & decks	3	750	SF	Good		Non Detect
10	Cooler entrance - Room 6	B	Concrete chip - concrete slab foundation & decks	3	200	SF	Good	9x21	Non Detect
11	Cooler - Room 6A	B	Concrete chip - concrete slab foundation & decks	3	700	SF	Good	40x18	Non Detect
12	Cooler - Room 6B	B	Concrete chip - concrete slab foundation & decks	3	750	SF	Good		Non Detect
13	Cooler Room 6C	B	Concrete chip - concrete slab foundation & decks	3	1925	SF	Good		Non Detect
14	Storage room - Room 7	B	Concrete chip - concrete slab foundation & decks	3	250	SF	Good	25x10	Non Detect
15	Storage room 7A	B	Concrete chip - concrete slab foundation & decks	3	250	SF	Good		Non Detect
16	Stairwell - SW1	S	Concrete chip - concrete slab foundation & decks	3	1200	SF	Good	30x9x80	Non Detect
17	Stairwell - SW3	S	Concrete chip - concrete slab foundation & decks	3	1200	SF	Good		Non Detect
18	Elevator shaft	E	Concrete chip - concrete slab foundation & decks	3	150	SF	Good		Non Detect
19	Room BHW2	B	Concrete chip - concrete slab foundation & decks	3	1290	SF	Good	20x22	Non Detect
20	Men's restroom - Room 12	B	Concrete chip - concrete slab foundation & decks	3	170	SF	Good	17x9	Non Detect
21	Women's restroom -Room 13	B	Concrete chip - concrete slab foundation & decks	3	230	SF	Good		Non Detect
22	Storage - Room 14	B	Concrete chip - concrete slab foundation & decks	3	275	SF	Good	13x18	Non Detect
23	Room 15 & 15C	B	Concrete chip - concrete slab foundation & decks	3	910	SF	Good		Non Detect
24	Room 15B	B	Concrete chip - concrete slab foundation & decks	3	5300	SF	Good	60x88	Non Detect
25	Room 15A	B	Concrete chip - concrete slab foundation & decks	3	2260	SF	Good		Non Detect
26	Storage room - Room 16 & 16A	B	Concrete chip - concrete slab foundation & decks	3	510	SF	Good	14x36	Non Detect
27	Mechanical - Room 17 & 17A	B	Concrete chip - concrete slab foundation & decks	3	700	SF	Good	17x11	Non Detect
28	Stairwell - SW4	S	Concrete chip - concrete slab foundation & decks	3	585	SF	Good		Non Detect
29	Room 101	1	Concrete chip - concrete slab foundation & decks	3	400	SF	Good	10x40	Non Detect
30	Room 101A	1	Concrete chip - concrete slab foundation & decks	3	705	SF	Good	18x39	Non Detect
31	Room 101B	1	Concrete chip - concrete slab foundation & decks	3	300	SF	Good	10x30	Non Detect
32	Room 101C	1	Concrete chip - concrete slab foundation & decks	3	680	SF	Good		Non Detect
33	Room 101D	1	Concrete chip - concrete slab foundation & decks	3	990	SF	Good	32x26	Non Detect
34	Room 102A	1	Concrete chip - concrete slab foundation & decks	3	290	SF	Good	15x20	Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
35	Room 102	1	Concrete chip - concrete slab foundation & decks	3	270	SF	Good	15x20	Non Detect
36	Room 103	1	Concrete chip - concrete slab foundation & decks	3	150	SF	Good		Non Detect
37	Room 103A	1	Concrete chip - concrete slab foundation & decks	3	136	SF	Good		Non Detect
38	Room 104	1	Concrete chip - concrete slab foundation & decks	3	280	SF	Good	20x14	Non Detect
39	Hallway 1HW1	1	Concrete chip - concrete slab foundation & decks	3	840	SF	Good		Non Detect
40	Room 105	1	Concrete chip - concrete slab foundation & decks	3	1660	SF	Good		Non Detect
41	Room 105B	1	Concrete chip - concrete slab foundation & decks	3	360	SF	Good		Non Detect
42	Room 105A	1	Concrete chip - concrete slab foundation & decks	3	920	SF	Good		Non Detect
43	Receiving - Room 106, 106A, & 106B	1	Concrete chip - concrete slab foundation & decks	3	1545	SF	Good		Non Detect
44	Receiving - Room 106C	1	Concrete chip - concrete slab foundation & decks	3	1000	SF	Good		Non Detect
45	Room 111	1	Concrete chip - concrete slab foundation & decks	3	295	SF	Good		Non Detect
46	Hallway 1HW2	1	Concrete chip - concrete slab foundation & decks	3	610	SF	Good		Non Detect
47	Hallway 1HW3	1	Concrete chip - concrete slab foundation & decks	3	300	SF	Good		Non Detect
48	Room 115	1	Concrete chip - concrete slab foundation & decks	3	500	SF	Good	15x23	Non Detect
49	Room 117, 117A, & 117B	1	Concrete chip - concrete slab foundation & decks	3	3110	SF	Good		Non Detect
50	Room 124	1	Concrete chip - concrete slab foundation & decks	3	205	SF	Good		Non Detect
51	Room 120	1	Concrete chip - concrete slab foundation & decks	3	880	SF	Good		Non Detect
52	Room 120A	1	Concrete chip - concrete slab foundation & decks	3	70	SF	Good		Non Detect
53	Room 121	1	Concrete chip - concrete slab foundation & decks	3	265	SF	Good		Non Detect
54	Room 122	1	Concrete chip - concrete slab foundation & decks	3	160	SF	Good		Non Detect
55	Room 123	1	Concrete chip - concrete slab foundation & decks	3	680	SF	Good	40x17	Non Detect
56	Room 148A	1	Concrete chip - concrete slab foundation & decks	3	270	SF	Good	19x14	Non Detect
57	Hallway 1HW4 & 135	1	Concrete chip - concrete slab foundation & decks	3	325	SF	Good		Non Detect
58	Room 150	1	Concrete chip - concrete slab foundation & decks	3	310	SF	Good	15x18	Non Detect
59	Women's restroom - Room 146	1	Concrete chip - concrete slab foundation & decks	3	108	SF	Good		Non Detect
60	Room 152 & 154	1	Concrete chip - concrete slab foundation & decks	3	285	SF	Good		Non Detect
61	Room 144	1	Concrete chip - concrete slab foundation & decks	3	35	SF	Good		Non Detect
62	Men's restroom - Room 142	1	Concrete chip - concrete slab foundation & decks	3	240	SF	Good		Non Detect
63	Closet - Room 140	1	Concrete chip - concrete slab foundation & decks	3	35	SF	Good		Non Detect
64	Room 134	1	Concrete chip - concrete slab foundation & decks	3	240	SF	Good		Non Detect
65	Room 139	1	Concrete chip - concrete slab foundation & decks	3	75	SF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
66	Room 138	1	Concrete chip - concrete slab foundation & decks	3	200	SF	Good		Non Detect
67	Room 136	1	Concrete chip - concrete slab foundation & decks	3	175	SF	Good		Non Detect
68	Room 135A	1	Concrete chip - concrete slab foundation & decks	3	135	SF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Concrete chip - concrete slab foundation & decks	3	7,460	SF	Good		Non Detect
70	Room 206	2	Concrete chip - concrete slab foundation & decks	3	2,690	SF	Good		Non Detect
71	Men's restroom - Room 207	2	Concrete chip - concrete slab foundation & decks	3	126	SF	Good		Non Detect
72	Women's restroom - Room 209	2	Concrete chip - concrete slab foundation & decks	3	330	SF	Good		Non Detect
73	Hallway 2HW1	2	Concrete chip - concrete slab foundation & decks	3	360	SF	Good		Non Detect
74	Janitorial closet - Room 208	2	Concrete chip - concrete slab foundation & decks	3	55	SF	Good		Non Detect
75	Room 114	1	Concrete chip - concrete slab foundation & decks	3	150	SF	Good		Non Detect
76	Hallway 3HW1	3	Concrete chip - concrete slab foundation & decks	3	690	SF	Good		Non Detect
77	Room 306	3	Concrete chip - concrete slab foundation & decks	3	3,165	SF	Good		Non Detect
78	Room 301 & 301A	3	Concrete chip - concrete slab foundation & decks	3	2,030	SF	Good		Non Detect
79	Room 302 & 302A	3	Concrete chip - concrete slab foundation & decks	3	3,275	SF	Good		Non Detect
80	Room 302B	3	Concrete chip - concrete slab foundation & decks	3	1,560	SF	Good		Non Detect
81	Room 303	3	Concrete chip - concrete slab foundation & decks	3	1,200	SF	Good		Non Detect
82	Room 304	3	Concrete chip - concrete slab foundation & decks	3	80	SF	Good		Non Detect
83	Restroom - Room 305	3	Concrete chip - concrete slab foundation & decks	3	415	SF	Good		Non Detect
84	Penthouse	3	Concrete chip - concrete slab foundation & decks	3	80	SF	Good		Non Detect
1	Hallway - BHW1	B	Terrazzo flooring - Grey mix with white, beige, and black stone	4	155	SF	Good		Non Detect
16	Stairwell - SW1	S	Terrazzo flooring - Grey mix with white, beige, and black stone	4	720	SF	Good		Non Detect
17	Stairwell - SW3	S	Terrazzo flooring - Grey mix with white, beige, and black stone	4	720	SF	Good		Non Detect
28	Stairwell - SW4	S	Terrazzo flooring - Grey mix with white, beige, and black stone	4	425	SF	Good		Non Detect
39	Hallway 1HW1	1	Terrazzo flooring - Grey mix with white, beige, and black stone	4	100	SF	Good		Non Detect
70	Room 206	2	Terrazzo flooring - Grey mix with white, beige, and black stone	4	20	SF	Good		Non Detect
71	Men's restroom - Room 207	2	Terrazzo flooring - Grey mix with white, beige, and black stone	4	126	SF	Good		Non Detect
72	Women's restroom - Room 209	2	Terrazzo flooring - Grey mix with white, beige, and black stone	4	126	SF	Good		Non Detect
73	Hallway 2HW1	2	Terrazzo flooring - Grey mix with white, beige, and black stone	4	100	SF	Good		Non Detect
76	Hallway 3HW1	3	Terrazzo flooring - Grey mix with white, beige, and black stone	4	40	SF	Good		Non Detect
80	Room 302B	3	Terrazzo flooring - Grey mix with white, beige, and black stone	4	20	SF	Good		Non Detect
81	Room 303	3	Terrazzo flooring - Grey mix with white, beige, and black stone	4	155	SF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
83	Restroom - Room 305	3	Terrazzo flooring - Grey mix with white, beige, and black stone	4	415	SF	Good		Non Detect
1	Hallway - BHW1	B	Brick mortar - CMU block walls	5	400	SF	Good		Non Detect
6	Tech room - Room 3A	B	Brick mortar - CMU block walls	5	400	SF	Good		Non Detect
7	Mechanical - Room 3	B	Brick mortar - CMU block walls	5	200	SF	Good		Non Detect
10	Cooler entrance - Room 6	B	Brick mortar - CMU block walls	5	10	SF	Good		Non Detect
14	Storage room - Room 7	B	Brick mortar - CMU block walls	5	700	SF	Good		Non Detect
15	Storage room 7A	B	Brick mortar - CMU block walls	5	700	SF	Good		Non Detect
16	Stairwell - SW1	S	Brick mortar - CMU block walls	5	3200	SF	Good		Non Detect
17	Stairwell - SW3	S	Brick mortar - CMU block walls	5	3200	SF	Good		Non Detect
18	Elevator shaft	E	Brick mortar - CMU block walls	5	1600	SF	Good		Non Detect
22	Storage - Room 14	B	Brick mortar - CMU block walls	5	620	SF	Good		Non Detect
23	Room 15 & 15C	B	Brick mortar - CMU block walls	5	1220	SF	Good		Non Detect
24	Room 15B	B	Brick mortar - CMU block walls	5	300	SF	Good		Non Detect
26	Storage room - Room 16 & 16A	B	Brick mortar - CMU block walls	5	280	SF	Good		Non Detect
27	Mechanical - Room 17 & 17A	B	Brick mortar - CMU block walls	5	220	SF	Good		Non Detect
28	Stairwell - SW4	S	Brick mortar - CMU block walls	5	210	SF	Good		Non Detect
39	Hallway 1HW1	1	Brick mortar - CMU block walls	5	300	SF	Good		Non Detect
43	Receiving - Room 106, 106A, & 106B	1	Brick mortar - CMU block walls	5	1500	SF	Good		Non Detect
44	Receiving - Room 106C	1	Brick mortar - CMU block walls	5	1600	SF	Good		Non Detect
46	Hallway 1HW2	1	Brick mortar - CMU block walls	5	2520	SF	Good		Non Detect
47	Hallway 1HW3	1	Brick mortar - CMU block walls	5	1350	SF	Good		Non Detect
48	Room 115	1	Brick mortar - CMU block walls	5	500	SF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Brick mortar - CMU block walls	5	1800	SF	Good		Non Detect
50	Room 124	1	Brick mortar - CMU block walls	5	600	SF	Good		Non Detect
51	Room 120	1	Brick mortar - CMU block walls	5	1800	SF	Good		Non Detect
52	Room 120A	1	Brick mortar - CMU block walls	5	450	SF	Good		Non Detect
54	Room 122	1	Brick mortar - CMU block walls	5	300	SF	Good		Non Detect
55	Room 123	1	Brick mortar - CMU block walls	5	1000	SF	Good		Non Detect
56	Room 148A	1	Brick mortar - CMU block walls	5	660	SF	Good		Non Detect
57	Hallway 1HW4 & 135	1	Brick mortar - CMU block walls	5	1750	SF	Good		Non Detect
58	Room 150	1	Brick mortar - CMU block walls	5	620	SF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
59	Women's restroom - Room 146	1	Brick mortar - CMU block walls	5	400	SF	Good		Non Detect
60	Room 152 & 154	1	Brick mortar - CMU block walls	5	460	SF	Good		Non Detect
61	Room 144	1	Brick mortar - CMU block walls	5	150	SF	Good		Non Detect
62	Men's restroom - Room 142	1	Brick mortar - CMU block walls	5	325	SF	Good		Non Detect
63	Closet - Room 140	1	Brick mortar - CMU block walls	5	280	SF	Good		Non Detect
64	Room 134	1	Brick mortar - CMU block walls	5	700	LF	Good		Non Detect
65	Room 139	1	Brick mortar - CMU block walls	5	215	SF	Good		Non Detect
66	Room 138	1	Brick mortar - CMU block walls	5	400	SF	Good		Non Detect
67	Room 136	1	Brick mortar - CMU block walls	5	300	SF	Good		Non Detect
68	Room 135A	1	Brick mortar - CMU block walls	5	340	SF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Brick mortar - CMU block walls	5	425	SF	Good		Non Detect
70	Room 206	2	Brick mortar - CMU block walls	5	25	SF	Good		Non Detect
73	Hallway 2HW1	2	Brick mortar - CMU block walls	5	150	SF	Good		Non Detect
76	Hallway 3HW1	3	Brick mortar - CMU block walls	5	35	SF	Good		Non Detect
78	Room 301 & 301A	3	Brick mortar - CMU block walls	5	3,465	SF	Good		Non Detect
79	Room 302 & 302A	3	Brick mortar - CMU block walls	5	2,765	SF	Good		Non Detect
80	Room 302B	3	Brick mortar - CMU block walls	5	80	SF	Good		Non Detect
81	Room 303	3	Brick mortar - CMU block walls	5	80	SF	Good		Non Detect
1	Hallway - BHW1	B	Brick mortar - grey glazed ceramic block walls	6	1300	SF	Good		Non Detect
2	Cooler entrance - Room 2	B	Brick mortar - grey glazed ceramic block walls	6	465	SF	Good		Non Detect
3	Cooler - Room 2A	B	Brick mortar - grey glazed ceramic block walls	6	1600	SF	Good		Non Detect
4	Cooler - Room 2B	B	Brick mortar - grey glazed ceramic block walls	6	1000	SF	Good		Non Detect
5	Cooler - Room 3B	B	Brick mortar - grey glazed ceramic block walls	6	1000	SF	Good		Non Detect
9	Storage room - Room 5	B	Brick mortar - grey glazed ceramic block walls	6	1000	SF	Good		Non Detect
10	Cooler entrance - Room 6	B	Brick mortar - grey glazed ceramic block walls	6	600	SF	Good		Non Detect
11	Cooler - Room 6A	B	Brick mortar - grey glazed ceramic block walls	6	1200	SF	Good		Non Detect
12	Cooler - Room 6B	B	Brick mortar - grey glazed ceramic block walls	6	1000	SF	Good		Non Detect
13	Cooler Room 6C	B	Brick mortar - grey glazed ceramic block walls	6	1600	SF	Good		Non Detect
16	Stairwell - SW1	S	Brick mortar - grey glazed ceramic block walls	6	3200	SF	Good		Non Detect
17	Stairwell - SW3	S	Brick mortar - grey glazed ceramic block walls	6	3200	SF	Good		Non Detect
28	Stairwell - SW4	S	Brick mortar - grey glazed ceramic block walls	6	310	SF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
29	Room 101	1	Brick mortar - grey glazed ceramic block walls	6	1000	SF	Good		Non Detect
30	Room 101A	1	Brick mortar - grey glazed ceramic block walls	6	1140	SF	Good		Non Detect
31	Room 101B	1	Brick mortar - grey glazed ceramic block walls	6	800	SF	Good		Non Detect
32	Room 101C	1	Brick mortar - grey glazed ceramic block walls	6	1040	SF	Good		Non Detect
33	Room 101D	1	Brick mortar - grey glazed ceramic block walls	6	1180	SF	Good		Non Detect
34	Room 102A	1	Brick mortar - grey glazed ceramic block walls	6	685	SF	Good		Non Detect
35	Room 102	1	Brick mortar - grey glazed ceramic block walls	6	665	SF	Good		Non Detect
37	Room 103A	1	Brick mortar - grey glazed ceramic block walls	6	440	SF	Good		Non Detect
38	Room 104	1	Brick mortar - grey glazed ceramic block walls	6	680	SF	Good		Non Detect
39	Hallway 1HW1	1	Brick mortar - grey glazed ceramic block walls	6	1700	SF	Good		Non Detect
40	Room 105	1	Brick mortar - grey glazed ceramic block walls	6	1725	SF	Good		Non Detect
41	Room 105B	1	Brick mortar - grey glazed ceramic block walls	6	850	SF	Good		Non Detect
42	Room 105A	1	Brick mortar - grey glazed ceramic block walls	6	1275	SF	Good		Non Detect
76	Hallway 3HW1	3	Brick mortar - grey glazed ceramic block walls	6	1,655	SF	Good		Non Detect
80	Room 302B	3	Brick mortar - grey glazed ceramic block walls	6	145	SF	Good		Non Detect
81	Room 303	3	Brick mortar - grey glazed ceramic block walls	6	450	SF	Good		Non Detect
82	Room 304	3	Brick mortar - grey glazed ceramic block walls	6	165	SF	Good		Non Detect
83	Restroom - Room 305	3	Brick mortar - grey glazed ceramic block walls	6	120	SF	Good		Non Detect
1	Hallway - BHW1	B	Brick mortar - skim coat on CMU block walls	7	10	SF	Good	seam between CMU block and glazed block	Non Detect
10	Cooler entrance - Room 6	B	Brick mortar - skim coat on CMU block walls	7	1	SF	Good		Non Detect
39	Hallway 1HW1	1	Brick mortar - skim coat on CMU block walls	7	10	SF	Good		Non Detect
84	Penthouse	3	Brick mortar - skim coat on CMU block walls	7	320	SF	Good		Non Detect
1	Hallway - BHW1	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	610	SF	Good		Non Detect
2	Cooler entrance - Room 2	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	200	SF	Good		Non Detect
3	Cooler - Room 2A	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	1600	SF	Good		Non Detect
4	Cooler - Room 2B	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	650	SF	Good		Non Detect
5	Cooler - Room 3B	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	650	SF	Good		Non Detect
9	Storage room - Room 5	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	500	SF	Good		Non Detect
10	Cooler entrance - Room 6	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	200	SF	Good		Non Detect
11	Cooler - Room 6A	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	700	SF	Good		Non Detect
12	Cooler - Room 6B	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	650	SF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
13	Cooler Room 6C	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	1600	SF	Good		Non Detect
16	Stairwell - SW1	S	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	400	SF	Good		Non Detect
17	Stairwell - SW3	S	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	400	SF	Good		Non Detect
20	Men's restroom - Room 12	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	155	SF	Good		Non Detect
21	Women's restroom -Room 13	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	230	SF	Good		Non Detect
29	Room 101	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	400	SF	Good		Non Detect
30	Room 101A	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	705	SF	Good		Non Detect
31	Room 101B	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	300	SF	Good		Non Detect
32	Room 101C	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	680	SF	Good		Non Detect
33	Room 101D	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	990	SF	Good		Non Detect
34	Room 102A	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	290	SF	Good		Non Detect
35	Room 102	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	270	SF	Good		Non Detect
36	Room 103	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	150	SF	Good		Non Detect
37	Room 103A	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	136	SF	Good		Non Detect
38	Room 104	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	268	SF	Good		Non Detect
39	Hallway 1HW1	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	740	SF	Good		Non Detect
40	Room 105	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	1660	SF	Good		Non Detect
41	Room 105B	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	360	SF	Good		Non Detect
42	Room 105A	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	920	SF	Good		Non Detect
45	Room 111	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	295	SF	Good		Non Detect
46	Hallway 1HW2	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	610	SF	Good		Non Detect
47	Hallway 1HW3	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	300	SF	Good		Non Detect
48	Room 115	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	500	SF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	3100	SF	Good		Non Detect
50	Room 124	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	205	SF	Good		Non Detect
51	Room 120	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	880	SF	Good		Non Detect
52	Room 120A	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	70	SF	Good		Non Detect
54	Room 122	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	15	SF	Good		Non Detect
56	Room 148A	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	270	SF	Good		Non Detect
57	Hallway 1HW4 & 135	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	325	SF	Good		Non Detect
58	Room 150	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	310	SF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
60	Room 152 & 154	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	285	SF	Good		Non Detect
61	Room 144	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	35	SF	Good		Non Detect
64	Room 134	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	240	SF	Good		Non Detect
65	Room 139	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	75	SF	Good		Non Detect
66	Room 138	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	200	SF	Good		Non Detect
67	Room 136	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	175	SF	Good		Non Detect
68	Room 135A	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	60	SF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	2,800	SF	Good		Non Detect
70	Room 206	2	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	200	SF	Good		Non Detect
75	Room 114	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	150	SF	Good		Non Detect
76	Hallway 3HW1	3	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	600	SF	Good		Non Detect
1	Hallway - BHW1	B	Interior caulk - red, penetrations / void filler	9	15	LF	Good		Non Detect
7	Mechanical - Room 3	B	Interior caulk - red, penetrations / void filler	9	10	LF	Good		Non Detect
8	Storage room - Room 4	B	Interior caulk - red, penetrations / void filler	9	5	LF	Good		Non Detect
9	Storage room - Room 5	B	Interior caulk - red, penetrations / void filler	9	5	LF	Good		Non Detect
10	Cooler entrance - Room 6	B	Interior caulk - red, penetrations / void filler	9	5	LF	Good		Non Detect
11	Cooler - Room 6A	B	Interior caulk - red, penetrations / void filler	9	5	SF	Good		Non Detect
14	Storage room - Room 7	B	Interior caulk - red, penetrations / void filler	9	5	SF	Good		Non Detect
15	Storage room 7A	B	Interior caulk - red, penetrations / void filler	9	5	SF	Good		Non Detect
16	Stairwell - SW1	S	Interior caulk - red, penetrations / void filler	9	20	SF	Good		Non Detect
17	Stairwell - SW3	S	Interior caulk - red, penetrations / void filler	9	20	SF	Good		Non Detect
29	Room 101	1	Interior caulk - red, penetrations / void filler	9	5	SF	Good		Non Detect
39	Hallway 1HW1	1	Interior caulk - red, penetrations / void filler	9	5	LF	Good		Non Detect
48	Room 115	1	Interior caulk - red, penetrations / void filler	9	15	LF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Interior caulk - red, penetrations / void filler	9	80	LF	Good		Non Detect
72	Women's restroom - Room 209	2	Interior caulk - red, penetrations / void filler	9	1	SF	Good		Non Detect
73	Hallway 2HW1	2	Interior caulk - red, penetrations / void filler	9	1	SF	Good		Non Detect
74	Janitorial closet - Room 208	2	Interior caulk - red, penetrations / void filler	9	1	SF	Good		Non Detect
76	Hallway 3HW1	3	Interior caulk - red, penetrations / void filler	9	5	LF	Good		Non Detect
77	Room 306	3	Interior caulk - red, penetrations / void filler	9	5	SF	Good		Non Detect
78	Room 301 & 301A	3	Interior caulk - red, penetrations / void filler	9	5	LF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
79	Room 302 & 302A	3	Interior caulk - red, penetrations / void filler	9	1	LF	Good		Non Detect
80	Room 302B	3	Interior caulk - red, penetrations / void filler	9	1	SF	Good		Non Detect
81	Room 303	3	Interior caulk - red, penetrations / void filler	9	5	LF	Good		Non Detect
1	Hallway - BHW1	B	Interior caulk - grey, penetrations / void filler	10	15	LF	Good		Non Detect
6	Tech room - Room 3A	B	Interior caulk - grey, penetrations / void filler	10	5	LF	Good		Non Detect
7	Mechanical - Room 3	B	Interior caulk - grey, penetrations / void filler	10	10	LF	Good		Non Detect
8	Storage room - Room 4	B	Interior caulk - grey, penetrations / void filler	10	5	LF	Good		Non Detect
9	Storage room - Room 5	B	Interior caulk - grey, penetrations / void filler	10	5	LF	Good		Non Detect
10	Cooler entrance - Room 6	B	Interior caulk - grey, penetrations / void filler	10	5	LF	Good		Non Detect
78	Room 301 & 301A	3	Interior caulk - grey, penetrations / void filler	10	5	LF	Good		Non Detect
79	Room 302 & 302A	3	Interior caulk - grey, penetrations / void filler	10	1	LF	Good		Non Detect
80	Room 302B	3	Interior caulk - grey, penetrations / void filler	10	1	SF	Good		Non Detect
81	Room 303	3	Interior caulk - grey, penetrations / void filler	10	5	LF	Good		Non Detect
1	**Hallway - BHW1**	**B**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**215**	**LF**	**Good**		**2% Chrysotile**
9	**Storage room - Room 5**	**B**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**20**	**LF**	**Good**		**2% Chrysotile**
34	**Room 102A**	**1**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**80**	**LF**	**Good**		**2% Chrysotile**
35	**Room 102**	**1**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**80**	**LF**	**Good**		**2% Chrysotile**
36	**Room 103**	**1**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**90**	**LF**	**Good**		**2% Chrysotile**
37	**Room 103A**	**1**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**90**	**SF**	**Good**		**2% Chrysotile**
38	**Room 104**	**1**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**50**	**LF**	**Good**		**2% Chrysotile**
39	**Hallway 1HW1**	**1**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**155**	**LF**	**Good**		**2% Chrysotile**
43	**Receiving - Room 106, 106A, & 106B**	**1**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**20**	**LF**	**Good**		**2% Chrysotile**
71	**Men's restroom - Room 207**	**2**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**40**	**LF**	**Good**		**2% Chrysotile**
72	**Women's restroom - Room 209**	**2**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**20**	**LF**	**Good**		**2% Chrysotile**
73	**Hallway 2HW1**	**2**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**110**	**LF**	**Good**		**2% Chrysotile**
74	**Janitorial closet - Room 208**	**2**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**20**	**LF**	**Good**		**2% Chrysotile**
76	**Hallway 3HW1**	**3**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**50**	**LF**	**Good**		**2% Chrysotile**
1	Hallway - BHW1	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	145	LF	Good		Non Detect
6	Tech room - Room 3A	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	20	LF	Good		Non Detect
7	Mechanical - Room 3	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	300	LF	Good		Non Detect
8	Storage room - Room 4	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	60	LF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
9	Storage room - Room 5	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	70	LF	Good		Non Detect
10	Cooler entrance - Room 6	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	45	LF	Good		Non Detect
11	Cooler - Room 6A	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	220	LF	Good		Non Detect
14	Storage room - Room 7	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	25	LF	Good		Non Detect
16	Stairwell - SW1	S	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	120	LF	Good	In build out	Non Detect
21	Women's restroom -Room 13	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	20	LF	Good		Non Detect
23	Room 15 & 15C	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	40	LF	Good		Non Detect
29	Room 101	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	10	LF	Good		Non Detect
32	Room 101C	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	30	LF	Good		Non Detect
38	Room 104	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	10	LF	Good		Non Detect
42	Room 105A	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	65	LF	Good		Non Detect
45	Room 111	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	30	LF	Good		Non Detect
48	Room 115	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	70	LF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	105	LF	Good		Non Detect
51	Room 120	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	25	LF	Good		Non Detect
52	Room 120A	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	20	LF	Good		Non Detect
56	Room 148A	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	55	LF	Good		Non Detect
57	Hallway 1HW4 & 135	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	85	LF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	600	LF	Good		Non Detect
70	Room 206	2	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	280	LF	Good		Non Detect
73	Hallway 2HW1	2	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	20	LF	Good		Non Detect
76	Hallway 3HW1	3	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	65	LF	Good		Non Detect
77	Room 306	3	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	260	LF	Good		Non Detect
78	Room 301 & 301A	3	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	200	LF	Good		Non Detect
79	Room 302 & 302A	3	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	65	LF	Good		Non Detect
80	Room 302B	3	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	270	LF	Good		Non Detect
81	Room 303	3	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	80	LF	Good		Non Detect
1	Hallway - BHW1	B	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	18	Each	Good		Non Detect
6	Tech room - Room 3A	B	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	8	Each	Good		Non Detect
7	Mechanical - Room 3	B	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	27	Each	Good		Non Detect
8	Storage room - Room 4	B	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	8	Each	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
9	Storage room - Room 5	B	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	7	Each	Good		Non Detect
10	Cooler entrance - Room 6	B	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	2	Each	Good		Non Detect
11	Cooler - Room 6A	B	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	19	Each	Good		Non Detect
14	Storage room - Room 7	B	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	6	Each	Good		Non Detect
16	Stairwell - SW1	S	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	18	Each	Good	In build out	Non Detect
21	Women's restroom -Room 13	B	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	2	Each	Good		Non Detect
23	Room 15 & 15C	B	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	4	Each	Good		Non Detect
42	Room 105A	1	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	6	Each	Good		Non Detect
45	Room 111	1	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	9	Each	Good		Non Detect
48	Room 115	1	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	13	Each	Good		Non Detect
49	Room 117, 117A, & 117B	1	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	26	Each	Good		Non Detect
51	Room 120	1	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	4	Each	Good		Non Detect
56	Room 148A	1	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	3	Each	Good		Non Detect
57	Hallway 1HW4 & 135	1	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	6	Each	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	1,105	Each	Good		Non Detect
70	Room 206	2	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	44	Each	Good		Non Detect
73	Hallway 2HW1	2	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	1	Each	Good		Non Detect
76	Hallway 3HW1	3	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	6	Each	Good		Non Detect
77	Room 306	3	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	40	Each	Good		Non Detect
78	Room 301 & 301A	3	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	24	LF	Good		Non Detect
79	Room 302 & 302A	3	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	14	Each	Good		Non Detect
80	Room 302B	3	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	30	Each	Good		Non Detect
81	Room 303	3	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	6	Each	Good		Non Detect
1	Hallway - BHW1	B	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	10	SF	Good		Non Detect
7	Mechanical - Room 3	B	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	20	SF	Good		Non Detect
8	Storage room - Room 4	B	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
9	Storage room - Room 5	B	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
10	Cooler entrance - Room 6	B	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
11	Cooler - Room 6A	B	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	10	SF	Good		Non Detect
14	Storage room - Room 7	B	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
16	Stairwell - SW1	S	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	LF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
48	Room 115	1	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	10	SF	Good		Non Detect
56	Room 148A	1	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	1	SF	Good		Non Detect
57	Hallway 1HW4 & 135	1	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	20	SF	Good		Non Detect
70	Room 206	2	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	10	SF	Good		Non Detect
76	Hallway 3HW1	3	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	1	SF	Good		Non Detect
77	Room 306	3	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
78	Room 301 & 301A	3	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	12	Each	Good		Non Detect
79	Room 302 & 302A	3	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
80	Room 302B	3	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
81	Room 303	3	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	1	SF	Good		Non Detect
1	Hallway - BHW1	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	185	LF	Good		Non Detect
2	Cooler entrance - Room 2	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	10	LF	Good		Non Detect
3	Cooler - Room 2A	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	10	LF	Good		Non Detect
4	Cooler - Room 2B	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	35	LF	Good		Non Detect
5	Cooler - Room 3B	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	75	LF	Good		Non Detect
7	Mechanical - Room 3	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	170	LF	Good		Non Detect
10	Cooler entrance - Room 6	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	20	LF	Good		Non Detect
12	Cooler - Room 6B	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	140	LF	Good		Non Detect
13	Cooler Room 6C	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	10	LF	Good		Non Detect
24	Room 15B	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	400	LF	Good		Non Detect
25	Room 15A	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	115	LF	Good		Non Detect
43	Receiving - Room 106, 106A, & 106B	1	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	20	LF	Good		Non Detect
46	Hallway 1HW2	1	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	20	LF	Good		Non Detect
50	Room 124	1	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	180	LF	Good		Non Detect
51	Room 120	1	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	35	LF	Good		Non Detect
54	Room 122	1	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	120	LF	Good		Non Detect
55	Room 123	1	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	40	LF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	60	LF	Good		Non Detect
74	Janitorial closet - Room 208	2	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	10	LF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
78	Room 301 & 301A	3	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	45	LF	Good		Non Detect
79	Room 302 & 302A	3	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	30	LF	Good		Non Detect
80	Room 302B	3	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	15	LF	Good		Non Detect
81	Room 303	3	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	85	LF	Good		Non Detect
1	**Hallway - BHW1**	**B**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**12**	**Each**	**Good**		**30% Chrysotile**
4	**Cooler - Room 2B**	**B**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**1**	**Each**	**Good**		**30% Chrysotile**
5	**Cooler - Room 3B**	**B**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**27**	**Each**	**Good**		**30% Chrysotile**
7	**Mechanical - Room 3**	**B**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**23**	**Each**	**Good**		**30% Chrysotile**
12	**Cooler - Room 6B**	**B**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**4**	**Each**	**Good**		**30% Chrysotile**
13	**Cooler Room 6C**	**B**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**4**	**Each**	**Good**		**30% Chrysotile**
24	**Room 15B**	**B**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**84**	**Each**	**Good**		**30% Chrysotile**
25	**Room 15A**	**B**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**35**	**Each**	**Good**		**30% Chrysotile**
43	**Receiving - Room 106, 106A, & 106B**	**1**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**2**	**Each**	**Good**		**30% Chrysotile**
46	**Hallway 1HW2**	**1**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**10**	**Each**	**Good**		**30% Chrysotile**
50	**Room 124**	**1**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**18**	**Each**	**Good**		**30% Chrysotile**
54	**Room 122**	**1**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**9**	**Each**	**Good**		**30% Chrysotile**
55	**Room 123**	**1**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**3**	**Each**	**Good**		**30% Chrysotile**
69	**Room 201, 201A,210, 210A, 210B**	**2**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**10**	**Each**	**Good**		**30% Chrysotile**
74	**Janitorial closet - Room 208**	**2**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**2**	**Each**	**Fair**		**30% Chrysotile**
78	**Room 301 & 301A**	**3**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**12**	**Each**	**Good**		**30% Chrysotile**
79	**Room 302 & 302A**	**3**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**9**	**Each**	**Good**		**30% Chrysotile**
80	**Room 302B**	**3**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**5**	**Each**	**Good**		**30% Chrysotile**
81	**Room 303**	**3**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**13**	**Each**	**Good**		**30% Chrysotile**
1	**Hallway - BHW1**	**B**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**9**	**Each**	**Good**		**50% Chrysotile**
2	**Cooler entrance - Room 2**	**B**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**1**	**Each**	**Good**		**50% Chrysotile**
4	**Cooler - Room 2B**	**B**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**1**	**Each**	**Good**		**50% Chrysotile**
7	**Mechanical - Room 3**	**B**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**11**	**Each**	**Good**		**50% Chrysotile**
10	**Cooler entrance - Room 6**	**B**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**1**	**Each**	**Good**		**50% Chrysotile**
12	**Cooler - Room 6B**	**B**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**6**	**Each**	**Good**		**50% Chrysotile**
13	**Cooler Room 6C**	**B**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**7**	**Each**	**Good**		**50% Chrysotile**
24	**Room 15B**	**B**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**18**	**Each**	**Good**		**50% Chrysotile**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
25	Room 15A	B	Hanger mud - on brown colored paper wrapped fiberglass insulation lines	17	5	Each	Good		50% Chrysotile
46	Hallway 1HW2	1	Hanger mud - on brown colored paper wrapped fiberglass insulation lines	17	6	Each	Good		50% Chrysotile
50	Room 124	1	Hanger mud - on brown colored paper wrapped fiberglass insulation lines	17	11	Each	Good		50% Chrysotile
55	Room 123	1	Hanger mud - on brown colored paper wrapped fiberglass insulation lines	17	2	Each	Good		50% Chrysotile
1	Hallway - BHW1	B	Pipe insulation - wool felt, blue colored sprinkler lines	18	135	LF	Good		35% Chrysotile
6	Tech room - Room 3A	B	Pipe insulation - wool felt, blue colored sprinkler lines	18	20	LF	Good		35% Chrysotile
7	Mechanical - Room 3	B	Pipe insulation - wool felt, blue colored sprinkler lines	18	100	LF	Good		35% Chrysotile
8	Storage room - Room 4	B	Pipe insulation - wool felt, blue colored sprinkler lines	18	135	LF	Good		35% Chrysotile
10	Cooler entrance - Room 6	B	Pipe insulation - wool felt, blue colored sprinkler lines	18	20	LF	Good		35% Chrysotile
19	Room BHW2	B	Pipe insulation - wool felt, blue colored sprinkler lines	18	70	LF	Good	Painted white	35% Chrysotile
25	Room 15A	B	Pipe insulation - wool felt, blue colored sprinkler lines	18	45	LF	Good		35% Chrysotile
26	Storage room - Room 16 & 16A	B	Pipe insulation - wool felt, blue colored sprinkler lines	18	70	LF	Good		35% Chrysotile
27	Mechanical - Room 17 & 17A	B	Pipe insulation - wool felt, blue colored sprinkler lines	18	35	LF	Good		35% Chrysotile
36	Room 103	1	Pipe insulation - wool felt, blue colored sprinkler lines	18	30	LF	Good		35% Chrysotile
37	Room 103A	1	Pipe insulation - wool felt, blue colored sprinkler lines	18	15	LF	Good		35% Chrysotile
38	Room 104	1	Pipe insulation - wool felt, blue colored sprinkler lines	18	30	LF	Good		35% Chrysotile
40	Room 105	1	Pipe insulation - wool felt, blue colored sprinkler lines	18	20	LF	Good		35% Chrysotile
41	Room 105B	1	Pipe insulation - wool felt, blue colored sprinkler lines	18	10	LF	Good		35% Chrysotile
74	Janitorial closet - Room 208	2	Pipe insulation - wool felt, blue colored sprinkler lines	18	20	LF	Good		35% Chrysotile
77	Room 306	3	Pipe insulation - wool felt, blue colored sprinkler lines	18	5	LF	Good		35% Chrysotile
78	Room 301 & 301A	3	Pipe insulation - wool felt, blue colored sprinkler lines	18	10	LF	Good		35% Chrysotile
81	Room 303	3	Pipe insulation - wool felt, blue colored sprinkler lines	18	90	LF	Good		35% Chrysotile
82	Room 304	3	Pipe insulation - wool felt, blue colored sprinkler lines	18	15	LF	Good		35% Chrysotile
1	Hallway - BHW1	B	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	19	17	Each	Good		50% Chrysotile
6	Tech room - Room 3A	B	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	19	3	Each	Good		50% Chrysotile
7	Mechanical - Room 3	B	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	19	12	Each	Good		50% Chrysotile
8	Storage room - Room 4	B	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	19	13	Each	Good		50% Chrysotile
10	Cooler entrance - Room 6	B	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	19	15	LF	Good		50% Chrysotile
19	Room BHW2	B	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	19	13	Each	Good	Painted white	50% Chrysotile
25	Room 15A	B	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	19	8	Each	Good		50% Chrysotile
27	Mechanical - Room 17 & 17A	B	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	19	8	Each	Good		50% Chrysotile

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
36	Room 103	1	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	19	13	Each	Good		50% Chrysotile
37	Room 103A	1	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	19	4	Each	Good		50% Chrysotile
38	Room 104	1	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	19	13	Each	Good		50% Chrysotile
40	Room 105	1	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	19	7	Each	Good		50% Chrysotile
74	Janitorial closet - Room 208	2	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	19	5	Each	Fair		50% Chrysotile
77	Room 306	3	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	19	4	Each	Good		50% Chrysotile
78	Room 301 & 301A	3	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	19	4	Each	Good		50% Chrysotile
81	Room 303	3	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	19	14	Each	Good		50% Chrysotile
82	Room 304	3	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	19	6	Each	Good		50% Chrysotile
1	Hallway - BHW1	B	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	20	30	LF	Good		45% Chrysotile
7	Mechanical - Room 3	B	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	20	115	LF	Good		45% Chrysotile
8	Storage room - Room 4	B	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	20	95	LF	Good		45% Chrysotile
9	Storage room - Room 5	B	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	20	35	LF	Good		45% Chrysotile
14	Storage room - Room 7	B	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	20	25	LF	Good		45% Chrysotile
15	Storage room 7A	B	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	20	35	LF	Good		45% Chrysotile
16	Stairwell - SW1	S	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	20	30	LF	Good	In basement confined space	45% Chrysotile
17	Stairwell - SW3	S	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	20	30	LF	Good	In basement confined space	45% Chrysotile
37	Room 103A	1	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	20	15	LF	Good		45% Chrysotile
38	Room 104	1	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	20	8	LF	Good		45% Chrysotile
43	Receiving - Room 106, 106A, & 106B	1	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	20	5	LF	Good		45% Chrysotile
69	Room 201, 201A,210, 210A, 210B	2	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	20	10	LF	Good		45% Chrysotile
71	Men's restroom - Room 207	2	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	20	10	LF	Good		45% Chrysotile
72	Women's restroom - Room 209	2	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	20	10	LF	Good		45% Chrysotile
81	Room 303	3	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	20	15	LF	Good		45% Chrysotile
1	Hallway - BHW1	B	Pipe fitting - canvas covered mudded fittings, on aircell steam line	21	14	Each	Good		45% Chrysotile
7	Mechanical - Room 3	B	Pipe fitting - canvas covered mudded fittings, on aircell steam line	21	24	Each	Good		45% Chrysotile
8	Storage room - Room 4	B	Pipe fitting - canvas covered mudded fittings, on aircell steam line	21	7	Each	Good		45% Chrysotile
9	Storage room - Room 5	B	Pipe fitting - canvas covered mudded fittings, on aircell steam line	21	8	Each	Good		45% Chrysotile
14	Storage room - Room 7	B	Pipe fitting - canvas covered mudded fittings, on aircell steam line	21	5	Each	Good		45% Chrysotile
15	Storage room 7A	B	Pipe fitting - canvas covered mudded fittings, on aircell steam line	21	4	Each	Good		45% Chrysotile
16	Stairwell - SW1	S	Pipe fitting - canvas covered mudded fittings, on aircell steam line	21	10	Each	Good	In basement confined space	45% Chrysotile

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
17	**Stairwell - SW3**	**S**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**10**	**Each**	**Good**	**In basement confined space**	**45% Chrysotile**
37	**Room 103A**	**1**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**5**	**Each**	**Good**		**45% Chrysotile**
43	**Receiving - Room 106, 106A, & 106B**	**1**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**1**	**Each**	**Good**		**45% Chrysotile**
69	**Room 201, 201A,210, 210A, 210B**	**2**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**1**	**Each**	**Good**		**45% Chrysotile**
71	**Men's restroom - Room 207**	**2**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**1**	**Each**	**Good**		**45% Chrysotile**
72	**Women's restroom - Room 209**	**2**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**1**	**Each**	**Good**		**45% Chrysotile**
81	**Room 303**	**3**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**2**	**Each**	**Good**		**45% Chrysotile**
1	**Hallway - BHW1**	**B**	**Pipe insulation - cork. Note: could be hidden layer of mag inside. Treat as ACM.**	**22**	**1**	**LF**	**Good**	**South wall**	Cork - Non Detect **Mag - Assumed**
2	**Cooler entrance - Room 2**	**B**	**Pipe insulation - cork. Note: could be hidden layer of mag inside. Treat as ACM.**	**22**	**10**	**LF**	**Good**		Cork - Non Detect **Mag - Assumed**
3	Cooler - Room 2A	B	Cork wall insulation - inside wall between the two block layers	23	1925	SF	Good		Non Detect
4	Cooler - Room 2B	B	Cork wall insulation - inside wall between the two block layers	23	1000	SF	Good		Non Detect
5	Cooler - Room 3B	B	Cork wall insulation - inside wall between the two block layers	23	1925	SF	Good		Non Detect
11	Cooler - Room 6A	B	Cork wall insulation - inside wall between the two block layers	23	1200	SF	Good		Non Detect
12	Cooler - Room 6B	B	Cork wall insulation - inside wall between the two block layers	23	1000	SF	Good		Non Detect
13	Cooler Room 6C	B	Cork wall insulation - inside wall between the two block layers	23	1925	SF	Good		Non Detect
30	Room 101A	1	Cork wall insulation - inside wall between the two block layers	23	1140	SF	Good		Non Detect
31	Room 101B	1	Cork wall insulation - inside wall between the two block layers	23	800	SF	Good		Non Detect
32	Room 101C	1	Cork wall insulation - inside wall between the two block layers	23	1040	SF	Good		Non Detect
33	Room 101D	1	Cork wall insulation - inside wall between the two block layers	23	1180	SF	Good		Non Detect
40	Room 105	1	Cork wall insulation - inside wall between the two block layers	23	1660	SF	Good		Non Detect
41	Room 105B	1	Cork wall insulation - inside wall between the two block layers	23	850	SF	Good		Non Detect
7	**Mechanical - Room 3**	**B**	**Remnants of original cork ceiling insulation with outer black paper layer adhered to concrete ceiling (associated with HA-32)**	**24**	**50**	**SF**	**Fair**	**ceiling along exterior wall**	**2% Chrysotile**
2	**Cooler entrance - Room 2**	**B**	**Interior caulk - greenish grey, hard, inside electrical boxes**	**25**	**1**	**SF**	**Good**	**In each electrical box**	**10% Chrysotile**
10	**Cooler entrance - Room 6**	**B**	**Interior caulk - greenish grey, hard, inside electrical boxes**	**25**	**5**	**SF**	**Good**		**10% Chrysotile**
29	**Room 101**	**1**	**Interior caulk - greenish grey, hard, inside electrical boxes**	**25**	**5**	**SF**	**Good**	**Electrical boxes**	**10% Chrysotile**
40	**Room 105**	**1**	**Interior caulk - greenish grey, hard, inside electrical boxes**	**25**	**1**	**SF**	**Good**		**10% Chrysotile**
3	Cooler - Room 2A	B	Pipe insulation - horse hair bands under metal hangers	26	5	SF	Good		Non Detect
6	Tech room - Room 3A	B	Floor tile - 12" beige tile with red streaks,	27	100	SF	Good		Non Detect
6	Tech room - Room 3A	B	Cove base - 4" brown vinyl with adhesive	28	40	LF	Good		Non Detect
6	Tech room - Room 3A	B	Ceiling panel - 2' white pinhole/fissure texture	29	100	SF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Ceiling panel - 2' white pinhole/fissure texture	29	7,380	SF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
7	Mechanical - Room 3	B	Brick mortar - 12"x4" concrete bricks	30	500	SF	Good		Non Detect
8	Storage room - Room 4	B	Brick mortar - 12"x4" concrete bricks	30	750	SF	Good		Non Detect
30	Room 101A	1	Brick mortar - 12"x4" concrete bricks	30	5	LF	Good		Non Detect
77	Room 306	3	Brick mortar - 12"x4" concrete bricks	30	750	SF	Good		Non Detect
78	Room 301 & 301A	3	Brick mortar - 12"x4" concrete bricks	30	225	SF	Good		Non Detect
79	Room 302 & 302A	3	Brick mortar - 12"x4" concrete bricks	30	45	SF	Good		Non Detect
80	Room 302B	3	Brick mortar - 12"x4" concrete bricks	30	75	SF	Good		Non Detect
7	Mechanical - Room 3	B	Brick mortar - 2"x6" concrete bricks	31	200	SF	Good		Non Detect
7	**Mechanical - Room 3**	**B**	**Interior caulk (tar), black, perimeter of cork insulation (associated with HA-24)**	**32**	**100**	**LF**	**Good**		**3% Chrysotile**
8	**Storage room - Room 4**	**B**	**Interior caulk (tar), black, perimeter of cork insulation (associated with HA-24)**	**32**	**30**	**LF**	**Good**		**3% Chrysotile**
9	**Storage room - Room 5**	**B**	**Interior caulk (tar), black, perimeter of cork insulation (associated with HA-24)**	**32**	**30**	**LF**	**Good**		**3% Chrysotile**
7	Mechanical - Room 3	B	Window glaze - grey caulk	33	1	Each	Good	1 window	Non Detect
7	**Mechanical - Room 3**	**B**	**Tank insulation**	**34**	**1**	**Each**	**Good**	**Centrally located along exterior wall**	**30% Chrysotile**
8	Storage room - Room 4	B	Window glaze - black, on door window	35	1	Each	Good		Non Detect
9	Storage room - Room 5	B	Window glaze - black, on door window	35	1	Each	Good		Non Detect
14	Storage room - Room 7	B	Floor tile - 12" light brown with mottle, box of tile	36	4	Each	Good		Non Detect
14	Storage room - Room 7	B	Floor tile - 12" white with black streaks, box of tile	37	6	Each	Good		Non Detect
14	**Storage room - Room 7**	**B**	**Window glaze - metal window leaned against wall**	**38**	**1**	**Each**	**Good**		**3% Chrysotile**
15	Storage room 7A	B	Window glaze - soft, grey, metal window	39	1	Each	Good		Non Detect
16	Stairwell - SW1	S	Wallboard system - buildout - wet wall	40	320	SF	Good		Non Detect
33	Room 101D	1	Wallboard system - buildout - wet wall	40	320	SF	Good		Non Detect
47	Hallway 1HW3	1	Wallboard system - buildout - wet wall	40	150	SF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Wallboard system - buildout - wet wall	40	550	SF	Good		Non Detect
54	Room 122	1	Wallboard system - buildout - wet wall	40	20	SF	Good		Non Detect
65	Room 139	1	Wallboard system - buildout - wet wall	40	150	SF	Good		Non Detect
66	Room 138	1	Wallboard system - buildout - wet wall	40	150	SF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Wallboard system - buildout - wet wall	40	450	SF	Good		Non Detect
75	Room 114	1	Wallboard system - buildout - wet wall	40	425	SF	Good		Non Detect
16	Stairwell - SW1	S	Cove base 4" black vinyl with adhesive	41	20	LF	Good		Non Detect
22	Storage - Room 14	B	Cove base 4" black vinyl with adhesive	41	65	LF	Good		Non Detect
46	Hallway 1HW2	1	Cove base 4" black vinyl with adhesive	41	210	LF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
47	Hallway 1HW3	1	Cove base 4" black vinyl with adhesive	41	15	LF	Good		Non Detect
51	Room 120	1	Cove base 4" black vinyl with adhesive	41	120	LF	Good		Non Detect
52	Room 120A	1	Cove base 4" black vinyl with adhesive	41	25	LF	Good		Non Detect
53	Room 121	1	Cove base 4" black vinyl with adhesive	41	70	LF	Good		Non Detect
56	Room 148A	1	Cove base 4" black vinyl with adhesive	41	65	LF	Good		Non Detect
57	Hallway 1HW4 & 135	1	Cove base 4" black vinyl with adhesive	41	145	LF	Good		Non Detect
58	Room 150	1	Cove base 4" black vinyl with adhesive	41	60	LF	Good		Non Detect
60	Room 152 & 154	1	Cove base 4" black vinyl with adhesive	41	50	LF	Good		Non Detect
61	Room 144	1	Cove base 4" black vinyl with adhesive	41	35	LF	Good		Non Detect
62	Men's restroom - Room 142	1	Cove base 4" black vinyl with adhesive	41	75	LF	Good		Non Detect
63	Closet - Room 140	1	Cove base 4" black vinyl with adhesive	41	25	LF	Good		Non Detect
64	Room 134	1	Cove base 4" black vinyl with adhesive	41	70	LF	Good		Non Detect
65	Room 139	1	Cove base 4" black vinyl with adhesive	41	40	LF	Good		Non Detect
66	Room 138	1	Cove base 4" black vinyl with adhesive	41	60	LF	Good		Non Detect
67	Room 136	1	Cove base 4" black vinyl with adhesive	41	60	LF	Good		Non Detect
68	Room 135A	1	Cove base 4" black vinyl with adhesive	41	30	LF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Cove base 4" black vinyl with adhesive	41	50	LF	Good		Non Detect
75	Room 114	1	Cove base 4" black vinyl with adhesive	41	50	LF	Good		Non Detect
17	Stairwell - SW3	S	Glue pod - brown	42	10	SF	Good	Above 2nd fl drop ceiling	Non Detect
34	Room 102A	1	Glue pod - brown	42	75	SF	Good	Above drop ceiling	Non Detect
35	Room 102	1	Glue pod - brown	42	70	SF	Good	Above drop ceiling	Non Detect
36	Room 103	1	Glue pod - brown	42	30	SF	Good		Non Detect
37	Room 103A	1	Glue pod - brown	42	30	SF	Good		Non Detect
38	Room 104	1	Glue pod - brown	42	70	SF	Good		Non Detect
19	Room BHW2	B	Textured plaster - rough texture, walls	43	850	SF	Good	Walls	Non Detect
22	Storage - Room 14	B	Textured plaster - rough texture, walls	43	620	SF	Good		Non Detect
23	Room 15 & 15C	B	Textured plaster - rough texture, walls	43	1220	SF	Good		Non Detect
25	Room 15A	B	Textured plaster - rough texture, walls	43	1360	SF	Fair		Non Detect
26	Storage room - Room 16 & 16A	B	Textured plaster - rough texture, walls	43	420	SF	Good		Non Detect
19	**Room BHW2**	**B**	**Pipe insulation - magnesia**	**44**	**40**	**LF**	**Good**	**Painted white**	**30% Chrysotile**
20	**Men's restroom - Room 12**	**B**	**Pipe insulation - magnesia**	**44**	**90**	**LF**	**Good**		**30% Chrysotile**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
21	Women's restroom -Room 13	B	Pipe insulation - magnesia	44	125	LF	Good		30% Chrysotile
22	Storage - Room 14	B	Pipe insulation - magnesia	44	25	LF	Good		30% Chrysotile
23	Room 15 & 15C	B	Pipe insulation - magnesia	44	55	LF	Good		30% Chrysotile
24	Room 15B	B	Pipe insulation - magnesia	44	80	LF	Good		30% Chrysotile
25	Room 15A	B	Pipe insulation - magnesia	44	185	LF	Good		30% Chrysotile
26	Storage room - Room 16 & 16A	B	Pipe insulation - magnesia	44	30	LF	Good		30% Chrysotile
27	Mechanical - Room 17 & 17A	B	Pipe insulation - magnesia	44	50	LF	Good		30% Chrysotile
34	Room 102A	1	Pipe insulation - magnesia	44	30	LF	Good		30% Chrysotile
37	Room 103A	1	Pipe insulation - magnesia	44	20	LF	Good		30% Chrysotile
38	Room 104	1	Pipe insulation - magnesia	44	10	LF	Good		30% Chrysotile
39	Hallway 1HW1	1	Pipe insulation - magnesia	44	75	LF	Good		30% Chrysotile
43	Receiving - Room 106, 106A, & 106B	1	Pipe insulation - magnesia	44	70	LF	Good		30% Chrysotile
69	Room 201, 201A,210, 210A, 210B	2	Pipe insulation - magnesia	44	30	LF	Good		30% Chrysotile
78	Room 301 & 301A	3	Pipe insulation - magnesia	44	10	LF	Good		30% Chrysotile
81	Room 303	3	Pipe insulation - magnesia	44	60	LF	Good		30% Chrysotile
19	Room BHW2	B	Pipe fitting - canvas wrapped mudded fitting on magnesia line	45	6	Each	Good	Painted white	30% Chrysotile
20	Men's restroom - Room 12	B	Pipe fitting - canvas wrapped mudded fitting on magnesia line	45	22	Each	Good		30% Chrysotile
21	Women's restroom -Room 13	B	Pipe fitting - canvas wrapped mudded fitting on magnesia line	45	19	Each	Good		30% Chrysotile
22	Storage - Room 14	B	Pipe fitting - canvas wrapped mudded fitting on magnesia line	45	5	Each	Good		30% Chrysotile
23	Room 15 & 15C	B	Pipe fitting - canvas wrapped mudded fitting on magnesia line	45	5	Each	Good		30% Chrysotile
24	Room 15B	B	Pipe fitting - canvas wrapped mudded fitting on magnesia line	45	28	Each	Good		30% Chrysotile
25	Room 15A	B	Pipe fitting - canvas wrapped mudded fitting on magnesia line	45	42	Each	Good		30% Chrysotile
26	Storage room - Room 16 & 16A	B	Pipe fitting - canvas wrapped mudded fitting on magnesia line	45	5	Each	Good		30% Chrysotile
27	Mechanical - Room 17 & 17A	B	Pipe fitting - canvas wrapped mudded fitting on magnesia line	45	11	Each	Good		30% Chrysotile
34	Room 102A	1	Pipe fitting - canvas wrapped mudded fitting on magnesia line	45	2	Each	Good		30% Chrysotile
37	Room 103A	1	Pipe fitting - canvas wrapped mudded fitting on magnesia line	45	8	Each	Good		30% Chrysotile
38	Room 104	1	Pipe fitting - canvas wrapped mudded fitting on magnesia line	45	2	Each	Good		30% Chrysotile
39	Hallway 1HW1	1	Pipe fitting - canvas wrapped mudded fitting on magnesia line	45	16	Each	Good		30% Chrysotile
43	Receiving - Room 106, 106A, & 106B	1	Pipe fitting - canvas wrapped mudded fitting on magnesia line	45	14	Each	Good		30% Chrysotile
69	Room 201, 201A,210, 210A, 210B	2	Pipe fitting - canvas wrapped mudded fitting on magnesia line	45	6	Each	Good		30% Chrysotile
78	Room 301 & 301A	3	Pipe fitting - canvas wrapped mudded fitting on magnesia line	45	7	Each	Good		30% Chrysotile

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
81	**Room 303**	**3**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**2**	**Each**	**Good**		**30% Chrysotile**
20	Men's restroom - Room 12	B	Brick mortar - beige glazed ceramic block	46	520	SF	Good		Non Detect
21	Women's restroom -Room 13	B	Brick mortar - beige glazed ceramic block	46	610	SF	Good		Non Detect
45	Room 111	1	Brick mortar - beige glazed ceramic block	46	540	SF	Good		Non Detect
46	Hallway 1HW2	1	Brick mortar - beige glazed ceramic block	46	90	SF	Good		Non Detect
47	Hallway 1HW3	1	Brick mortar - beige glazed ceramic block	46	525	SF	Good		Non Detect
48	Room 115	1	Brick mortar - beige glazed ceramic block	46	750	SF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Brick mortar - beige glazed ceramic block	46	2000	SF	Good		Non Detect
50	Room 124	1	Brick mortar - beige glazed ceramic block	46	600	SF	Good		Non Detect
54	Room 122	1	Brick mortar - beige glazed ceramic block	46	300	SF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Brick mortar - beige glazed ceramic block	46	1,540	SF	Good		Non Detect
70	Room 206	2	Brick mortar - beige glazed ceramic block	46	2,000	SF	Good		Non Detect
71	Men's restroom - Room 207	2	Brick mortar - beige glazed ceramic block	46	400	SF	Good		Non Detect
72	Women's restroom - Room 209	2	Brick mortar - beige glazed ceramic block	46	400	SF	Good		Non Detect
73	Hallway 2HW1	2	Brick mortar - beige glazed ceramic block	46	900	SF	Good		Non Detect
74	Janitorial closet - Room 208	2	Brick mortar - beige glazed ceramic block	46	180	SF	Good		Non Detect
75	Room 114	1	Brick mortar - beige glazed ceramic block	46	120	SF	Good		Non Detect
20	Men's restroom - Room 12	B	Interior caulk - white, hard, on restroom fixtures	47	10	LF	Good		Non Detect
21	Women's restroom -Room 13	B	Interior caulk - white, hard, on restroom fixtures	47	10	LF	Good		Non Detect
22	Storage - Room 14	B	Interior caulk - white, hard, on restroom fixtures	47	10	LF	Good	Sink	Non Detect
49	Room 117, 117A, & 117B	1	Interior caulk - white, hard, on restroom fixtures	47	5	LF	Good		Non Detect
20	Men's restroom - Room 12	B	Bathroom partition insulation - pressed paper	48	40	SF	Good		Non Detect
21	Women's restroom -Room 13	B	Bathroom partition insulation - pressed paper	48	55	SF	Good		Non Detect
20	**Men's restroom - Room 12**	**B**	**Window glaze - beige glaze, window in metal door**	**49**	**1**	**Each**	**Good**		**Point count: Trace Chrysotile**
21	**Women's restroom -Room 13**	**B**	**Window glaze - beige glaze, window in metal door**	**49**	**2**	**Each**	**Good**		**Point count: Trace Chrysotile**
23	**Room 15 & 15C**	**B**	**Window glaze - beige glaze, window in metal door**	**49**	**2**	**Each**	**Good**	**6 pane doors**	**Point count: Trace Chrysotile**
24	**Room 15B**	**B**	**Window glaze - beige glaze, window in metal door**	**49**	**4**	**Each**	**Good**		**Point count: Trace Chrysotile**
45	**Room 111**	**1**	**Window glaze - beige glaze, window in metal door**	**49**	**1**	**Each**	**Good**		**Point count: Trace Chrysotile**
72	**Women's restroom - Room 209**	**2**	**Window glaze - beige glaze, window in metal door**	**49**	**1**	**Each**	**Good**		**Point count: Trace Chrysotile**
22	**Storage - Room 14**	**B**	**Floor tile - 9" black tile, black mastic**	**50**	**210**	**SF**	**Good**		**FT: 2% Chrysotile Mastic: ND**
22	**Storage - Room 14**	**B**	**Floor tile - 9" dark brown, black mastic**	**51**	**210**	**SF**	**Good**		**FT: 2% Chrysotile Mastic: ND**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
22	**Storage - Room 14**	**B**	**Floor tile - 9" grey with black streaks, black mastic**	**52**	**210**	**SF**	**Good**		**FT: 7% Chrysotile Mastic: ND**
25	Room 15A	B	Ceiling panel - 2' white rough texture with foil backing	53	45	Each	Fair	Stack	Non Detect
25	Room 15A	B	Ceiling panel - 2' white composite with metal cover	54	10	Each	Fair	Stack	Non Detect
25	Room 15A	B	Ceiling panel - 2'x4' wallboard with vinyl cover	55	100	Each	Fair	Stack	Non Detect
34	Room 102A	1	Ceiling panel - 2'x4' wallboard with vinyl cover	55	290	SF	Good		Non Detect
35	Room 102	1	Ceiling panel - 2'x4' wallboard with vinyl cover	55	270	SF	Good		Non Detect
37	Room 103A	1	Ceiling panel - 2'x4' wallboard with vinyl cover	55	16	SF	Good		Non Detect
38	Room 104	1	Ceiling panel - 2'x4' wallboard with vinyl cover	55	280	SF	Good		Non Detect
25	Room 15A	B	Water proofing - black spray-on, on walls/ceiling	56	1360	SF	Good	Walls under plaster	Non Detect
25	**Room 15A**	**B**	**Gasket material - fiber gaskets between steel fittings**	**57**	**36**	**Each**	**Good**	**Quantity may vary**	**10% Chrysotile**
27	**Mechanical - Room 17 & 17A**	**B**	**Gasket material - fiber gaskets between steel fittings**	**57**	**8**	**Each**	**Good**		**10% Chrysotile**
25	Room 15A	B	Tank insulation - under metal wrapping	58	1230	SF	Good	410 SF each	Non Detect
25	Room 15A	B	Tank insulation - canvas paper wrapped fiberglass over magnesia block	59	45	SF	Good		Non Detect
27	Mechanical - Room 17 & 17A	B	Wallboard - compressor room walls	60	135	SF	Good		Non Detect
28	**Stairwell - SW4**	**S**	**Textured plaster - rough texture, ceiling**	**61**	**180**	**SF**	**Good**		**3% Chrysotile**
28	Stairwell - SW4	S	Cove base - 4" grey vinyl with adhesive	62	5	LF	Good		Non Detect
47	Hallway 1HW3	1	Cove base - 4" grey vinyl with adhesive	62	15	LF	Good		Non Detect
28	**Stairwell - SW4**	**S**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**20**	**LF**	**Good**		**2.25% Chrysotile**
32	**Room 101C**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**10**	**LF**	**Good**		**2.25% Chrysotile**
34	**Room 102A**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**40**	**LF**	**Good**		**2.25% Chrysotile**
35	**Room 102**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**40**	**LF**	**Good**		**2.25% Chrysotile**
37	**Room 103A**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**40**	**LF**	**Good**		**2.25% Chrysotile**
38	**Room 104**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**80**	**LF**	**Good**		**2.25% Chrysotile**
53	**Room 121**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**25**	**LF**	**Good**		**2.25% Chrysotile**
54	**Room 122**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**40**	**LF**	**Good**		**2.25% Chrysotile**
58	Room 150	1	Interior caulk - grey, hard, perimeter of metal window frame	63	35	LF	Good		2.25% Chrysotile
60	Room 152 & 154	1	Interior caulk - grey, hard, perimeter of metal window frame	63	35	LF	Good		2.25% Chrysotile
64	**Room 134**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**30**	**LF**	**Good**		**2.25% Chrysotile**
66	**Room 138**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**40**	**LF**	**Good**		**2.25% Chrysotile**
67	**Room 136**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**65**	**LF**	**Good**		**2.25% Chrysotile**
68	**Room 135A**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**40**	**LF**	**Good**		**2.25% Chrysotile**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
71	Men's restroom - Room 207	2	Interior caulk - grey, hard, perimeter of metal window frame	63	20	LF	Good		2.25% Chrysotile
72	Women's restroom - Room 209	2	Interior caulk - grey, hard, perimeter of metal window frame	63	60	LF	Good		2.25% Chrysotile
75	Room 114	1	Interior caulk - grey, hard, perimeter of metal window frame	63	30	LF	Good		2.25% Chrysotile
28	Stairwell - SW4	S	Vibration dampener - white canvas	64	25	SF	Good		20% Chrysotile
54	Room 122	1	Vibration dampener - white canvas	64	15	SF	Good		20% Chrysotile
1	Hallway - BHW1	B	Construction adhesive - black / dark brown, under steel corner guard	65	15	SF	Good		3% Chrysotile
2	Cooler entrance - Room 2	B	Construction adhesive - black / dark brown, under steel corner guard	65	45	SF	Good		3% Chrysotile
3	Cooler - Room 2A	B	Construction adhesive - black / dark brown, under steel corner guard	65	15	SF	Good		3% Chrysotile
4	Cooler - Room 2B	B	Construction adhesive - black / dark brown, under steel corner guard	65	15	SF	Good		3% Chrysotile
5	Cooler - Room 3B	B	Construction adhesive - black / dark brown, under steel corner guard	65	15	SF	Good		3% Chrysotile
10	Cooler entrance - Room 6	B	Construction adhesive - black / dark brown, under steel corner guard	65	45	SF	Good	wood door trim	3% Chrysotile
11	Cooler - Room 6A	B	Construction adhesive - black / dark brown, under steel corner guard	65	15	SF	Good	wood door trim	3% Chrysotile
12	Cooler - Room 6B	B	Construction adhesive - black / dark brown, under steel corner guard	65	15	SF	Good	wood door trim	3% Chrysotile
13	Cooler Room 6C	B	Construction adhesive - black / dark brown, under steel corner guard	65	15	SF	Good	wood door trim	3% Chrysotile
29	Room 101	1	Construction adhesive - black / dark brown, under steel corner guard	65	5	SF	Good	Check under wood frame	3% Chrysotile
30	Room 101A	1	Construction adhesive - black / dark brown, under steel corner guard	65	5	SF	Good	Check under wood frame	3% Chrysotile
31	Room 101B	1	Construction adhesive - black / dark brown, under steel corner guard	65	5	SF	Good		3% Chrysotile
32	Room 101C	1	Construction adhesive - black / dark brown, under steel corner guard	65	5	SF	Good	Check under wood frame	3% Chrysotile
33	Room 101D	1	Construction adhesive - black / dark brown, under steel corner guard	65	20	SF	Good	Check under wood frame	3% Chrysotile
39	Hallway 1HW1	1	Construction adhesive - black / dark brown, under steel corner guard	65	30	SF	Good		3% Chrysotile
40	Room 105	1	Construction adhesive - black / dark brown, under steel corner guard	65	10	SF	Good		3% Chrysotile
41	Room 105B	1	Construction adhesive - black / dark brown, under steel corner guard	65	10	SF	Good		3% Chrysotile
42	Room 105A	1	Construction adhesive - black / dark brown, under steel corner guard	65	20	SF	Good		3% Chrysotile
46	Hallway 1HW2	1	Construction adhesive - black / dark brown, under steel corner guard	65	15	SF	Good		3% Chrysotile
73	Hallway 2HW1	2	Construction adhesive - black / dark brown, under steel corner guard	65	20	SF	Good		3% Chrysotile
76	Hallway 3HW1	3	Construction adhesive - black / dark brown, under steel corner guard	65	5	SF	Good		3% Chrysotile
33	Room 101D	1	Textured plaster - trawled straight	66	5	SF	Good		Non Detect
34	Room 102A	1	Ceiling panel - Off white pinhole and fissure (large fissure)	67	290	SF	Good		Non Detect
35	Room 102	1	Ceiling panel - Off white pinhole and fissure (large fissure)	67	270	SF	Good		Non Detect
36	Room 103	1	Ceiling panel - Off white pinhole and fissure (large fissure)	67	150	LF	Good		Non Detect
37	Room 103A	1	Ceiling panel - Off white pinhole and fissure (large fissure)	67	120	SF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
38	Room 104	1	Ceiling panel - Off white pinhole and fissure (large fissure)	67	280	SF	Good		Non Detect
38	Room 104	1	Pipe insulation - black, tar tape	68	5	LF	Good		Non Detect
43	Receiving - Room 106, 106A, & 106B	1	Brick mortar - exterior siding red brick	69	1465	SF	Good		Non Detect
EA-1	East side of the building exterior	1	Brick mortar - exterior siding red brick	69	7170	SF	Good		Non Detect
EA-2	North side of the building exterior	1	Brick mortar - exterior siding red brick	69	1600	SF	Good		Non Detect
EA-3	West side of building exterior	1	Brick mortar - exterior siding red brick	69	7170	SF	Good		Non Detect
EA-4	South side of building exterior	1	Brick mortar - exterior siding red brick	69	2900	SF	Good		Non Detect
43	Receiving - Room 106, 106A, & 106B	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	80	SF	Good		Non Detect
46	Hallway 1HW2	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	210	SF	Good		Non Detect
54	Room 122	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	150	SF	Good		Non Detect
55	Room 123	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	140	SF	Good		Non Detect
56	Room 148A	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	60	SF	Good		Non Detect
57	Hallway 1HW4 & 135	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	125	SF	Good		Non Detect
58	Room 150	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	35	SF	Good		Non Detect
60	Room 152 & 154	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	90	SF	Good		Non Detect
64	Room 134	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	80	SF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	140	SF	Good		Non Detect
70	Room 206	2	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	35	SF	Good		Non Detect
34	Room 102A	1	Ceiling tile -12" white with 1/4 inch holes	71	290	SF	Good	Above drop ceiling	Non Detect
35	Room 102	1	Ceiling tile -12" white with 1/4 inch holes	71	270	SF	Good	Above drop ceiling	Non Detect
46	Hallway 1HW2	1	Ceiling panel - yellowish white, pinhole/fissure (small fissure), grey composite material	72	40	SF	Good		Non Detect
46	Hallway 1HW2	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	570	SF	Good		Non Detect
47	Hallway 1HW3	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	300	SF	Good		Non Detect
51	Room 120	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	880	SF	Good		Non Detect
52	Room 120A	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	70	SF	Good		Non Detect
53	Room 121	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	265	SF	Good		Non Detect
55	Room 123	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	680	SF	Good		Non Detect
56	Room 148A	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	270	SF	Good		Non Detect
57	Hallway 1HW4 & 135	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	325	SF	Good		Non Detect
58	Room 150	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	310	SF	Good		Non Detect
59	Women's restroom - Room 146	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	108	SF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
60	Room 152 & 154	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	360	SF	Good		Non Detect
61	Room 144	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	35	SF	Good		Non Detect
62	Men's restroom - Room 142	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	240	SF	Good		Non Detect
63	Closet - Room 140	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	35	SF	Good		Non Detect
64	Room 134	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	240	SF	Good		Non Detect
65	Room 139	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	75	SF	Good		Non Detect
66	Room 138	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	200	SF	Good		Non Detect
67	Room 136	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	175	SF	Good		Non Detect
68	Room 135A	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	135	SF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Ceiling panel - white, various size pinhole texture, beige composite material	73	150	SF	Good		Non Detect
46	Hallway 1HW2	1	Construction adhesive - black, behind plastic wall guards, dripping down wall surface	74	210	SF	Good		Non Detect
47	Hallway 1HW3	1	Construction adhesive - black, behind plastic wall guards, dripping down wall surface	74	35	LF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Interior caulk - grey duct caulk	75	15	SF	Good		Non Detect
65	Room 139	1	Interior caulk - grey duct caulk	75	1	SF	Good		Non Detect
66	Room 138	1	Interior caulk - grey duct caulk	75	1	SF	Good		Non Detect
67	Room 136	1	Interior caulk - grey duct caulk	75	1	SF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Cove base - 6" black vinyl with adhesive	76	40	LF	Good	Offices	Non Detect
49	Room 117, 117A, & 117B	1	Window glaze - black caulk, perimeter of office interior window	77	15	LF	Good		Non Detect
49	**Room 117, 117A, & 117B**	**1**	**Roof drain fitting - unknown material**	**78**	**2**	**Each**	**Good**	**Could not sample; no access**	**Assumed**
53	**Room 121**	**1**	**Vinyl sheeting - Brown/light squares.**	**79**	**265**	**SF**	**Good**		**15% Chrysotile**
53	**Room 121**	**1**	**Interior caulk - Brown caulk - Perimeter of glass block.**	**80**	**30**	**LF**	**Good**		**1.75% Chrysotile**
54	**Room 122**	**1**	**Interior caulk - Brown caulk - Perimeter of glass block.**	**80**	**60**	**LF**	**Good**		**1.75% Chrysotile**
56	**Room 148A**	**1**	**Interior caulk - Brown caulk - Perimeter of glass block.**	**80**	**60**	**LF**	**Good**		**1.75% Chrysotile**
58	**Room 150**	**1**	**Interior caulk - Brown caulk - Perimeter of glass block.**	**80**	**50**	**LF**	**Good**		**1.75% Chrysotile**
60	**Room 152 & 154**	**1**	**Interior caulk - Brown caulk - Perimeter of glass block.**	**80**	**45**	**LF**	**Good**		**1.75% Chrysotile**
64	**Room 134**	**1**	**Interior caulk - Brown caulk - Perimeter of glass block.**	**80**	**30**	**LF**	**Good**		**1.75% Chrysotile**
66	**Room 138**	**1**	**Interior caulk - Brown caulk - Perimeter of glass block**	**80**	**40**	**LF**	**Good**		**1.75% Chrysotile**
67	**Room 136**	**1**	**Interior caulk - Brown caulk - Perimeter of glass block**	**80**	**75**	**LF**	**Good**		**1.75% Chrysotile**
56	Room 148A	1	Ceramic tile, grout, mortar - 2" blue floor tile	81	25	SF	Good		Non Detect
56	Room 148A	1	Ceramic tile, grout, mortar - 4" blue wall tile	82	40	SF	Good		Non Detect
59	Women's restroom - Room 146	1	Interior caulk - white, seam of counter and backsplash	83	15	LF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
62	Men's restroom - Room 142	1	Interior caulk - white, seam of counter and backsplash	83	5	LF	Good		Non Detect
56	Room 148A	1	Expansion joint - Concrete slab foundation	84	15	LF	Good		Non Detect
57	Hallway 1HW4 & 135	1	Carpet mastic - green	85	325	SF	Good		Non Detect
68	**Room 135A**	**1**	**Transite window sill**	**86**	**20**	**SF**	**Good**		**Assumed**
69	Room 201, 201A,210, 210A, 210B	2	Interior caulk - black, perimeter of aluminum window frames	87	135	LF	Good	9 Windows	Non Detect
70	Room 206	2	Interior caulk - black, perimeter of aluminum window frames	87	150	LF	Good		Non Detect
77	Room 306	3	Interior caulk - black, perimeter of aluminum window frames	87	120	SF	Good	8 windows	Non Detect
78	Room 301 & 301A	3	Interior caulk - black, perimeter of aluminum window frames	87	45	LF	Good		Non Detect
79	Room 302 & 302A	3	Interior caulk - black, perimeter of aluminum window frames	87	120	LF	Good		Non Detect
80	Room 302B	3	Interior caulk - black, perimeter of aluminum window frames	87	60	LF	Good		Non Detect
81	Room 303	3	Interior caulk - black, perimeter of aluminum window frames	87	60	LF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Floor tile - 12" wood pattern stick-on tile	88	100	SF	Good		Non Detect
71	Men's restroom - Room 207	2	Window glaze - beige glaze on window interior	89	2	Each	Good		Non Detect
72	Women's restroom - Room 209	2	Window glaze - beige glaze on window interior	89	3	Each	Good		Non Detect
83	Restroom - Room 305	3	Window glaze - beige glaze on window interior	89	1	Each	Good		Non Detect
84	Penthouse	3	Window glaze - beige glaze on window interior	89	1	Each	Fair		Non Detect
EA-3	**West side of building exterior**	**1**	**Expansion joint - concrete foundation walls**	**90**	**5**	**LF**	**Good**		**8% Chrysotile**
EA-1	**East side of the building exterior**	**1**	**Expansion joint - brick siding, white, alligator cracking pattern**	**91**	**130**	**LF**	**Good**		**2% Chrysotile**
EA-3	**West side of building exterior**	**1**	**Expansion joint - brick siding, white, alligator cracking pattern**	**91**	**125**	**LF**	**Good**		**2% Chrysotile**
EA-4	**South side of building exterior**	**1**	**Expansion joint - brick siding, white, alligator cracking pattern**	**91**	**45**	**LF**	**Good**		**2% Chrysotile**
EA-1	East side of the building exterior	1	Expansion joint - between building foundation and concrete walkway	92	40	LF	Good		Non Detect
EA-3	West side of building exterior	1	Expansion joint - between building foundation and concrete walkway	92	150	LF	Good		Non Detect
EA-4	South side of building exterior	1	Expansion joint - between building foundation and concrete walkway	92	70	SF	Good		Non Detect
EA-1	East side of the building exterior	1	Concrete chip - exterior concrete	93	130	SF	Good		Non Detect
EA-2	North side of the building exterior	1	Concrete chip - exterior concrete	93	224	SF	Good		Non Detect
EA-3	West side of building exterior	1	Concrete chip - exterior concrete	93	1000	SF	Good		Non Detect
EA-4	South side of building exterior	1	Concrete chip - exterior concrete	93	224	SF	Good		Non Detect
EA-1	East side of the building exterior	1	Water proofing - black spray-on, concrete foundation, mostly below grade	94	270	SF	Good		Non Detect
EA-2	North side of the building exterior	1	Water proofing - black spray-on, concrete foundation, mostly below grade	94	95	SF	Good		Non Detect
EA-3	West side of building exterior	1	Water proofing - black spray-on, concrete foundation, mostly below grade	94	270	SF	Good		Non Detect
EA-4	South side of building exterior	1	Water proofing - black spray-on, concrete foundation, mostly below grade	94	80	SF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
EA-1	East side of the building exterior	1	Glass block mortar/grout, grey, between glass block window tiles, and around perimeter	95	65	LF	Good		Non Detect
EA-2	North side of the building exterior	1	Glass block mortar/grout, grey, between glass block window tiles, and around perimeter	95	255	SF	Good		Non Detect
EA-3	West side of building exterior	1	Glass block mortar/grout, grey, between glass block window tiles, and around perimeter	95	730	SF	Good		Non Detect
EA-1	East side of the building exterior	1	Exterior caulk - grey, perimeter of glass block windows	96	155	LF	Good		Non Detect
EA-2	North side of the building exterior	1	Exterior caulk - grey, perimeter of glass block windows	96	155	LF	Good		Non Detect
EA-3	West side of building exterior	1	Exterior caulk - grey, perimeter of glass block windows	96	155	LF	Good		Non Detect
EA-1	**East side of the building exterior**	**1**	**Window glaze - multi-pane steel windows**	**97**	**240**	**LF**	**Fair**		**PC: 0.25% Chrysotile**
EA-2	**North side of the building exterior**	**1**	**Window glaze - multi-pane steel windows**	**97**	**200**	**LF**	**Fair**		**PC: 0.25% Chrysotile**
EA-3	**West side of building exterior**	**1**	**Window glaze - multi-pane steel windows**	**97**	**600**	**LF**	**Fair**		**PC: 0.25% Chrysotile**
EA-4	**South side of building exterior**	**1**	**Window glaze - multi-pane steel windows**	**97**	**20**	**LF**	**Fair**		**PC: 0.25% Chrysotile**
EA-2	**North side of the building exterior**	**1**	**Window glaze - basement steel windows**	**98**	**175**	**LF**	**Fair**		**PC: 0.25% Chrysotile**
EA-3	**West side of building exterior**	**1**	**Window glaze - basement steel windows**	**98**	**200**	**LF**	**Fair**		**PC: 0.25% Chrysotile**
EA-1	East side of the building exterior	1	Window glaze, grey, soft, perimeter of glass window in metal door	99	15	LF	Good		Non Detect
EA-1	**East side of the building exterior**	**1**	**Exterior caulk - grey, perimeter of door frames**	**100**	**20**	**LF**	**Good**		**7% Chrysotile**
EA-2	**North side of the building exterior**	**1**	**Exterior caulk - grey, perimeter of door frames**	**100**	**20**	**LF**	**Good**		**7% Chrysotile**
EA-3	**West side of building exterior**	**1**	**Exterior caulk - grey, perimeter of door frames**	**100**	**30**	**LF**	**Good**		**7% Chrysotile**
EA-1	East side of the building exterior	1	Exterior caulk - black, perimeter of door frames	101	15	LF	Good		Non Detect
EA-3	West side of building exterior	1	Exterior caulk - black, perimeter of door frames	101	30	LF	Good		Non Detect
EA-1	**East side of the building exterior**	**1**	**Exterior caulk - grey, perimeter of steel multi-pane windows**	**102**	**200**	**LF**	**Good**		**5% Chrysotile**
EA-2	**North side of the building exterior**	**1**	**Exterior caulk - grey, perimeter of steel multi-pane windows**	**102**	**155**	**LF**	**Good**		**5% Chrysotile**
EA-3	**West side of building exterior**	**1**	**Exterior caulk - grey, perimeter of steel multi-pane windows**	**102**	**350**	**LF**	**Good**		**5% Chrysotile**
EA-4	**South side of building exterior**	**1**	**Exterior caulk - grey, perimeter of steel multi-pane windows**	**102**	**20**	**LF**	**Good**		**5% Chrysotile**
EA-2	**North side of the building exterior**	**1**	**Exterior caulk - grey, perimeter of steel basement windows**	**103**	**200**	**LF**	**Good**		**6% Chrysotile**
EA-3	**West side of building exterior**	**1**	**Exterior caulk - grey, perimeter of steel basement windows**	**103**	**150**	**LF**	**Good**		**6% Chrysotile**
EA-1	East side of the building exterior	1	Exterior caulk - grey, soft, perimeter of aluminum window frames, and window sill	104	240	LF	Good		Non Detect
EA-3	West side of building exterior	1	Exterior caulk - grey, soft, perimeter of aluminum window frames, and window sill	104	140	LF	Good		Non Detect
EA-4	South side of building exterior	1	Exterior caulk - grey, soft, perimeter of aluminum window frames, and window sill	104	150	LF	Good		Non Detect
EA-5	Roof	1	Roofing materials - flat rubber membrane roof with vapor paper, and various tars	105	24300	SF	Good		Non Detect
EA-5	Roof	1	Concrete chip - 16" concrete walking tiles	106	135	SF	Poor		Non Detect
EA-5	Roof	1	Terracotta - capstone	107	375	SF	Good		Non Detect
EA-5	Roof	1	Exterior caulk - grey, between terracotta capstone	108	190	LF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
EA-5	Roof	1	Exterior caulk - black, flashing on parapet wall	109	780	SF	Good	All in SF because its smooshed on parapet wall	Non Detect
EA-5	Roof	1	Exterior caulk - black, on penthouse brick flashing	110	60	LF	Good		Non Detect
EA-5	Roof	1	Exterior caulk - dark grey, perimeter of metal door frame	111	20	LF	Good		Non Detect
EA-5	Roof	1	Exterior caulk - light grey, penthouse wall penetrations	112	5	LF	Good		Non Detect
EA-5	Roof	1	Exterior caulk - grey, soft, elastic, on metal pipe insulation	113	25	LF	Good		Non Detect
EA-5	Roof	1	Exterior caulk - white, soft elastic, on plastic pipe fittings	114	15	LF	Good		Non Detect
EA-5	Roof	1	Exterior caulk - grey, on roof penetrations, fencing base	115	50	SF	Good	All in SF because its smooshed on flashing	Non Detect
EA-5	Roof	1	Exterior caulk - grey, seams of concrete capstone	116	200	LF	Good		Non Detect
EA-5	**Roof**	**1**	**Exterior caulk - dark grey, under concrete capstone**	**117**	**400**	**SF**	**Good**	**All in SF because its smooshed on flashing**	**10% Chrysotile**
EA-5	Roof	1	Exterior caulk - grey, hard, on seams of HVAC vents	118	20	LF	Good		Non Detect
EA-5	Roof	1	Exterior caulk - pink, hard, on seams of HVAC vents	119	30	LF	Good		Non Detect
EA-5	Roof	1	Exterior caulk - white, on angle iron above window frame	120	5	LF	Good		Non Detect
EA-5	**Roof**	**1**	**Exterior caulk - grey, on wall vent perimeter**	**121**	**35**	**LF**	**Good**	**Lower roof, on FS-28, N ext. wall**	**5% Chrysotile**
EA-5	**Roof**	**1**	**Exterior caulk - black, on parapet wall seams**	**122**	**800**	**SF**	**Good**	**All in SF because its smooshed on parapet wall**	**5% Chrysotile**
3	Cooler - Room 2A	B	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	1885	SF	Poor		Non Detect
4	Cooler - Room 2B	B	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	1720	SF	Fair		Non Detect
7	Mechanical - Room 3	B	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	330	SF	Poor		Non Detect
8	Storage room - Room 4	B	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	80	SF	Poor		Non Detect
9	Storage room - Room 5	B	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	80	SF	Good		Non Detect
11	Cooler - Room 6A	B	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	832	SF	Poor		Non Detect
12	Cooler - Room 6B	B	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	1730	SF	Poor		Non Detect
13	Cooler Room 6C	B	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	1905	SF	Poor		Non Detect
30	Room 101A	1	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	940	SF	Poor		Non Detect
31	Room 101B	1	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	129	SF	Poor		Non Detect
32	Room 101C	1	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	670	SF	Poor		Non Detect
33	Room 101D	1	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	1040	SF	Poor		Non Detect
40	Room 105	1	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	1465	SF	Poor		Non Detect
41	Room 105B	1	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	380	SF	Poor		Non Detect
42	Room 105A	1	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	920	SF	Poor		Non Detect
3	**Cooler - Room 2A**	**B**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**8**	**SF**	**Fair**		**4% Chrysotile**
4	**Cooler - Room 2B**	**B**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**8**	**SF**	**Poor**		**4% Chrysotile**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
5	Cooler - Room 3B	B	Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)	124	8	SF	Poor		4% Chrysotile
7	Mechanical - Room 3	B	Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)	124	16	SF	Fair		4% Chrysotile
8	Storage room - Room 4	B	Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)	124	6	SF	Poor		4% Chrysotile
9	Storage room - Room 5	B	Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)	124	6	SF	Fair		4% Chrysotile
11	Cooler - Room 6A	B	Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)	124	8	SF	Fair		4% Chrysotile
12	Cooler - Room 6B	B	Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)	124	8	SF	Fair		4% Chrysotile
13	Cooler Room 6C	B	Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)	124	8	SF	Fair		4% Chrysotile
30	Room 101A	1	Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)	124	8	SF	Fair		4% Chrysotile
31	Room 101B	1	Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)	124	8	SF	Fair		4% Chrysotile
32	Room 101C	1	Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)	124	8	SF	Fair		4% Chrysotile
33	Room 101D	1	Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)	124	8	SF	Fair		4% Chrysotile
40	Room 105	1	Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)	124	4	SF	Fair		4% Chrysotile
41	Room 105B	1	Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)	124	4	SF	Fair		4% Chrysotile
42	Room 105A	1	Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)	124	4	SF	Fair		4% Chrysotile

List by Functional Space

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
1	**Hallway - BHW1**	**B**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**
1	Hallway - BHW1	B	Concrete chip - concrete slab foundation & decks	3	600	SF	Good	9x70x11	Non Detect
1	Hallway - BHW1	B	Terrazzo flooring - Grey mix with white, beige, and black stone	4	155	SF	Good		Non Detect
1	Hallway - BHW1	B	Brick mortar - CMU block walls	5	400	SF	Good		Non Detect
1	Hallway - BHW1	B	Brick mortar - grey glazed ceramic block walls	6	1300	SF	Good		Non Detect
1	Hallway - BHW1	B	Brick mortar - skim coat on CMU block walls	7	10	SF	Good	seam between CMU block and glazed block	Non Detect
1	Hallway - BHW1	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	610	SF	Good		Non Detect
1	Hallway - BHW1	B	Interior caulk - red, penetrations / void filler	9	15	LF	Good		Non Detect
1	Hallway - BHW1	B	Interior caulk - grey, penetrations / void filler	10	15	LF	Good		Non Detect
1	**Hallway - BHW1**	**B**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**215**	**LF**	**Good**		**2% Chrysotile**
1	Hallway - BHW1	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	145	LF	Good		Non Detect
1	Hallway - BHW1	B	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	18	Each	Good		Non Detect
1	Hallway - BHW1	B	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	10	SF	Good		Non Detect
1	Hallway - BHW1	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	185	LF	Good		Non Detect
1	**Hallway - BHW1**	**B**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**12**	**Each**	**Good**		**30% Chrysotile**
1	**Hallway - BHW1**	**B**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**9**	**Each**	**Good**		**50% Chrysotile**
1	**Hallway - BHW1**	**B**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**135**	**LF**	**Good**		**35% Chrysotile**
1	**Hallway - BHW1**	**B**	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**19**	**17**	**Each**	**Good**		**50% Chrysotile**
1	**Hallway - BHW1**	**B**	**Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted**	**20**	**30**	**LF**	**Good**		**45% Chrysotile**
1	**Hallway - BHW1**	**B**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**14**	**Each**	**Good**		**45% Chrysotile**
1	**Hallway - BHW1**	**B**	**Pipe insulation - cork. Note: could be hidden layer of mag inside. Treat as ACM.**	**22**	**1**	**LF**	**Good**	**South wall**	**Cork - Non Detect Mag - Assumed**
1	**Hallway - BHW1**	**B**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**15**	**SF**	**Good**		**3% Chrysotile**
2	**Cooler entrance - Room 2**	**B**	**Fire door & frame - metal**	**1**	**1**	**Each**	**Good**		**Assumed**
2	Cooler entrance - Room 2	B	Concrete chip - concrete slab foundation & decks	3	200	SF	Good	9x21	Non Detect
2	Cooler entrance - Room 2	B	Brick mortar - grey glazed ceramic block walls	6	465	SF	Good		Non Detect
2	Cooler entrance - Room 2	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	200	SF	Good		Non Detect
2	Cooler entrance - Room 2	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	10	LF	Good		Non Detect
2	**Cooler entrance - Room 2**	**B**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**1**	**Each**	**Good**		**50% Chrysotile**
2	**Cooler entrance - Room 2**	**B**	**Pipe insulation - cork. Note: could be hidden layer of mag inside. Treat as ACM.**	**22**	**10**	**LF**	**Good**		**Cork - Non Detect Mag - Assumed**
2	**Cooler entrance - Room 2**	**B**	**Interior caulk - greenish grey, hard, inside electrical boxes**	**25**	**1**	**SF**	**Good**	**In each electrical box**	**10% Chrysotile**
2	**Cooler entrance - Room 2**	**B**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**45**	**SF**	**Good**		**3% Chrysotile**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
3	Cooler - Room 2A	B	Concrete chip - concrete slab foundation & decks	3	1925	SF	Good	40x40	Non Detect
3	Cooler - Room 2A	B	Brick mortar - grey glazed ceramic block walls	6	1600	SF	Good		Non Detect
3	Cooler - Room 2A	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	1600	SF	Good		Non Detect
3	Cooler - Room 2A	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	10	LF	Good		Non Detect
3	Cooler - Room 2A	B	Cork wall insulation - inside wall between the two block layers	23	1925	SF	Good		Non Detect
3	Cooler - Room 2A	B	Pipe insulation - horse hair bands under metal hangers	26	5	SF	Good		Non Detect
3	**Cooler - Room 2A**	**B**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**15**	**SF**	**Good**		**3% Chrysotile**
3	Cooler - Room 2A	B	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	1885	SF	Poor		Non Detect
3	**Cooler - Room 2A**	**B**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**8**	**SF**	**Fair**		**4% Chrysotile**
4	Cooler - Room 2B	B	Concrete chip - concrete slab foundation & decks	3	750	SF	Good	30x21	Non Detect
4	Cooler - Room 2B	B	Brick mortar - grey glazed ceramic block walls	6	1000	SF	Good		Non Detect
4	Cooler - Room 2B	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	650	SF	Good		Non Detect
4	Cooler - Room 2B	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	35	LF	Good		Non Detect
4	**Cooler - Room 2B**	**B**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**1**	**Each**	**Good**		**30% Chrysotile**
4	**Cooler - Room 2B**	**B**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**1**	**Each**	**Good**		**50% Chrysotile**
4	Cooler - Room 2B	B	Cork wall insulation - inside wall between the two block layers	23	1000	SF	Good		Non Detect
4	**Cooler - Room 2B**	**B**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**15**	**SF**	**Good**		**3% Chrysotile**
4	Cooler - Room 2B	B	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	1720	SF	Fair		Non Detect
4	**Cooler - Room 2B**	**B**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**8**	**SF**	**Poor**		**4% Chrysotile**
5	Cooler - Room 3B	B	Concrete chip - concrete slab foundation & decks	3	750	SF	Good		Non Detect
5	Cooler - Room 3B	B	Brick mortar - grey glazed ceramic block walls	6	1000	SF	Good		Non Detect
5	Cooler - Room 3B	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	650	SF	Good		Non Detect
5	Cooler - Room 3B	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	75	LF	Good		Non Detect
5	**Cooler - Room 3B**	**B**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**27**	**Each**	**Good**		**30% Chrysotile**
5	Cooler - Room 3B	B	Cork wall insulation - inside wall between the two block layers	23	1925	SF	Good		Non Detect
5	**Cooler - Room 3B**	**B**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**15**	**SF**	**Good**		**3% Chrysotile**
5	**Cooler - Room 3B**	**B**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**8**	**SF**	**Poor**		**4% Chrysotile**
6	Tech room - Room 3A	B	Concrete chip - concrete slab foundation & decks	3	100	SF	Good		Non Detect
6	Tech room - Room 3A	B	Brick mortar - CMU block walls	5	400	SF	Good		Non Detect
6	Tech room - Room 3A	B	Interior caulk - grey, penetrations / void filler	10	5	LF	Good		Non Detect
6	Tech room - Room 3A	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	20	LF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
6	Tech room - Room 3A	B	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	8	Each	Good		Non Detect
6	**Tech room - Room 3A**	**B**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**20**	**LF**	**Good**		**35% Chrysotile**
6	**Tech room - Room 3A**	**B**	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**19**	**3**	**Each**	**Good**		**50% Chrysotile**
6	Tech room - Room 3A	B	Floor tile - 12" beige tile with red streaks,	27	100	SF	Good		Non Detect
6	Tech room - Room 3A	B	Cove base - 4" brown vinyl with adhesive	28	40	LF	Good		Non Detect
6	Tech room - Room 3A	B	Ceiling panel - 2' white pinhole/fissure texture	29	100	SF	Good		Non Detect
7	**Mechanical - Room 3**	**B**	**Fire door & frame - metal**	**1**	**1**	**Each**	**Good**		**Assumed**
7	Mechanical - Room 3	B	Concrete chip - concrete slab foundation & decks	3	1290	SF	Good	30x43	Non Detect
7	Mechanical - Room 3	B	Brick mortar - CMU block walls	5	200	SF	Good		Non Detect
7	Mechanical - Room 3	B	Interior caulk - red, penetrations / void filler	9	10	LF	Good		Non Detect
7	Mechanical - Room 3	B	Interior caulk - grey, penetrations / void filler	10	10	LF	Good		Non Detect
7	Mechanical - Room 3	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	300	LF	Good		Non Detect
7	Mechanical - Room 3	B	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	27	Each	Good		Non Detect
7	Mechanical - Room 3	B	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	20	SF	Good		Non Detect
7	Mechanical - Room 3	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	170	LF	Good		Non Detect
7	**Mechanical - Room 3**	**B**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**23**	**Each**	**Good**		**30% Chrysotile**
7	**Mechanical - Room 3**	**B**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**11**	**Each**	**Good**		**50% Chrysotile**
7	**Mechanical - Room 3**	**B**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**100**	**LF**	**Good**		**35% Chrysotile**
7	**Mechanical - Room 3**	**B**	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**19**	**12**	**Each**	**Good**		**50% Chrysotile**
7	**Mechanical - Room 3**	**B**	**Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted**	**20**	**115**	**LF**	**Good**		**45% Chrysotile**
7	**Mechanical - Room 3**	**B**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**24**	**Each**	**Good**		**45% Chrysotile**
7	**Mechanical - Room 3**	**B**	**Remnants of original cork ceiling insulation with outer black paper layer adhered to concrete ceiling (associated with HA-32)**	**24**	**50**	**SF**	**Fair**	**ceiling along exterior wall**	**2% Chrysotile**
7	Mechanical - Room 3	B	Brick mortar - 12"x4" concrete bricks	30	500	SF	Good		Non Detect
7	Mechanical - Room 3	B	Brick mortar - 2"x6" concrete bricks	31	200	SF	Good		Non Detect
7	**Mechanical - Room 3**	**B**	**Interior caulk (tar), black, perimeter of cork insulation (associated with HA-24)**	**32**	**100**	**LF**	**Good**		**3% Chrysotile**
7	Mechanical - Room 3	B	Window glaze - grey caulk	33	1	Each	Good	1 window	Non Detect
7	**Mechanical - Room 3**	**B**	**Tank insulation**	**34**	**1**	**Each**	**Good**	**Centrally located along exterior wall**	**30% Chrysotile**
7	Mechanical - Room 3	B	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	330	SF	Poor		Non Detect
7	**Mechanical - Room 3**	**B**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**16**	**SF**	**Fair**		**4% Chrysotile**
8	**Storage room - Room 4**	**B**	**Fire door & frame - metal**	**1**	**1**	**Each**	**Good**		**Assumed**
8	Storage room - Room 4	B	Concrete chip - concrete slab foundation & decks	3	650	SF	Good	28x14	Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
8	Storage room - Room 4	B	Interior caulk - red, penetrations / void filler	9	5	LF	Good		Non Detect
8	Storage room - Room 4	B	Interior caulk - grey, penetrations / void filler	10	5	LF	Good		Non Detect
8	Storage room - Room 4	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	60	LF	Good		Non Detect
8	Storage room - Room 4	B	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	8	Each	Good		Non Detect
8	Storage room - Room 4	B	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
8	**Storage room - Room 4**	**B**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**135**	**LF**	**Good**		**35% Chrysotile**
8	**Storage room - Room 4**	**B**	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**19**	**13**	**Each**	**Good**		**50% Chrysotile**
8	**Storage room - Room 4**	**B**	**Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted**	**20**	**95**	**LF**	**Good**		**45% Chrysotile**
8	**Storage room - Room 4**	**B**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**7**	**Each**	**Good**		**45% Chrysotile**
8	Storage room - Room 4	B	Brick mortar - 12"x4" concrete bricks	30	750	SF	Good		Non Detect
8	**Storage room - Room 4**	**B**	**Interior caulk (tar), black, perimeter of cork insulation (associated with HA-24)**	**32**	**30**	**LF**	**Good**		**3% Chrysotile**
8	Storage room - Room 4	B	Window glaze - black, on door window	35	1	Each	Good		Non Detect
8	Storage room - Room 4	B	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	80	SF	Poor		Non Detect
8	**Storage room - Room 4**	**B**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**6**	**SF**	**Poor**		**4% Chrysotile**
9	**Storage room - Room 5**	**B**	**Fire door & frame - metal**	**1**	**1**	**Each**	**Good**		**Assumed**
9	Storage room - Room 5	B	Concrete chip - concrete slab foundation & decks	3	750	SF	Good		Non Detect
9	Storage room - Room 5	B	Brick mortar - grey glazed ceramic block walls	6	1000	SF	Good		Non Detect
9	Storage room - Room 5	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	500	SF	Good		Non Detect
9	Storage room - Room 5	B	Interior caulk - red, penetrations / void filler	9	5	LF	Good		Non Detect
9	Storage room - Room 5	B	Interior caulk - grey, penetrations / void filler	10	5	LF	Good		Non Detect
9	**Storage room - Room 5**	**B**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**20**	**LF**	**Good**		**2% Chrysotile**
9	Storage room - Room 5	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	70	LF	Good		Non Detect
9	Storage room - Room 5	B	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	7	Each	Good		Non Detect
9	Storage room - Room 5	B	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
9	**Storage room - Room 5**	**B**	**Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted**	**20**	**35**	**LF**	**Good**		**45% Chrysotile**
9	**Storage room - Room 5**	**B**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**8**	**Each**	**Good**		**45% Chrysotile**
9	**Storage room - Room 5**	**B**	**Interior caulk (tar), black, perimeter of cork insulation (associated with HA-24)**	**32**	**30**	**LF**	**Good**		**3% Chrysotile**
9	Storage room - Room 5	B	Window glaze - black, on door window	35	1	Each	Good		Non Detect
9	Storage room - Room 5	B	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	80	SF	Good		Non Detect
9	**Storage room - Room 5**	**B**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**6**	**SF**	**Fair**		**4% Chrysotile**
10	Cooler entrance - Room 6	B	Concrete chip - concrete slab foundation & decks	3	200	SF	Good	9x21	Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
10	Cooler entrance - Room 6	B	Brick mortar - CMU block walls	5	10	SF	Good		Non Detect
10	Cooler entrance - Room 6	B	Brick mortar - grey glazed ceramic block walls	6	600	SF	Good		Non Detect
10	Cooler entrance - Room 6	B	Brick mortar - skim coat on CMU block walls	7	1	SF	Good		Non Detect
10	Cooler entrance - Room 6	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	200	SF	Good		Non Detect
10	Cooler entrance - Room 6	B	Interior caulk - red, penetrations / void filler	9	5	LF	Good		Non Detect
10	Cooler entrance - Room 6	B	Interior caulk - grey, penetrations / void filler	10	5	LF	Good		Non Detect
10	Cooler entrance - Room 6	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	45	LF	Good		Non Detect
10	Cooler entrance - Room 6	B	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	2	Each	Good		Non Detect
10	Cooler entrance - Room 6	B	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
10	Cooler entrance - Room 6	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	20	LF	Good		Non Detect
10	**Cooler entrance - Room 6**	**B**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**1**	**Each**	**Good**		**50% Chrysotile**
10	**Cooler entrance - Room 6**	**B**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**20**	**LF**	**Good**		**35% Chrysotile**
10	**Cooler entrance - Room 6**	**B**	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**19**	**15**	**LF**	**Good**		**50% Chrysotile**
10	**Cooler entrance - Room 6**	**B**	**Interior caulk - greenish grey, hard, inside electrical boxes**	**25**	**5**	**SF**	**Good**		**10% Chrysotile**
10	**Cooler entrance - Room 6**	**B**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**45**	**SF**	**Good**	**wood door trim**	**3% Chrysotile**
11	Cooler - Room 6A	B	Concrete chip - concrete slab foundation & decks	3	700	SF	Good	40x18	Non Detect
11	Cooler - Room 6A	B	Brick mortar - grey glazed ceramic block walls	6	1200	SF	Good		Non Detect
11	Cooler - Room 6A	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	700	SF	Good		Non Detect
11	Cooler - Room 6A	B	Interior caulk - red, penetrations / void filler	9	5	SF	Good		Non Detect
11	Cooler - Room 6A	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	220	LF	Good		Non Detect
11	Cooler - Room 6A	B	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	19	Each	Good		Non Detect
11	Cooler - Room 6A	B	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	10	SF	Good		Non Detect
11	Cooler - Room 6A	B	Cork wall insulation - inside wall between the two block layers	23	1200	SF	Good		Non Detect
11	**Cooler - Room 6A**	**B**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**15**	**SF**	**Good**	**wood door trim**	**3% Chrysotile**
11	Cooler - Room 6A	B	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	832	SF	Poor		Non Detect
11	**Cooler - Room 6A**	**B**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**8**	**SF**	**Fair**		**4% Chrysotile**
12	Cooler - Room 6B	B	Concrete chip - concrete slab foundation & decks	3	750	SF	Good		Non Detect
12	Cooler - Room 6B	B	Brick mortar - grey glazed ceramic block walls	6	1000	SF	Good		Non Detect
12	Cooler - Room 6B	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	650	SF	Good		Non Detect
12	Cooler - Room 6B	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	140	LF	Good		Non Detect
12	**Cooler - Room 6B**	**B**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**4**	**Each**	**Good**		**30% Chrysotile**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
12	**Cooler - Room 6B**	**B**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**6**	**Each**	**Good**		**50% Chrysotile**
12	Cooler - Room 6B	B	Cork wall insulation - inside wall between the two block layers	23	1000	SF	Good		Non Detect
12	**Cooler - Room 6B**	**B**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**15**	**SF**	**Good**	**wood door trim**	**3% Chrysotile**
12	Cooler - Room 6B	B	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	1730	SF	Poor		Non Detect
12	**Cooler - Room 6B**	**B**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**8**	**SF**	**Fair**		**4% Chrysotile**
13	Cooler Room 6C	B	Concrete chip - concrete slab foundation & decks	3	1925	SF	Good		Non Detect
13	Cooler Room 6C	B	Brick mortar - grey glazed ceramic block walls	6	1600	SF	Good		Non Detect
13	Cooler Room 6C	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	1600	SF	Good		Non Detect
13	Cooler Room 6C	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	10	LF	Good		Non Detect
13	**Cooler Room 6C**	**B**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**4**	**Each**	**Good**		**30% Chrysotile**
13	**Cooler Room 6C**	**B**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**7**	**Each**	**Good**		**50% Chrysotile**
13	Cooler Room 6C	B	Cork wall insulation - inside wall between the two block layers	23	1925	SF	Good		Non Detect
13	**Cooler Room 6C**	**B**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**15**	**SF**	**Good**	**wood door trim**	**3% Chrysotile**
13	Cooler Room 6C	B	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	1905	SF	Poor		Non Detect
13	**Cooler Room 6C**	**B**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**8**	**SF**	**Fair**		**4% Chrysotile**
14	Storage room - Room 7	B	Concrete chip - concrete slab foundation & decks	3	250	SF	Good	25x10	Non Detect
14	Storage room - Room 7	B	Brick mortar - CMU block walls	5	700	SF	Good		Non Detect
14	Storage room - Room 7	B	Interior caulk - red, penetrations / void filler	9	5	SF	Good		Non Detect
14	Storage room - Room 7	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	25	LF	Good		Non Detect
14	Storage room - Room 7	B	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	6	Each	Good		Non Detect
14	Storage room - Room 7	B	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
14	**Storage room - Room 7**	**B**	**Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted**	**20**	**25**	**LF**	**Good**		**45% Chrysotile**
14	**Storage room - Room 7**	**B**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**5**	**Each**	**Good**		**45% Chrysotile**
14	Storage room - Room 7	B	Floor tile - 12" light brown with mottle, box of tile	36	4	Each	Good		Non Detect
14	Storage room - Room 7	B	Floor tile - 12" white with black streaks, box of tile	37	6	Each	Good		Non Detect
14	**Storage room - Room 7**	**B**	**Window glaze - metal window leaned against wall**	**38**	**1**	**Each**	**Good**		**3% Chrysotile**
15	Storage room 7A	B	Concrete chip - concrete slab foundation & decks	3	250	SF	Good		Non Detect
15	Storage room 7A	B	Brick mortar - CMU block walls	5	700	SF	Good		Non Detect
15	Storage room 7A	B	Interior caulk - red, penetrations / void filler	9	5	SF	Good		Non Detect
15	**Storage room 7A**	**B**	**Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted**	**20**	**35**	**LF**	**Good**		**45% Chrysotile**
15	**Storage room 7A**	**B**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**4**	**Each**	**Good**		**45% Chrysotile**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
15	Storage room 7A	B	Window glaze - soft, grey, metal window	39	1	Each	Good		Non Detect
16	**Stairwell - SW1**	**S**	**Fire door & frame - metal**	**1**	**8**	**Each**	**Good**		**Assumed**
16	Stairwell - SW1	S	Concrete chip - concrete slab foundation & decks	3	1200	SF	Good	30x9x80	Non Detect
16	Stairwell - SW1	S	Terrazzo flooring - Grey mix with white, beige, and black stone	4	720	SF	Good		Non Detect
16	Stairwell - SW1	S	Brick mortar - CMU block walls	5	3200	SF	Good		Non Detect
16	Stairwell - SW1	S	Brick mortar - grey glazed ceramic block walls	6	3200	SF	Good		Non Detect
16	Stairwell - SW1	S	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	400	SF	Good		Non Detect
16	Stairwell - SW1	S	Interior caulk - red, penetrations / void filler	9	20	SF	Good		Non Detect
16	Stairwell - SW1	S	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	120	LF	Good	In build out	Non Detect
16	Stairwell - SW1	S	Plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	18	Each	Good	In build out	Non Detect
16	Stairwell - SW1	S	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	LF	Good		Non Detect
16	**Stairwell - SW1**	**S**	**Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted**	**20**	**30**	**LF**	**Good**	**In basement confined space**	**45% Chrysotile**
16	**Stairwell - SW1**	**S**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**10**	**Each**	**Good**	**In basement confined space**	**45% Chrysotile**
16	Stairwell - SW1	S	Wallboard system - buildout - wet wall	40	320	SF	Good		Non Detect
16	Stairwell - SW1	S	Cove base 4" black vinyl with adhesive	41	20	LF	Good		Non Detect
17	**Stairwell - SW3**	**S**	**Fire door & frame - metal**	**1**	**8**	**Each**	**Good**		**Assumed**
17	Stairwell - SW3	S	Concrete chip - concrete slab foundation & decks	3	1200	SF	Good		Non Detect
17	Stairwell - SW3	S	Terrazzo flooring - Grey mix with white, beige, and black stone	4	720	SF	Good		Non Detect
17	Stairwell - SW3	S	Brick mortar - CMU block walls	5	3200	SF	Good		Non Detect
17	Stairwell - SW3	S	Brick mortar - grey glazed ceramic block walls	6	3200	SF	Good		Non Detect
17	Stairwell - SW3	S	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	400	SF	Good		Non Detect
17	Stairwell - SW3	S	Interior caulk - red, penetrations / void filler	9	20	SF	Good		Non Detect
17	**Stairwell - SW3**	**S**	**Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted**	**20**	**30**	**LF**	**Good**	**In basement confined space**	**45% Chrysotile**
17	**Stairwell - SW3**	**S**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**10**	**Each**	**Good**	**In basement confined space**	**45% Chrysotile**
17	Stairwell - SW3	S	Glue pod - brown	42	10	SF	Good	Above 2nd fl drop ceiling	Non Detect
18	Elevator shaft	E	Concrete chip - concrete slab foundation & decks	3	150	SF	Good		Non Detect
18	Elevator shaft	E	Brick mortar - CMU block walls	5	1600	SF	Good		Non Detect
19	**Room BHW2**	**B**	**Fire door & frame - metal**	**1**	**3**	**Each**	**Good**		**Assumed**
19	Room BHW2	B	Concrete chip - concrete slab foundation & decks	3	1290	SF	Good	20x22	Non Detect
19	**Room BHW2**	**B**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**70**	**LF**	**Good**	**Painted white**	**35% Chrysotile**
19	**Room BHW2**	**B**	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**19**	**13**	**Each**	**Good**	**Painted white**	**50% Chrysotile**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
19	Room BHW2	B	Textured plaster - rough texture, walls	43	850	SF	Good	Walls	Non Detect
19	**Room BHW2**	**B**	**Pipe insulation - magnesia**	**44**	**40**	**LF**	**Good**	**Painted white**	**30% Chrysotile**
19	**Room BHW2**	**B**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**6**	**Each**	**Good**	**Painted white**	**30% Chrysotile**
20	**Men's restroom - Room 12**	**B**	**Fire door & frame - metal**	**1**	**1**	**Each**	**Good**		**Assumed**
20	Men's restroom - Room 12	B	Concrete chip - concrete slab foundation & decks	3	170	SF	Good	17x9	Non Detect
20	Men's restroom - Room 12	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	155	SF	Good		Non Detect
20	**Men's restroom - Room 12**	**B**	**Pipe insulation - magnesia**	**44**	**90**	**LF**	**Good**		**30% Chrysotile**
20	**Men's restroom - Room 12**	**B**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**22**	**Each**	**Good**		**30% Chrysotile**
20	Men's restroom - Room 12	B	Brick mortar - beige glazed ceramic block	46	520	SF	Good		Non Detect
20	Men's restroom - Room 12	B	Interior caulk - white, hard, on restroom fixtures	47	10	LF	Good		Non Detect
20	Men's restroom - Room 12	B	Bathroom partition insulation - pressed paper	48	40	SF	Good		Non Detect
20	**Men's restroom - Room 12**	**B**	**Window glaze - beige glaze, window in metal door**	**49**	**1**	**Each**	**Good**		**Point count: Trace Chrysotile**
21	**Women's restroom -Room 13**	**B**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**
21	Women's restroom -Room 13	B	Concrete chip - concrete slab foundation & decks	3	230	SF	Good		Non Detect
21	Women's restroom -Room 13	B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	230	SF	Good		Non Detect
21	Women's restroom -Room 13	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	20	LF	Good		Non Detect
21	Women's restroom -Room 13	B	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	2	Each	Good		Non Detect
21	**Women's restroom -Room 13**	**B**	**Pipe insulation - magnesia**	**44**	**125**	**LF**	**Good**		**30% Chrysotile**
21	**Women's restroom -Room 13**	**B**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**19**	**Each**	**Good**		**30% Chrysotile**
21	Women's restroom -Room 13	B	Brick mortar - beige glazed ceramic block	46	610	SF	Good		Non Detect
21	Women's restroom -Room 13	B	Interior caulk - white, hard, on restroom fixtures	47	10	LF	Good		Non Detect
21	Women's restroom -Room 13	B	Bathroom partition insulation - pressed paper	48	55	SF	Good		Non Detect
21	**Women's restroom -Room 13**	**B**	**Window glaze - beige glaze, window in metal door**	**49**	**2**	**Each**	**Good**		**Point count: Trace Chrysotile**
22	**Storage - Room 14**	**B**	**Fire door & frame - wood**	**2**	**1**	**Each**	**Good**		**Assumed**
22	Storage - Room 14	B	Concrete chip - concrete slab foundation & decks	3	275	SF	Good	13x18	Non Detect
22	Storage - Room 14	B	Brick mortar - CMU block walls	5	620	SF	Good		Non Detect
22	Storage - Room 14	B	Cove base 4" black vinyl with adhesive	41	65	LF	Good		Non Detect
22	Storage - Room 14	B	Textured plaster - rough texture, walls	43	620	SF	Good		Non Detect
22	**Storage - Room 14**	**B**	**Pipe insulation - magnesia**	**44**	**25**	**LF**	**Good**		**30% Chrysotile**
22	**Storage - Room 14**	**B**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**5**	**Each**	**Good**		**30% Chrysotile**
22	Storage - Room 14	B	Interior caulk - white, hard, on restroom fixtures	47	10	LF	Good	Sink	Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
22	**Storage - Room 14**	**B**	**Floor tile - 9" black tile, black mastic**	**50**	**210**	**SF**	**Good**		**FT: 2% Chrysotile Mastic: ND**
22	**Storage - Room 14**	**B**	**Floor tile - 9" dark brown, black mastic**	**51**	**210**	**SF**	**Good**		**FT: 2% Chrysotile Mastic: ND**
22	**Storage - Room 14**	**B**	**Floor tile - 9" grey with black streaks, black mastic**	**52**	**210**	**SF**	**Good**		**FT: 7% Chrysotile Mastic: ND**
23	**Room 15 & 15C**	**B**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**
23	Room 15 & 15C	B	Concrete chip - concrete slab foundation & decks	3	910	SF	Good		Non Detect
23	Room 15 & 15C	B	Brick mortar - CMU block walls	5	1220	SF	Good		Non Detect
23	Room 15 & 15C	B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	40	LF	Good		Non Detect
23	Room 15 & 15C	B	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	4	Each	Good		Non Detect
23	Room 15 & 15C	B	Textured plaster - rough texture, walls	43	1220	SF	Good		Non Detect
23	**Room 15 & 15C**	**B**	**Pipe insulation - magnesia**	**44**	**55**	**LF**	**Good**		**30% Chrysotile**
23	**Room 15 & 15C**	**B**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**5**	**Each**	**Good**		**30% Chrysotile**
23	**Room 15 & 15C**	**B**	**Window glaze - beige glaze, window in metal door**	**49**	**2**	**Each**	**Good**	**6 pane doors**	**Point count: Trace Chrysotile**
24	**Room 15B**	**B**	**Fire door & frame - metal**	**1**	**4**	**Each**	**Good**		**Assumed**
24	Room 15B	B	Concrete chip - concrete slab foundation & decks	3	5300	SF	Good	60x88	Non Detect
24	Room 15B	B	Brick mortar - CMU block walls	5	300	SF	Good		Non Detect
24	Room 15B	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	400	LF	Good		Non Detect
24	**Room 15B**	**B**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**84**	**Each**	**Good**		**30% Chrysotile**
24	**Room 15B**	**B**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**18**	**Each**	**Good**		**50% Chrysotile**
24	**Room 15B**	**B**	**Pipe insulation - magnesia**	**44**	**80**	**LF**	**Good**		**30% Chrysotile**
24	**Room 15B**	**B**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**28**	**Each**	**Good**		**30% Chrysotile**
24	**Room 15B**	**B**	**Window glaze - beige glaze, window in metal door**	**49**	**4**	**Each**	**Good**		**Point count: Trace Chrysotile**
25	**Room 15A**	**B**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**
25	Room 15A	B	Concrete chip - concrete slab foundation & decks	3	2260	SF	Good		Non Detect
25	Room 15A	B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	115	LF	Good		Non Detect
25	**Room 15A**	**B**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**35**	**Each**	**Good**		**30% Chrysotile**
25	**Room 15A**	**B**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**5**	**Each**	**Good**		**50% Chrysotile**
25	**Room 15A**	**B**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**45**	**LF**	**Good**		**35% Chrysotile**
25	**Room 15A**	**B**	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**19**	**8**	**Each**	**Good**		**50% Chrysotile**
25	Room 15A	B	Textured plaster - rough texture, walls	43	1360	SF	Fair		Non Detect
25	**Room 15A**	**B**	**Pipe insulation - magnesia**	**44**	**185**	**LF**	**Good**		**30% Chrysotile**
25	**Room 15A**	**B**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**42**	**Each**	**Good**		**30% Chrysotile**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
25	Room 15A	B	Ceiling panel - 2' white rough texture with foil backing	53	45	Each	Fair	Stack	Non Detect
25	Room 15A	B	Ceiling panel - 2' white composite with metal cover	54	10	Each	Fair	Stack	Non Detect
25	Room 15A	B	Ceiling panel - 2'x4' wallboard with vinyl cover	55	100	Each	Fair	Stack	Non Detect
25	Room 15A	B	Water proofing - black spray-on, on walls/ceiling	56	1360	SF	Good	Walls under plaster	Non Detect
25	**Room 15A**	**B**	**Gasket material - fiber gaskets between steel fittings**	**57**	**36**	**Each**	**Good**	**Quantity may vary**	**10% Chrysotile**
25	Room 15A	B	Tank insulation - under metal wrapping	58	1230	SF	Good	410 SF each	Non Detect
25	Room 15A	B	Tank insulation - canvas paper wrapped fiberglass over magnesia block	59	45	SF	Good		Non Detect
26	**Storage room - Room 16 & 16A**	**B**	**Fire door & frame - metal**	**1**	**6**	**Each**	**Good**		**Assumed**
26	Storage room - Room 16 & 16A	B	Concrete chip - concrete slab foundation & decks	3	510	SF	Good	14x36	Non Detect
26	Storage room - Room 16 & 16A	B	Brick mortar - CMU block walls	5	280	SF	Good		Non Detect
26	**Storage room - Room 16 & 16A**	**B**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**70**	**LF**	**Good**		**35% Chrysotile**
26	Storage room - Room 16 & 16A	B	Textured plaster - rough texture, walls	43	420	SF	Good		Non Detect
26	**Storage room - Room 16 & 16A**	**B**	**Pipe insulation - magnesia**	**44**	**30**	**LF**	**Good**		**30% Chrysotile**
26	**Storage room - Room 16 & 16A**	**B**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**5**	**Each**	**Good**		**30% Chrysotile**
27	**Mechanical - Room 17 & 17A**	**B**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**
27	Mechanical - Room 17 & 17A	B	Concrete chip - concrete slab foundation & decks	3	700	SF	Good	17x11	Non Detect
27	Mechanical - Room 17 & 17A	B	Brick mortar - CMU block walls	5	220	SF	Good		Non Detect
27	**Mechanical - Room 17 & 17A**	**B**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**35**	**LF**	**Good**		**35% Chrysotile**
27	**Mechanical - Room 17 & 17A**	**B**	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**19**	**8**	**Each**	**Good**		**50% Chrysotile**
27	**Mechanical - Room 17 & 17A**	**B**	**Pipe insulation - magnesia**	**44**	**50**	**LF**	**Good**		**30% Chrysotile**
27	**Mechanical - Room 17 & 17A**	**B**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**11**	**Each**	**Good**		**30% Chrysotile**
27	**Mechanical - Room 17 & 17A**	**B**	**Gasket material - fiber gaskets between steel fittings**	**57**	**8**	**Each**	**Good**		**10% Chrysotile**
27	Mechanical - Room 17 & 17A	B	Wallboard - compressor room walls	60	135	SF	Good		Non Detect
28	**Stairwell - SW4**	**S**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**
28	Stairwell - SW4	S	Concrete chip - concrete slab foundation & decks	3	585	SF	Good		Non Detect
28	Stairwell - SW4	S	Terrazzo flooring - Grey mix with white, beige, and black stone	4	425	SF	Good		Non Detect
28	Stairwell - SW4	S	Brick mortar - CMU block walls	5	210	SF	Good		Non Detect
28	Stairwell - SW4	S	Brick mortar - grey glazed ceramic block walls	6	310	SF	Good		Non Detect
28	**Stairwell - SW4**	**S**	**Textured plaster - rough texture, ceiling**	**61**	**180**	**SF**	**Good**		**3% Chrysotile**
28	Stairwell - SW4	S	Cove base - 4" grey vinyl with adhesive	62	5	LF	Good		Non Detect
28	**Stairwell - SW4**	**S**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**20**	**LF**	**Good**		**2.25% Chrysotile**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
28	**Stairwell - SW4**	**S**	**Vibration dampener - white canvas**	**64**	**25**	**SF**	**Good**		**20% Chrysotile**
29	**Room 101**	**1**	**Fire door & frame - wood**	**2**	**3**	**Each**	**Good**		**Assumed**
29	Room 101	1	Concrete chip - concrete slab foundation & decks	3	400	SF	Good	10x40	Non Detect
29	Room 101	1	Brick mortar - grey glazed ceramic block walls	6	1000	SF	Good		Non Detect
29	Room 101	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	400	SF	Good		Non Detect
29	Room 101	1	Interior caulk - red, penetrations / void filler	9	5	SF	Good		Non Detect
29	Room 101	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	10	LF	Good		Non Detect
29	**Room 101**	**1**	**Interior caulk - greenish grey, hard, inside electrical boxes**	**25**	**5**	**SF**	**Good**	**Electrical boxes**	**10% Chrysotile**
29	**Room 101**	**1**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**5**	**SF**	**Good**	**Check under wood frame**	**3% Chrysotile**
30	Room 101A	1	Concrete chip - concrete slab foundation & decks	3	705	SF	Good	18x39	Non Detect
30	Room 101A	1	Brick mortar - grey glazed ceramic block walls	6	1140	SF	Good		Non Detect
30	Room 101A	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	705	SF	Good		Non Detect
30	Room 101A	1	Cork wall insulation - inside wall between the two block layers	23	1140	SF	Good		Non Detect
30	Room 101A	1	Brick mortar - 12"x4" concrete bricks	30	5	LF	Good		Non Detect
30	**Room 101A**	**1**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**5**	**SF**	**Good**	**Check under wood frame**	**3% Chrysotile**
30	Room 101A	1	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	940	SF	Poor		Non Detect
30	**Room 101A**	**1**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**8**	**SF**	**Fair**		**4% Chrysotile**
31	Room 101B	1	Concrete chip - concrete slab foundation & decks	3	300	SF	Good	10x30	Non Detect
31	Room 101B	1	Brick mortar - grey glazed ceramic block walls	6	800	SF	Good		Non Detect
31	Room 101B	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	300	SF	Good		Non Detect
31	Room 101B	1	Cork wall insulation - inside wall between the two block layers	23	800	SF	Good		Non Detect
31	**Room 101B**	**1**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**5**	**SF**	**Good**		**3% Chrysotile**
31	Room 101B	1	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	129	SF	Poor		Non Detect
31	**Room 101B**	**1**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**8**	**SF**	**Fair**		**4% Chrysotile**
32	Room 101C	1	Concrete chip - concrete slab foundation & decks	3	680	SF	Good		Non Detect
32	Room 101C	1	Brick mortar - grey glazed ceramic block walls	6	1040	SF	Good		Non Detect
32	Room 101C	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	680	SF	Good		Non Detect
32	Room 101C	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	30	LF	Good		Non Detect
32	Room 101C	1	Cork wall insulation - inside wall between the two block layers	23	1040	SF	Good		Non Detect
32	**Room 101C**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**10**	**LF**	**Good**		**2.25% Chrysotile**
32	**Room 101C**	**1**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**5**	**SF**	**Good**	**Check under wood frame**	**3% Chrysotile**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
32	Room 101C	1	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	670	SF	Poor		Non Detect
32	**Room 101C**	**1**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**8**	**SF**	**Fair**		**4% Chrysotile**
33	Room 101D	1	Concrete chip - concrete slab foundation & decks	3	990	SF	Good	32x26	Non Detect
33	Room 101D	1	Brick mortar - grey glazed ceramic block walls	6	1180	SF	Good		Non Detect
33	Room 101D	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	990	SF	Good		Non Detect
33	Room 101D	1	Cork wall insulation - inside wall between the two block layers	23	1180	SF	Good		Non Detect
33	Room 101D	1	Wallboard system - buildout - wet wall	40	320	SF	Good		Non Detect
33	**Room 101D**	**1**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**20**	**SF**	**Good**	**Check under wood frame**	**3% Chrysotile**
33	Room 101D	1	Textured plaster - trawled straight	66	5	SF	Good		Non Detect
33	Room 101D	1	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	1040	SF	Poor		Non Detect
33	**Room 101D**	**1**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**8**	**SF**	**Fair**		**4% Chrysotile**
34	**Room 102A**	**1**	**Fire door & frame - metal**	**1**	**1**	**Each**	**Good**		**Assumed**
34	Room 102A	1	Concrete chip - concrete slab foundation & decks	3	290	SF	Good	15x20	Non Detect
34	Room 102A	1	Brick mortar - grey glazed ceramic block walls	6	685	SF	Good		Non Detect
34	Room 102A	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	290	SF	Good		Non Detect
34	**Room 102A**	**1**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**80**	**LF**	**Good**		**2% Chrysotile**
34	Room 102A	1	Glue pod - brown	42	75	SF	Good	Above drop ceiling	Non Detect
34	**Room 102A**	**1**	**Pipe insulation - magnesia**	**44**	**30**	**LF**	**Good**		**30% Chrysotile**
34	**Room 102A**	**1**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**2**	**Each**	**Good**		**30% Chrysotile**
34	Room 102A	1	Ceiling panel - 2'x4' wallboard with vinyl cover	55	290	SF	Good		Non Detect
34	**Room 102A**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**40**	**LF**	**Good**		**2.25% Chrysotile**
34	Room 102A	1	Ceiling panel - Off white pinhole and fissure (large fissure)	67	290	SF	Good		Non Detect
34	Room 102A	1	Ceiling tile -12" white with 1/4 inch holes	71	290	SF	Good	Above drop ceiling	Non Detect
35	**Room 102**	**1**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**
35	Room 102	1	Concrete chip - concrete slab foundation & decks	3	270	SF	Good	15x20	Non Detect
35	Room 102	1	Brick mortar - grey glazed ceramic block walls	6	665	SF	Good		Non Detect
35	Room 102	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	270	SF	Good		Non Detect
35	**Room 102**	**1**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**80**	**LF**	**Good**		**2% Chrysotile**
35	Room 102	1	Glue pod - brown	42	70	SF	Good	Above drop ceiling	Non Detect
35	Room 102	1	Ceiling panel - 2'x4' wallboard with vinyl cover	55	270	SF	Good		Non Detect
35	**Room 102**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**40**	**LF**	**Good**		**2.25% Chrysotile**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
35	Room 102	1	Ceiling panel - Off white pinhole and fissure (large fissure)	67	270	SF	Good		Non Detect
35	Room 102	1	Ceiling tile -12" white with 1/4 inch holes	71	270	SF	Good	Above drop ceiling	Non Detect
36	**Room 103**	**1**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**
36	Room 103	1	Concrete chip - concrete slab foundation & decks	3	150	SF	Good		Non Detect
36	Room 103	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	150	SF	Good		Non Detect
36	**Room 103**	**1**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**90**	**LF**	**Good**		**2% Chrysotile**
36	**Room 103**	**1**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**30**	**LF**	**Good**		**35% Chrysotile**
36	**Room 103**	**1**	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**19**	**13**	**Each**	**Good**		**50% Chrysotile**
36	Room 103	1	Glue pod - brown	42	30	SF	Good		Non Detect
36	Room 103	1	Ceiling panel - Off white pinhole and fissure (large fissure)	67	150	LF	Good		Non Detect
37	**Room 103A**	**1**	**Fire door & frame - metal**	**1**	**1**	**Each**	**Good**		**Assumed**
37	Room 103A	1	Concrete chip - concrete slab foundation & decks	3	136	SF	Good		Non Detect
37	Room 103A	1	Brick mortar - grey glazed ceramic block walls	6	440	SF	Good		Non Detect
37	Room 103A	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	136	SF	Good		Non Detect
37	**Room 103A**	**1**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**90**	**SF**	**Good**		**2% Chrysotile**
37	**Room 103A**	**1**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**15**	**LF**	**Good**		**35% Chrysotile**
37	**Room 103A**	**1**	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**19**	**4**	**Each**	**Good**		**50% Chrysotile**
37	**Room 103A**	**1**	**Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted**	**20**	**15**	**LF**	**Good**		**45% Chrysotile**
37	**Room 103A**	**1**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**5**	**Each**	**Good**		**45% Chrysotile**
37	Room 103A	1	Glue pod - brown	42	30	SF	Good		Non Detect
37	**Room 103A**	**1**	**Pipe insulation - magnesia**	**44**	**20**	**LF**	**Good**		**30% Chrysotile**
37	**Room 103A**	**1**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**8**	**Each**	**Good**		**30% Chrysotile**
37	Room 103A	1	Ceiling panel - 2'x4' wallboard with vinyl cover	55	16	SF	Good		Non Detect
37	**Room 103A**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**40**	**LF**	**Good**		**2.25% Chrysotile**
37	Room 103A	1	Ceiling panel - Off white pinhole and fissure (large fissure)	67	120	SF	Good		Non Detect
38	**Room 104**	**1**	**Fire door & frame - metal**	**1**	**1**	**Each**	**Good**		**Assumed**
38	Room 104	1	Concrete chip - concrete slab foundation & decks	3	280	SF	Good	20x14	Non Detect
38	Room 104	1	Brick mortar - grey glazed ceramic block walls	6	680	SF	Good		Non Detect
38	Room 104	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	268	SF	Good		Non Detect
38	**Room 104**	**1**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**50**	**LF**	**Good**		**2% Chrysotile**
38	Room 104	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	10	LF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
38	**Room 104**	**1**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**30**	**LF**	**Good**		**35% Chrysotile**
38	**Room 104**	**1**	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**19**	**13**	**Each**	**Good**		**50% Chrysotile**
38	**Room 104**	**1**	**Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted**	**20**	**8**	**LF**	**Good**		**45% Chrysotile**
38	Room 104	1	Glue pod - brown	42	70	SF	Good		Non Detect
38	**Room 104**	**1**	**Pipe insulation - magnesia**	**44**	**10**	**LF**	**Good**		**30% Chrysotile**
38	**Room 104**	**1**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**2**	**Each**	**Good**		**30% Chrysotile**
38	Room 104	1	Ceiling panel - 2'x4' wallboard with vinyl cover	55	280	SF	Good		Non Detect
38	**Room 104**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**80**	**LF**	**Good**		**2.25% Chrysotile**
38	Room 104	1	Ceiling panel - Off white pinhole and fissure (large fissure)	67	280	SF	Good		Non Detect
38	Room 104	1	Pipe insulation - black, tar tape	68	5	LF	Good		Non Detect
39	Hallway 1HW1	1	Concrete chip - concrete slab foundation & decks	3	840	SF	Good		Non Detect
39	Hallway 1HW1	1	Terrazzo flooring - Grey mix with white, beige, and black stone	4	100	SF	Good		Non Detect
39	Hallway 1HW1	1	Brick mortar - CMU block walls	5	300	SF	Good		Non Detect
39	Hallway 1HW1	1	Brick mortar - grey glazed ceramic block walls	6	1700	SF	Good		Non Detect
39	Hallway 1HW1	1	Brick mortar - skim coat on CMU block walls	7	10	SF	Good		Non Detect
39	Hallway 1HW1	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	740	SF	Good		Non Detect
39	Hallway 1HW1	1	Interior caulk - red, penetrations / void filler	9	5	LF	Good		Non Detect
39	**Hallway 1HW1**	**1**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**155**	**LF**	**Good**		**2% Chrysotile**
39	**Hallway 1HW1**	**1**	**Pipe insulation - magnesia**	**44**	**75**	**LF**	**Good**		**30% Chrysotile**
39	**Hallway 1HW1**	**1**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**16**	**Each**	**Good**		**30% Chrysotile**
39	**Hallway 1HW1**	**1**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**30**	**SF**	**Good**		**3% Chrysotile**
40	Room 105	1	Concrete chip - concrete slab foundation & decks	3	1660	SF	Good		Non Detect
40	Room 105	1	Brick mortar - grey glazed ceramic block walls	6	1725	SF	Good		Non Detect
40	Room 105	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	1660	SF	Good		Non Detect
40	**Room 105**	**1**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**20**	**LF**	**Good**		**35% Chrysotile**
40	**Room 105**	**1**	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**19**	**7**	**Each**	**Good**		**50% Chrysotile**
40	Room 105	1	Cork wall insulation - inside wall between the two block layers	23	1660	SF	Good		Non Detect
40	**Room 105**	**1**	**Interior caulk - greenish grey, hard, inside electrical boxes**	**25**	**1**	**SF**	**Good**		**10% Chrysotile**
40	**Room 105**	**1**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**10**	**SF**	**Good**		**3% Chrysotile**
40	Room 105	1	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	1465	SF	Poor		Non Detect
40	**Room 105**	**1**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**4**	**SF**	**Fair**		**4% Chrysotile**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
41	Room 105B	1	Concrete chip - concrete slab foundation & decks	3	360	SF	Good		Non Detect
41	Room 105B	1	Brick mortar - grey glazed ceramic block walls	6	850	SF	Good		Non Detect
41	Room 105B	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	360	SF	Good		Non Detect
41	**Room 105B**	**1**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**10**	**LF**	**Good**		**35% Chrysotile**
41	Room 105B	1	Cork wall insulation - inside wall between the two block layers	23	850	SF	Good		Non Detect
41	**Room 105B**	**1**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**10**	**SF**	**Good**		**3% Chrysotile**
41	Room 105B	1	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	380	SF	Poor		Non Detect
41	**Room 105B**	**1**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**4**	**SF**	**Fair**		**4% Chrysotile**
42	Room 105A	1	Concrete chip - concrete slab foundation & decks	3	920	SF	Good		Non Detect
42	Room 105A	1	Brick mortar - grey glazed ceramic block walls	6	1275	SF	Good		Non Detect
42	Room 105A	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	920	SF	Good		Non Detect
42	Room 105A	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	65	LF	Good		Non Detect
42	Room 105A	1	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	6	Each	Good		Non Detect
42	**Room 105A**	**1**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**20**	**SF**	**Good**		**3% Chrysotile**
42	Room 105A	1	Cork insulation, remnants (cork & cork adhesive on concrete). Note: Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed per scope of abatement project in 1997.	123	920	SF	Poor		Non Detect
42	**Room 105A**	**1**	**Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas, assoc. with HA-123 (and HA-24 which was previously abated)**	**124**	**4**	**SF**	**Fair**		**4% Chrysotile**
43	**Receiving - Room 106, 106A, & 106B**	**1**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**
43	Receiving - Room 106, 106A, & 106B	1	Concrete chip - concrete slab foundation & decks	3	1545	SF	Good		Non Detect
43	Receiving - Room 106, 106A, & 106B	1	Brick mortar - CMU block walls	5	1500	SF	Good		Non Detect
43	**Receiving - Room 106, 106A, & 106B**	**1**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**20**	**LF**	**Good**		**2% Chrysotile**
43	Receiving - Room 106, 106A, & 106B	1	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	20	LF	Good		Non Detect
43	**Receiving - Room 106, 106A, & 106B**	**1**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**2**	**Each**	**Good**		**30% Chrysotile**
43	**Receiving - Room 106, 106A, & 106B**	**1**	**Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted**	**20**	**5**	**LF**	**Good**		**45% Chrysotile**
43	**Receiving - Room 106, 106A, & 106B**	**1**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**1**	**Each**	**Good**		**45% Chrysotile**
43	**Receiving - Room 106, 106A, & 106B**	**1**	**Pipe insulation - magnesia**	**44**	**70**	**LF**	**Good**		**30% Chrysotile**
43	**Receiving - Room 106, 106A, & 106B**	**1**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**14**	**Each**	**Good**		**30% Chrysotile**
43	Receiving - Room 106, 106A, & 106B	1	Brick mortar - exterior siding red brick	69	1465	SF	Good		Non Detect
43	Receiving - Room 106, 106A, & 106B	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	80	SF	Good		Non Detect
44	**Receiving - Room 106C**	**1**	**Fire door & frame - metal**	**1**	**1**	**Each**	**Good**		**Assumed**
44	Receiving - Room 106C	1	Concrete chip - concrete slab foundation & decks	3	1000	SF	Good		Non Detect
44	Receiving - Room 106C	1	Brick mortar - CMU block walls	5	1600	SF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
45	**Room 111**	**1**	**Fire door & frame - metal**	**1**	**1**	**Each**	**Good**		**Assumed**
45	Room 111	1	Concrete chip - concrete slab foundation & decks	3	295	SF	Good		Non Detect
45	Room 111	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	295	SF	Good		Non Detect
45	Room 111	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	30	LF	Good		Non Detect
45	Room 111	1	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	9	Each	Good		Non Detect
45	Room 111	1	Brick mortar - beige glazed ceramic block	46	540	SF	Good		Non Detect
45	**Room 111**	**1**	**Window glaze - beige glaze, window in metal door**	**49**	**1**	**Each**	**Good**		**Point count: Trace Chrysotile**
46	**Hallway 1HW2**	**1**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**
46	Hallway 1HW2	1	Concrete chip - concrete slab foundation & decks	3	610	SF	Good		Non Detect
46	Hallway 1HW2	1	Brick mortar - CMU block walls	5	2520	SF	Good		Non Detect
46	Hallway 1HW2	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	610	SF	Good		Non Detect
46	Hallway 1HW2	1	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	20	LF	Good		Non Detect
46	**Hallway 1HW2**	**1**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**10**	**Each**	**Good**		**30% Chrysotile**
46	**Hallway 1HW2**	**1**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**6**	**Each**	**Good**		**50% Chrysotile**
46	Hallway 1HW2	1	Cove base 4" black vinyl with adhesive	41	210	LF	Good		Non Detect
46	Hallway 1HW2	1	Brick mortar - beige glazed ceramic block	46	90	SF	Good		Non Detect
46	**Hallway 1HW2**	**1**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**15**	**SF**	**Good**		**3% Chrysotile**
46	Hallway 1HW2	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	210	SF	Good		Non Detect
46	Hallway 1HW2	1	Ceiling panel - yellowish white, pinhole/fissure (small fissure), grey composite material	72	40	SF	Good		Non Detect
46	Hallway 1HW2	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	570	SF	Good		Non Detect
46	Hallway 1HW2	1	Construction adhesive - black, behind plastic wall guards, dripping down wall surface	74	210	SF	Good		Non Detect
47	**Hallway 1HW3**	**1**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**	**35x9**	**Assumed**
47	Hallway 1HW3	1	Concrete chip - concrete slab foundation & decks	3	300	SF	Good		Non Detect
47	Hallway 1HW3	1	Brick mortar - CMU block walls	5	1350	SF	Good		Non Detect
47	Hallway 1HW3	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	300	SF	Good		Non Detect
47	Hallway 1HW3	1	Wallboard system - buildout - wet wall	40	150	SF	Good		Non Detect
47	Hallway 1HW3	1	Cove base 4" black vinyl with adhesive	41	15	LF	Good		Non Detect
47	Hallway 1HW3	1	Brick mortar - beige glazed ceramic block	46	525	SF	Good		Non Detect
47	Hallway 1HW3	1	Cove base - 4" grey vinyl with adhesive	62	15	LF	Good		Non Detect
47	Hallway 1HW3	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	300	SF	Good		Non Detect
47	Hallway 1HW3	1	Construction adhesive - black, behind plastic wall guards, dripping down wall surface	74	35	LF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
48	**Room 115**	**1**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**
48	Room 115	1	Concrete chip - concrete slab foundation & decks	3	500	SF	Good	15x23	Non Detect
48	Room 115	1	Brick mortar - CMU block walls	5	500	SF	Good		Non Detect
48	Room 115	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	500	SF	Good		Non Detect
48	Room 115	1	Interior caulk - red, penetrations / void filler	9	15	LF	Good		Non Detect
48	Room 115	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	70	LF	Good		Non Detect
48	Room 115	1	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	13	Each	Good		Non Detect
48	Room 115	1	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
48	Room 115	1	Brick mortar - beige glazed ceramic block	46	750	SF	Good		Non Detect
49	**Room 117, 117A, & 117B**	**1**	**Fire door & frame - metal**	**1**	**3**	**Each**	**Good**		**Assumed**
49	Room 117, 117A, & 117B	1	Concrete chip - concrete slab foundation & decks	3	3110	SF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Brick mortar - CMU block walls	5	1800	SF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	3100	SF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Interior caulk - red, penetrations / void filler	9	80	LF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	105	LF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	26	Each	Good		Non Detect
49	Room 117, 117A, & 117B	1	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	10	SF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Wallboard system - buildout - wet wall	40	550	SF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Brick mortar - beige glazed ceramic block	46	2000	SF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Interior caulk - white, hard, on restroom fixtures	47	5	LF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Interior caulk - grey duct caulk	75	15	SF	Good		Non Detect
49	Room 117, 117A, & 117B	1	Cove base - 6" black vinyl with adhesive	76	40	LF	Good	Offices	Non Detect
49	Room 117, 117A, & 117B	1	Window glaze - black caulk, perimeter of office interior window	77	15	LF	Good		Non Detect
49	**Room 117, 117A, & 117B**	**1**	**Roof drain fitting - unknown material**	**78**	**2**	**Each**	**Good**	**Could not sample; no access**	**Assumed**
50	Room 124	1	Concrete chip - concrete slab foundation & decks	3	205	SF	Good		Non Detect
50	Room 124	1	Brick mortar - CMU block walls	5	600	SF	Good		Non Detect
50	Room 124	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	205	SF	Good		Non Detect
50	Room 124	1	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	180	LF	Good		Non Detect
50	**Room 124**	**1**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**18**	**Each**	**Good**		**30% Chrysotile**
50	**Room 124**	**1**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**11**	**Each**	**Good**		**50% Chrysotile**
50	Room 124	1	Brick mortar - beige glazed ceramic block	46	600	SF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
51	**Room 120**	**1**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**
51	Room 120	1	Concrete chip - concrete slab foundation & decks	3	880	SF	Good		Non Detect
51	Room 120	1	Brick mortar - CMU block walls	5	1800	SF	Good		Non Detect
51	Room 120	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	880	SF	Good		Non Detect
51	Room 120	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	25	LF	Good		Non Detect
51	Room 120	1	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	4	Each	Good		Non Detect
51	Room 120	1	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	35	LF	Good		Non Detect
51	Room 120	1	Cove base 4" black vinyl with adhesive	41	120	LF	Good		Non Detect
51	Room 120	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	880	SF	Good		Non Detect
52	**Room 120A**	**1**	**Fire door & frame - metal**	**1**	**1**	**Each**	**Good**		**Assumed**
52	Room 120A	1	Concrete chip - concrete slab foundation & decks	3	70	SF	Good		Non Detect
52	Room 120A	1	Brick mortar - CMU block walls	5	450	SF	Good		Non Detect
52	Room 120A	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	70	SF	Good		Non Detect
52	Room 120A	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	20	LF	Good		Non Detect
52	Room 120A	1	Cove base 4" black vinyl with adhesive	41	25	LF	Good		Non Detect
52	Room 120A	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	70	SF	Good		Non Detect
53	**Room 121**	**1**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**
53	**Room 122**	**1**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**
53	Room 121	1	Concrete chip - concrete slab foundation & decks	3	265	SF	Good		Non Detect
53	Room 121	1	Cove base 4" black vinyl with adhesive	41	70	LF	Good		Non Detect
53	**Room 121**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**25**	**LF**	**Good**		**2.25% Chrysotile**
53	Room 121	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	265	SF	Good		Non Detect
53	**Room 121**	**1**	**Vinyl sheeting - Brown/light squares.**	**79**	**265**	**SF**	**Good**		**15% Chrysotile**
53	**Room 121**	**1**	**Interior caulk - Brown caulk - Perimeter of glass block.**	**80**	**30**	**LF**	**Good**		**1.75% Chrysotile**
54	Room 122	1	Concrete chip - concrete slab foundation & decks	3	160	SF	Good		Non Detect
54	Room 122	1	Brick mortar - CMU block walls	5	300	SF	Good		Non Detect
54	Room 122	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	15	SF	Good		Non Detect
54	Room 122	1	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	120	LF	Good		Non Detect
54	**Room 122**	**1**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**9**	**Each**	**Good**		**30% Chrysotile**
54	Room 122	1	Wallboard system - buildout - wet wall	40	20	SF	Good		Non Detect
54	Room 122	1	Brick mortar - beige glazed ceramic block	46	300	SF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
54	**Room 122**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**40**	**LF**	**Good**		**2.25% Chrysotile**
54	**Room 122**	**1**	**Vibration dampener - white canvas**	**64**	**15**	**SF**	**Good**		**20% Chrysotile**
54	Room 122	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	150	SF	Good		Non Detect
54	**Room 122**	**1**	**Interior caulk - Brown caulk - Perimeter of glass block.**	**80**	**60**	**LF**	**Good**		**1.75% Chrysotile**
55	**Room 123**	**1**	**Fire door & frame - metal**	**1**	**3**	**Each**	**Good**		**Assumed**
55	Room 123	1	Concrete chip - concrete slab foundation & decks	3	680	SF	Good	40x17	Non Detect
55	Room 123	1	Brick mortar - CMU block walls	5	1000	SF	Good		Non Detect
55	Room 123	1	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	40	LF	Good		Non Detect
55	**Room 123**	**1**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**3**	**Each**	**Good**		**30% Chrysotile**
55	**Room 123**	**1**	**Hanger mud - on brown colored paper wrapped fiberglass insulation lines**	**17**	**2**	**Each**	**Good**		**50% Chrysotile**
55	Room 123	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	140	SF	Good		Non Detect
55	Room 123	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	680	SF	Good		Non Detect
56	**Room 148A**	**1**	**Fire door & frame - wood**	**2**	**1**	**Each**	**Good**		**Assumed**
56	Room 148A	1	Concrete chip - concrete slab foundation & decks	3	270	SF	Good	19x14	Non Detect
56	Room 148A	1	Brick mortar - CMU block walls	5	660	SF	Good		Non Detect
56	Room 148A	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	270	SF	Good		Non Detect
56	Room 148A	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	55	LF	Good		Non Detect
56	Room 148A	1	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	3	Each	Good		Non Detect
56	Room 148A	1	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	1	SF	Good		Non Detect
56	Room 148A	1	Cove base 4" black vinyl with adhesive	41	65	LF	Good		Non Detect
56	Room 148A	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	60	SF	Good		Non Detect
56	Room 148A	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	270	SF	Good		Non Detect
56	**Room 148A**	**1**	**Interior caulk - Brown caulk - Perimeter of glass block.**	**80**	**60**	**LF**	**Good**		**1.75% Chrysotile**
56	Room 148A	1	Ceramic tile, grout, mortar - 2" blue floor tile	81	25	SF	Good		Non Detect
56	Room 148A	1	Ceramic tile, grout, mortar - 4" blue wall tile	82	40	SF	Good		Non Detect
56	Room 148A	1	Expansion joint - Concrete slab foundation	84	15	LF	Good		Non Detect
57	Hallway 1HW4 & 135	1	Concrete chip - concrete slab foundation & decks	3	325	SF	Good		Non Detect
57	Hallway 1HW4 & 135	1	Brick mortar - CMU block walls	5	1750	SF	Good		Non Detect
57	Hallway 1HW4 & 135	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	325	SF	Good		Non Detect
57	Hallway 1HW4 & 135	1	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	85	LF	Good		Non Detect
57	Hallway 1HW4 & 135	1	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	6	Each	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
57	Hallway 1HW4 & 135	1	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
57	Hallway 1HW4 & 135	1	Cove base 4" black vinyl with adhesive	41	145	LF	Good		Non Detect
57	Hallway 1HW4 & 135	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	125	SF	Good		Non Detect
57	Hallway 1HW4 & 135	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	325	SF	Good		Non Detect
57	Hallway 1HW4 & 135	1	Carpet mastic - green	85	325	SF	Good		Non Detect
58	Room 150	1	Concrete chip - concrete slab foundation & decks	3	310	SF	Good	15x18	Non Detect
58	Room 150	1	Brick mortar - CMU block walls	5	620	SF	Good		Non Detect
58	Room 150	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	310	SF	Good		Non Detect
58	Room 150	1	Cove base 4" black vinyl with adhesive	41	60	LF	Good		Non Detect
58	**Room 150**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**35**	**LF**	**Good**		**2.25% Chrysotile**
58	Room 150	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	35	SF	Good		Non Detect
58	Room 150	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	310	SF	Good		Non Detect
58	**Room 150**	**1**	**Interior caulk - Brown caulk - Perimeter of glass block.**	**80**	**50**	**LF**	**Good**		**1.75% Chrysotile**
59	**Women's restroom - Room 146**	**1**	**Fire door & frame - wood**	**2**	**1**	**Each**	**Good**		**Assumed**
59	Women's restroom - Room 146	1	Concrete chip - concrete slab foundation & decks	3	108	SF	Good		Non Detect
59	Women's restroom - Room 146	1	Brick mortar - CMU block walls	5	400	SF	Good		Non Detect
59	Women's restroom - Room 146	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	108	SF	Good		Non Detect
59	Women's restroom - Room 146	1	Interior caulk - white, seam of counter and backsplash	83	15	LF	Good		Non Detect
60	**Room 152 & 154**	**1**	**Fire door & frame - wood**	**2**	**3**	**Each**	**Good**		**Assumed**
60	Room 152 & 154	1	Concrete chip - concrete slab foundation & decks	3	285	SF	Good		Non Detect
60	Room 152 & 154	1	Brick mortar - CMU block walls	5	460	SF	Good		Non Detect
60	Room 152 & 154	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	285	SF	Good		Non Detect
60	Room 152 & 154	1	Cove base 4" black vinyl with adhesive	41	50	LF	Good		Non Detect
60	**Room 152 & 154**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**35**	**LF**	**Good**		**2.25% Chrysotile**
60	Room 152 & 154	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	90	SF	Good		Non Detect
60	Room 152 & 154	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	360	SF	Good		Non Detect
60	**Room 152 & 154**	**1**	**Interior caulk - Brown caulk - Perimeter of glass block.**	**80**	**45**	**LF**	**Good**		**1.75% Chrysotile**
61	**Room 144**	**1**	**Fire door & frame - wood**	**2**	**1**	**Each**	**Good**		**Assumed**
61	Room 144	1	Concrete chip - concrete slab foundation & decks	3	35	SF	Good		Non Detect
61	Room 144	1	Brick mortar - CMU block walls	5	150	SF	Good		Non Detect
61	Room 144	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	35	SF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
61	Room 144	1	Cove base 4" black vinyl with adhesive	41	35	LF	Good		Non Detect
61	Room 144	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	35	SF	Good		Non Detect
62	**Men's restroom - Room 142**	**1**	**Fire door & frame - wood**	**2**	**2**	**Each**	**Good**		**Assumed**
62	Men's restroom - Room 142	1	Concrete chip - concrete slab foundation & decks	3	240	SF	Good		Non Detect
62	Men's restroom - Room 142	1	Brick mortar - CMU block walls	5	325	SF	Good		Non Detect
62	Men's restroom - Room 142	1	Cove base 4" black vinyl with adhesive	41	75	LF	Good		Non Detect
62	Men's restroom - Room 142	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	240	SF	Good		Non Detect
62	Men's restroom - Room 142	1	Interior caulk - white, seam of counter and backsplash	83	5	LF	Good		Non Detect
63	**Closet - Room 140**	**1**	**Fire door & frame - wood**	**2**	**1**	**Each**	**Good**		**Assumed**
63	Closet - Room 140	1	Concrete chip - concrete slab foundation & decks	3	35	SF	Good		Non Detect
63	Closet - Room 140	1	Brick mortar - CMU block walls	5	280	SF	Good		Non Detect
63	Closet - Room 140	1	Cove base 4" black vinyl with adhesive	41	25	LF	Good		Non Detect
63	Closet - Room 140	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	35	SF	Good		Non Detect
64	**Room 134**	**1**	**Fire door & frame - wood**	**2**	**1**	**Each**	**Good**		**Assumed**
64	Room 134	1	Concrete chip - concrete slab foundation & decks	3	240	SF	Good		Non Detect
64	Room 134	1	Brick mortar - CMU block walls	5	700	LF	Good		Non Detect
64	Room 134	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	240	SF	Good		Non Detect
64	Room 134	1	Cove base 4" black vinyl with adhesive	41	70	LF	Good		Non Detect
64	**Room 134**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**30**	**LF**	**Good**		**2.25% Chrysotile**
64	Room 134	1	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	80	SF	Good		Non Detect
64	Room 134	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	240	SF	Good		Non Detect
64	**Room 134**	**1**	**Interior caulk - Brown caulk - Perimeter of glass block.**	**80**	**30**	**LF**	**Good**		**1.75% Chrysotile**
65	**Room 139**	**1**	**Fire door & frame - wood**	**2**	**1**	**Each**	**Good**		**Assumed**
65	Room 139	1	Concrete chip - concrete slab foundation & decks	3	75	SF	Good		Non Detect
65	Room 139	1	Brick mortar - CMU block walls	5	215	SF	Good		Non Detect
65	Room 139	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	75	SF	Good		Non Detect
65	Room 139	1	Wallboard system - buildout - wet wall	40	150	SF	Good		Non Detect
65	Room 139	1	Cove base 4" black vinyl with adhesive	41	40	LF	Good		Non Detect
65	Room 139	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	75	SF	Good		Non Detect
65	Room 139	1	Interior caulk - grey duct caulk	75	1	SF	Good		Non Detect
66	**Room 138**	**1**	**Fire door & frame - wood**	**2**	**1**	**Each**	**Good**		**Assumed**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
66	Room 138	1	Concrete chip - concrete slab foundation & decks	3	200	SF	Good		Non Detect
66	Room 138	1	Brick mortar - CMU block walls	5	400	SF	Good		Non Detect
66	Room 138	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	200	SF	Good		Non Detect
66	Room 138	1	Wallboard system - buildout - wet wall	40	150	SF	Good		Non Detect
66	Room 138	1	Cove base 4" black vinyl with adhesive	41	60	LF	Good		Non Detect
66	**Room 138**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**40**	**LF**	**Good**		**2.25% Chrysotile**
66	Room 138	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	200	SF	Good		Non Detect
66	Room 138	1	Interior caulk - grey duct caulk	75	1	SF	Good		Non Detect
66	**Room 138**	**1**	**Interior caulk - Brown caulk - Perimeter of glass block**	**80**	**40**	**LF**	**Good**		**1.75% Chrysotile**
67	**Room 136**	**1**	**Fire door & frame - wood**	**2**	**1**	**Each**	**Good**		**Assumed**
67	Room 136	1	Concrete chip - concrete slab foundation & decks	3	175	SF	Good		Non Detect
67	Room 136	1	Brick mortar - CMU block walls	5	300	SF	Good		Non Detect
67	Room 136	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	175	SF	Good		Non Detect
67	Room 136	1	Cove base 4" black vinyl with adhesive	41	60	LF	Good		Non Detect
67	**Room 136**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**65**	**LF**	**Good**		**2.25% Chrysotile**
67	Room 136	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	175	SF	Good		Non Detect
67	Room 136	1	Interior caulk - grey duct caulk	75	1	SF	Good		Non Detect
67	**Room 136**	**1**	**Interior caulk - Brown caulk - Perimeter of glass block**	**80**	**75**	**LF**	**Good**		**1.75% Chrysotile**
68	**Room 135A**	**1**	**Fire door & frame - metal**	**1**	**1**	**Each**	**Good**		**Assumed**
68	**Room 135A**	**1**	**Fire door & frame - wood**	**2**	**1**	**Each**	**Good**		**Assumed**
68	Room 135A	1	Concrete chip - concrete slab foundation & decks	3	135	SF	Good		Non Detect
68	Room 135A	1	Brick mortar - CMU block walls	5	340	SF	Good		Non Detect
68	Room 135A	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	60	SF	Good		Non Detect
68	Room 135A	1	Cove base 4" black vinyl with adhesive	41	30	LF	Good		Non Detect
68	**Room 135A**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**40**	**LF**	**Good**		**2.25% Chrysotile**
68	Room 135A	1	Ceiling panel - white, various size pinhole texture, beige composite material	73	135	SF	Good		Non Detect
68	**Room 135A**	**1**	**Transite window sill**	**86**	**20**	**SF**	**Good**		**Assumed**
69	**Room 201, 201A,210, 210A, 210B**	**2**	**Fire door & frame - metal**	**1**	**5**	**Each**	**Good**		**Assumed**
69	Room 201, 201A,210, 210A, 210B	2	Concrete chip - concrete slab foundation & decks	3	7,460	SF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Brick mortar - CMU block walls	5	425	SF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	2,800	SF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
69	Room 201, 201A,210, 210A, 210B	2	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	600	LF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	1,105	Each	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	20	SF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	60	LF	Good		Non Detect
69	**Room 201, 201A,210, 210A, 210B**	**2**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**10**	**Each**	**Good**		**30% Chrysotile**
69	**Room 201, 201A,210, 210A, 210B**	**2**	**Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted**	**20**	**10**	**LF**	**Good**		**45% Chrysotile**
69	**Room 201, 201A,210, 210A, 210B**	**2**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**1**	**Each**	**Good**		**45% Chrysotile**
69	Room 201, 201A,210, 210A, 210B	2	Ceiling panel - 2' white pinhole/fissure texture	29	7,380	SF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Wallboard system - buildout - wet wall	40	450	SF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Cove base 4" black vinyl with adhesive	41	50	LF	Good		Non Detect
69	**Room 201, 201A,210, 210A, 210B**	**2**	**Pipe insulation - magnesia**	**44**	**30**	**LF**	**Good**		**30% Chrysotile**
69	**Room 201, 201A,210, 210A, 210B**	**2**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**6**	**Each**	**Good**		**30% Chrysotile**
69	Room 201, 201A,210, 210A, 210B	2	Brick mortar - beige glazed ceramic block	46	1,540	SF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	140	SF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Ceiling panel - white, various size pinhole texture, beige composite material	73	150	SF	Good		Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Interior caulk - black, perimeter of aluminum window frames	87	135	LF	Good	9 Windows	Non Detect
69	Room 201, 201A,210, 210A, 210B	2	Floor tile - 12" wood pattern stick-on tile	88	100	SF	Good		Non Detect
70	**Room 206**	**2**	**Fire door & frame - metal**	**1**	**3**	**Each**	**Good**		**Assumed**
70	Room 206	2	Concrete chip - concrete slab foundation & decks	3	2,690	SF	Good		Non Detect
70	Room 206	2	Terrazzo flooring - Grey mix with white, beige, and black stone	4	20	SF	Good		Non Detect
70	Room 206	2	Brick mortar - CMU block walls	5	25	SF	Good		Non Detect
70	Room 206	2	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	200	SF	Good		Non Detect
70	Room 206	2	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	280	LF	Good		Non Detect
70	Room 206	2	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	44	Each	Good		Non Detect
70	Room 206	2	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	10	SF	Good		Non Detect
70	Room 206	2	Brick mortar - beige glazed ceramic block	46	2,000	SF	Good		Non Detect
70	Room 206	2	Rolled-in insulation - plastic wrapped fiberglass duct insulation	70	35	SF	Good		Non Detect
70	Room 206	2	Interior caulk - black, perimeter of aluminum window frames	87	150	LF	Good		Non Detect
71	Men's restroom - Room 207	2	Concrete chip - concrete slab foundation & decks	3	126	SF	Good		Non Detect
71	Men's restroom - Room 207	2	Terrazzo flooring - Grey mix with white, beige, and black stone	4	126	SF	Good		Non Detect
71	**Men's restroom - Room 207**	**2**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**40**	**LF**	**Good**		**2% Chrysotile**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
71	**Men's restroom - Room 207**	**2**	**Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted**	**20**	**10**	**LF**	**Good**		**45% Chrysotile**
71	**Men's restroom - Room 207**	**2**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**1**	**Each**	**Good**		**45% Chrysotile**
71	Men's restroom - Room 207	2	Brick mortar - beige glazed ceramic block	46	400	SF	Good		Non Detect
71	**Men's restroom - Room 207**	**2**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**20**	**LF**	**Good**		**2.25% Chrysotile**
71	Men's restroom - Room 207	2	Window glaze - beige glaze on window interior	89	2	Each	Good		Non Detect
72	Women's restroom - Room 209	2	Concrete chip - concrete slab foundation & decks	3	330	SF	Good		Non Detect
72	Women's restroom - Room 209	2	Terrazzo flooring - Grey mix with white, beige, and black stone	4	126	SF	Good		Non Detect
72	Women's restroom - Room 209	2	Interior caulk - red, penetrations / void filler	9	1	SF	Good		Non Detect
72	**Women's restroom - Room 209**	**2**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**20**	**LF**	**Good**		**2% Chrysotile**
72	**Women's restroom - Room 209**	**2**	**Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted**	**20**	**10**	**LF**	**Good**		**45% Chrysotile**
72	**Women's restroom - Room 209**	**2**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**1**	**Each**	**Good**		**45% Chrysotile**
72	Women's restroom - Room 209	2	Brick mortar - beige glazed ceramic block	46	400	SF	Good		Non Detect
72	**Women's restroom - Room 209**	**2**	**Window glaze - beige glaze, window in metal door**	**49**	**1**	**Each**	**Good**		**Point count: Trace Chrysotile**
72	**Women's restroom - Room 209**	**2**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**60**	**LF**	**Good**		**2.25% Chrysotile**
72	Women's restroom - Room 209	2	Window glaze - beige glaze on window interior	89	3	Each	Good		Non Detect
73	Hallway 2HW1	2	Concrete chip - concrete slab foundation & decks	3	360	SF	Good		Non Detect
73	Hallway 2HW1	2	Terrazzo flooring - Grey mix with white, beige, and black stone	4	100	SF	Good		Non Detect
73	Hallway 2HW1	2	Brick mortar - CMU block walls	5	150	SF	Good		Non Detect
73	Hallway 2HW1	2	Interior caulk - red, penetrations / void filler	9	1	SF	Good		Non Detect
73	**Hallway 2HW1**	**2**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**110**	**LF**	**Good**		**2% Chrysotile**
73	Hallway 2HW1	2	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	20	LF	Good		Non Detect
73	Hallway 2HW1	2	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	1	Each	Good		Non Detect
73	Hallway 2HW1	2	Brick mortar - beige glazed ceramic block	46	900	SF	Good		Non Detect
73	**Hallway 2HW1**	**2**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**20**	**SF**	**Good**		**3% Chrysotile**
74	Janitorial closet - Room 208	2	Concrete chip - concrete slab foundation & decks	3	55	SF	Good		Non Detect
74	Janitorial closet - Room 208	2	Interior caulk - red, penetrations / void filler	9	1	SF	Good		Non Detect
74	**Janitorial closet - Room 208**	**2**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**20**	**LF**	**Good**		**2% Chrysotile**
74	Janitorial closet - Room 208	2	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	10	LF	Good		Non Detect
74	**Janitorial closet - Room 208**	**2**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**2**	**Each**	**Fair**		**30% Chrysotile**
74	**Janitorial closet - Room 208**	**2**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**20**	**LF**	**Good**		**35% Chrysotile**
74	**Janitorial closet - Room 208**	**2**	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**19**	**5**	**Each**	**Fair**		**50% Chrysotile**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
74	Janitorial closet - Room 208	2	Brick mortar - beige glazed ceramic block	46	180	SF	Good		Non Detect
75	**Room 114**	**1**	**Fire door & frame - metal**	**1**	**1**	**Each**	**Good**		**Assumed**
75	Room 114	1	Concrete chip - concrete slab foundation & decks	3	150	SF	Good		Non Detect
75	Room 114	1	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	150	SF	Good		Non Detect
75	Room 114	1	Wallboard system - buildout - wet wall	40	425	SF	Good		Non Detect
75	Room 114	1	Cove base 4" black vinyl with adhesive	41	50	LF	Good		Non Detect
75	Room 114	1	Brick mortar - beige glazed ceramic block	46	120	SF	Good		Non Detect
75	**Room 114**	**1**	**Interior caulk - grey, hard, perimeter of metal window frame**	**63**	**30**	**LF**	**Good**		**2.25% Chrysotile**
76	**Hallway 3HW1**	**3**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**
76	Hallway 3HW1	3	Concrete chip - concrete slab foundation & decks	3	690	SF	Good		Non Detect
76	Hallway 3HW1	3	Terrazzo flooring - Grey mix with white, beige, and black stone	4	40	SF	Good		Non Detect
76	Hallway 3HW1	3	Brick mortar - CMU block walls	5	35	SF	Good		Non Detect
76	Hallway 3HW1	3	Brick mortar - grey glazed ceramic block walls	6	1,655	SF	Good		Non Detect
76	Hallway 3HW1	3	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	8	600	SF	Good		Non Detect
76	Hallway 3HW1	3	Interior caulk - red, penetrations / void filler	9	5	LF	Good		Non Detect
76	**Hallway 3HW1**	**3**	**Interior caulk - Dark brown, perimeter of door/window frames**	**11**	**50**	**LF**	**Good**		**2% Chrysotile**
76	Hallway 3HW1	3	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	65	LF	Good		Non Detect
76	Hallway 3HW1	3	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	6	Each	Good		Non Detect
76	Hallway 3HW1	3	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	1	SF	Good		Non Detect
76	**Hallway 3HW1**	**3**	**Construction adhesive - black / dark brown, under steel corner guard**	**65**	**5**	**SF**	**Good**		**3% Chrysotile**
77	**Room 306**	**3**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**
77	Room 306	3	Concrete chip - concrete slab foundation & decks	3	3,165	SF	Good		Non Detect
77	Room 306	3	Interior caulk - red, penetrations / void filler	9	5	SF	Good		Non Detect
77	Room 306	3	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	260	LF	Good		Non Detect
77	Room 306	3	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	40	Each	Good		Non Detect
77	Room 306	3	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
77	**Room 306**	**3**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**5**	**LF**	**Good**		**35% Chrysotile**
77	**Room 306**	**3**	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**19**	**4**	**Each**	**Good**		**50% Chrysotile**
77	Room 306	3	Brick mortar - 12"x4" concrete bricks	30	750	SF	Good		Non Detect
77	Room 306	3	Interior caulk - black, perimeter of aluminum window frames	87	120	SF	Good	8 windows	Non Detect
78	**Room 301 & 301A**	**3**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
78	Room 301 & 301A	3	Concrete chip - concrete slab foundation & decks	3	2,030	SF	Good		Non Detect
78	Room 301 & 301A	3	Brick mortar - CMU block walls	5	3,465	SF	Good		Non Detect
78	Room 301 & 301A	3	Interior caulk - red, penetrations / void filler	9	5	LF	Good		Non Detect
78	Room 301 & 301A	3	Interior caulk - grey, penetrations / void filler	10	5	LF	Good		Non Detect
78	Room 301 & 301A	3	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	200	LF	Good		Non Detect
78	Room 301 & 301A	3	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	24	LF	Good		Non Detect
78	Room 301 & 301A	3	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	12	Each	Good		Non Detect
78	Room 301 & 301A	3	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	45	LF	Good		Non Detect
78	**Room 301 & 301A**	**3**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**12**	**Each**	**Good**		**30% Chrysotile**
78	**Room 301 & 301A**	**3**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**10**	**LF**	**Good**		**35% Chrysotile**
78	**Room 301 & 301A**	**3**	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**19**	**4**	**Each**	**Good**		**50% Chrysotile**
78	Room 301 & 301A	3	Brick mortar - 12"x4" concrete bricks	30	225	SF	Good		Non Detect
78	**Room 301 & 301A**	**3**	**Pipe insulation - magnesia**	**44**	**10**	**LF**	**Good**		**30% Chrysotile**
78	**Room 301 & 301A**	**3**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**7**	**Each**	**Good**		**30% Chrysotile**
78	Room 301 & 301A	3	Interior caulk - black, perimeter of aluminum window frames	87	45	LF	Good		Non Detect
79	**Room 302 & 302A**	**3**	**Fire door & frame - metal**	**1**	**1**	**Each**	**Good**		**Assumed**
79	**Room 302 & 302A**	**3**	**Fire door & frame - wood**	**2**	**2**	**Each**	**Good**		**Assumed**
79	Room 302 & 302A	3	Concrete chip - concrete slab foundation & decks	3	3,275	SF	Good		Non Detect
79	Room 302 & 302A	3	Brick mortar - CMU block walls	5	2,765	SF	Good		Non Detect
79	Room 302 & 302A	3	Interior caulk - red, penetrations / void filler	9	1	LF	Good		Non Detect
79	Room 302 & 302A	3	Interior caulk - grey, penetrations / void filler	10	1	LF	Good		Non Detect
79	Room 302 & 302A	3	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	65	LF	Good		Non Detect
79	Room 302 & 302A	3	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	14	Each	Good		Non Detect
79	Room 302 & 302A	3	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
79	Room 302 & 302A	3	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	30	LF	Good		Non Detect
79	**Room 302 & 302A**	**3**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**9**	**Each**	**Good**		**30% Chrysotile**
79	Room 302 & 302A	3	Brick mortar - 12"x4" concrete bricks	30	45	SF	Good		Non Detect
79	Room 302 & 302A	3	Interior caulk - black, perimeter of aluminum window frames	87	120	LF	Good		Non Detect
80	**Room 302B**	**3**	**Fire door & frame - metal**	**1**	**1**	**Each**	**Good**		**Assumed**
80	**Room 302B**	**3**	**Fire door & frame - wood**	**2**	**1**	**Each**	**Good**		**Assumed**
80	Room 302B	3	Concrete chip - concrete slab foundation & decks	3	1,560	SF	Good		Non Detect

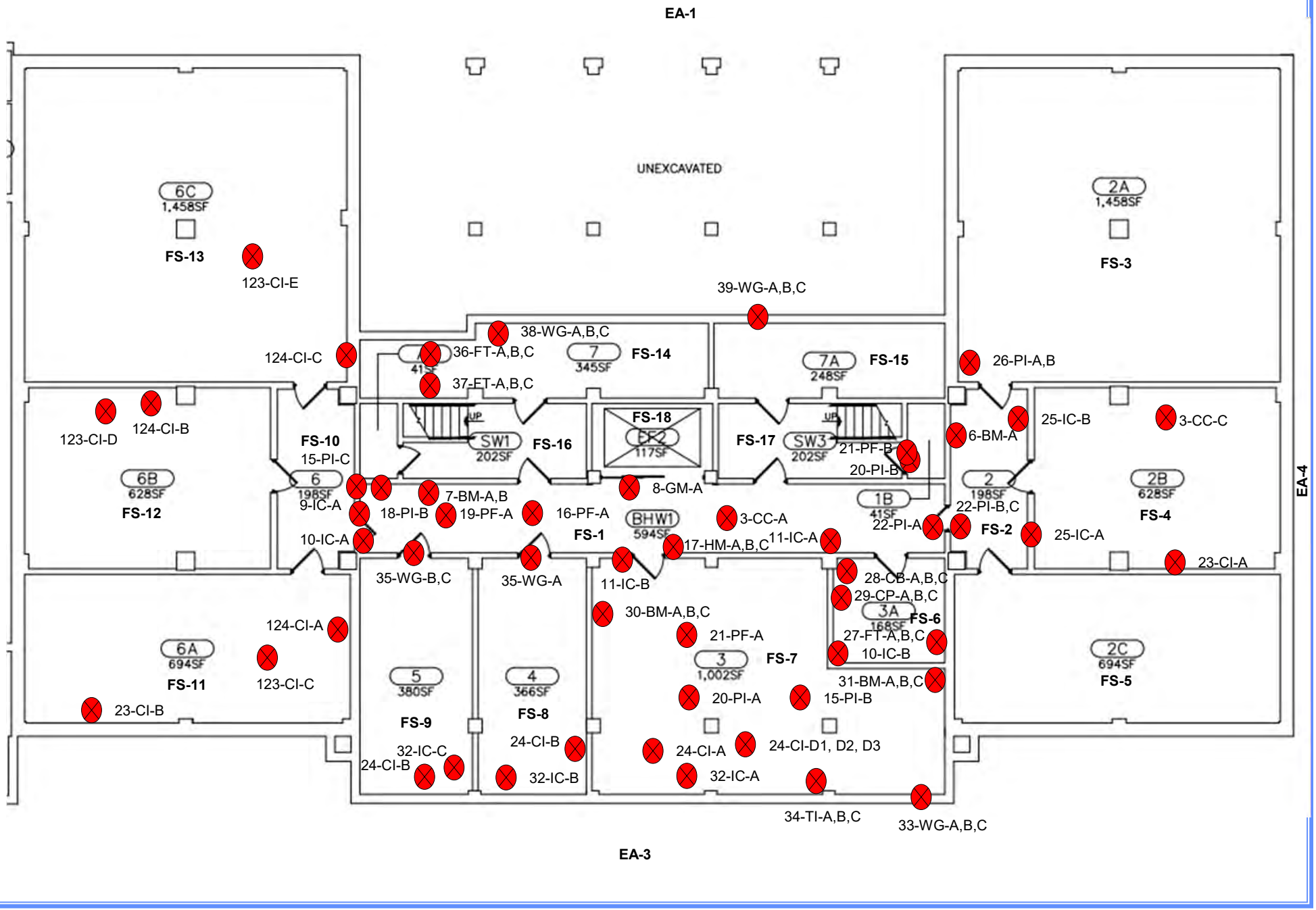
FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
80	Room 302B	3	Terrazzo flooring - Grey mix with white, beige, and black stone	4	20	SF	Good		Non Detect
80	Room 302B	3	Brick mortar - CMU block walls	5	80	SF	Good		Non Detect
80	Room 302B	3	Brick mortar - grey glazed ceramic block walls	6	145	SF	Good		Non Detect
80	Room 302B	3	Interior caulk - red, penetrations / void filler	9	1	SF	Good		Non Detect
80	Room 302B	3	Interior caulk - grey, penetrations / void filler	10	1	SF	Good		Non Detect
80	Room 302B	3	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	270	LF	Good		Non Detect
80	Room 302B	3	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	30	Each	Good		Non Detect
80	Room 302B	3	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	5	SF	Good		Non Detect
80	Room 302B	3	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	15	LF	Good		Non Detect
80	**Room 302B**	**3**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**5**	**Each**	**Good**		**30% Chrysotile**
80	Room 302B	3	Brick mortar - 12"x4" concrete bricks	30	75	SF	Good		Non Detect
80	Room 302B	3	Interior caulk - black, perimeter of aluminum window frames	87	60	LF	Good		Non Detect
81	**Room 303**	**3**	**Fire door & frame - metal**	**1**	**1**	**Each**	**Good**		**Assumed**
81	Room 303	3	Concrete chip - concrete slab foundation & decks	3	1,200	SF	Good		Non Detect
81	Room 303	3	Terrazzo flooring - Grey mix with white, beige, and black stone	4	155	SF	Good		Non Detect
81	Room 303	3	Brick mortar - CMU block walls	5	80	SF	Good		Non Detect
81	Room 303	3	Brick mortar - grey glazed ceramic block walls	6	450	SF	Good		Non Detect
81	Room 303	3	Interior caulk - red, penetrations / void filler	9	5	LF	Good		Non Detect
81	Room 303	3	Interior caulk - grey, penetrations / void filler	10	5	LF	Good		Non Detect
81	Room 303	3	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	12	80	LF	Good		Non Detect
81	Room 303	3	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	13	6	Each	Good		Non Detect
81	Room 303	3	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	14	1	SF	Good		Non Detect
81	Room 303	3	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	15	85	LF	Good		Non Detect
81	**Room 303**	**3**	**Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines**	**16**	**13**	**Each**	**Good**		**30% Chrysotile**
81	**Room 303**	**3**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**90**	**LF**	**Good**		**35% Chrysotile**
81	**Room 303**	**3**	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**19**	**14**	**Each**	**Good**		**50% Chrysotile**
81	**Room 303**	**3**	**Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted**	**20**	**15**	**LF**	**Good**		**45% Chrysotile**
81	**Room 303**	**3**	**Pipe fitting - canvas covered mudded fittings, on aircell steam line**	**21**	**2**	**Each**	**Good**		**45% Chrysotile**
81	**Room 303**	**3**	**Pipe insulation - magnesia**	**44**	**60**	**LF**	**Good**		**30% Chrysotile**
81	**Room 303**	**3**	**Pipe fitting - canvas wrapped mudded fitting on magnesia line**	**45**	**2**	**Each**	**Good**		**30% Chrysotile**
81	Room 303	3	Interior caulk - black, perimeter of aluminum window frames	87	60	LF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
82	Room 304	3	Concrete chip - concrete slab foundation & decks	3	80	SF	Good		Non Detect
82	Room 304	3	Brick mortar - grey glazed ceramic block walls	6	165	SF	Good		Non Detect
82	**Room 304**	**3**	**Pipe insulation - wool felt, blue colored sprinkler lines**	**18**	**15**	**LF**	**Good**		**35% Chrysotile**
82	**Room 304**	**3**	**Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines**	**19**	**6**	**Each**	**Good**		**50% Chrysotile**
83	Restroom - Room 305	3	Concrete chip - concrete slab foundation & decks	3	415	SF	Good		Non Detect
83	Restroom - Room 305	3	Terrazzo flooring - Grey mix with white, beige, and black stone	4	415	SF	Good		Non Detect
83	Restroom - Room 305	3	Brick mortar - grey glazed ceramic block walls	6	120	SF	Good		Non Detect
83	Restroom - Room 305	3	Window glaze - beige glaze on window interior	89	1	Each	Good		Non Detect
84	**Penthouse**	**3**	**Fire door & frame - metal**	**1**	**2**	**Each**	**Good**		**Assumed**
84	Penthouse	3	Concrete chip - concrete slab foundation & decks	3	80	SF	Good		Non Detect
84	Penthouse	3	Brick mortar - skim coat on CMU block walls	7	320	SF	Good		Non Detect
84	Penthouse	3	Window glaze - beige glaze on window interior	89	1	Each	Fair		Non Detect
EA-1	East side of the building exterior	1	Brick mortar - exterior siding red brick	69	7170	SF	Good		Non Detect
EA-1	**East side of the building exterior**	**1**	**Expansion joint - brick siding, white, alligator cracking pattern**	**91**	**130**	**LF**	**Good**		**2% Chrysotile**
EA-1	East side of the building exterior	1	Expansion joint - between building foundation and concrete walkway	92	40	LF	Good		Non Detect
EA-1	East side of the building exterior	1	Concrete chip - exterior concrete	93	130	SF	Good		Non Detect
EA-1	East side of the building exterior	1	Water proofing - black spray-on, concrete foundation, mostly below grade	94	270	SF	Good		Non Detect
EA-1	East side of the building exterior	1	Glass block mortar/grout, grey, between glass block window tiles, and around perimeter	95	65	LF	Good		Non Detect
EA-1	East side of the building exterior	1	Exterior caulk - grey, perimeter of glass block windows	96	155	LF	Good		Non Detect
EA-1	**East side of the building exterior**	**1**	**Window glaze - multi-pane steel windows**	**97**	**240**	**LF**	**Fair**		**PC: 0.25% Chrysotile**
EA-1	East side of the building exterior	1	Window glaze, grey, soft, perimeter of glass window in metal door	99	15	LF	Good		Non Detect
EA-1	**East side of the building exterior**	**1**	**Exterior caulk - grey, perimeter of door frames**	**100**	**20**	**LF**	**Good**		**7% Chrysotile**
EA-1	East side of the building exterior	1	Exterior caulk - black, perimeter of door frames	101	15	LF	Good		Non Detect
EA-1	**East side of the building exterior**	**1**	**Exterior caulk - grey, perimeter of steel multi-pane windows**	**102**	**200**	**LF**	**Good**		**5% Chrysotile**
EA-1	East side of the building exterior	1	Exterior caulk - grey, soft, perimeter of aluminum window frames, and window sill	104	240	LF	Good		Non Detect
EA-2	North side of the building exterior	1	Brick mortar - exterior siding red brick	69	1600	SF	Good		Non Detect
EA-2	North side of the building exterior	1	Concrete chip - exterior concrete	93	224	SF	Good		Non Detect
EA-2	North side of the building exterior	1	Water proofing - black spray-on, concrete foundation, mostly below grade	94	95	SF	Good		Non Detect
EA-2	North side of the building exterior	1	Glass block mortar/grout, grey, between glass block window tiles, and around perimeter	95	255	SF	Good		Non Detect
EA-2	North side of the building exterior	1	Exterior caulk - grey, perimeter of glass block windows	96	155	LF	Good		Non Detect
EA-2	**North side of the building exterior**	**1**	**Window glaze - multi-pane steel windows**	**97**	**200**	**LF**	**Fair**		**PC: 0.25% Chrysotile**

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
EA-2	**North side of the building exterior**	**1**	**Window glaze - basement steel windows**	**98**	**175**	**LF**	**Fair**		**PC: 0.25% Chrysotile**
EA-2	**North side of the building exterior**	**1**	**Exterior caulk - grey, perimeter of door frames**	**100**	**20**	**LF**	**Good**		**7% Chrysotile**
EA-2	**North side of the building exterior**	**1**	**Exterior caulk - grey, perimeter of steel multi-pane windows**	**102**	**155**	**LF**	**Good**		**5% Chrysotile**
EA-2	**North side of the building exterior**	**1**	**Exterior caulk - grey, perimeter of steel basement windows**	**103**	**200**	**LF**	**Good**		**6% Chrysotile**
EA-3	West side of building exterior	1	Brick mortar - exterior siding red brick	69	7170	SF	Good		Non Detect
EA-3	**West side of building exterior**	**1**	**Expansion joint - concrete foundation walls**	**90**	**5**	**LF**	**Good**		**8% Chrysotile**
EA-3	**West side of building exterior**	**1**	**Expansion joint - brick siding, white, alligator cracking pattern**	**91**	**125**	**LF**	**Good**		**2% Chrysotile**
EA-3	West side of building exterior	1	Expansion joint - between building foundation and concrete walkway	92	150	LF	Good		Non Detect
EA-3	West side of building exterior	1	Concrete chip - exterior concrete	93	1000	SF	Good		Non Detect
EA-3	West side of building exterior	1	Water proofing - black spray-on, concrete foundation, mostly below grade	94	270	SF	Good		Non Detect
EA-3	West side of building exterior	1	Glass block mortar/grout, grey, between glass block window tiles, and around perimeter	95	730	SF	Good		Non Detect
EA-3	West side of building exterior	1	Exterior caulk - grey, perimeter of glass block windows	96	155	LF	Good		Non Detect
EA-3	**West side of building exterior**	**1**	**Window glaze - multi-pane steel windows**	**97**	**600**	**LF**	**Fair**		**PC: 0.25% Chrysotile**
EA-3	**West side of building exterior**	**1**	**Window glaze - basement steel windows**	**98**	**200**	**LF**	**Fair**		**PC: 0.25% Chrysotile**
EA-3	**West side of building exterior**	**1**	**Exterior caulk - grey, perimeter of door frames**	**100**	**30**	**LF**	**Good**		**7% Chrysotile**
EA-3	West side of building exterior	1	Exterior caulk - black, perimeter of door frames	101	30	LF	Good		Non Detect
EA-3	**West side of building exterior**	**1**	**Exterior caulk - grey, perimeter of steel multi-pane windows**	**102**	**350**	**LF**	**Good**		**5% Chrysotile**
EA-3	**West side of building exterior**	**1**	**Exterior caulk - grey, perimeter of steel basement windows**	**103**	**150**	**LF**	**Good**		**6% Chrysotile**
EA-3	West side of building exterior	1	Exterior caulk - grey, soft, perimeter of aluminum window frames, and window sill	104	140	LF	Good		Non Detect
EA-4	South side of building exterior	1	Brick mortar - exterior siding red brick	69	2900	SF	Good		Non Detect
EA-4	**South side of building exterior**	**1**	**Expansion joint - brick siding, white, alligator cracking pattern**	**91**	**45**	**LF**	**Good**		**2% Chrysotile**
EA-4	South side of building exterior	1	Expansion joint - between building foundation and concrete walkway	92	70	SF	Good		Non Detect
EA-4	South side of building exterior	1	Concrete chip - exterior concrete	93	224	SF	Good		Non Detect
EA-4	South side of building exterior	1	Water proofing - black spray-on, concrete foundation, mostly below grade	94	80	SF	Good		Non Detect
EA-4	**South side of building exterior**	**1**	**Window glaze - multi-pane steel windows**	**97**	**20**	**LF**	**Fair**		**PC: 0.25% Chrysotile**
EA-4	**South side of building exterior**	**1**	**Exterior caulk - grey, perimeter of steel multi-pane windows**	**102**	**20**	**LF**	**Good**		**5% Chrysotile**
EA-4	South side of building exterior	1	Exterior caulk - grey, soft, perimeter of aluminum window frames, and window sill	104	150	LF	Good		Non Detect
EA-5	Roof	1	Roofing materials - flat rubber membrane roof with vapor paper, and various tars	105	24300	SF	Good		Non Detect
EA-5	Roof	1	Concrete chip - 16" concrete walking tiles	106	135	SF	Poor		Non Detect
EA-5	Roof	1	Terracotta - capstone	107	375	SF	Good		Non Detect
EA-5	Roof	1	Exterior caulk - grey, between terracotta capstone	108	190	LF	Good		Non Detect

FS#	FS Description	Level	Homogeneous Area Description	HA#	Amount	Units	Condition	Notes	Asbestos (Y/N/Assumed)
EA-5	Roof	1	Exterior caulk - black, flashing on parapet wall	109	780	SF	Good	All in SF because its smooshed on parapet wall	Non Detect
EA-5	Roof	1	Exterior caulk - black, on penthouse brick flashing	110	60	LF	Good		Non Detect
EA-5	Roof	1	Exterior caulk - dark grey, perimeter of metal door frame	111	20	LF	Good		Non Detect
EA-5	Roof	1	Exterior caulk - light grey, penthouse wall penetrations	112	5	LF	Good		Non Detect
EA-5	Roof	1	Exterior caulk - grey, soft, elastic, on metal pipe insulation	113	25	LF	Good		Non Detect
EA-5	Roof	1	Exterior caulk - white, soft elastic, on plastic pipe fittings	114	15	LF	Good		Non Detect
EA-5	Roof	1	Exterior caulk - grey, on roof penetrations, fencing base	115	50	SF	Good	All in SF because its smooshed on flashing	Non Detect
EA-5	Roof	1	Exterior caulk - grey, seams of concrete capstone	116	200	LF	Good		Non Detect
EA-5	**Roof**	**1**	**Exterior caulk - dark grey, under concrete capstone**	**117**	**400**	**SF**	**Good**	**All in SF because its smooshed on flashing**	**10% Chrysotile**
EA-5	Roof	1	Exterior caulk - grey, hard, on seams of HVAC vents	118	20	LF	Good		Non Detect
EA-5	Roof	1	Exterior caulk - pink, hard, on seams of HVAC vents	119	30	LF	Good		Non Detect
EA-5	Roof	1	Exterior caulk - white, on angle iron above window frame	120	5	LF	Good		Non Detect
EA-5	**Roof**	**1**	**Exterior caulk - grey, on wall vent perimeter**	**121**	**35**	**LF**	**Good**	**Lower roof, on FS-28, N ext. wall**	**5% Chrysotile**
EA-5	**Roof**	**1**	**Exterior caulk - black, on parapet wall seams**	**122**	**800**	**SF**	**Good**	**All in SF because its smooshed on parapet wall**	**5% Chrysotile**

APPENDIX II
DRAWINGS



ATLAS

Michigan State University
Central Services Building
570 Red Cedar Road
East Lansing, Michigan 48824

N E S W

Asbestos Bulk Sampling Location Map
Basement - South Portion

PROJECT NUMBER: 188BS24700	
DRAWN BY: AHD	REVIEWED BY Atlas
	DATE: 12/12/2024

ATLAS
46555 Humboldt Drive, Suite 100
Novi, Michigan 48377
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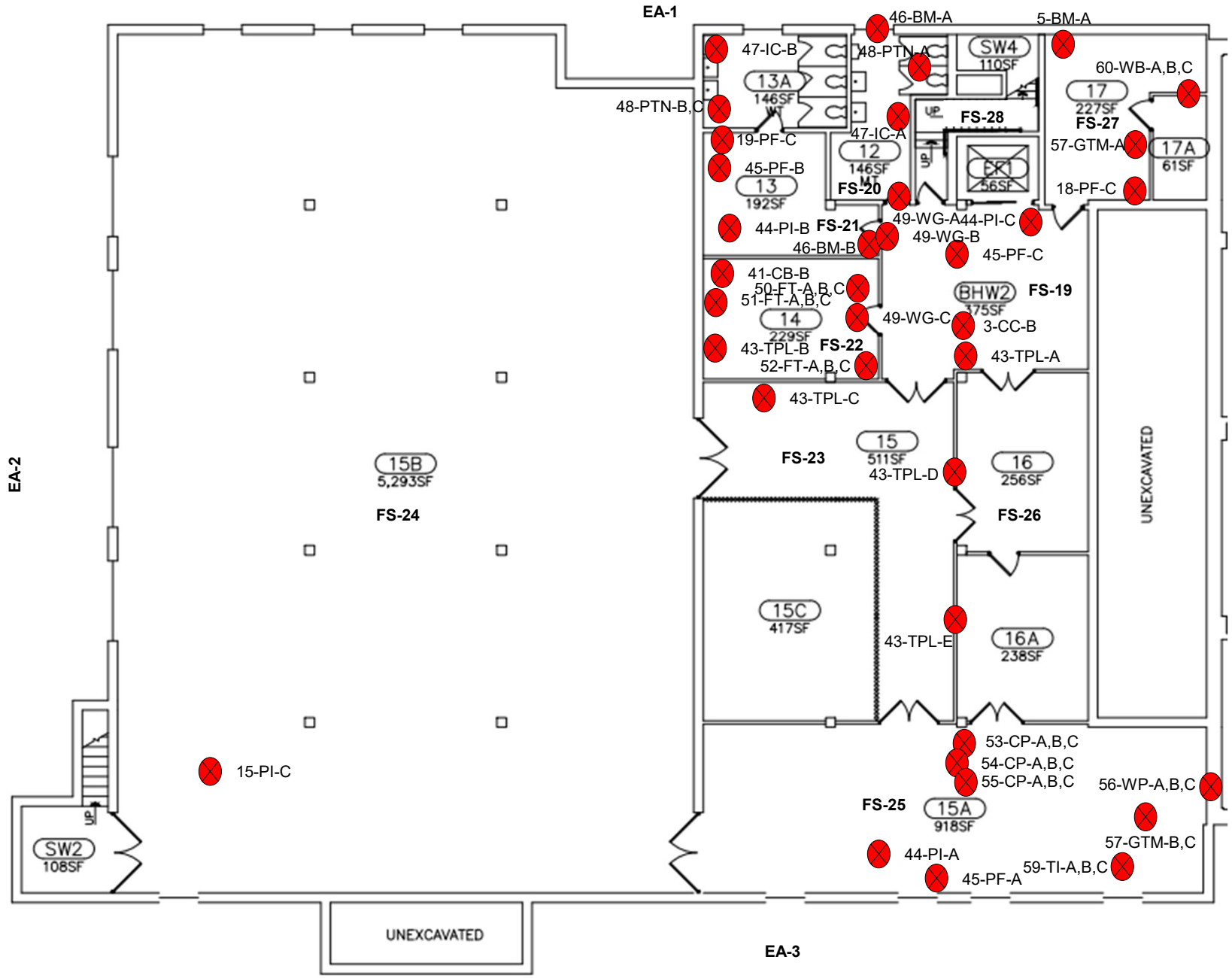

ATLAS	Michigan State University Central Services Building 570 Red Cedar Road East Lansing, Michigan 48824	**Asbestos Bulk Sampling Location Map** **Basement - North Portion**	PROJECT NUMBER: 188BS24700 DRAWN BY: AHD REVIEWED BY Atlas DATE: 12/12/2024

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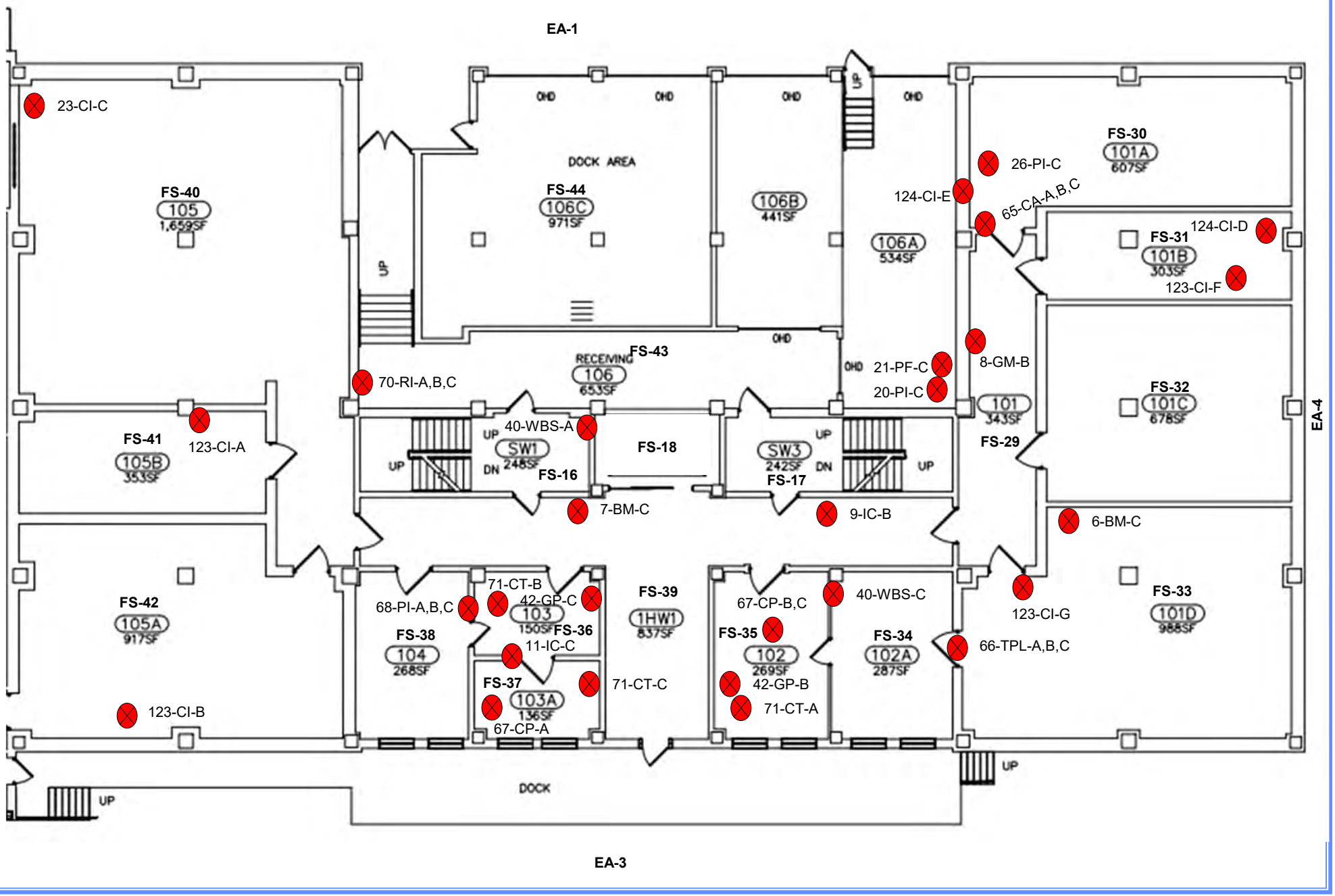

ATLAS	Michigan State University Central Services Building 570 Red Cedar Road East Lansing, Michigan 48824	**Asbestos Bulk Sampling Location Map** **1st Floor - South Portion**	PROJECT NUMBER: 188BS24700 DRAWN BY: AHD REVIEWED BY Atlas DATE: 12/12/2024

ATLAS
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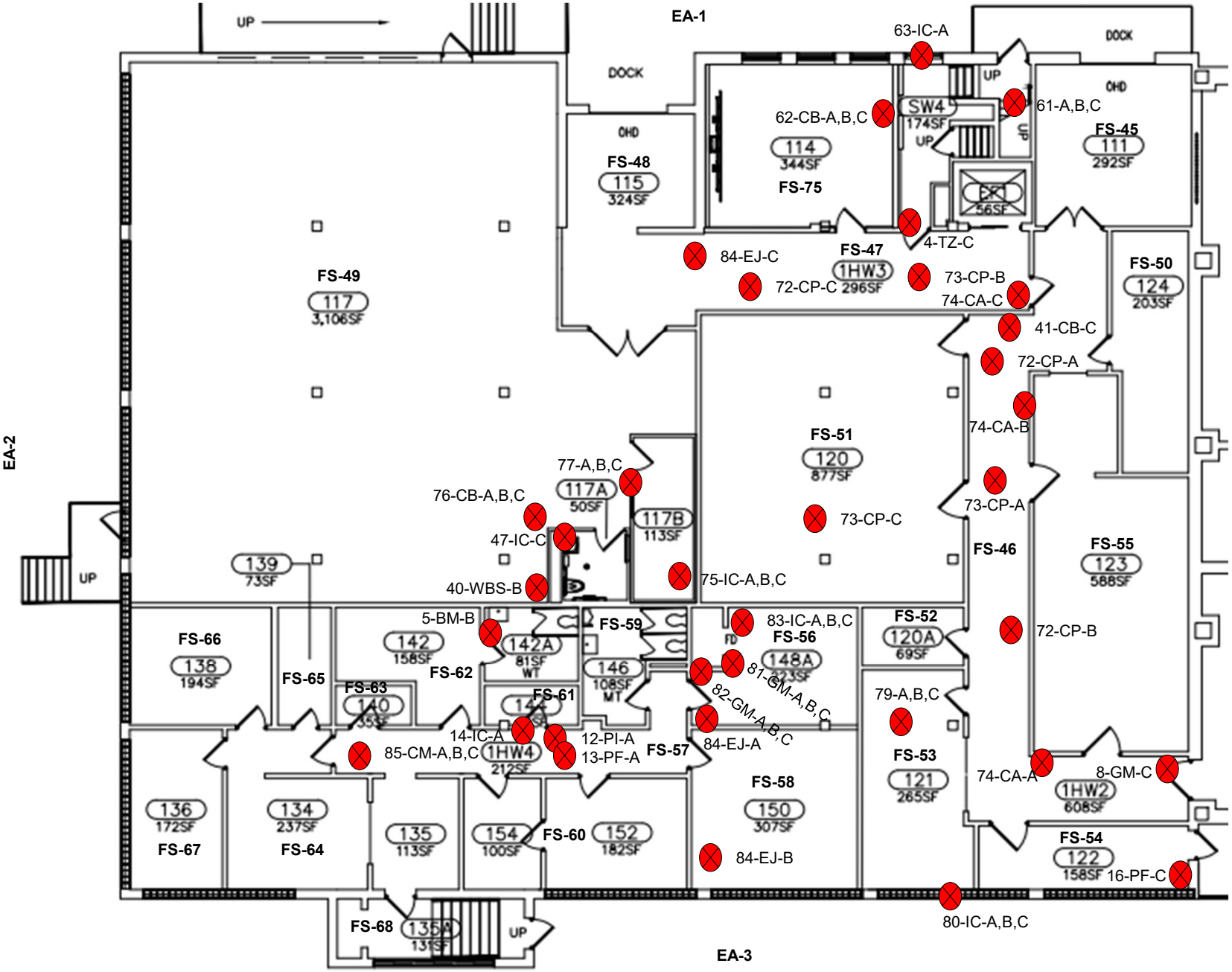

ATLAS	Michigan State University Central Services Building 570 Red Cedar Road East Lansing, Michigan 48824	**Asbestos Bulk Sampling Location Map** **1st Floor - North Portion**	PROJECT NUMBER: 188BS24700 DRAWN BY: AHD REVIEWED BY Atlas DATE: 12/12/2024

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Novi, Michigan 48377
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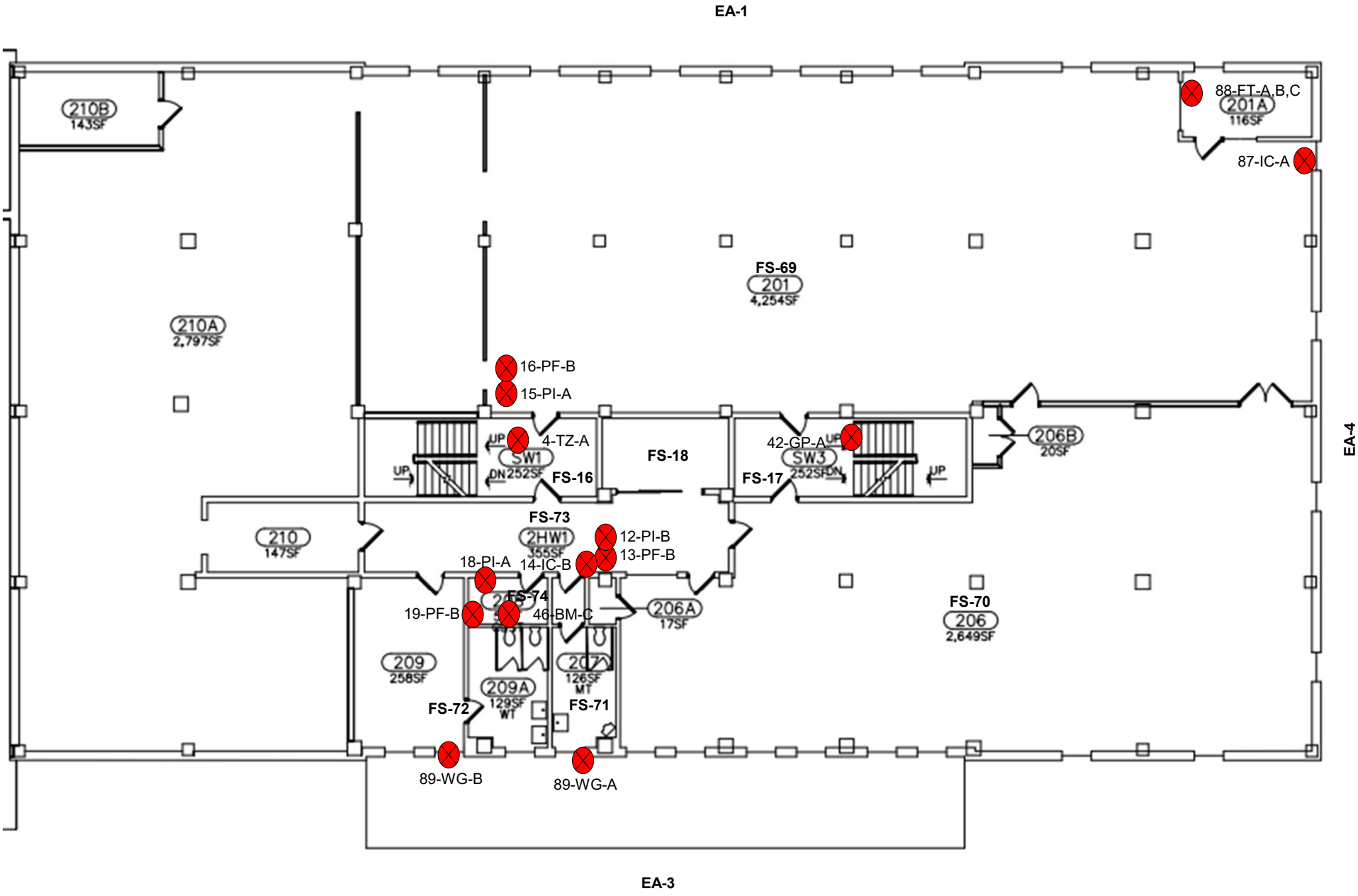


ATLAS

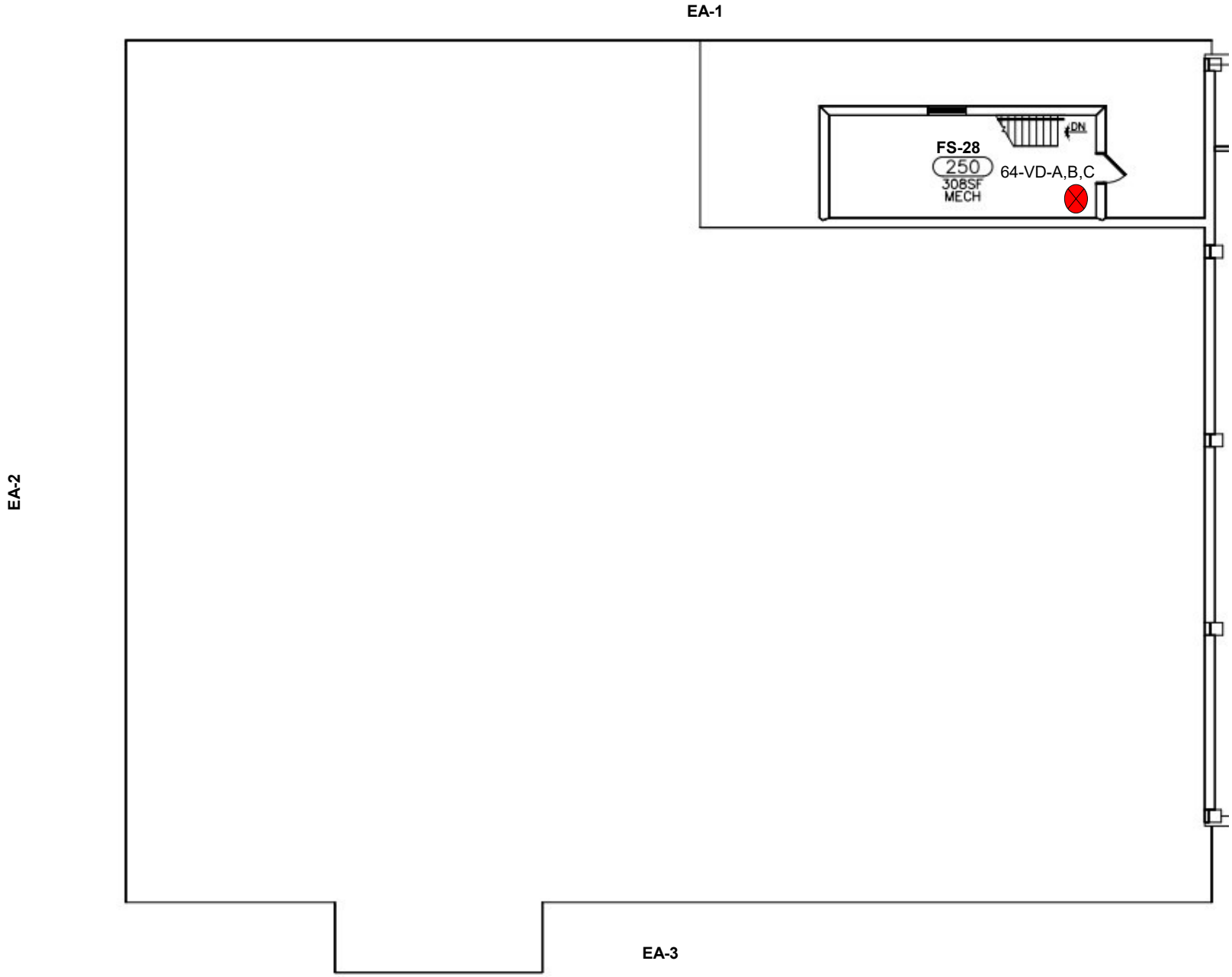
Michigan State University
Central Services Building
570 Red Cedar Road
East Lansing, Michigan 48824

N W E S

Asbestos Bulk Sampling Location Map
2nd Floor - South Portion

PROJECT NUMBER: 188BS24700	
DRAWN BY: AHD	REVIEWED BY Atlas
	DATE: 12/12/2024

ATLAS
46555 Humboldt Drive, Suite 100
Novi, Michigan 48377
Ph: (248) 669-5140 ~ Fax: (248) 669-5147



ATLAS

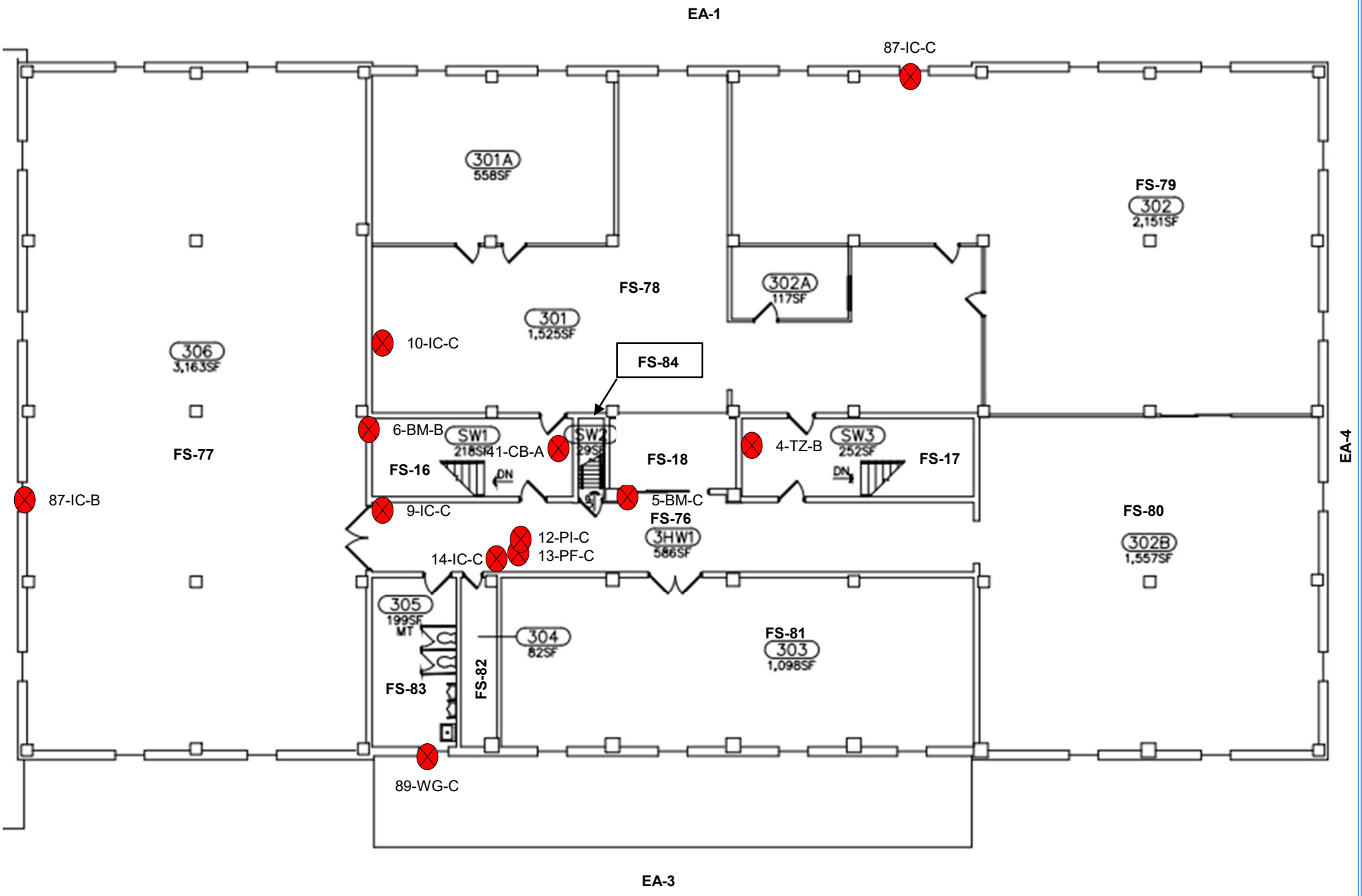
Michigan State University
Central Services Building
570 Red Cedar Road
East Lansing, Michigan 48824

N E S W

Asbestos Bulk
Sampling Location Map
2nd Floor - North Portion

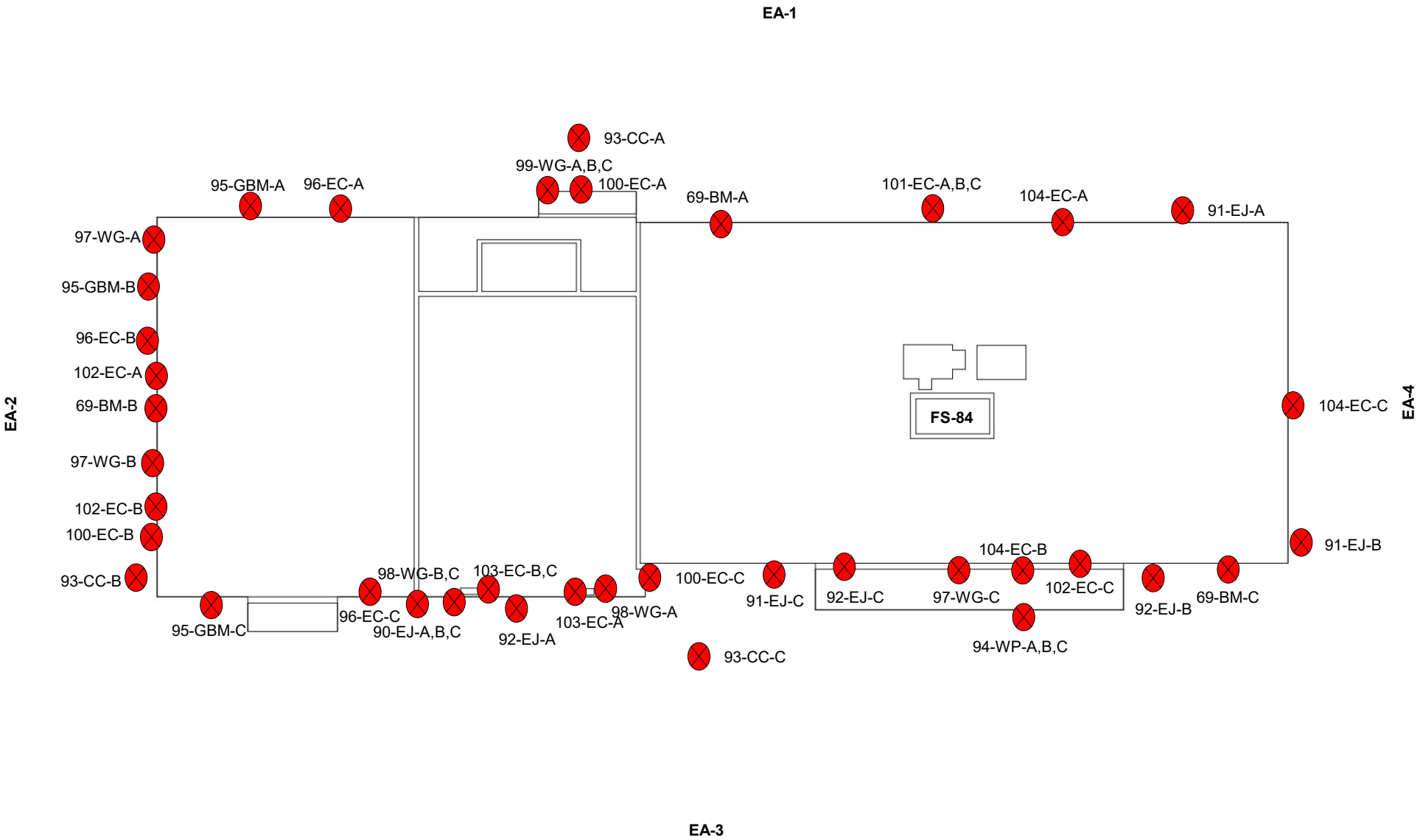
PROJECT NUMBER: 188BS24700	
DRAWN BY: AHD	REVIEWED BY Atlas
	DATE: 12/12/2024

ATLAS
46555 Humboldt Drive, Suite 100
Novi, Michigan 48377
Ph: (248) 669-5140 ~ Fax: (248) 669-5147



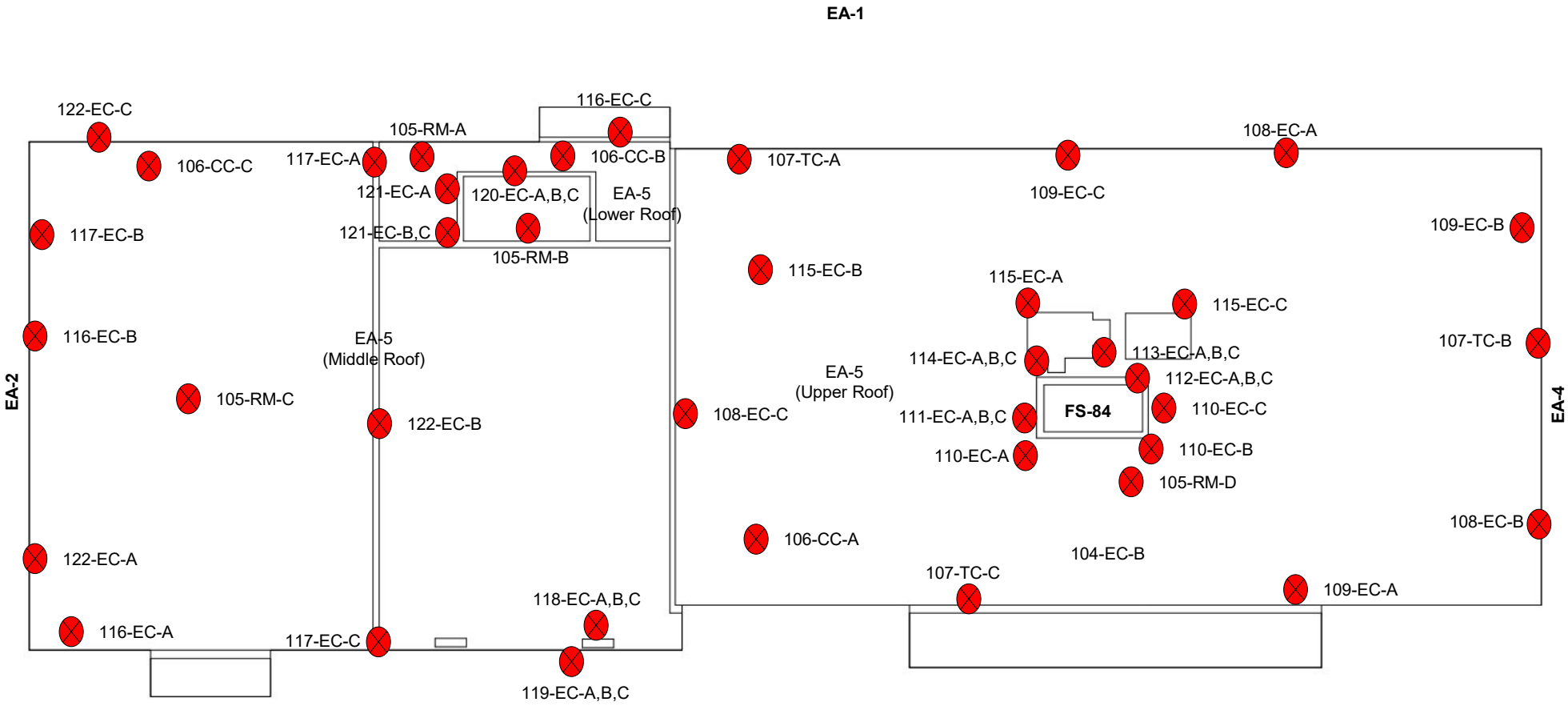
ATLAS	Michigan State University Central Services Building 570 Red Cedar Road East Lansing, Michigan 48824	**Asbestos Bulk Sampling Location Map** **3rd Floor**	PROJECT NUMBER: 188BS24700 DRAWN BY: AHD REVIEWED BY Atlas DATE: 12/12/2024

ATLAS
46555 Humboldt Drive, Suite 100
Novi, Michigan 48377
Ph: (248) 669-5140 ~ Fax: (248) 669-5147



ATLAS	Michigan State University Central Services Building 570 Red Cedar Road East Lansing, Michigan 48824	**Asbestos Bulk Sampling Location Map Exterior Areas**	PROJECT NUMBER: 188BS24700 DRAWN BY: AHD REVIEWED BY Atlas DATE: 12/12/2024

ATLAS
46555 Humboldt Drive, Suite 100
Novi, Michigan 48377
Ph: (248) 669-5140 ~ Fax: (248) 669-5147



ATLAS	Michigan State University Central Services Building 570 Red Cedar Road East Lansing, Michigan 48824	N W E S	**Asbestos Bulk Sampling Location Map Roof**	PROJECT NUMBER: 188BS24700 DRAWN BY: AHD REVIEWED BY Atlas DATE: 12/12/2024

ATLAS
46555 Humboldt Drive, Suite 100
Novi, Michigan 48377
Ph: (248) 669-5140 ~ Fax: (248) 669-5147

APPENDIX III
LABORATORY DOCUMENTATION

Environmental Testing Laboratories, Inc.

37575 W Huron River Drive
Romulus, Michigan 48174
(734) 955-6600
Fax: (734) 955-6604

REVISED REPORT

To: Atlas - Novi
46555 Humboldt Dr. Suite 100
Novi, Michigan 48377

ETL Job: 275162
Client Project: 188BS24700

Attention: Robert Smith
Project Location: 570 Red Cedar Rd, East Lansing, MI 48823
MSU Central Services Building

Lab Sample Number	Client Sample Number	Sample Type	Completed
1739935	3-CC-A	Asbestos	12/24/2024
1739936	3-CC-B	Asbestos	12/24/2024
1739937	3-CC-C	Asbestos	12/24/2024
1739938	4-TZ-A	Asbestos	12/24/2024
1739939	4-TZ-B	Asbestos	12/24/2024
1739940	4-TZ-C	Asbestos	12/24/2024
1739941	5-BM-A	Asbestos	12/24/2024
1739942	5-BM-B	Asbestos	12/24/2024
1739943	5-BM-C	Asbestos	12/24/2024
1739944	6-BM-A	Asbestos	12/24/2024
1739945	6-BM-B	Asbestos	12/24/2024
1739946	6-BM-C	Asbestos	12/24/2024
1739947	7-BM-A	Asbestos	12/24/2024
1739948	7-BM-B	Asbestos	12/24/2024
1739949	7-BM-C	Asbestos	12/24/2024
1739950	8-GM-A	Asbestos	12/24/2024

Lab Sample Number	Client Sample Number	Sample Type	Completed
1739951	8-GM-B	Asbestos	12/24/2024
1739952	8-GM-C	Asbestos	12/24/2024
1739953	9-IC-A	Asbestos	12/24/2024
1739954	9-IC-B	Asbestos	12/24/2024
1739955	9-IC-C	Asbestos	12/24/2024
1739956	10-IC-A	Asbestos	12/24/2024
1739957	10-IC-B	Asbestos	12/24/2024
1739958	10-IC-C	Asbestos	12/24/2024
1739959	11-IC-A	Asbestos	12/24/2024
1739960	11-IC-B	Asbestos	02/26/2025
1739961	11-IC-C	Asbestos	02/26/2025
1739962	12-PI-A	Asbestos	12/24/2024
1739963	12-PI-B	Asbestos	12/24/2024
1739964	12-PI-C	Asbestos	12/24/2024
1739965	13-PF-A	Asbestos	12/24/2024
1739966	13-PF-B	Asbestos	12/24/2024
1739967	13-PF-C	Asbestos	12/24/2024
1739968	14-IC-A	Asbestos	12/24/2024
1739969	14-IC-B	Asbestos	12/24/2024
1739970	14-IC-C	Asbestos	12/24/2024
1739971	15-PI-A	Asbestos	12/24/2024
1739972	15-PI-B	Asbestos	12/24/2024
1739973	15-PI-C	Asbestos	12/24/2024
1739974	16-PF-A	Asbestos	12/24/2024
1739975	16-PF-B	Asbestos	02/26/2025
1739976	16-PF-C	Asbestos	12/24/2024

Lab Sample Number	Client Sample Number	Sample Type	Completed
1739977	17-HM-A	Asbestos	12/24/2024
1739978	17-HM-B	Asbestos	02/26/2025
1739979	17-HM-C	Asbestos	02/26/2025
1739980	18-PI-A	Asbestos	12/24/2024
1739981	18-PI-B	Asbestos	02/26/2025
1739982	18-PI-C	Asbestos	02/26/2025
1739983	19-PF-A	Asbestos	12/24/2024
1739984	19-PF-B	Asbestos	02/26/2025
1739985	19-PF-C	Asbestos	02/26/2025
1739986	20-PI-A	Asbestos	12/24/2024
1739987	20-PI-B	Asbestos	12/24/2024
1739988	20-PI-C	Asbestos	02/26/2025
1739989	21-PF-A	Asbestos	12/24/2024
1739990	21-PF-B	Asbestos	12/24/2024
1739991	21-PF-C	Asbestos	02/26/2025
1739992	22-PI-A	Asbestos	12/24/2024
1739993	22-PI-B	Asbestos	12/24/2024
1739994	22-PI-C	Asbestos	12/24/2024
1739995	23-CI-A	Asbestos	12/24/2024
1739996	23-CI-B	Asbestos	12/24/2024
1739997	23-CI-C	Asbestos	12/24/2024
1739998	24-CI-A	Asbestos	12/24/2024
1739999	24-CI-B	Asbestos	02/26/2025
1740000	24-CI-C	Asbestos	02/26/2025
1740001	25-IC-A	Asbestos	12/24/2024
1740002	25-IC-B	Asbestos	02/26/2025

Lab Sample Number	Client Sample Number	Sample Type	Completed
1740003	25-IC-C	Asbestos	02/26/2025
1740004	26-PI-A	Asbestos	12/26/2024
1740005	26-PI-B	Asbestos	12/26/2024
1740006	26-PI-C	Asbestos	12/26/2024
1740007	27-FT-A	Asbestos	12/26/2024
1740008	27-FT-B	Asbestos	12/26/2024
1740009	27-FT-C	Asbestos	12/26/2024
1740010	28-CB-A	Asbestos	12/26/2024
1740011	28-CB-B	Asbestos	12/26/2024
1740012	28-CB-C	Asbestos	12/26/2024
1740013	29-CP-A	Asbestos	12/26/2024
1740014	29-CP-B	Asbestos	12/26/2024
1740015	29-CP-C	Asbestos	12/26/2024
1740016	30-BM-A	Asbestos	12/24/2024
1740017	30-BM-B	Asbestos	12/24/2024
1740018	30-BM-C	Asbestos	12/24/2024
1740019	31-BM-A	Asbestos	12/24/2024
1740020	31-BM-B	Asbestos	12/24/2024
1740021	31-BM-C	Asbestos	12/24/2024
1740022	32-IC-A	Asbestos	12/24/2024
1740023	32-IC-B	Asbestos	02/26/2025
1740024	32-IC-C	Asbestos	02/26/2025
1740025	33-WG-A	Asbestos	12/24/2024
1740026	33-WG-B	Asbestos	12/24/2024
1740027	33-WG-C	Asbestos	12/24/2024
1740028	34-TI-A	Asbestos	12/24/2024

Lab Sample Number	Client Sample Number	Sample Type	Completed
1740029	34-TI-B	Asbestos	02/26/2025
1740030	34-TI-C	Asbestos	02/26/2025
1740031	35-WG-A	Asbestos	12/24/2024
1740032	35-WG-B	Asbestos	12/24/2024
1740033	35-WG-C	Asbestos	12/24/2024
1740034	36-FT-A	Asbestos	12/24/2024
1740035	36-FT-B	Asbestos	12/24/2024
1740036	36-FT-C	Asbestos	12/24/2024
1740037	37-FT-A	Asbestos	12/24/2024
1740038	37-FT-B	Asbestos	12/24/2024
1740039	37-FT-C	Asbestos	12/24/2024
1740040	38-WG-A	Asbestos	12/24/2024
1740041	38-WG-B	Asbestos	02/26/2025
1740042	38-WG-C	Asbestos	02/26/2025
1740043	39-WG-A	Asbestos	12/24/2024
1740044	39-WG-B	Asbestos	12/24/2024
1740045	39-WG-C	Asbestos	12/24/2024
1740046	40-WBS-A	Asbestos	12/24/2024
1740047	40-WBS-B	Asbestos	12/24/2024
1740048	40-WBS-C	Asbestos	12/24/2024
1740049	41-CB-A	Asbestos	12/24/2024
1740050	41-CB-B	Asbestos	12/24/2024
1740051	41-CB-C	Asbestos	12/24/2024
1740052	42-GP-A	Asbestos	12/26/2024
1740053	42-GP-B	Asbestos	12/26/2024
1740054	42-GP-C	Asbestos	12/26/2024

Lab Sample Number	Client Sample Number	Sample Type	Completed
1740055	43-TPL-A	Asbestos	12/26/2024
1740056	43-TPL-B	Asbestos	12/26/2024
1740057	43-TPL-C	Asbestos	12/26/2024
1740058	43-TPL-D	Asbestos	12/26/2024
1740059	43-TPL-E	Asbestos	12/26/2024
1740060	44-PI-A	Asbestos	12/24/2024
1740061	44-PI-B	Asbestos	02/26/2025
1740062	44-PI-C	Asbestos	02/26/2025
1740063	45-PF-A	Asbestos	12/24/2024
1740064	45-PF-B	Asbestos	02/26/2025
1740065	45-PF-C	Asbestos	02/26/2025
1740066	46-BM-A	Asbestos	12/24/2024
1740067	46-BM-B	Asbestos	12/24/2024
1740068	46-BM-C	Asbestos	12/24/2024
1740069	47-IC-A	Asbestos	12/24/2024
1740070	47-IC-B	Asbestos	12/24/2024
1740071	47-IC-C	Asbestos	12/24/2024
1740072	48-PTN-A	Asbestos	12/24/2024
1740073	48-PTN-B	Asbestos	12/24/2024
1740074	48-PTN-C	Asbestos	12/24/2024
1740075	49-WG-A	Asbestos	12/24/2024
1740076	49-WG-B	Asbestos	12/24/2024
1740077	49-WG-C	Asbestos	12/24/2024
1740078	50-FT-A	Asbestos	12/24/2024
1740079	50-FT-B	Asbestos	02/26/2025
1740080	50-FT-C	Asbestos	02/26/2025

Lab Sample Number	Client Sample Number	Sample Type	Completed
1740081	51-FT-A	Asbestos	12/26/2024
1740082	51-FT-B	Asbestos	02/26/2025
1740083	51-FT-C	Asbestos	02/26/2025
1740084	52-FT-A	Asbestos	12/26/2024
1740085	52-FT-B	Asbestos	02/26/2025
1740086	52-FT-C	Asbestos	02/26/2025
1740087	53-CP-A	Asbestos	12/26/2024
1740088	53-CP-B	Asbestos	12/26/2024
1740089	53-CP-C	Asbestos	12/26/2024
1740090	54-CP-A	Asbestos	12/24/2024
1740091	54-CP-B	Asbestos	12/24/2024
1740092	54-CP-C	Asbestos	12/24/2024
1740093	55-CP-A	Asbestos	12/24/2024
1740094	55-CP-B	Asbestos	12/24/2024
1740095	55-CP-C	Asbestos	12/24/2024
1740096	56-WP-A	Asbestos	12/24/2024
1740097	56-WP-B	Asbestos	12/24/2024
1740098	56-WP-C	Asbestos	12/24/2024
1740099	57-GTM-A	Asbestos	12/24/2024
1740100	57-GTM-B	Asbestos	02/26/2025
1740101	57-GTM-C	Asbestos	02/26/2025
1740102	59-TI-A	Asbestos	12/26/2024
1740103	59-TI-B	Asbestos	02/26/2025
1740104	59-TI-C	Asbestos	02/26/2025
1740105	60-WB-A	Asbestos	12/24/2024
1740106	60-WB-B	Asbestos	12/24/2024

Lab Sample Number	Client Sample Number	Sample Type	Completed
1740107	60-WB-C	Asbestos	12/24/2024
1740108	61-TPL-A	Asbestos	12/24/2024
1740109	61-TPL-B	Asbestos	02/26/2025
1740110	61-TPL-C	Asbestos	02/26/2025
1740111	62-CB-A	Asbestos	12/24/2024
1740112	62-CB-B	Asbestos	12/24/2024
1740113	62-CB-C	Asbestos	12/24/2024
1740114	63-IC-A	Asbestos	12/24/2024
1740115	63-IC-B	Asbestos	02/26/2025
1740116	63-IC-C	Asbestos	02/26/2025
1740117	64-VD-A	Asbestos	12/24/2024
1740118	64-VD-B	Asbestos	02/26/2025
1740119	64-VD-C	Asbestos	02/26/2025
1740120	65-CA-A	Asbestos	12/24/2024
1740121	65-CA-B	Asbestos	02/26/2025
1740122	65-CA-C	Asbestos	02/26/2025
1740123	66-TPL-A	Asbestos	12/24/2024
1740124	66-TPL-B	Asbestos	12/24/2024
1740125	66-TPL-C	Asbestos	12/24/2024
1740126	67-CP-A	Asbestos	12/24/2024
1740127	67-CP-B	Asbestos	12/24/2024
1740128	67-CP-C	Asbestos	12/24/2024
1740129	68-PI-A	Asbestos	12/24/2024
1740130	68-PI-B	Asbestos	12/24/2024
1740131	68-PI-C	Asbestos	12/24/2024
1740132	69-BM-A	Asbestos	12/24/2024

Lab Sample Number	Client Sample Number	Sample Type	Completed
1740133	69-BM-B	Asbestos	12/24/2024
1740134	69-BM-C	Asbestos	12/24/2024
1740135	70-RI-A	Asbestos	12/24/2024
1740136	70-RI-B	Asbestos	12/24/2024
1740137	70-RI-C	Asbestos	12/24/2024
1740138	71-CT-A	Asbestos	12/24/2024
1740139	71-CT-B	Asbestos	12/24/2024
1740140	71-CT-C	Asbestos	12/24/2024
1740141	72-CP-A	Asbestos	12/24/2024
1740142	72-CP-B	Asbestos	12/24/2024
1740143	72-CP-C	Asbestos	12/24/2024
1740144	73-CP-A	Asbestos	12/26/2024
1740145	73-CP-B	Asbestos	12/26/2024
1740146	73-CP-C	Asbestos	12/26/2024
1740147	74-CA-A	Asbestos	12/26/2024
1740148	74-CA-B	Asbestos	12/26/2024
1740149	74-CA-C	Asbestos	12/26/2024
1740150	75-IC-A	Asbestos	12/26/2024
1740151	75-IC-B	Asbestos	12/26/2024
1740152	75-IC-C	Asbestos	12/26/2024
1740153	76-CB-A	Asbestos	12/26/2024
1740154	76-CB-B	Asbestos	12/26/2024
1740155	76-CB-C	Asbestos	12/26/2024
1740156	77-WG-A	Asbestos	12/26/2024
1740157	77-WG-B	Asbestos	12/26/2024
1740158	77-WG-C	Asbestos	12/26/2024

Lab Sample Number	Client Sample Number	Sample Type	Completed
1740159	79-FS-A	Asbestos	12/26/2024
1740160	79-FS-B	Asbestos	02/26/2025
1740161	79-FS-C	Asbestos	02/26/2025
1740162	80-IC-A	Asbestos	12/26/2024
1740163	80-IC-B	Asbestos	02/26/2025
1740164	80-IC-C	Asbestos	02/26/2025
1740165	81-GM-A	Asbestos	12/26/2024
1740166	81-GM-B	Asbestos	12/26/2024
1740167	81-GM-C	Asbestos	12/26/2024
1740168	82-GM-A	Asbestos	12/26/2024
1740169	82-GM-B	Asbestos	12/26/2024
1740170	82-GM-C	Asbestos	12/26/2024
1740171	83-IC-A	Asbestos	12/26/2024
1740172	83-IC-B	Asbestos	12/26/2024
1740173	83-IC-C	Asbestos	12/26/2024
1740174	84-EJ-A	Asbestos	12/26/2024
1740175	84-EJ-B	Asbestos	12/26/2024
1740176	84-EJ-C	Asbestos	12/26/2024
1740177	85-CM-A	Asbestos	12/26/2024
1740178	85-CM-B	Asbestos	12/26/2024
1740179	85-CM-C	Asbestos	12/26/2024
1740180	87-IC-A	Asbestos	12/26/2024
1740181	87-IC-B	Asbestos	12/26/2024
1740182	87-IC-C	Asbestos	12/26/2024
1740183	88-FT-A	Asbestos	12/26/2024
1740184	88-FT-B	Asbestos	12/26/2024

Lab Sample Number	Client Sample Number	Sample Type	Completed
1740185	88-FT-C	Asbestos	12/26/2024
1740186	89-WG-A	Asbestos	12/26/2024
1740187	89-WG-B	Asbestos	12/26/2024
1740188	89-WG-C	Asbestos	12/26/2024
1740189	90-EJ-A	Asbestos	12/26/2024
1740190	90-EJ-B	Asbestos	02/26/2025
1740191	90-EJ-C	Asbestos	02/26/2025
1740192	91-EJ-A	Asbestos	12/26/2024
1740193	91-EJ-B	Asbestos	12/26/2024
1740194	91-EJ-C	Asbestos	12/26/2024
1740195	92-EJ-A	Asbestos	12/26/2024
1740196	92-EJ-B	Asbestos	12/26/2024
1740197	92-EJ-C	Asbestos	12/26/2024
1740198	93-CC-A	Asbestos	12/26/2024
1740199	93-CC-B	Asbestos	12/26/2024
1740200	93-CC-C	Asbestos	12/26/2024
1740201	94-WP-A	Asbestos	12/26/2024
1740202	94-WP-B	Asbestos	12/26/2024
1740203	94-WP-C	Asbestos	12/26/2024
1740204	95-GBM-A	Asbestos	12/26/2024
1740205	95-GBM-B	Asbestos	12/26/2024
1740206	95-GBM-C	Asbestos	12/26/2024
1740207	96-EC-A	Asbestos	12/26/2024
1740208	96-EC-B	Asbestos	12/26/2024
1740209	96-EC-C	Asbestos	12/26/2024
1740210	97-WG-A	Asbestos	12/26/2024

Lab Sample Number	Client Sample Number	Sample Type	Completed
1740211	97-WG-B	Asbestos	12/26/2024
1740212	97-WG-C	Asbestos	12/26/2024
1740213	98-WG-A	Asbestos	12/26/2024
1740214	98-WG-B	Asbestos	12/26/2024
1740215	98-WG-C	Asbestos	12/26/2024
1740216	99-WG-A	Asbestos	12/26/2024
1740217	99-WG-B	Asbestos	12/26/2024
1740218	99-WG-C	Asbestos	12/26/2024
1740219	100-EC-A	Asbestos	12/26/2024
1740220	100-EC-B	Asbestos	02/26/2025
1740221	100-EC-C	Asbestos	02/26/2025
1740222	101-EC-A	Asbestos	12/26/2024
1740223	101-EC-B	Asbestos	12/26/2024
1740224	101-EC-C	Asbestos	12/26/2024
1740225	102-EC-A	Asbestos	12/26/2024
1740226	102-EC-B	Asbestos	02/26/2025
1740227	102-EC-C	Asbestos	02/26/2025
1740228	103-EC-A	Asbestos	12/26/2024
1740229	103-EC-B	Asbestos	02/26/2025
1740230	103-EC-C	Asbestos	02/26/2025
1740231	104-EC-A	Asbestos	12/26/2024
1740232	104-EC-B	Asbestos	12/26/2024
1740233	104-EC-C	Asbestos	12/26/2024
1740234	105-RM-A	Asbestos	12/26/2024
1740235	105-RM-B	Asbestos	12/26/2024
1740236	105-RM-C	Asbestos	12/26/2024

Lab Sample Number	Client Sample Number	Sample Type	Completed
1740237	105-RM-D	Asbestos	12/26/2024
1740238	106-CC-A	Asbestos	12/26/2024
1740239	106-CC-B	Asbestos	12/26/2024
1740240	106-CC-C	Asbestos	12/26/2024
1740241	107-TC-A	Asbestos	12/26/2024
1740242	107-TC-B	Asbestos	12/26/2024
1740243	107-TC-C	Asbestos	12/26/2024
1740244	108-EC-A	Asbestos	12/26/2024
1740245	108-EC-B	Asbestos	12/26/2024
1740246	108-EC-C	Asbestos	12/26/2024
1740247	109-EC-A	Asbestos	12/26/2024
1740248	109-EC-B	Asbestos	12/26/2024
1740249	109-EC-C	Asbestos	12/26/2024
1740250	110-EC-A	Asbestos	12/26/2024
1740251	110-EC-B	Asbestos	12/26/2024
1740252	110-EC-C	Asbestos	12/26/2024
1740253	111-EC-A	Asbestos	12/26/2024
1740254	111-EC-B	Asbestos	12/26/2024
1740255	111-EC-C	Asbestos	12/26/2024
1740256	112-EC-A	Asbestos	12/26/2024
1740257	112-EC-B	Asbestos	12/26/2024
1740258	112-EC-C	Asbestos	12/26/2024
1740259	113-EC-A	Asbestos	12/26/2024
1740260	113-EC-B	Asbestos	12/26/2024
1740261	113-EC-C	Asbestos	12/26/2024
1740262	114-EC-A	Asbestos	12/26/2024

Lab Sample Number	Client Sample Number	Sample Type	Completed
1740263	114-EC-B	Asbestos	12/26/2024
1740264	114-EC-C	Asbestos	12/26/2024
1740265	115-EC-A	Asbestos	12/26/2024
1740266	115-EC-B	Asbestos	12/26/2024
1740267	115-EC-C	Asbestos	12/26/2024
1740268	116-EC-A	Asbestos	12/26/2024
1740269	116-EC-B	Asbestos	12/26/2024
1740270	116-EC-C	Asbestos	12/26/2024
1740271	117-EC-A	Asbestos	12/26/2024
1740272	117-EC-B	Asbestos	02/26/2025
1740273	117-EC-C	Asbestos	02/26/2025
1740274	118-EC-A	Asbestos	12/26/2024
1740275	118-EC-B	Asbestos	12/26/2024
1740276	118-EC-C	Asbestos	12/26/2024
1740277	119-EC-A	Asbestos	12/26/2024
1740278	119-EC-B	Asbestos	12/26/2024
1740279	119-EC-C	Asbestos	12/26/2024
1740280	120-EC-A	Asbestos	12/26/2024
1740281	120-EC-B	Asbestos	12/26/2024
1740282	120-EC-C	Asbestos	12/26/2024
1740283	121-EC-A	Asbestos	12/26/2024
1740284	121-EC-B	Asbestos	02/26/2025
1740285	121-EC-C	Asbestos	02/26/2025
1740286	122-EC-A	Asbestos	12/26/2024
1740287	122-EC-B	Asbestos	02/26/2025
1740288	122-EC-C	Asbestos	02/26/2025

Lab Sample Number	Client Sample Number	Sample Type	Completed

Reviewed by:

Dawson Bradley

Summary

Method	Sample	Layer	Mastic
PLM	444	26	
Point Count	11		

Revision History

Revised Date	Revised By	Revision Comment
02/26/2025	Bella Rossi	Re-Evaluated Samples Per Client Request

NVLAP LAB CODE 201028-0

Certificate of Analysis

Environmental Testing Laboratories, Inc.
37575 W Huron River Drive
Romulus, Michigan 48174
(734) 955-6600, Fax: (734) 955-6604

Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
46555 Humboldt Dr. Suite 100
Novi,Michigan 48377

Location : 570 Red Cedar Rd, East Lansing, MI 48823
MSU Central Services Building

ETL Job : 275162
Client Project : 188BS24700
Date Collected : 12/20/2024
Date Received : 12/20/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739935 3-CC-A	Concrete Chip	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739936 3-CC-B	Concrete Chip	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739937 3-CC-C	Concrete Chip	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739938 4-TZ-A	Terrazzo Flooring	Gray/White/Beige Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739939 4-TZ-B	Terrazzo Flooring	Gray/White/Beige Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739940 4-TZ-C	Terrazzo Flooring	Gray/White/Beige Non-Fibrous Non-Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024 With Cementitious Material					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739941 5-BM-A	Brick Mortar	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739942 5-BM-B	Brick Mortar	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739943 5-BM-C	Brick Mortar	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739944 6-BM-A	Brick Mortar	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739945 6-BM-B	Brick Mortar	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739946 6-BM-C	Brick Mortar	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739947 7-BM-A	Brick Mortar	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739948 7-BM-B	Brick Mortar	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739949 7-BM-C	Brick Mortar	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739950 8-GM-A	Ceramic Tile	Red Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739950 8-GM-A	Grout	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739950 8-GM-A	Mortar	Black Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-3 Analyst: Ben Jones Date Analyzed : 12/24/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739951 8-GM-B	Ceramic Tile	Red Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739951 8-GM-B	Grout	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739951 8-GM-B	Mortar	Black Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-3 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739952 8-GM-C	Ceramic Tile	Red Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739952 8-GM-C	Grout	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739952 8-GM-C		Layer Missing			
Layer-3 Analyst: Ben Jones Date Analyzed : 12/24/2024 Layer Not Analyzed					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739953 9-IC-A	Interior Caulk	Red Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739953 9-IC-A	Fibrous Material	Cream Non-Fibrous Homogenous	PLM 93% Cellulose	PLM 7% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739954 9-IC-B	Interior Caulk	Red Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739954 9-IC-B	Fibrous Material	Cream Non-Fibrous Homogenous	PLM 93% Cellulose	PLM 7% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739954 9-IC-B	Fibrous Material	Off-White Fibrous Homogenous	PLM 92% Fiberglass	PLM 8% Other	PLM None Detected
Layer-3 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739954 9-IC-B	Caulk	Dark Red Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-4 Analyst: Ben Jones Date Analyzed : 12/24/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739955 9-IC-C		Layer Missing			
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024 Layer Not Analyzed					
1739955 9-IC-C	Fibrous Material	Cream Non-Fibrous Homogenous	PLM 93% Cellulose	PLM 7% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739955 9-IC-C	Fibrous Material	Off-White Fibrous Homogenous	PLM 92% Fiberglass	PLM 8% Other	PLM None Detected
Layer-3 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739955 9-IC-C	Caulk	Dark Red Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-4 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1739956 10-IC-A	Interior Caulk	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024					
1739957 10-IC-B	Interior Caulk	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739958 10-IC-C	Interior Caulk	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024					
1739959 11-IC-A	Interior Caulk	Dark Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 97% Other	PLM 2% Chrysotile
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024					
1739960 11-IC-B	Interior Caulk	Dark Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 97% Other	PLM 2% Chrysotile
Layer-1 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					
1739961 11-IC-C	Interior Caulk	Dark Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 97% Other	PLM 2% Chrysotile
Layer-1 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					
1739962 12-PI-A	Pipe Insulation	White/Yellow Fibrous Non-Homogenous	PLM 5% Cellulose PLM 90% Fiberglass	PLM 5% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024 With Paper and Mesh					
1739963 12-PI-B	Pipe Insulation	White/Yellow Fibrous Non-Homogenous	PLM 5% Cellulose PLM 90% Fiberglass	PLM 5% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024 With Paper and Mesh					

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ETL Job : 275162
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Date Collected : 12/20/2024
Date Received : 12/20/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739964 12-PI-C	Pipe Insulation	White/Yellow Fibrous Non-Homogenous	PLM 5% Cellulose PLM 90% Fiberglass	PLM 5% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024 With Paper and Mesh					
1739965 13-PF-A	Pipe Fitting	White/Yellow Fibrous Non-Homogenous	PLM 5% Cellulose PLM 90% Fiberglass	PLM 5% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024 With Paper					
1739966 13-PF-B	Pipe Fitting	White/Yellow Fibrous Non-Homogenous	PLM 5% Cellulose PLM 90% Fiberglass	PLM 5% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024 With Paper					
1739967 13-PF-C	Pipe Fitting	White/Yellow Fibrous Non-Homogenous	PLM 5% Cellulose PLM 90% Fiberglass	PLM 5% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024 With Paper					
1739968 14-IC-A		Layer Missing			
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024 Layer Not Analyzed					
1739968 14-IC-A	Pipe Insulation	Yellow Fibrous Homogenous	PLM 95% Fiberglass	PLM 5% Other	PLM None Detected
Layer-2 Analyst: James Farinas Date Analyzed : 12/24/2024					

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ETL Job : 275162
Client Project : 188BS24700
Date Collected : 12/20/2024
Date Received : 12/20/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739969 14-IC-B		Layer Missing			
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024 Layer Not Analyzed					
1739969 14-IC-B	Pipe Insulation	Yellow Fibrous Homogenous	PLM 95% Fiberglass	PLM 5% Other	PLM None Detected
Layer-2 Analyst: James Farinas Date Analyzed : 12/24/2024					
1739970 14-IC-C		Layer Missing			
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024 Layer Not Analyzed					
1739970 14-IC-C	Pipe Insulation	Yellow Fibrous Homogenous	PLM 95% Fiberglass	PLM 5% Other	PLM None Detected
Layer-2 Analyst: James Farinas Date Analyzed : 12/24/2024					
1739971 15-PI-A	Pipe Insulation	Brown/Yellow/Black Fibrous Non-Homogenous	PLM 5% Cellulose PLM 50% Fiberglass	PLM 45% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024 With Paper and Asphaltic Material					
1739972 15-PI-B	Pipe Insulation	Brown/Yellow Fibrous Non-Homogenous	PLM 40% Cellulose PLM 55% Fiberglass	PLM 5% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024 With Paper					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739973 15-PI-C	Pipe Insulation	Brown/Yellow Fibrous Non-Homogenous	PLM 40% Cellulose PLM 55% Fiberglass	PLM 5% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024 With Paper					
1739974 16-PF-A	Pipe Fitting	Brown/Gray Non-Fibrous Homogenous	PLM 1% Cellulose PLM 5% Mineral wool	PLM 94% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024					
1739974 16-PF-A	Canvas	Brown/Gray Fibrous Non-Homogenous	PLM 5% Cellulose PLM 5% Mineral wool	PLM 60% Other	PLM 30% Chrysotile
Layer-2 Analyst: James Farinas Date Analyzed : 12/24/2024 With Pipe Fitting					
1739975 16-PF-B	Pipe Fitting	Brown/Gray Non-Fibrous Homogenous	PLM 1% Cellulose PLM 5% Mineral wool	PLM 94% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					
1739975 16-PF-B	Canvas	Brown/Gray Fibrous Non-Homogenous	PLM 5% Cellulose	PLM 65% Other	PLM 30% Chrysotile
Layer-2 Analyst: Teagan Murphy Date Analyzed : 02/26/2025 With Pipe Fitting					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739976 16-PF-C	Pipe Fitting	Grey Non-Fibrous Homogenous	PLM 1% Cellulose PLM 5% Mineral wool	PLM 94% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024					
1739976 16-PF-C		Layer Missing			
Layer-2 Analyst: James Farinas Date Analyzed : 12/24/2024 Layer Not Analyzed					
1739977 17-HM-A	Hanger Mud	Gray Fibrous Homogenous	PLM 5% Cellulose PLM 10% Mineral wool	PLM 35% Other	PLM 50% Chrysotile
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024					
1739978 17-HM-B	Hanger Mud	Gray Fibrous Homogenous	PLM 5% Cellulose PLM 10% Mineral wool	PLM 35% Other	PLM 50% Chrysotile
Layer-1 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					
1739979 17-HM-C	Hanger Mud	Gray Fibrous Homogenous	PLM 5% Cellulose PLM 10% Mineral wool	PLM 35% Other	PLM 50% Chrysotile
Layer-1 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739980 18-PI-A	Pipe Insulation	Blue/Gray Fibrous Non-Homogenous	PLM 90% Cellulose	PLM 10% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024 With Wool Felt					
1739980 18-PI-A	Asphaltic Material	Black Fibrous Homogenous	PLM 10% Cellulose	PLM 55% Other	PLM 35% Chrysotile
Layer-2 Analyst: James Farinas Date Analyzed : 12/24/2024					
1739981 18-PI-B	Pipe Insulation	Blue/Gray Fibrous Non-Homogenous	PLM 90% Cellulose	PLM 10% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 02/26/2025 With Wool Felt					
1739981 18-PI-B	Asphaltic Material	Black Fibrous Homogenous	PLM 10% Cellulose	PLM 55% Other	PLM 35% Chrysotile
Layer-2 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					
1739982 18-PI-C	Pipe Insulation	Blue/Gray Fibrous Non-Homogenous	PLM 90% Cellulose	PLM 10% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 02/26/2025 With Wool Felt					
1739982 18-PI-C	Asphaltic Material	Black Fibrous Homogenous	PLM 10% Cellulose	PLM 55% Other	PLM 35% Chrysotile
Layer-2 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					

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Date Collected : 12/20/2024
Date Received : 12/20/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739983 19-PF-A	Pipe Fitting	Blue/Gray Fibrous Homogenous	PLM 45% Fiberglass	PLM 5% Other	PLM 50% Chrysotile
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024					
1739984 19-PF-B	Pipe Fitting	Blue/Gray Fibrous Homogenous	PLM 45% Fiberglass	PLM 5% Other	PLM 50% Chrysotile
Layer-1 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					
1739984 19-PF-B	Wool Felt	Blue Fibrous Homogenous	PLM 99% Cellulose	PLM 1% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					
1739985 19-PF-C	Pipe Fitting	Blue/Gray Fibrous Homogenous	PLM 45% Fiberglass	PLM 5% Other	PLM 50% Chrysotile
Layer-1 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					
1739985 19-PF-C	Wool Felt	Blue Fibrous Homogenous	PLM 99% Cellulose	PLM 1% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					

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Certificate of Analysis

Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
46555 Humboldt Dr. Suite 100
Novi,Michigan 48377

Location : 570 Red Cedar Rd, East Lansing, MI 48823
MSU Central Services Building

ETL Job : 275162
Client Project : 188BS24700
Date Collected : 12/20/2024
Date Received : 12/20/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739986 20-PI-A		Layer Missing			
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
Layer Not Analyzed					
1739986 20-PI-A	Fibrous Material	Brown Fibrous Homogenous	PLM 99% Cellulose	PLM 1% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
1739987 20-PI-B	Pipe Insulation	White Fibrous Homogenous		PLM 55% Other	PLM 45% Chrysotile
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
1739987 20-PI-B	Mesh	White Fibrous Homogenous	PLM 99% Cellulose	PLM 1% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
1739988 20-PI-C	Pipe Insulation	White Fibrous Homogenous		PLM 55% Other	PLM 45% Chrysotile
Layer-1 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					
1739988 20-PI-C	Mesh	White Fibrous Homogenous	PLM 99% Cellulose	PLM 1% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739989 21-PF-A	Pipe Fitting	Beige Fibrous Homogenous	PLM 40% Cellulose	PLM 15% Other	PLM 45% Chrysotile
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
1739990 21-PF-B		Layer Missing			
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
Layer Not Analyzed					
1739990 21-PF-B	Mesh	White Fibrous Homogenous	PLM 90% Fiberglass	PLM 10% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
1739991 21-PF-C	Pipe Fitting	Beige Fibrous Homogenous	PLM 15% Cellulose	PLM 40% Other	PLM 45% Chrysotile
Layer-1 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					
1739991 21-PF-C		Layer Missing			
Layer-2 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					
Layer Not Analyzed					
1739991 21-PF-C	Mesh	Beige Fibrous Homogenous	PLM 98% Cellulose	PLM 2% Other	PLM None Detected
Layer-3 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739992 22-PI-A	Pipe Insulation	Brown Non-Fibrous Non-Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/24/2024 With Brittle Material					
1739992 22-PI-A	Mesh	Beige Fibrous Homogenous	PLM 99% Cellulose	PLM 1% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
1739993 22-PI-B	Pipe Insulation	Brown Non-Fibrous Non-Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/24/2024 With Brittle Material					
1739993 22-PI-B	Mesh	Beige Fibrous Homogenous	PLM 99% Cellulose	PLM 1% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
1739994 22-PI-C	Pipe Insulation	Brown Non-Fibrous Non-Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/24/2024 With Brittle Material					
1739994 22-PI-C	Mesh	Beige Fibrous Homogenous	PLM 99% Cellulose	PLM 1% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739995 23-CI-A	Cork Wall Insulation	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
1739995 23-CI-A	Tacky Material	Black Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
1739996 23-CI-B	Cork Wall Insulation	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
1739996 23-CI-B	Tacky Material	Black Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
1739997 23-CI-C	Cork Wall Insulation	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
1739997 23-CI-C	Tacky Material	Black Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1739998 24-CI-A	Cork Insulation	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
1739998 24-CI-A	Tacky Material	Black Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
1739998 24-CI-A	Brittle Material	Black Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 96% Other	PLM 2% Chrysotile
Layer-3 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
1739999 24-CI-B	Cork Insulation	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					
1739999 24-CI-B	Tacky Material	Black Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					
1739999 24-CI-B	Brittle Material	Black Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 96% Other	PLM 2% Chrysotile
Layer-3 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740000 24-CI-C	Cork Insulation	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					
1740000 24-CI-C	Tacky Material	Black Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					
1740000 24-CI-C	Brittle Material	Black Fibrous Homogenous	PLM 2% Cellulose	PLM 96% Other	PLM 2% Chrysotile
Layer-3 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					
1740001 25-IC-A	Interior Cauk	Greenish Grey Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 88% Other	PLM 10% Chrysotile
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/24/2024					
1740002 25-IC-B	Interior Cauk	Greenish Grey Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 88% Other	PLM 10% Chrysotile
Layer-1 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					
1740003 25-IC-C	Interior Cauk	Greenish Grey Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 88% Other	PLM 10% Chrysotile
Layer-1 Analyst: Teagan Murphy Date Analyzed : 02/26/2025					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740004 26-PI-A	Pipe Insulation	Brown Fibrous Homogenous		PLM 100% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740005 26-PI-B	Pipe Insulation	Brown Fibrous Homogenous		PLM 100% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740006 26-PI-C	Pipe Insulation	Brown Fibrous Homogenous		PLM 100% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740007 27-FT-A	Floor Tile	Beige/Red Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740007 27-FT-A	Mastic	Yellow Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740008 27-FT-B	Floor Tile	Beige/Red Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740008 27-FT-B	Mastic	Yellow Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740009 27-FT-C	Floor Tile	Beige/Red Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740009 27-FT-C	Mastic	Yellow Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740010 28-CB-A	Cove Base	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740010 28-CB-A	Adhesive	Yellow Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740011 28-CB-B	Cove Base	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740011 28-CB-B	Adhesive	Yellow Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740012 28-CB-C	Cove Base	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740012 28-CB-C	Adhesive	Yellow Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740013 29-CP-A	Ceiling Panel	White Fibrous Homogenous	PLM 40% Cellulose	PLM 60% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740014 29-CP-B	Ceiling Panel	White Fibrous Homogenous	PLM 40% Cellulose	PLM 60% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740015 29-CP-C	Ceiling Panel	White Fibrous Homogenous	PLM 40% Cellulose	PLM 60% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740016 30-BM-A	Brick Mortar	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024					
1740017 30-BM-B	Brick Mortar	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024					
1740018 30-BM-C	Brick Mortar	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024					
1740019 31-BM-A	Brick Mortar	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024					
1740019 31-BM-A	Cementitious Material	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 12/24/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740020 31-BM-B Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Brick Mortar	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740020 31-BM-B Layer-2 Analyst: Tia Ray Date Analyzed : 12/24/2024	Cementitious Material	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740021 31-BM-C Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Brick Mortar	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740021 31-BM-C Layer-2 Analyst: Tia Ray Date Analyzed : 12/24/2024	Cementitious Material	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740022 32-IC-A Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Interior Caulk	Black Fibrous Homogenous		PLM 97% Other	PLM 3% Chrysotile
1740023 32-IC-B Layer-1 Analyst: Ben Jones Date Analyzed : 02/26/2025	Interior Caulk	Black Fibrous Homogenous	PLM Trace Cellulose	PLM 97% Other	PLM 3% Chrysotile

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740024 32-IC-C Layer-1 Analyst: Ben Jones Date Analyzed : 02/26/2025	Interior Caulk	Black Fibrous Homogenous	PLM Trace Cellulose	PLM 97% Other	PLM 3% Chrysotile
1740025 33-WG-A Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Window Glaze	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740026 33-WG-B Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Window Glaze	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740027 33-WG-C Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Window Glaze	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740028 34-TI-A Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Tank Insulation	Gray Fibrous Homogenous		PLM 70% Other	PLM 30% Chrysotile
1740029 34-TI-B Layer-1 Analyst: Ben Jones Date Analyzed : 02/26/2025	Tank Insulation	Gray Fibrous Homogenous	PLM 3% Cellulose	PLM 67% Other	PLM 30% Chrysotile

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740030 34-TI-C Layer-1 Analyst: Ben Jones Date Analyzed : 02/26/2025	Tank Insulation	Gray Fibrous Homogenous	PLM 3% Cellulose	PLM 67% Other	PLM 30% Chrysotile
1740031 35-WG-A Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Window Glaze	Black Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740032 35-WG-B Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Window Glaze	Black Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740033 35-WG-C Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Window Glaze	Black Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740034 36-FT-A Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Floor Tile	Light Brown Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740035 36-FT-B Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Floor Tile	Light Brown Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740036 36-FT-C Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Floor Tile	Light Brown Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740037 37-FT-A Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Floor Tile	White Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740038 37-FT-B Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Floor Tile	White Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740039 37-FT-C Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Floor Tile	White Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740040 38-WG-A Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Window Glaze	White Non-Fibrous Homogenous		PLM 97% Other	PLM 3% Chrysotile
1740041 38-WG-B Layer-1 Analyst: Ben Jones Date Analyzed : 02/26/2025	Window Glaze	White Non-Fibrous Homogenous		PLM 97% Other	PLM 3% Chrysotile

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Environmental Testing Laboratories, Inc.
37575 W Huron River Drive
Romulus, Michigan 48174
(734) 955-6600, Fax: (734) 955-6604

Certificate of Analysis

Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
46555 Humboldt Dr. Suite 100
Novi,Michigan 48377

Location : 570 Red Cedar Rd, East Lansing, MI 48823
MSU Central Services Building

ETL Job : 275162
Client Project : 188BS24700
Date Collected : 12/20/2024
Date Received : 12/20/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740042 38-WG-C Layer-1 Analyst: Ben Jones Date Analyzed : 02/26/2025	Window Glaze	White Non-Fibrous Homogenous		PLM 97% Other	PLM 3% Chrysotile
1740043 39-WG-A Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Window Glaze	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740044 39-WG-B Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Window Glaze	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740045 39-WG-C Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Window Glaze	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740046 40-WBS-A Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Wallboard System	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740046 40-WBS-A Layer-2 Analyst: Tia Ray Date Analyzed : 12/24/2024	Mud	White Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740047 40-WBS-B Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Wallboard System	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740047 40-WBS-B Layer-2 Analyst: Tia Ray Date Analyzed : 12/24/2024	Mud	White Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740047 40-WBS-B Layer-3 Analyst: Tia Ray Date Analyzed : 12/24/2024	Tape	White Fibrous Homogenous	PLM 90% Cellulose	PLM 10% Other	PLM None Detected
1740048 40-WBS-C Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Wallboard System	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740048 40-WBS-C Layer-2 Analyst: Tia Ray Date Analyzed : 12/24/2024	Mud	White Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740048 40-WBS-C Layer-3 Analyst: Tia Ray Date Analyzed : 12/24/2024 Layer Not Analyzed		Layer Missing			

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740049 41-CB-A Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Cove Base	Black Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740049 41-CB-A Layer-2 Analyst: Tia Ray Date Analyzed : 12/24/2024 With Fibrous Material	Adhesive	Yellow Fibrous Non-Homogenous	PLM 15% Cellulose	PLM 85% Other	PLM None Detected
1740050 41-CB-B Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Cove Base	Black Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740050 41-CB-B Layer-2 Analyst: Tia Ray Date Analyzed : 12/24/2024	Adhesive	Yellow Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740051 41-CB-C Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024	Cove Base	Black Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740051 41-CB-C Layer-2 Analyst: Tia Ray Date Analyzed : 12/24/2024	Adhesive	Yellow Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740052 42-GP-A	Glue Pod	Brown Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740052 42-GP-A	Brittle Material	White Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740053 42-GP-B	Glue Pod	Brown Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740053 42-GP-B	Brittle Material	White Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740054 42-GP-C	Glue Pod	Brown Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740054 42-GP-C		Layer Missing			
Layer-2 Analyst: Ben Jones Date Analyzed : 12/26/2024 Layer Not Analyzed					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740055 43-TPL-A	Textured Plaster	White Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740056 43-TPL-B	Textured Plaster	White Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740057 43-TPL-C	Textured Plaster	White Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740058 43-TPL-D	Textured Plaster	White Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740058 43-TPL-D	Texture	White Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 12/26/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740059 43-TPL-E	Textured Plaster	White Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740059 43-TPL-E	Texture	White Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740060 44-PI-A	Pipe Insulation	White Fibrous Homogenous		PLM 70% Other	PLM 30% Chrysotile
Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024					
1740061 44-PI-B	Pipe Insulation	White Fibrous Homogenous		PLM 70% Other	PLM 30% Chrysotile
Layer-1 Analyst: Ben Jones Date Analyzed : 02/26/2025					
1740062 44-PI-C	Pipe Insulation	White Fibrous Homogenous		PLM 70% Other	PLM 30% Chrysotile
Layer-1 Analyst: Ben Jones Date Analyzed : 02/26/2025					
1740063 45-PF-A	Pipe Fitting	Gray Fibrous Homogenous		PLM 70% Other	PLM 30% Chrysotile
Layer-1 Analyst: Tia Ray Date Analyzed : 12/24/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740064 45-PF-B	Pipe Fitting	Gray Fibrous Homogenous	PLM Trace Cellulose	PLM 70% Other	PLM 30% Chrysotile
Layer-1 Analyst: Ben Jones Date Analyzed : 02/26/2025					
1740065 45-PF-C	Pipe Fitting	Gray Fibrous Homogenous	PLM Trace Cellulose	PLM 70% Other	PLM 30% Chrysotile
Layer-1 Analyst: Ben Jones Date Analyzed : 02/26/2025					
1740066 46-BM-A	Brick	Beige Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024					
1740066 46-BM-A	Mortar	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
Layer-2 Analyst: Alexis Rausch Date Analyzed : 12/24/2024					
1740067 46-BM-B	Brick	Beige Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024					
1740067 46-BM-B	Mortar	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
Layer-2 Analyst: Alexis Rausch Date Analyzed : 12/24/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740068 46-BM-C Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024	Brick	Beige Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740068 46-BM-C Layer-2 Analyst: Alexis Rausch Date Analyzed : 12/24/2024	Mortar	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740069 47-IC-A Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024	Interior Caulk	White Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740070 47-IC-B Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024	Interior Caulk	White Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740071 47-IC-C Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024	Interior Caulk	White Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740072 48-PTN-A Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024	Partition Insulation	Yellow Fibrous Homogenous	PLM 98% Cellulose	PLM 2% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740073 48-PTN-B	Partition Insulation	Yellow Fibrous Homogenous	PLM 98% Cellulose	PLM 2% Other	PLM None Detected
Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024					
1740074 48-PTN-C	Partition Insulation	Yellow Fibrous Homogenous	PLM 98% Cellulose	PLM 2% Other	PLM None Detected
Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024					
1740075 49-WG-A	Window Glaze	Red/Beige Non-Fibrous Homogenous	PC 0.25% Cellulose	PC 99.75% Other	PC Trace Chrysotile
Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024					
1740076 49-WG-B	Window Glaze	Red/Beige Non-Fibrous Homogenous		PC 100% Other	PC Trace Chrysotile
Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024					
1740077 49-WG-C	Window Glaze	Red/Beige Non-Fibrous Homogenous		PC 100% Other	PC Trace Chrysotile
Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740078 50-FT-A	Floor Tile	Black Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 98% Other	PLM 2% Chrysotile
Layer-1 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1740078 50-FT-A	Mastic	Black Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 12/24/2024					
1740079 50-FT-B	Floor Tile	Black Non-Fibrous Homogenous		PLM 98% Other	PLM 2% Chrysotile
Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740079 50-FT-B	Mastic	Black Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740080 50-FT-C	Floor Tile	Black Non-Fibrous Homogenous		PLM 98% Other	PLM 2% Chrysotile
Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740080 50-FT-C	Mastic	Black Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740081 51-FT-A	Floor Tile	Dark Brown Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 98% Other	PLM 2% Chrysotile
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740081 51-FT-A	Mastic	Black Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740082 51-FT-B	Floor Tile	Dark Brown Non-Fibrous Homogenous		PLM 97% Other	PLM 3% Chrysotile
Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740082 51-FT-B	Mastic	Black Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740083 51-FT-C	Floor Tile	Dark Brown Non-Fibrous Homogenous		PLM 98% Other	PLM 2% Chrysotile
Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740083 51-FT-C	Mastic	Black Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740084 52-FT-A	Floor Tile	Gray/Black Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 96% Other	PLM 2% Chrysotile
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740084 52-FT-A	Mastic	Black Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740085 52-FT-B	Floor Tile	Grey/Black Non-Fibrous Homogenous		PLM 98% Other	PLM 2% Chrysotile
Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740085 52-FT-B	Mastic	Black Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
Layer-2 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740086 52-FT-C	Floor Tile	Grey/Black Non-Fibrous Homogenous		PLM 97% Other	PLM 3% Chrysotile
Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740086 52-FT-C	Mastic	Black Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
Layer-2 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740087 53-CP-A Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024	Ceiling Panel	White Fibrous Homogenous	PLM Trace Cellulose PLM 82% Fiberglass	PLM 18% Other	PLM None Detected
1740088 53-CP-B Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024	Ceiling Panel	White Fibrous Homogenous	PLM Trace Cellulose PLM 82% Fiberglass	PLM 18% Other	PLM None Detected
1740089 53-CP-C Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024	Ceiling Panel	White Fibrous Homogenous	PLM Trace Cellulose PLM 82% Fiberglass	PLM 18% Other	PLM None Detected
1740090 54-CP-A Layer-1 Analyst: Chris Canilao Date Analyzed : 12/24/2024	Ceiling Panel	White Fibrous Homogenous	PLM 50% Cellulose PLM 40% Fiberglass	PLM 10% Other	PLM None Detected
1740091 54-CP-B Layer-1 Analyst: Chris Canilao Date Analyzed : 12/24/2024	Ceiling Panel	White Fibrous Homogenous	PLM 50% Cellulose PLM 40% Fiberglass	PLM 10% Other	PLM None Detected
1740092 54-CP-C Layer-1 Analyst: Chris Canilao Date Analyzed : 12/24/2024	Ceiling Panel	White Fibrous Homogenous	PLM 50% Cellulose PLM 40% Fiberglass	PLM 10% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740093 55-CP-A	Ceiling Panel	Gray Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-1 Analyst: Chris Canilao Date Analyzed : 12/24/2024					
1740093 55-CP-A	Brittle Material	White Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-2 Analyst: Chris Canilao Date Analyzed : 12/24/2024					
1740094 55-CP-B	Ceiling Panel	Gray Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-1 Analyst: Chris Canilao Date Analyzed : 12/24/2024					
1740094 55-CP-B		Layer Missing			
Layer-2 Analyst: Chris Canilao Date Analyzed : 12/24/2024 Layer Not Analyzed					
1740095 55-CP-C	Ceiling Panel	Gray Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-1 Analyst: Chris Canilao Date Analyzed : 12/24/2024					
1740095 55-CP-C	Brittle Material	White Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-2 Analyst: Chris Canilao Date Analyzed : 12/24/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740096 56-WP-A	Waterproofing	Black Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Chris Canilao Date Analyzed : 12/24/2024					
1740097 56-WP-B	Waterproofing	Black Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Chris Canilao Date Analyzed : 12/24/2024					
1740098 56-WP-C	Waterproofing	Black Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Chris Canilao Date Analyzed : 12/24/2024					
1740099 57-GTM-A	Gasket Material	Black Fibrous Non-Homogenous	PLM 40% Cellulose	PLM 60% Other	PLM None Detected
Layer-1 Analyst: Chris Canilao Date Analyzed : 12/24/2024					
With Fibrous Material					
1740099 57-GTM-A	Rubbery Material	Yellow Non-Fibrous Homogenous	PLM 5% Cellulose	PLM 95% Other	PLM None Detected
Layer-2 Analyst: Chris Canilao Date Analyzed : 12/24/2024					
1740099 57-GTM-A	Fibrous Material	Gray Fibrous Homogenous	PLM 60% Cellulose	PLM 30% Other	PLM 10% Chrysotile
Layer-3 Analyst: Chris Canilao Date Analyzed : 12/24/2024					

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Certificate of Analysis

Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
46555 Humboldt Dr. Suite 100
Novi,Michigan 48377

Location : 570 Red Cedar Rd, East Lansing, MI 48823
MSU Central Services Building

ETL Job : 275162
Client Project : 188BS24700
Date Collected : 12/20/2024
Date Received : 12/20/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740100 57-GTM-B		Layer Missing			
Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
Layer Not Analyzed					
1740100 57-GTM-B		Layer Missing			
Layer-2 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
Layer Not Analyzed					
1740100 57-GTM-B	Fibrous Material	Black Fibrous Homogenous		PLM 86% Other	PLM 14% Chrysotile
Layer-3 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740101 57-GTM-C		Layer Missing			
Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
Layer Not Analyzed					
1740101 57-GTM-C		Layer Missing			
Layer-2 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
Layer Not Analyzed					
1740101 57-GTM-C	Fibrous Material	Black Fibrous Homogenous		PLM 86% Other	PLM 14% Chrysotile
Layer-3 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740102 59-TI-A Layer-1 Analyst: Tia Ray Date Analyzed : 12/26/2024	Tank Insulation	Gray Fibrous Homogenous	PLM 10% Fiberglass	PLM 60% Other	PLM 30% Chrysotile
1740102 59-TI-A Layer-2 Analyst: Tia Ray Date Analyzed : 12/26/2024	Canvas	Gray Fibrous Homogenous	PLM 90% Cellulose	PLM 10% Other	PLM None Detected
1740102 59-TI-A Layer-3 Analyst: Tia Ray Date Analyzed : 12/26/2024	Insulation	White Fibrous Homogenous	PLM 90% Fiberglass	PLM 10% Other	PLM None Detected
1740103 59-TI-B Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025	Tank Insulation	White Fibrous Homogenous	PLM 10% Cellulose PLM 3% Fiberglass	PLM 62% Other	PLM 25% Chrysotile
1740103 59-TI-B Layer-2 Analyst: Alexis Rausch Date Analyzed : 02/26/2025	Canvas	Gray Fibrous Homogenous	PLM 90% Cellulose	PLM 10% Other	PLM None Detected
1740103 59-TI-B Layer-3 Analyst: Alexis Rausch Date Analyzed : 02/26/2025	Insulation	White Fibrous Homogenous	PLM 90% Fiberglass	PLM 10% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740104 59-TI-C	Tank Insulation	White Fibrous Homogenous	PLM 8% Fiberglass PLM 10% Cellulose	PLM 57% Other	PLM 25% Chrysotile
Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740104 59-TI-C	Canvas	Gray Fibrous Homogenous	PLM 90% Cellulose	PLM 10% Other	PLM None Detected
Layer-2 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740104 59-TI-C	Insulation	White Fibrous Homogenous	PLM 90% Fiberglass	PLM 10% Other	PLM None Detected
Layer-3 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740105 60-WB-A	Wallboard	White Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Nico Alvarez-Lopez Date Analyzed : 12/24/2024					
1740106 60-WB-B	Wallboard	White Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Nico Alvarez-Lopez Date Analyzed : 12/24/2024					
1740107 60-WB-C	Wallboard	White Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Nico Alvarez-Lopez Date Analyzed : 12/24/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740108 61-TPL-A	Textured Plaster	White Non-Fibrous Homogenous		PLM 97% Other	PLM 3% Chrysotile
Layer-1 Analyst: Nico Alvarez-Lopez Date Analyzed : 12/24/2024					
1740109 61-TPL-B	Textured Plaster	White Non-Fibrous Homogenous		PLM 97% Other	PLM 3% Chrysotile
Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740110 61-TPL-C	Textured Plaster	White Non-Fibrous Homogenous		PLM 97% Other	PLM 3% Chrysotile
Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740111 62-CB-A	Cove Base	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Nico Alvarez-Lopez Date Analyzed : 12/24/2024					
1740111 62-CB-A	Adhesive	Tan Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Nico Alvarez-Lopez Date Analyzed : 12/24/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740112 62-CB-B	Cove Base	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Nico Alvarez-Lopez Date Analyzed : 12/24/2024					
1740112 62-CB-B	Adhesive	Tan Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Nico Alvarez-Lopez Date Analyzed : 12/24/2024					
1740113 62-CB-C	Cove Base	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Nico Alvarez-Lopez Date Analyzed : 12/24/2024					
1740113 62-CB-C	Adhesive	Tan Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Nico Alvarez-Lopez Date Analyzed : 12/24/2024					
1740114 63-IC-A	Interior Caulk	Grey Non-Fibrous Homogenous	PC 0.75% Cellulose	PC 97% Other	PC 2.25% Chrysotile
Layer-1 Analyst: Nico Alvarez-Lopez Date Analyzed : 12/24/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740115 63-IC-B		Layer Missing			
Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
Layer Not Analyzed					
1740115 63-IC-B	Interior Caulk	Blue/Tan Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740116 63-IC-C	Interior Caulk	Blue/Grey Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 97% Other	PLM 3% Chrysotile
Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740117 64-VD-A	Vibration Dampener	White Fibrous Homogenous		PLM 80% Other	PLM 20% Chrysotile
Layer-1 Analyst: Nico Alvarez-Lopez Date Analyzed : 12/24/2024					
1740118 64-VD-B	Vibration Dampener	White Fibrous Homogenous		PLM 80% Other	PLM 20% Chrysotile
Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					
1740119 64-VD-C	Vibration Dampener	White Fibrous Homogenous		PLM 80% Other	PLM 20% Chrysotile
Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740120 65-CA-A	Construction Adhesive	Black/Dark Brown Non-Fibrous Non-Homogenous	PLM 1% Cellulose	PLM 96% Other	PLM 3% Chrysotile
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024 With Powdery Material					
1740121 65-CA-B	Construction Adhesive	Black/Dark Brown Non-Fibrous Non-Homogenous	PLM Trace Cellulose	PLM 97% Other	PLM 3% Chrysotile
Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025 With Powdery Material					
1740122 65-CA-C	Construction Adhesive	Black/Dark Brown Non-Fibrous Non-Homogenous	PLM Trace Cellulose	PLM 97% Other	PLM 3% Chrysotile
Layer-1 Analyst: Alexis Rausch Date Analyzed : 02/26/2025 With Powdery Material					
1740123 66-TPL-A	Textured Plaster	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024					
1740124 66-TPL-B	Textured Plaster	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024					
1740125 66-TPL-C	Textured Plaster	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740126 67-CP-A Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024	Ceiling Panel	Off-White Fibrous Homogenous	PLM 50% Cellulose PLM 40% Fiberglass	PLM 10% Other	PLM None Detected
1740127 67-CP-B Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024	Ceiling Panel	Off-White Fibrous Homogenous	PLM 50% Cellulose PLM 40% Fiberglass	PLM 10% Other	PLM None Detected
1740128 67-CP-C Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024	Ceiling Panel	Off-White Fibrous Homogenous	PLM 50% Cellulose PLM 40% Fiberglass	PLM 10% Other	PLM None Detected
1740129 68-PI-A Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024	Pipe Insulation	Black Non-Fibrous Homogenous	PLM 5% Cellulose	PLM 95% Other	PLM None Detected
1740130 68-PI-B Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024	Pipe Insulation	Black Non-Fibrous Homogenous	PLM 5% Cellulose	PLM 95% Other	PLM None Detected
1740131 68-PI-C Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024	Pipe Insulation	Black Non-Fibrous Homogenous	PLM 5% Cellulose	PLM 95% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740132 69-BM-A Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024	Brick Mortar	Red/Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740133 69-BM-B Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024	Brick Mortar	Red/Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740134 69-BM-C Layer-1 Analyst: James Farinas Date Analyzed : 12/24/2024	Brick Mortar	Red/Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740135 70-RI-A Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024	Rolled-In Insulation	Yellow Fibrous Homogenous	PLM 99% Fiberglass	PLM 1% Other	PLM None Detected
1740136 70-RI-B Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024	Rolled-In Insulation	Yellow Fibrous Homogenous	PLM 99% Fiberglass	PLM 1% Other	PLM None Detected
1740137 70-RI-C Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024	Rolled-In Insulation	Yellow Fibrous Homogenous	PLM 99% Fiberglass	PLM 1% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740138 71-CT-A Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024	Ceiling Tile	White Fibrous Homogenous	PLM 99% Cellulose	PLM 1% Other	PLM None Detected
1740139 71-CT-B Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024	Ceiling Tile	White Fibrous Homogenous	PLM 99% Cellulose	PLM 1% Other	PLM None Detected
1740140 71-CT-C Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024	Ceiling Tile	White Fibrous Homogenous	PLM 99% Cellulose	PLM 1% Other	PLM None Detected
1740141 72-CP-A Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024	Ceiling Panel	Yellowish White Fibrous Homogenous	PLM 35% Fiberglass	PLM 65% Other	PLM None Detected
1740142 72-CP-B Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024	Ceiling Panel	Yellowish White Fibrous Homogenous	PLM 35% Fiberglass	PLM 65% Other	PLM None Detected
1740143 72-CP-C Layer-1 Analyst: Alexis Rausch Date Analyzed : 12/24/2024	Ceiling Panel	Yellowish White Fibrous Homogenous	PLM 35% Fiberglass	PLM 65% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740144 73-CP-A Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024	Ceiling Panel	White Fibrous Homogenous	PLM 86% Cellulose	PLM 14% Other	PLM None Detected
1740145 73-CP-B Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024	Ceiling Panel	White Fibrous Homogenous	PLM 86% Cellulose	PLM 14% Other	PLM None Detected
1740146 73-CP-C Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024	Ceiling Panel	White Fibrous Homogenous	PLM 86% Cellulose	PLM 14% Other	PLM None Detected
1740147 74-CA-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Construction Adhesive	Black Non-Fibrous Homogenous	PLM 4% Cellulose	PLM 96% Other	PLM None Detected
1740148 74-CA-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Construction Adhesive	Black Non-Fibrous Homogenous	PLM 6% Cellulose	PLM 94% Other	PLM None Detected
1740149 74-CA-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Construction Adhesive	Black Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740150 75-IC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Interior Caulk	Gray Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
1740151 75-IC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Interior Caulk	Gray Non-Fibrous Homogenous	PLM 4% Cellulose	PLM 96% Other	PLM None Detected
1740152 75-IC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Interior Caulk	Gray Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
1740153 76-CB-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Cove Base	Black Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
1740153 76-CB-A Layer-2 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Adhesive	Purple Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740154 76-CB-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Cove Base	Black Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
1740154 76-CB-B Layer-2 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Adhesive	Purple Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
1740155 76-CB-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Cove Base	Black Non-Fibrous Homogenous	PLM 5% Cellulose	PLM 95% Other	PLM None Detected
1740155 76-CB-C Layer-2 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Adhesive	Purple Non-Fibrous Homogenous	PLM 5% Cellulose	PLM 95% Other	PLM None Detected
1740156 77-WG-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Window Glaze	Black Non-Fibrous Homogenous	PLM 5% Cellulose	PLM 95% Other	PLM None Detected
1740157 77-WG-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Window Glaze	Black Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740158 77-WG-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Window Glaze	Black Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740159 79-FS-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024 With Backing	Vinyl Sheeting	Light Brown Fibrous Non-Homogenous	PLM 8% Cellulose	PLM 77% Other	PLM 15% Chrysotile
1740160 79-FS-B Layer-1 Analyst: OJ Ivey Date Analyzed : 02/26/2025 With Backing	Vinyl Sheeting	Light Brown Fibrous Non-Homogenous	PLM 15% Cellulose	PLM 70% Other	PLM 15% Chrysotile
1740161 79-FS-C Layer-1 Analyst: OJ Ivey Date Analyzed : 02/26/2025 With Backing	Vinyl Sheeting	Light Brown Fibrous Non-Homogenous	PLM 35% Cellulose	PLM 50% Other	PLM 15% Chrysotile
1740162 80-IC-A Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024	Interior Caulk	Brown Non-Fibrous Homogenous		PC 98.25% Other	PC 1.75% Chrysotile

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Environmental Testing Laboratories, Inc.
37575 W Huron River Drive
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(734) 955-6600, Fax: (734) 955-6604

Certificate of Analysis

Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
46555 Humboldt Dr. Suite 100
Novi,Michigan 48377

Location : 570 Red Cedar Rd, East Lansing, MI 48823
MSU Central Services Building

ETL Job : 275162
Client Project : 188BS24700
Date Collected : 12/20/2024
Date Received : 12/20/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740163 80-IC-B	Interior Caulk	Brown Fibrous Homogenous	PLM 7% Cellulose	PLM 91% Other	PLM 2% Chrysotile
Layer-1 Analyst: OJ Ivey Date Analyzed : 02/26/2025					
1740163 80-IC-B	Cementitious Material	Grey Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: OJ Ivey Date Analyzed : 02/26/2025					
1740164 80-IC-C	Interior Caulk	Brown Fibrous Homogenous	PLM 9% Cellulose	PLM 89% Other	PLM 2% Chrysotile
Layer-1 Analyst: OJ Ivey Date Analyzed : 02/26/2025					
1740164 80-IC-C	Cementitious Material	Grey Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: OJ Ivey Date Analyzed : 02/26/2025					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740165 81-GM-A	Ceramic Tile	Blue Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740165 81-GM-A	Grout	Grey Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740165 81-GM-A	Mortar	Grey Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-3 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740166 81-GM-B	Ceramic Tile	Blue Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740166 81-GM-B	Grout	Grey Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740166 81-GM-B	Mortar	Grey Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-3 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740167 81-GM-C	Ceramic Tile	Blue Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740167 81-GM-C	Grout	Grey Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740167 81-GM-C	Mortar	Grey Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-3 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740167 81-GM-C	Rubbery Material	Brown Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-4 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740168 82-GM-A	Ceramic Tile	Blue Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740168 82-GM-A	Grout	White Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740168 82-GM-A	Mortar	Grey Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-3 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740169 82-GM-B	Ceramic Tile	Blue Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740169 82-GM-B	Grout	White Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740169 82-GM-B	Mortar	Grey Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-3 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740170 82-GM-C	Ceramic Tile	Blue Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740170 82-GM-C	Grout	White Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740170 82-GM-C	Mortar	Grey Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-3 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740171 83-IC-A	Interior Caulk	White Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740172 83-IC-B	Interior Caulk	White Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740173 83-IC-C	Interior Caulk	White Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740174 84-EJ-A	Expansion Joint	Grey Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740175 84-EJ-B	Expansion Joint	Grey Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740176 84-EJ-C	Expansion Joint	Grey Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740176 84-EJ-C	Brittle Material	Grey Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740177 85-CM-A	Carpet Mastic	Green Non-Fibrous Homogenous	PLM 5% Cellulose	PLM 95% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740178 85-CM-B	Carpet Mastic	Green Non-Fibrous Homogenous	PLM 5% Cellulose	PLM 95% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740179 85-CM-C Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024	Carpet Mastic	Green Non-Fibrous Homogenous	PLM 5% Cellulose	PLM 95% Other	PLM None Detected
1740180 87-IC-A Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024	Interior Caulk	Black Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740181 87-IC-B Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024	Interior Caulk	Black Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740182 87-IC-C Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024	Interior Caulk	Black Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740183 88-FT-A Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024	Floor Tile	Wood Pattern Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740183 88-FT-A Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024	Mastic	Yellow Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740184 88-FT-B	Floor Tile	Wood Pattern Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740184 88-FT-B	Mastic	Yellow Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740185 88-FT-C	Floor Tile	Wood Pattern Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740185 88-FT-C	Mastic	Yellow Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740186 89-WG-A	Window Glaze	Beige Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740187 89-WG-B	Window Glaze	Beige Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740187 89-WG-B	Brittle Material	Pink Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740188 89-WG-C		Layer Missing			
Layer-1 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
Layer Not Analyzed					
1740188 89-WG-C	Brittle Material	Pink Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Teagan Murphy Date Analyzed : 12/26/2024					
1740189 90-EJ-A	Expansion Joint	Gray Non-Fibrous Homogenous		PLM 92% Other	PLM 8% Chrysotile
Layer-1 Analyst: Tia Ray Date Analyzed : 12/26/2024					
1740190 90-EJ-B	Expansion Joint	Gray Fibrous Homogenous	PLM 5% Cellulose	PLM 87% Other	PLM 8% Chrysotile
Layer-1 Analyst: OJ Ivey Date Analyzed : 02/26/2025					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740191 90-EJ-C	Expansion Joint	Gray Fibrous Homogenous	PLM 4% Cellulose	PLM 90% Other	PLM 6% Chrysotile
Layer-1 Analyst: OJ Ivey Date Analyzed : 02/26/2025					
1740192 91-EJ-A	Expansion Joint	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 12/26/2024					
1740193 91-EJ-B	Expansion Joint	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 12/26/2024					
1740193 91-EJ-B	Tacky Material	Gray Non-Fibrous Homogenous		PLM 98% Other	PLM 2% Chrysotile
Layer-2 Analyst: Tia Ray Date Analyzed : 12/26/2024					
1740194 91-EJ-C	Expansion Joint	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 12/26/2024					
1740194 91-EJ-C		Layer Missing			
Layer-2 Analyst: Tia Ray Date Analyzed : 12/26/2024 Layer Not Analyzed					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740195 92-EJ-A Layer-1 Analyst: Tia Ray Date Analyzed : 12/26/2024	Expansion Joint	Black Non-Fibrous Homogenous	PLM 5% Cellulose	PLM 95% Other	PLM None Detected
1740196 92-EJ-B Layer-1 Analyst: Tia Ray Date Analyzed : 12/26/2024	Expansion Joint	Black Non-Fibrous Homogenous	PLM 5% Cellulose	PLM 95% Other	PLM None Detected
1740197 92-EJ-C Layer-1 Analyst: Tia Ray Date Analyzed : 12/26/2024	Expansion Joint	Black Non-Fibrous Homogenous	PLM 5% Cellulose	PLM 95% Other	PLM None Detected
1740198 93-CC-A Layer-1 Analyst: Tia Ray Date Analyzed : 12/26/2024	Concrete Chip	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740199 93-CC-B Layer-1 Analyst: Tia Ray Date Analyzed : 12/26/2024	Concrete Chip	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740200 93-CC-C Layer-1 Analyst: Tia Ray Date Analyzed : 12/26/2024	Concrete Chip	Gray Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740201 94-WP-A	Waterproofing	Black Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740202 94-WP-B	Waterproofing	Black Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740203 94-WP-C	Waterproofing	Black Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740204 95-GBM-A	Glass Block Mortar	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740204 95-GBM-A		Layer Missing			
Layer-2 Analyst: Ben Jones Date Analyzed : 12/26/2024 Layer Not Analyzed					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740205 95-GBM-B	Glass Block Mortar	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740205 95-GBM-B		Layer Missing			
Layer-2 Analyst: Ben Jones Date Analyzed : 12/26/2024 Layer Not Analyzed					
1740206 95-GBM-C	Glass Block Mortar	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740206 95-GBM-C		Layer Missing			
Layer-2 Analyst: Ben Jones Date Analyzed : 12/26/2024 Layer Not Analyzed					
1740207 96-EC-A	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740208 96-EC-B	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740209 96-EC-C	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740210 97-WG-A	Window Glaze	Gray Non-Fibrous Homogenous	PC 0.5% Cellulose	PC 99.25% Other	PC 0.25% Chrysotile
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740211 97-WG-B	Window Glaze	Gray Non-Fibrous Homogenous		PC 100% Other	PC None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740212 97-WG-C	Window Glaze	Gray Non-Fibrous Homogenous	PC 0.25% Cellulose	PC 99.75% Other	PC Trace Chrysotile
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740213 98-WG-A	Window Glaze	Gray Non-Fibrous Homogenous	PC 0.25% Cellulose	PC 99.5% Other	PC 0.25% Chrysotile
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					
1740214 98-WG-B	Window Glaze	Gray Non-Fibrous Homogenous	PC 0.5% Cellulose	PC 99.5% Other	PC None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024					

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740215 98-WG-C Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024	Window Glaze	Gray Non-Fibrous Homogenous	PC 0.25% Cellulose	PC 99.75% Other	PC None Detected
1740216 99-WG-A Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024	Window Glaze	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
1740217 99-WG-B Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024	Window Glaze	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
1740218 99-WG-C Layer-1 Analyst: Ben Jones Date Analyzed : 12/26/2024	Window Glaze	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
1740219 100-EC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 90% Other	PLM 7% Chrysotile
1740220 100-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 02/26/2025	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 7% Cellulose	PLM 86% Other	PLM 7% Chrysotile

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Environmental Testing Laboratories, Inc.
37575 W Huron River Drive
Romulus, Michigan 48174
(734) 955-6600, Fax: (734) 955-6604

Certificate of Analysis

Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
46555 Humboldt Dr. Suite 100
Novi,Michigan 48377

Location : 570 Red Cedar Rd, East Lansing, MI 48823
MSU Central Services Building

ETL Job : 275162
Client Project : 188BS24700
Date Collected : 12/20/2024
Date Received : 12/20/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740221 100-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 02/26/2025	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 6% Cellulose	PLM 87% Other	PLM 7% Chrysotile
1740222 101-EC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Black Non-Fibrous Homogenous	PLM 6% Cellulose	PLM 94% Other	PLM None Detected
1740223 101-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Black Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
1740224 101-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Black Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
1740225 102-EC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Fibrous Homogenous	PLM 8% Cellulose	PLM 87% Other	PLM 5% Chrysotile
1740226 102-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 02/26/2025	Exterior Caulk	Gray Fibrous Homogenous	PLM 15% Cellulose	PLM 80% Other	PLM 5% Chrysotile

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740227 102-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 02/26/2025	Exterior Caulk	Gray Fibrous Homogenous	PLM 13% Cellulose	PLM 82% Other	PLM 5% Chrysotile
1740228 103-EC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 91% Other	PLM 6% Chrysotile
1740229 103-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 02/26/2025	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 5% Cellulose	PLM 87% Other	PLM 8% Chrysotile
1740230 103-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 02/26/2025	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 5% Cellulose	PLM 88% Other	PLM 7% Chrysotile
1740231 104-EC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
1740232 104-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 4% Cellulose	PLM 96% Other	PLM None Detected

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1740233 104-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
1740234 105-RM-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Roofing Material	Black Non-Fibrous Homogenous	PLM 5% Cellulose	PLM 95% Other	PLM None Detected
1740234 105-RM-A Layer-2 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Fibrous Material	Pink Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
1740234 105-RM-A Layer-3 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Vapor Paper	Black Fibrous Homogenous	PLM 25% Cellulose	PLM 75% Other	PLM None Detected
1740234 105-RM-A Layer-4 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Tar	Black Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740235 105-RM-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Roofing Material	Black Non-Fibrous Homogenous	PLM 7% Cellulose	PLM 93% Other	PLM None Detected
1740235 105-RM-B Layer-2 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Fibrous Material	Pink Fibrous Homogenous	PLM 45% Cellulose	PLM 55% Other	PLM None Detected
1740235 105-RM-B Layer-3 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Vapor Paper	Black Fibrous Homogenous	PLM 23% Cellulose	PLM 77% Other	PLM None Detected
1740235 105-RM-B Layer-4 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Tar	Black Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740236 105-RM-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Roofing Material	Black Non-Fibrous Homogenous	PLM 6% Cellulose	PLM 94% Other	PLM None Detected
1740236 105-RM-C Layer-2 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Fibrous Material	Pink Fibrous Homogenous	PLM 55% Cellulose	PLM 45% Other	PLM None Detected
1740236 105-RM-C Layer-3 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Vapor Paper	Black Fibrous Homogenous	PLM 15% Cellulose	PLM 85% Other	PLM None Detected
1740236 105-RM-C Layer-4 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Tar	Black Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740237 105-RM-D Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Roofing Material	Black Non-Fibrous Homogenous	PLM 10% Cellulose	PLM 90% Other	PLM None Detected
1740237 105-RM-D Layer-2 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Fibrous Material	Pink/Blue Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740237 105-RM-D Layer-3 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Vapor Paper	Black Fibrous Homogenous	PLM 20% Cellulose	PLM 80% Other	PLM None Detected
1740237 105-RM-D Layer-4 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Tar	Black Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
1740238 106-CC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Concrete Chip	Gray Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
1740239 106-CC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Concrete Chip	Gray Non-Fibrous Homogenous	PLM 4% Cellulose	PLM 96% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740240 106-CC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Concrete Chip	Gray Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
1740241 107-TC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Terracotta	Red Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
1740242 107-TC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Terracotta	Red Non-Fibrous Homogenous	PLM 4% Cellulose	PLM 96% Other	PLM None Detected
1740243 107-TC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Terracotta	Red Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
1740244 108-EC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
1740245 108-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740246 108-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740247 109-EC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Black Non-Fibrous Homogenous	PLM 4% Cellulose	PLM 96% Other	PLM None Detected
1740248 109-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Black Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
1740249 109-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Black Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
1740250 110-EC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Black Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740251 110-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Black Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740252 110-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Black Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
1740253 111-EC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Dark Gray Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
1740254 111-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Dark Gray Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
1740255 111-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Dark Gray Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
1740256 112-EC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Light Gray Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
1740257 112-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Light Gray Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740258 112-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Light Gray Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
1740259 113-EC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740260 113-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
1740261 113-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
1740262 114-EC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	White Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
1740263 114-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	White Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740264 114-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	White Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740265 115-EC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 4% Cellulose	PLM 96% Other	PLM None Detected
1740266 115-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
1740267 115-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 5% Cellulose	PLM 95% Other	PLM None Detected
1740268 116-EC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 4% Cellulose	PLM 96% Other	PLM None Detected
1740269 116-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 4% Cellulose	PLM 96% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740270 116-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740271 117-EC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Dark Gray Non-Fibrous Homogenous	PLM 4% Cellulose	PLM 86% Other	PLM 10% Chrysotile
1740272 117-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 02/26/2025	Exterior Caulk	Dark Grey Fibrous Homogenous	PLM 5% Cellulose	PLM 85% Other	PLM 10% Chrysotile
1740273 117-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 02/26/2025	Exterior Caulk	Dark Grey Fibrous Homogenous	PLM 6% Cellulose	PLM 84% Other	PLM 10% Chrysotile
1740274 118-EC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 6% Cellulose	PLM 94% Other	PLM None Detected
1740275 118-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740276 118-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
1740277 119-EC-A Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Pink Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected
1740278 119-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Pink Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
1740279 119-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024	Exterior Caulk	Pink Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
1740280 120-EC-A Layer-1 Analyst: Tia Ray Date Analyzed : 12/26/2024	Exterior Caulk	White Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740281 120-EC-B Layer-1 Analyst: Tia Ray Date Analyzed : 12/26/2024	Exterior Caulk	White Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected

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1740282 120-EC-C Layer-1 Analyst: Tia Ray Date Analyzed : 12/26/2024	Exterior Caulk	White Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740283 121-EC-A Layer-1 Analyst: Tia Ray Date Analyzed : 12/26/2024	Exterior Caulk	Gray Non-Fibrous Homogenous		PLM 95% Other	PLM 5% Chrysotile
1740284 121-EC-B Layer-1 Analyst: OJ Ivey Date Analyzed : 02/26/2025	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 4% Cellulose	PLM 91% Other	PLM 5% Chrysotile
1740284 121-EC-B Layer-2 Analyst: OJ Ivey Date Analyzed : 02/26/2025	Rubbery Material	White Non-Fibrous Homogenous		PLM 100% Other	PLM None Detected
1740285 121-EC-C Layer-1 Analyst: OJ Ivey Date Analyzed : 02/26/2025	Exterior Caulk	Gray Non-Fibrous Homogenous	PLM 6% Cellulose	PLM 90% Other	PLM 4% Chrysotile
1740285 121-EC-C Layer-2 Analyst: OJ Ivey Date Analyzed : 02/26/2025	Rubbery Material	White Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 97% Other	PLM None Detected

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Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
46555 Humboldt Dr. Suite 100
Novi,Michigan 48377

Location : 570 Red Cedar Rd, East Lansing, MI 48823
MSU Central Services Building

ETL Job : 275162
Client Project : 188BS24700
Date Collected : 12/20/2024
Date Received : 12/20/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740286 122-EC-A	Exterior Caulk	Black Non-Fibrous Homogenous		PLM 95% Other	PLM 5% Chrysotile
Layer-1 Analyst: OJ Ivey Date Analyzed : 12/26/2024					
1740287 122-EC-B	Exterior Caulk	Black Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 93% Other	PLM 5% Chrysotile
Layer-1 Analyst: OJ Ivey Date Analyzed : 02/26/2025					

NVLAP LAB CODE 201028-0

Certificate of Analysis

Environmental Testing Laboratories, Inc.
37575 W Huron River Drive
Romulus, Michigan 48174
(734) 955-6600, Fax: (734) 955-6604

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1740288 122-EC-C	Exterior Caulk	Black Non-Fibrous Homogenous	PLM 3% Cellulose	PLM 92% Other	PLM 5% Chrysotile

Layer-1 Analyst: OJ Ivey
Date Analyzed : 02/26/2025

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos

Emily Schrader

Lab Supervisor/Other Signatory

Analyst:

Ben Jones

Ben Jones

Chris Canilao

Chris Canilao

Nico Alvarez-Lopez

Nico Alvarez-Lopez

Alexis Rausch

Alexis Rausch

James Farinas

James Farinas

Orlando James Ivey

OJ Ivey

Teagan Murphy

Teagan Murphy

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Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos

Tia Ray

400 Point Count Results by EPA 600/R-93/116 PLM (denoted by "PC")
Item 198.1: PLM Methods for Identifying and Quantitating Asbestos in Bulk Samples
Item 198.6: PLM Methods for Identifying and Quantitating Asbestos in Non-Friable Organically Bound Bulk Samples
EPA 600/R-93/116: Method for Determination of Asbestos in Bulk Building Materials
EPA 600/M4-82-020: Interim Method for Determination of Asbestos in Bulk Insulation Samples
A % Asbestos result of "Trace" indicates that the analyzed material was found to contain less than 1% asbestos and would not be considered an Asbestos Containing Material (ACM).

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Bulk Asbestos Chain of Custody

ETL Project #: 2751162

Client:	Atlas Technical Consultants	**Contact:** Rob Smith	**Project Location/name:** 570 RED CEDAR ROAD, EAST LANSING, MICHIGAN 48823 / MSU CENTRAL SERVICES BUILDING
		Phone: 248-669-5140	
Address:	46555 Humboldt Dr. Ste. 100 Novi, MI 48377	**Fax:** 248-669-5147	
		E-mail:	**Client Project #:** 188BS24700
Please Provide Results: ☐ Email ☐ Fax ☐ Verbal ☐ Other _____			**Date Sampled:** 12/6/2024

Turnaround Time (TAT): ☐ RUSH ☐ Same Day ☐ 24 hr ☐ 48 hr ☐ Standard (3-5 days) X **Other** 72 hours

PLM Instructions (Check all that apply)	
X PLM EPA600/R-93/116, 1993 (Standard method)	X Stop at 1st Positive - *Clearly mark Homogenous Group*
Point Counting: ☐ 400 Points* ☐ NYSDOH ELAP 198.1, 2002*	
☐ Gravimetric Reduction* ☐ NYSDOH ELAP 198.6, 2010*	
☐ PLM Non-Building Material (Dust, Wipe, Tape)	☐ Soil or Vermiculite Analysis*

** Additional charge and turnaround may be required*

Lab ID	Sample ID	Material Description	Sample Location	Quantity
—	1 - NOT SAMPLED	Fire door & frame - metal - ASSUMED	ASSUMED MATERIAL	97 Doors
—	2 - NOT SAMPLED	Fire door & frame - wood - ASSUMED	ASSUMED MATERIAL	19 Doors
1739 935	3-CC-A	Concrete chip - concrete slab foundation & decks	FS-1	69470 SF
936	3-CC-B	Concrete chip - concrete slab foundation & decks	FS-19	NA
937	3-CC-C	Concrete chip - concrete slab foundation & decks	FS-4	NA
938	4-TZ-A	Terrazzo flooring - Grey mix with white, beige, and black stone	FS-16	3122 SF
939	4-TZ-B	Terrazzo flooring - Grey mix with white, beige, and black stone	FS-17	NA
940	4-TZ-C	Terrazzo flooring - Grey mix with white, beige, and black stone	FS-28	NA
941	5-BM-A	Brick mortar - CMU block walls	FS-27	40405 SF
942	5-BM-B	Brick mortar - CMU block walls	FS-62	NA
943	5-BM-C	Brick mortar - CMU block walls	FS-76	NA

		Date	Time
Relinquished (Name/Organization):	Andrew DeLodder / Atlas Technical Consultants	12/18/2024	12:00pm am/pm
Received (Name/ETL):		12.19.24	3:35 am/pm
Sample Login (Name/ETL):		12.20.24	7:37 am/pm
Stereoscopical/Sample Analysis (Name/ETL)			am/pm
Results (Name/ETL):			am/pm
QA/QC Review (Name/ETL):		12/26/24	2:50 am/pm

Special Instructions:
- 1st Positive Stop;
- Composite all drywall/joint compound samples if any layer of system is greater than 1% asbestos;
- Point Count ALL PLASTER samples Trace to 3% asbestos content
- Point Count ALL SAMPLES Trace to 1% asbestos content

Remarks

9

****IN ORDER TO ENSURE RESULTS BY SPECIFIED TAT, THE LAB MUST BE EMAILED/CALLED WITH THE QUANTITY OF SAMPLES TO BE SHIPPED OR DROPPED OFF**

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Bulk Asbestos
Chain of Custody

ETL Project #: 275162

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

1739

Lab ID	Sample ID	Material Description	Sample Location	QUANTITY
944	6-BM-A	Brick mortar - glazed ceramic block walls	FS-2	33190 SF
945	6-BM-B	Brick mortar - glazed ceramic block walls	FS-16	NA
946	6-BM-C	Brick mortar - glazed ceramic block walls	FS-32	NA
947	7-BM-A	Brick mortar - skim coat on CMU block walls	FS-1	341 SF
948	7-BM-B	Brick mortar - skim coat on CMU block walls	FS-1	NA
949	7-BM-C	Brick mortar - skim coat on CMU block walls	FS-39	NA
950	8-GM-A	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	FS-1	28014 SF
951	8-GM-B	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	FS-29	NA
952	8-GM-C	Ceramic tile, grout, mortar - 6" red tile with grey grout, mortar	FS-46	NA
953	9-IC-A	Interior caulk - red, penetrations / void filler	FS-1	225 LF
954	9-IC-B	Interior caulk - red, penetrations / void filler	FS-39	NA
955	9-IC-C	Interior caulk - red, penetrations / void filler	FS-76	NA
956	10-IC-A	Interior caulk - grey, penetrations / void filler	FS-1	57 LF
957	10-IC-B	Interior caulk - grey, penetrations / void filler	FS-6	NA
958	10-IC-C	Interior caulk - grey, penetrations / void filler	FS-78	NA
959	11-IC-A	Interior caulk - Dark brown, perimeter of door/window frames	FS-1	880 LF
960	11-IC-B	Interior caulk - Dark brown, perimeter of door/window frames	FS-7	NA
961	11-IC-C	Interior caulk - Dark brown, perimeter of door/window frames	FS-36	NA
962	12-PI-A	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	FS-57	3410 LF
963	12-PI-B	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	FS-73	NA
964	12-PI-C	Pipe insulation - paper wrapped fiberglass insulation, white colored wrapping	FS-76	NA
965	13-PF-A	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	FS-57	1456 Fittings
966	13-PF-B	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	FS-73	NA
967	13-PF-C	Pipe fitting - plastic covered fiberglass insulation, on white colored paper wrapped fiberglass insulation lines	FS-76	NA
968	14-IC-A	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	FS-57	145 LF
969	14-IC-B	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	FS-73	NA
970	14-IC-C	Interior caulk - white, soft, on seams of white colored paper wrapped fiberglass pipe insulation lines	FS-76	NA
971	15-PI-A	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	FS-69	1830 LF
972	15-PI-B	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	FS-7	NA
973	15-PI-C	Pipe insulation - paper wrapped fiberglass insulation, brown colored wrapping	FS-10	NA
974	16-PF-A	Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines	FS-1	283 Fittings
975	16-PF-B	Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines	FS-69	NA
976	16-PF-C	Pipe fitting - canvas covered mudded fitting on brown colored paper wrapped fiberglass insulation lines	FS-54	NA
977	17-HM-A	Hanger mud - on brown colored paper wrapped fiberglass insulation lines	FS-1	78 Hangers
978	17-HM-B	Hanger mud - on brown colored paper wrapped fiberglass insulation lines	FS-1	NA
979	17-HM-C	Hanger mud - on brown colored paper wrapped fiberglass insulation lines	FS-1	NA
980	18-PI-A	Pipe insulation - wool felt, blue colored sprinkler lines	FS-74	875 LF
981	18-PI-B	Pipe insulation - wool felt, blue colored sprinkler lines	FS-1	NA
982	18-PI-C	Pipe insulation - wool felt, blue colored sprinkler lines	FS-27	NA
983	19-PF-A	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	FS-1	159 Fittings
984	19-PF-B	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	FS-74	NA
985	19-PF-C	Pipe fitting - canvas covered mudded fitting, on wool felt blue colored sprinkler wool felt insulation lines	FS-21	NA
986	20-PI-A	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	FS-7	468 LF
987	20-PI-B	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	FS-16	NA
988	20-PI-C	Pipe insulation - aircell pipe insulation on steam lines, painted and non-painted	FS-43	NA

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Bulk Asbestos
Chain of Custody

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Lab ID	Sample ID	Material Description	Sample Location	QUANTITY
1739 989	21-PF-A	Pipe fitting - canvas covered mudded fittings, on aircell steam line	FS-7	93 Fittings
990	21-PF-B	Pipe fitting - canvas covered mudded fittings, on aircell steam line	FS-16	NA
991	21-PF-C	Pipe fitting - canvas covered mudded fittings, on aircell steam line	FS-43	NA
992	22-PI-A	Pipe insulation - cork	FS-1	11 LF
993	22-PI-B	Pipe insulation - cork	FS-2	NA
994	22-PI-C	Pipe insulation - cork	FS-2	NA
995	23-CI-A	Cork wall insulation - inside wall between the two block layers	FS-4	15645 SF
996	23-CI-B	Cork wall insulation - inside wall between the two block layers	FS-11	NA
997	23-CI-C	Cork wall insulation - inside wall between the two block layers	FS-40	NA
998	24-CI-A	Cork insulation - exterior adhered cork insulation	FS-7	16430 SF
999	24-CI-B	Cork insulation - exterior adhered cork insulation	FS-3	NA
1740 000	24-CI-C	Cork insulation - exterior adhered cork insulation	FS-25	NA
001	25-IC-A	Interior caulk - greenish grey, hard, inside electrical boxes	FS-2	10 LF
002	25-IC-B	Interior caulk - greenish grey, hard, inside electrical boxes	FS-2	NA
003	25-IC-C	Interior caulk - greenish grey, hard, inside electrical boxes	FS-10	NA
004	26-PI-A	Pipe insulation - horse hair bands under metal hangers	FS-3	5 LF
005	26-PI-B	Pipe insulation - horse hair bands under metal hangers	FS-3	NA
006	26-PI-C	Pipe insulation - horse hair bands under metal hangers	FS-30	NA
007	27-FT-A	Floor tile - 12" beige tile with red streaks,	FS-6	100 SF
008	27-FT-B	Floor tile - 12" beige tile with red streaks,	FS-6	NA
009	27-FT-C	Floor tile - 12" beige tile with red streaks,	FS-6	NA
010	28-CB-A	Cove base - 4" brown vinyl with adhesive	FS-6	40 LF
011	28-CB-B	Cove base - 4" brown vinyl with adhesive	FS-6	NA
012	28-CB-C	Cove base - 4" brown vinyl with adhesive	FS-6	NA
013	29-CP-A	Ceiling panel - 2' white pinhole/fissure texture	FS-6	7480 SF
014	29-CP-B	Ceiling panel - 2' white pinhole/fissure texture	FS-6	NA
015	29-CP-C	Ceiling panel - 2' white pinhole/fissure texture	FS-6	NA
016	30-BM-A	Brick mortar - 12"x4" concrete bricks	FS-7	2350 SF
017	30-BM-B	Brick mortar - 12"x4" concrete bricks	FS-7	NA
018	30-BM-C	Brick mortar - 12"x4" concrete bricks	FS-7	NA
019	31-BM-A	Brick mortar - 2"x6" concrete bricks	FS-7	200 SF
020	31-BM-B	Brick mortar - 2"x6" concrete bricks	FS-7	NA
021	31-BM-C	Brick mortar - 2"x6" concrete bricks	FS-7	NA
022	32-IC-A	Interior caulk - black, perimeter of cork insulation	FS-7	160 LF
023	32-IC-B	Interior caulk - black, perimeter of cork insulation	FS-8	NA
024	32-IC-C	Interior caulk - black, perimeter of cork insulation	FS-9	NA
025	33-WG-A	Window glaze - grey caulk	FS-7	1 Window
026	33-WG-B	Window glaze - grey caulk	FS-7	NA
027	33-WG-C	Window glaze - grey caulk	FS-7	NA
028	34-TI-A	Tank insulation	FS-7	1 Tank
029	34-TI-B	Tank insulation	FS-7	NA
030	34-TI-C	Tank insulation	FS-7	NA
031	35-WG-A	Window glaze - black, on door window	FS-8	2 Windows
032	35-WG-B	Window glaze - black, on door window	FS-9	NA
033	35-WG-C	Window glaze - black, on door window	FS-9	NA

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0034	36-FT-A	Floor tile - 12" light brown with mottle, box of tile	FS-13	4 Boxes
0035	36-FT-B	Floor tile - 12" light brown with mottle, box of tile	FS-13	NA
036	36-FT-C	Floor tile - 12" light brown with mottle, box of tile	FS-13	NA
037	37-FT-A	Floor tile - 12" white with black streaks, box of tile	FS-13	6 Boxes
038	37-FT-B	Floor tile - 12" white with black streaks, box of tile	FS-13	NA
039	37-FT-C	Floor tile - 12" white with black streaks, box of tile	FS-13	NA
040	38-WG-A	Window glaze - White glaze, metal window leaned against wall	FS-13	1 Window
041	38-WG-B	Window glaze - White glaze, metal window leaned against wall	FS-13	NA
042	38-WG-C	Window glaze - White glaze, metal window leaned against wall	FS-13	NA
043	39-WG-A	Window glaze - soft, grey, metal window	FS-14	1 Window
044	39-WG-B	Window glaze - soft, grey, metal window	FS-14	NA
045	39-WG-C	Window glaze - soft, grey, metal window	FS-14	NA
046	40-WBS-A	Wallboard system - buildout - wet wall	FS-16	2535 SF
047	40-WBS-B	Wallboard system - buildout - wet wall	FS-49	NA
048	40-WBS-C	Wallboard system - buildout - wet wall	FS-35	NA
049	41-CB-A	Cove base 4" black vinyl with adhesive	FS-16	1315 LF
050	41-CB-B	Cove base 4" black vinyl with adhesive	FS-22	NA
051	41-CB-C	Cove base 4" black vinyl with adhesive	FS-46	NA
052	42-GP-A	Glue pod - brown	FS-17	285 SF
053	42-GP-B	Glue pod - brown	FS-35	NA
054	42-GP-C	Glue pod - brown	FS-36	NA
055	43-TPL-A	Textured plaster - rough texture, walls	FS-19	4470 SF
056	43-TPL-B	Textured plaster - rough texture, walls	FS-22	NA
057	43-TPL-C	Textured plaster - rough texture, walls	FS-23	NA
058	43-TPL-D	Textured plaster - rough texture, walls	FS-23	NA
059	43-TPL-E	Textured plaster - rough texture, walls	FS-23	NA
060	44-PI-A	Pipe insulation - magnesia	FS-25	985 LF
061	44-PI-B	Pipe insulation - magnesia	FS-20	NA
062	44-PI-C	Pipe insulation - magnesia	FS-19	NA
063	45-PF-A	Pipe fitting - canvas wrapped mudded fitting on magnesia line	FS-25	200 Fittings
064	45-PF-B	Pipe fitting - canvas wrapped mudded fitting on magnesia line	FS-20	NA
065	45-PF-C	Pipe fitting - canvas wrapped mudded fitting on magnesia line	FS-19	NA
066	46-BM-A	Brick mortar - beige glazed ceramic block	FS-20	11475 SF
067	46-BM-B	Brick mortar - beige glazed ceramic block	FS-21	NA
068	46-BM-C	Brick mortar - beige glazed ceramic block	FS-69	NA
069	47-IC-A	Interior caulk - white, hard, on restroom fixtures	FS-20	35 LF
070	47-IC-B	Interior caulk - white, hard, on restroom fixtures	FS-21	NA
071	47-IC-C	Interior caulk - white, hard, on restroom fixtures	FS-49	NA
072	48-PTN-A	Bathroom partition insulation - pressed paper	FS-20	95 SF
073	48-PTN-B	Bathroom partition insulation - pressed paper	FS-21	NA
074	48-PTN-C	Bathroom partition insulation - pressed paper	FS-21	NA
075	49-WG-A	Window glaze - beige glaze, window in metal door	FS-20	11 Windows
076	49-WG-B	Window glaze - beige glaze, window in metal door	FS-21	NA
077	49-WG-C	Window glaze - beige glaze, window in metal door	FS-23	NA

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078	50-FT-A	Floor tile - 9" black tile, black mastic	FS-22	210 SF
079	50-FT-B	Floor tile - 9" black tile, black mastic	FS-22	NA
080	50-FT-C	Floor tile - 9" black tile, black mastic	FS-22	NA
081	51-FT-A	Floor tile - 9" dark brown, black mastic	FS-22	210 SF
082	51-FT-B	Floor tile - 9" dark brown, black mastic	FS-22	NA
083	51-FT-C	Floor tile - 9" dark brown, black mastic	FS-22	NA
084	52-FT-A	Floor tile - 9" grey with black streaks, black mastic	FS-22	210 SF
085	52-FT-B	Floor tile - 9" grey with black streaks, black mastic	FS-22	NA
086	52-FT-C	Floor tile - 9" grey with black streaks, black mastic	FS-22	NA
087	53-CP-A	Ceiling panel - 2' white rough texture with foil backing	FS-25	45 SF
088	53-CP-B	Ceiling panel - 2' white rough texture with foil backing	FS-25	NA
089	53-CP-C	Ceiling panel - 2' white rough texture with foil backing	FS-25	NA
090	54-CP-A	Ceiling panel - 2' white composite with metal cover	FS-25	10 SF
091	54-CP-B	Ceiling panel - 2' white composite with metal cover	FS-25	NA
092	54-CP-C	Ceiling panel - 2' white composite with metal cover	FS-25	NA
093	55-CP-A	Ceiling panel - 2'x4' wallboard with vinyl cover	FS-25	1360 SF
094	55-CP-B	Ceiling panel - 2'x4' wallboard with vinyl cover	FS-25	NA
095	55-CP-C	Ceiling panel - 2'x4' wallboard with vinyl cover	FS-25	NA
096	56-WP-A	Water proofing - black spray-on, on walls/ceiling	FS-25	1360 SF
097	56-WP-B	Water proofing - black spray-on, on walls/ceiling	FS-25	NA
098	56-WP-C	Water proofing - black spray-on, on walls/ceiling	FS-25	NA
099	57-GTM-A	Gasket material - fiber gaskets between steel fittings	FS-27	44 Gaskets
100	57-GTM-B	Gasket material - fiber gaskets between steel fittings	FS-25	NA
101	57-GTM-C	Gasket material - fiber gaskets between steel fittings	FS-25	NA
—	58 - NOT USED	Number not used	NA	NA
102	59-TI-A	Tank insulation - canvas paper wrapped fiberglass over magnesia block	FS-25	45 SF (1 Tank)
103	59-TI-B	Tank insulation - canvas paper wrapped fiberglass over magnesia block	FS-25	NA
104	59-TI-C	Tank insulation - canvas paper wrapped fiberglass over magnesia block	FS-25	NA
105	60-WB-A	Wallboard - compressor room walls	FS-27	135 SF
106	60-WB-B	Wallboard - compressor room walls	FS-27	NA
107	60-WB-C	Wallboard - compressor room walls	FS-27	NA
108	61-TPL-A	Textured plaster - rough texture, ceiling	FS-28	180 SF
109	61-TPL-B	Textured plaster - rough texture, ceiling	FS-28	NA
110	61-TPL-C	Textured plaster - rough texture, ceiling	FS-28	NA
111	62-CB-A	Cove base - 4" grey vinyl with adhesive	FS-28	20 SF
112	62-CB-B	Cove base - 4" grey vinyl with adhesive	FS-28	NA
113	62-CB-C	Cove base - 4" grey vinyl with adhesive	FS-28	NA
114	63-IC-A	Interior caulk - grey, hard, perimeter of metal window frame	FS-28	570 SF
115	63-IC-B	Interior caulk - grey, hard, perimeter of metal window frame	FS-32	NA
116	63-IC-C	Interior caulk - grey, hard, perimeter of metal window frame	FS-71	NA
117	64-VD-A	Vibration dampener - white canvas	FS-28	40 SF
118	64-VD-B	Vibration dampener - white canvas	FS-28	NA
119	64-VD-C	Vibration dampener - white canvas	FS-28	NA

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Lab ID	Sample ID	Material Description	Sample Location	QUANTITY
120	65-CA-A	Construction adhesive - black / dark brown, under steel corner guard	FS-29	165 SF
121	65-CA-B	Construction adhesive - black / dark brown, under steel corner guard	FS-29	NA
122	65-CA-C	Construction adhesive - black / dark brown, under steel corner guard	FS-29	NA
123	66-TPL-A	Textured plaster - trawled straight	FS-33	5 SF
124	66-TPL-B	Textured plaster - trawled straight	FS-33	NA
125	66-TPL-C	Textured plaster - trawled straight	FS-33	NA
126	67-CP-A	Ceiling panel - Off white pinhole and fissure (large fissure)	FS-37	1110 SF
127	67-CP-B	Ceiling panel - Off white pinhole and fissure (large fissure)	FS-35	NA
128	67-CP-C	Ceiling panel - Off white pinhole and fissure (large fissure)	FS-35	NA
129	68-PI-A	Pipe insulation - black, tar tape	FS-38	5 LF
130	68-PI-B	Pipe insulation - black, tar tape	FS-38	NA
131	68-PI-C	Pipe insulation - black, tar tape	FS-38	NA
132	69-BM-A	Brick mortar - exterior siding red brick	EA-1	NA
133	69-BM-B	Brick mortar - exterior siding red brick	EA-2	NA
134	69-BM-C	Brick mortar - exterior siding red brick	EA-3	NA
135	70-RI-A	Rolled-in insulation - plastic wrapped fiberglass duct insulation	FS-43	1100 SF
136	70-RI-B	Rolled-in insulation - plastic wrapped fiberglass duct insulation	FS-43	NA
137	70-RI-C	Rolled-in insulation - plastic wrapped fiberglass duct insulation	FS-43	NA
138	71-CT-A	Ceiling tile -12" white with 1/4 inch holes	FS-35	560 SF
139	71-CT-B	Ceiling tile -12" white with 1/4 inch holes	FS-36	NA
140	71-CT-C	Ceiling tile -12" white with 1/4 inch holes	FS-36	NA
141	72-CP-A	Ceiling panel - yellowish white, pinhole/fissure (small fissure), grey composite material	FS-46	40 SF
142	72-CP-B	Ceiling panel - yellowish white, pinhole/fissure (small fissure), grey composite material	FS-46	NA
143	72-CP-C	Ceiling panel - yellowish white, pinhole/fissure (small fissure), grey composite material	FS-47	NA
144	73-CP-A	Ceiling panel - white, various size pinhole texture, beige composite material	FS-46	5323 SF
145	73-CP-B	Ceiling panel - white, various size pinhole texture, beige composite material	FS-47	NA
146	73-CP-C	Ceiling panel - white, various size pinhole texture, beige composite material	FS-51	NA
147	74-CA-A	Construction adhesive - black, behind plastic wall guards, dripping down wall surface	FS-46	245 SF
148	74-CA-B	Construction adhesive - black, behind plastic wall guards, dripping down wall surface	FS-46	NA
149	74-CA-C	Construction adhesive - black, behind plastic wall guards, dripping down wall surface	FS-47	NA
150	75-IC-A	Interior caulk - grey duct caulk	FS-49	18 SF
151	75-IC-B	Interior caulk - grey duct caulk	FS-49	NA
152	75-IC-C	Interior caulk - grey duct caulk	FS-49	NA
153	76-CB-A	Cove base - 6" black vinyl with adhesive	FS-49	40 LF
154	76-CB-B	Cove base - 6" black vinyl with adhesive	FS-49	NA
155	76-CB-C	Cove base - 6" black vinyl with adhesive	FS-49	NA
156	77-WG-A	Window glaze - black caulk, perimeter of office interior window	FS-49	15 LF
157	77-WG-B	Window glaze - black caulk, perimeter of office interior window	FS-49	NA
158	77-WG-C	Window glaze - black caulk, perimeter of office interior window	FS-49	NA
—	78 - NOT SAMPLED	Roof drain fitting - unknown material - ASSUMED	NA	1 Fitting
159	79-FS-A	Vinyl sheeting - Brown/light squares.	FS-53	265 SF
160	79-FS-B	Vinyl sheeting - Brown/light squares.	FS-53	NA
161	79-FS-C	Vinyl sheeting - Brown/light squares.	FS-53	NA

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Bulk Asbestos
Chain of Custody

ETL Project #: 275162

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Lab ID	Sample ID	Material Description	Sample Location	QUANTITY
162	80-IC-A	Interior caulk - Brown caulk - Perimeter of glass block	FS-53	390 LF
163	80-IC-B	Interior caulk - Brown caulk - Perimeter of glass block	FS-53	NA
164	80-IC-C	Interior caulk - Brown caulk - Perimeter of glass block	FS-53	NA
165	81-GM-A	Ceramic tile, grout, mortar - 2" blue floor tile	FS-56	25 SF
166	81-GM-B	Ceramic tile, grout, mortar - 2" blue floor tile	FS-56	NA
167	81-GM-C	Ceramic tile, grout, mortar - 2" blue floor tile	FS-56	NA
168	82-GM-A	Ceramic tile, grout, mortar - 4" blue wall tile	FS-56	40 SF
169	82-GM-B	Ceramic tile, grout, mortar - 4" blue wall tile	FS-56	NA
170	82-GM-C	Ceramic tile, grout, mortar - 4" blue wall tile	FS-56	NA
171	83-IC-A	Interior caulk - white, seam of counter and backsplash	FS-56	20 LF
172	83-IC-B	Interior caulk - white, seam of counter and backsplash	FS-56	NA
173	83-IC-C	Interior caulk - white, seam of counter and backsplash	FS-56	NA
174	84-EJ-A	Expansion joint - Concrete slab foundation	FS-56	60 LF
175	84-EJ-B	Expansion joint - Concrete slab foundation	FS-58	NA
176	84-EJ-C	Expansion joint - Concrete slab foundation	FS-47	NA
177	85-CM-A	Carpet mastic - green	FS-57	325 SF
178	85-CM-B	Carpet mastic - green	FS-57	NA
179	85-CM-C	Carpet mastic - green	FS-57	NA
—	86 - NOT SAMPLED	Transite window sill - ASSUMED	NA	20 SF
180	87-IC-A	Interior caulk - black, perimeter of alunimum window frames	FS-69	690 SF
181	87-IC-B	Interior caulk - black, perimeter of alunimum window frames	FS-77	NA
182	87-IC-C	Interior caulk - black, perimeter of alunimum window frames	FS-79	NA
183	88-FT-A	Floor tile - 12" wood pattern stick-on tile	FS-69	100 SF
184	88-FT-B	Floor tile - 12" wood pattern stick-on tile	FS-69	NA
185	88-FT-C	Floor tile - 12" wood pattern stick-on tile	FS-69	NA
186	89-WG-A	Window glaze - beige glaze on window interior	FS-71	6 Windows
187	89-WG-B	Window glaze - beige glaze on window interior	FS-72	NA
188	89-WG-C	Window glaze - beige glaze on window interior	FS-83	NA
189	90-EJ-A	Expansion joint - concrete foundation walls	EA-3	5 LF
190	90-EJ-B	Expansion joint - concrete foundation walls	EA-3	NA
191	90-EJ-C	Expansion joint - concrete foundation walls	EA-3	NA
192	91-EJ-A	Expansion joint - brick siding	EA-1	30 LF
193	91-EJ-B	Expansion joint - brick siding	EA-3	NA
194	91-EJ-C	Expansion joint - brick siding	EA-4	NA
195	92-EJ-A	Expansion joint - between building foundation and concrete walkway	EA-3	300 LF
196	92-EJ-B	Expansion joint - between building foundation and concrete walkway	EA-3	NA
197	92-EJ-C	Expansion joint - between building foundation and concrete walkway	EA-3	NA
198	93-CC-A	Concrete chip - exterior concrete	EA-1	1578 SF
199	93-CC-B	Concrete chip - exterior concrete	EA-2	NA
200	93-CC-C	Concrete chip - exterior concrete	EA-3	NA
201	94-WP-A	Water proofing - black spray-on, concrete foundation, mostly below grade	EA-3	715 SF
202	94-WP-B	Water proofing - black spray-on, concrete foundation, mostly below grade	EA-3	NA
203	94-WP-C	Water proofing - black spray-on, concrete foundation, mostly below grade	EA-3	NA
204	95-GBM-A	Glass block mortar/grout, grey, between glass block window tiles, and around perimter	EA-1	1050 SF
205	95-GBM-B	Glass block mortar/grout, grey, between glass block window tiles, and around perimter	EA-2	NA
206	95-GBM-C	Glass block mortar/grout, grey, between glass block window tiles, and around perimter	EA-3	NA

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Bulk Asbestos
Chain of Custody

ETL Project #: 275162

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Lab ID	Sample ID	Material Description	Sample Location	QUANTITY
1740 207	96-EC-A	Exterior caulk - grey, perimeter of glass block windows	EA-1	465 LF
208	96-EC-B	Exterior caulk - grey, perimeter of glass block windows	EA-2	NA
209	96-EC-C	Exterior caulk - grey, perimeter of glass block windows	EA-3	NA
210	97-WG-A	Window glaze - multi-pane steel windows	EA-2	1042 LF
211	97-WG-B	Window glaze - multi-pane steel windows	EA-2	NA
212	97-WG-C	Window glaze - multi-pane steel windows	EA-3	NA
213	98-WG-A	Window glaze - basement steel windows	EA-3	375 LF
214	98-WG-B	Window glaze - basement steel windows	EA-3	NA
215	98-WG-C	Window glaze - basement steel windows	EA-3	NA
216	99-WG-A	Window glaze, grey, soft, perimeter of glass window in metal door	EA-1	1060 LF
217	99-WG-B	Window glaze, grey, soft, perimeter of glass window in metal door	EA-1	NA
218	99-WG-C	Window glaze, grey, soft, perimeter of glass window in metal door	EA-1	NA
219	100-EC-A	Exterior caulk - grey, perimeter of door frames	EA-1	70 EC
220	100-EC-B	Exterior caulk - grey, perimeter of door frames	EA-2	NA
221	100-EC-C	Exterior caulk - grey, perimeter of door frames	EA-3	NA
222	101-EC-A	Exterior caulk - black, perimeter of door frames	EA-1	45 LF
223	101-EC-B	Exterior caulk - black, perimeter of door frames	EA-1	NA
224	101-EC-C	Exterior caulk - black, perimeter of door frames	EA-1	NA
225	102-EC-A	Exterior caulk - grey, perimeter of steel multi-pane windows	EA-2	725 LF
226	102-EC-B	Exterior caulk - grey, perimeter of steel multi-pane windows	EA-2	NA
227	102-EC-C	Exterior caulk - grey, perimeter of steel multi-pane windows	EA-3	NA
228	103-EC-A	Exterior caulk - grey, perimeter of steel basement windows	EA-3	350 LF
229	103-EC-B	Exterior caulk - grey, perimeter of steel basement windows	EA-3	NA
230	103-EC-C	Exterior caulk - grey, perimeter of steel basement windows	EA-3	NA
231	104-EC-A	Exterior caulk - grey, soft, perimeter of aluminum window frames, and window sill	EA-1	530 LF
232	104-EC-B	Exterior caulk - grey, soft, perimeter of aluminum window frames, and window sill	EA-3	NA
233	104-EC-C	Exterior caulk - grey, soft, perimeter of aluminum window frames, and window sill	EA-4	NA
234	105-RM-A	Roofing materials - flat rubber membrane roof with vapor paper, and various tars	EA-5 (lower roof)	24300 SF
235	105-RM-B	Roofing materials - flat rubber membrane roof with vapor paper, and various tars	EA-5 (penthouse roof)	NA
236	105-RM-C	Roofing materials - flat rubber membrane roof with vapor paper, and various tars	EA-5 (Medium roof)	NA
237	105-RM-D	Roofing materials - flat rubber membrane roof with vapor paper, and various tars	EA-5 (upper roof)	NA
238	106-CC-A	Concrete chip - 16" concrete walking tiles	EA-5	135 SF
239	106-CC-B	Concrete chip - 16" concrete walking tiles	EA-5	NA
240	106-CC-C	Concrete chip - 16" concrete walking tiles	EA-5	NA
241	107-TC-A	Terracotta - capstone	EA-5	375 SF
242	107-TC-B	Terracotta - capstone	EA-5	NA
243	107-TC-C	Terracotta - capstone	EA-5	NA
244	108-EC-A	Exterior caulk - grey, between terracotta capstone	EA-5	190 LF
245	108-EC-B	Exterior caulk - grey, between terracotta capstone	EA-5	NA
246	108-EC-C	Exterior caulk - grey, between terracotta capstone	EA-5	NA
247	109-EC-A	Exterior caulk - black, flashing on parapet wall	EA-5	780 LF
248	109-EC-B	Exterior caulk - black, flashing on parapet wall	EA-5	NA
249	109-EC-C	Exterior caulk - black, flashing on parapet wall	EA-5	NA
250	110-EC-A	Exterior caulk - black, on penthouse brick flashing	EA-5	60 LF
251	110-EC-B	Exterior caulk - black, on penthouse brick flashing	EA-5	NA
252	110-EC-C	Exterior caulk - black, on penthouse brick flashing	EA-5	NA

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253	111-EC-A	Exterior caulk - dark grey, perimeter of metal door frame	EA-5	20 LF
254	111-EC-B	Exterior caulk - dark grey, perimeter of metal door frame	EA-5	NA
255	111-EC-C	Exterior caulk - dark grey, perimeter of metal door frame	EA-5	NA
256	112-EC-A	Exterior caulk - light grey, penthouse wall penetrations	EA-5	5 LF
257	112-EC-B	Exterior caulk - light grey, penthouse wall penetrations	EA-5	NA
258	112-EC-C	Exterior caulk - light grey, penthouse wall penetrations	EA-5	NA
259	113-EC-A	Exterior caulk - grey, soft, elastic, on metal pipe insulation	EA-5	25 LF
260	113-EC-B	Exterior caulk - grey, soft, elastic, on metal pipe insulation	EA-5	NA
261	113-EC-C	Exterior caulk - grey, soft, elastic, on metal pipe insulation	EA-5	NA
262	114-EC-A	Exterior caulk - white, soft elastic, on plastic pipe fittings	EA-5	15 LF
263	114-EC-B	Exterior caulk - white, soft elastic, on plastic pipe fittings	EA-5	NA
264	114-EC-C	Exterior caulk - white, soft elastic, on plastic pipe fittings	EA-5	NA
265	115-EC-A	Exterior caulk - grey, on roof penetrations, fencing base	EA-5	50 LF
266	115-EC-B	Exterior caulk - grey, on roof penetrations, fencing base	EA-5	NA
267	115-EC-C	Exterior caulk - grey, on roof penetrations, fencing base	EA-5	NA
268	116-EC-A	Exterior caulk - grey, seams of concrete capstone	EA-5	200 LF
269	116-EC-B	Exterior caulk - grey, seams of concrete capstone	EA-5	NA
270	116-EC-C	Exterior caulk - grey, seams of concrete capstone	EA-5	NA
271	117-EC-A	Exterior caulk - dark grey, under concrete capstone	EA-5	400 LF
272	117-EC-B	Exterior caulk - dark grey, under concrete capstone	EA-5	NA
273	117-EC-C	Exterior caulk - dark grey, under concrete capstone	EA-5	NA
274	118-EC-A	Exterior caulk - grey, hard, on seams of HVAC vents	EA-5	20 LF
275	118-EC-B	Exterior caulk - grey, hard, on seams of HVAC vents	EA-5	NA
276	118-EC-C	Exterior caulk - grey, hard, on seams of HVAC vents	EA-5	NA
277	119-EC-A	Exterior caulk - pink, hard, on seams of HVAC vents	EA-5	30 LF
278	119-EC-B	Exterior caulk - pink, hard, on seams of HVAC vents	EA-5	NA
279	119-EC-C	Exterior caulk - pink, hard, on seams of HVAC vents	EA-5	NA
280	120-EC-A	Exterior caulk - white, on angle iron above window frame	EA-5	5 LF
281	120-EC-B	Exterior caulk - white, on angle iron above window frame	EA-5	NA
282	120-EC-C	Exterior caulk - white, on angle iron above window frame	EA-5	NA
283	121-EC-A	Exterior caulk - grey, on wall vent perimeter	EA-5	35 LF
284	121-EC-B	Exterior caulk - grey, on wall vent perimeter	EA-5	NA
285	121-EC-C	Exterior caulk - grey, on wall vent perimeter	EA-5	NA
286	122-EC-A	Exterior caulk - black, on parapet wall seams	EA-5	800 SF
287	122-EC-B	Exterior caulk - black, on parapet wall seams	EA-5	NA
288	122-EC-C	Exterior caulk - black, on parapet wall seams	EA-5	NA
—	END OF COC	END OF COC	NA	NA

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REVISED REPORT

To: Atlas - Novi
46555 Humboldt Dr. Suite 100
Novi, Michigan 48377

ETL Job: 276872
Client Project: 188BS24700

Attention: Jennifer Fashbaugh
Project Location: 570 Red Cedar Road, East Lansing, MI 48823
MSU Central Services Building

Lab Sample Number	Client Sample Number	Sample Type	Completed
1761970	24-CI-D1	Asbestos	03/03/2025
1761971	24-CI-D2	Asbestos	03/03/2025
1761972	24-CI-D3	Asbestos	03/03/2025
1761973	123-CI-A	Asbestos	03/03/2025
1761974	123-CI-B	Asbestos	03/03/2025
1761975	123-CI-C	Asbestos	03/03/2025
1761976	123-CI-D	Asbestos	03/03/2025
1761977	123-CI-E	Asbestos	03/03/2025
1761978	123-CI-F	Asbestos	03/03/2025
1761979	123-CI-G	Asbestos	03/03/2025
1761980	124-CI-A	Asbestos	03/03/2025
1761981	124-CI-B	Asbestos	03/03/2025
1761982	124-CI-C	Asbestos	03/03/2025
1761983	124-CI-D	Asbestos	03/03/2025
1761984	124-CI-E	Asbestos	03/04/2025

Lab Sample Number	Client Sample Number	Sample Type	Completed

Reviewed by:

Dawson Bradley

Summary

Method	Sample	Layer	Mastic
PLM	29		

Revision History

Revised Date	Revised By	Revision Comment
03/04/2025	Dawson Bradley	Analyzed A Positive Stopped Layer As Requested By The Client
03/04/2025	James Farinas	QC Change

NVLAP LAB CODE 201028-0

Certificate of Analysis

Environmental Testing Laboratories, Inc.
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Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
46555 Humboldt Dr. Suite 100
Novi,Michigan 48377

Location : 570 Red Cedar Road, East Lansing, MI 48823
MSU Central Services Building

ETL Job : 276872
Client Project : 188BS24700
Date Collected : 02/26/2025
Date Received : 02/28/2025

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1761970 24-CI-D1	Paper	Black Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 96% Other	PLM 2% Chrysotile
Layer-1 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761971 24-CI-D2	Cork	Brown Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761972 24-CI-D3	Adhesive	Brown Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761973 123-CI-A	Cork	Brown Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761973 123-CI-A	Cork Adhesive	Gray Non-Fibrous Non-Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 03/03/2025 With Cementitious Material					

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Date Received : 02/28/2025

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1761974 123-CI-B	Cork	Brown Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761974 123-CI-B	Cork Adhesive	Gray Non-Fibrous Non-Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 03/03/2025 With Cementitious Material					
1761975 123-CI-C	Cork	Brown Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761975 123-CI-C	Cork Adhesive	Gray Non-Fibrous Non-Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 03/03/2025 With Cementitious Material					
1761976 123-CI-D	Cork	Brown Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761976 123-CI-D	Cork Adhesive	Gray Non-Fibrous Non-Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 03/03/2025 With Cementitious Material					

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MSU Central Services Building

ETL Job : 276872
Client Project : 188BS24700
Date Collected : 02/26/2025
Date Received : 02/28/2025

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1761977 123-CI-E	Cork	Brown Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761977 123-CI-E	Cork Adhesive	Gray Non-Fibrous Non-Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 03/03/2025 With Cementitious Material					
1761978 123-CI-F	Cork	Brown Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761978 123-CI-F	Cork Adhesive	Gray Non-Fibrous Non-Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 03/03/2025 With Cementitious Material					
1761979 123-CI-G	Cork	Brown Non-Fibrous Homogenous	PLM 2% Cellulose	PLM 98% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761979 123-CI-G	Cork Adhesive	Gray Non-Fibrous Non-Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 03/03/2025 With Cementitious Material					

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Novi,Michigan 48377

Location : 570 Red Cedar Road, East Lansing, MI 48823
MSU Central Services Building

ETL Job : 276872
Client Project : 188BS24700
Date Collected : 02/26/2025
Date Received : 02/28/2025

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1761980 124-CI-A	Cork Insulation	Brown Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761980 124-CI-A	Asphaltic Material	Brown Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761981 124-CI-B	Cork Insulation	Brown Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761981 124-CI-B	Asphaltic Material	Brown Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761981 124-CI-B	Cementitious Material	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-3 Analyst: Ben Jones Date Analyzed : 03/03/2025					

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ETL Job : 276872
Client Project : 188BS24700
Date Collected : 02/26/2025
Date Received : 02/28/2025

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1761982 124-CI-C		Layer Missing			
Layer-1 Analyst: Ben Jones Date Analyzed : 03/03/2025 Layer Not Analyzed					
1761982 124-CI-C	Asphaltic Material	Black Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761982 124-CI-C		Layer Missing			
Layer-3 Analyst: Ben Jones Date Analyzed : 03/03/2025 Layer Not Analyzed					

NVLAP LAB CODE 201028-0

Certificate of Analysis

Environmental Testing Laboratories, Inc.
37575 W Huron River Drive
Romulus, Michigan 48174
(734) 955-6600, Fax: (734) 955-6604

Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
46555 Humboldt Dr. Suite 100
Novi,Michigan 48377

Location : 570 Red Cedar Road, East Lansing, MI 48823
MSU Central Services Building

ETL Job : 276872
Client Project : 188BS24700
Date Collected : 02/26/2025
Date Received : 02/28/2025

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1761983 124-CI-D	Cork Insulation	Brown Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-1 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761983 124-CI-D	Asphaltic Material	Brown Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-2 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761983 124-CI-D	Cementitious Material	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-3 Analyst: Ben Jones Date Analyzed : 03/03/2025					
1761983 124-CI-D	Asphaltic Material	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 95% Other	PLM 4% Chrysotile
Layer-4 Analyst: Ben Jones Date Analyzed : 03/03/2025					

NVLAP LAB CODE 201028-0

Environmental Testing Laboratories, Inc.
37575 W Huron River Drive
Romulus, Michigan 48174
(734) 955-6600, Fax: (734) 955-6604

Certificate of Analysis

Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
46555 Humboldt Dr. Suite 100
Novi,Michigan 48377

Location : 570 Red Cedar Road, East Lansing, MI 48823
MSU Central Services Building

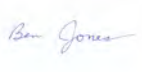
ETL Job : 276872
Client Project : 188BS24700
Date Collected : 02/26/2025
Date Received : 02/28/2025

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1761984 124-CI-E		Layer Missing			
Layer-1 Analyst: James Farinas Date Analyzed : 03/04/2025					
Layer Not Analyzed					
1761984 124-CI-E		Layer Missing			
Layer-2 Analyst: James Farinas Date Analyzed : 03/04/2025					
Layer Not Analyzed					
1761984 124-CI-E	Cementitious Material	Gray Non-Fibrous Homogenous	PLM Trace Cellulose	PLM 100% Other	PLM None Detected
Layer-3 Analyst: James Farinas Date Analyzed : 03/04/2025					
1761984 124-CI-E	Asphaltic Material	Black Non-Fibrous Homogenous		PLM 96% Other	PLM 4% Chrysotile
Layer-4 Analyst: James Farinas Date Analyzed : 03/04/2025					

Emily Schroder

Lab Supervisor/Other Signatory

Analyst:



Ben Jones

James Farinas

400 Point Count Results by EPA 600/R-93/116 PLM (denoted by "PC")
Item 198.1: PLM Methods for Identifying and Quantitating Asbestos in Bulk Samples
Item 198.6: PLM Methods for Identifying and Quantitating Asbestos in Non-Friable Organically Bound Bulk Samples
EPA 600/R-93/116: Method for Determination of Asbestos in Bulk Building Materials
EPA 600/M4-82-020: Interim Method for Determination of Asbestos in Bulk Insulation Samples
A % Asbestos result of "Trace" indicates that the analyzed material was found to contain less than 1% asbestos and would not be considered an Asbestos Containing Material (ACM).

ENVIRONMENTAL TESTING LABORATORIES, INC
38900 Huron River Drive
Romulus, Michigan 48174
(734) 955-6600
Fax: (734) 992-2261
www.2etl.com

Bulk Asbestos Chain of Custody

ETL Project #: 276872

Client:	Atlas Technical Consultants	**Contact:** Jennifer Fashbaugh	**Project Location/name:** 570 Red Cedar Road, East Lansing, Michigan 48823 / MSU Central Services Building
		Phone: 248-669-5140	
Address:	46555 Humboldt Dr. Ste. 100 Novi, MI 48377	**Fax:** 248-669-5147	
		E-mail: jennifer.fashbaugh@oneatlas.com	**Client Project #:** 188BS24700
Please Provide Results: X Email ☐ Fax ☐ Verbal ☐ Other _____			**Date Sampled:** 2/26/2025

Turnaround Time (TAT): ☐ RUSH ☐ Same Day X 24 hr ☐ 48 hr ☐ Standard (3-5 days) **Other** _____

PLM Instructions (Check all that apply)	
X PLM EPA600/R-93/116, 1993 (Standard method)	☐ Stop First Positive
Point Counting: X 400 Points* ☐ NYSDOH ELAP 198.1, 2002*	*Clearly mark Homogenous Group*
☐ Gravimetric Reduction* ☐ NYSDOH ELAP 198.6, 2010*	
☐ PLM Non-Building Material (Dust, Wipe, Tape)	☐ Soil or Vermiculite Analysis*

** Additional charge and turnaround may be required*

1760

Lab ID	Sample ID	Material Description	Sample Location	Quantity
976	24-CI-D1	Cork insulation - black paper layer (surface layer)	FS-7	
971	24-CI-D2	Cork insulation - cork (middle layer)	FS-7	
972	24-CI-D3	Cork insulation - adhesive on concrete (bottom layer)	FS-7	
973	123-CI-A	Cork insulation - remnants (cork & cork adhesive on concrete)	FS-41	
974	123-CI-B	Cork insulation - remnants (cork & cork adhesive on concrete)	FS-42	
975	123-CI-C	Cork insulation - remnants (cork & cork adhesive on concrete)	FS-11	
976	123-CI-D	Cork insulation - remnants (cork & cork adhesive on concrete)	FS-12	
977	123-CI-E	Cork insulation - remnants (cork & cork adhesive on concrete)	FS-13	
978	123-CI-F	Cork insulation - remnants (cork & cork adhesive on concrete)	FS-31	
979	123-CI-G	Cork insulation - remnants (cork & cork adhesive on concrete)	FS-33	
980	124-CI-A	Cork insulation - insulation above interior walls, remnants	FS-11	

		Date	Time
Relinquished (Name/Organization):	Andrew DeLodder / Atlas Technical Consultants AF	2/27/25	1630 am/pm
Received (Name/ETL):		2/28/25	9:00 am/pm
Sample Login (Name/ETL):		2/28/25	9:10 am/pm
Stereoscopical/Sample Analysis (Name/ETL)			am/pm
Results (Name/ETL):			am/pm
QA/QC Review (Name/ETL):		3/3/25	4 am/pm

Special Instructions:•
- **Composite all drywall/joint compound samples if any layer of system is greater than 1% asbestos;**
- **Point Count ALL PLASTER samples Trace to 3% asbestos content**
- **Point Count ALL SAMPLES Trace to 1% asbestos content**

Remarks

****IN ORDER TO ENSURE RESULTS BY SPECIFIED TAT, THE LAB MUST BE EMAILED/CALLED WITH THE QUANTITY OF SAMPLES TO BE SHIPPED OR DROPPED OFF**

ENVIRONMENTAL TESTING LABORATORIES, INC
38900 Huron River Drive
Romulus, Michigan 48174
(734) 955-6600
Fax: (734) 992-2261
www.2etl.com

Bulk Asbestos
Chain of Custody

ETL Project #: 276872

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Lab ID	Sample ID	Material Description	Sample Location	QUANTITY
981	124-CI-B	Cork insulation - insulation above interior walls, remnants	FS-12	
982	124-CI-C	Cork insulation - insulation above interior walls, remnants	FS-13	
983	124-CI-D	Cork insulation - insulation above interior walls, remnants	FS-31	
984	124-CI-E	Cork insulation - insulation above interior walls, remnants	FS-30	
—	END OF COC	END OF COC	NA	NA

QUANTUM LABORATORIES, INC.
28221 Beck Road • Suite A-11
Wixom, Michigan 48393
248-348-TEST or 248-348-8378

ANALYTICAL REPORT

For: Atlas Technical Consultants (ATLAS)
46555 Humboldt Dr. Ste. 100
Novi MI 48377

Attn: Ms. Jennifer Fashbaugh

Report Number: **13973**
Report Date: January 13, 2025
Project Name: MSU Central Services
Project Number: 188BS24700

248-669-5140 Fax: 248-669-5147

Sample Description

Five (5) samples reported to be a Mix and identified as “MSU Central Services”, 12/06/24, Composite Grab and:

1. EC-PCB
2. EC-PCB
3. WG-PCB
4. IC-PCB
5. MA-PCB

Analysis Requested

Chemical Analysis per SW-846 (SW) for Polychlorinated Biphenyls (PCB), Method 8082A

Analytical Results

Sample Description:	1-EC-PCB, 12/06/24					
Laboratory ID:	13973-1	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
PCB's						
Aroclor 1016	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1221	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1232	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1242	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1248	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1254	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1260	Not Detected	1,000	µg/Kg	01/08/25	DS	
Polychlorinated biphenyls (Total)	Not Detected	7,000	µg/Kg	01/08/25	DS	
Surrogate Standards						
Tetrachloro-m-xylene	98.6%	-	% Recovery	01/08/25	DS	
Decachlorobiphenyl	71.4%	-	% Recovery	01/08/25	DS	
Analysis Information						
PCB Extraction	Completed	-	-	12/26/24	LB	

Sample Description:	2-EC-PCB, 12/06/24					
Laboratory ID:	13973-2	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
PCB's						
Aroclor 1016	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1221	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1232	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1242	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1248	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1254	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1260	Not Detected	1,000	µg/Kg	01/08/25	DS	
Polychlorinated biphenyls (Total)	Not Detected	7,000	µg/Kg	01/08/25	DS	
Surrogate Standards						
Tetrachloro-m-xylene	74.0%	-	% Recovery	01/08/25	DS	
Decachlorobiphenyl	67.6%	-	% Recovery	01/08/25	DS	
Analysis Information						
PCB Extraction	Completed	-	-	12/26/24	LB	

Data Qualifiers:
I Internal Standard results outside of acceptance limits
S QC spike recovery outside of acceptance limits
R RPD outside of acceptance limits
E Reporting limit is elevated
D Result is from a dilution
J Result should be considered estimated
M Matrix interference observed
F Matrix Spike four times rule applied
C See Case Narrative

Sample Description:	3-WG-PCB, 12/06/24					
Laboratory ID:	13973-3	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
PCB's						
Aroclor 1016	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1221	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1232	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1242	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1248	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1254	Not Detected	1,000	µg/Kg	01/08/25	DS	
Aroclor 1260	7,910	1,000	µg/Kg	01/08/25	DS	
Polychlorinated biphenyls (Total)	7,910	7,000	µg/Kg	01/08/25	DS	
Surrogate Standards						
Tetrachloro-m-xylene	67.9%	-	% Recovery	01/08/25	DS	
Decachlorobiphenyl	67.8%	-	% Recovery	01/08/25	DS	
Analysis Information						
PCB Extraction	Completed	-	-	12/26/24	LB	

Sample Description:	4-IC-PCB, 12/06/24					
Laboratory ID:	13973-4	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
PCB's						
Aroclor 1016	Not Detected	24,000	µg/Kg	01/08/25	DS	E, M
Aroclor 1221	Not Detected	24,000	µg/Kg	01/08/25	DS	E, M
Aroclor 1232	Not Detected	24,000	µg/Kg	01/08/25	DS	E, M
Aroclor 1242	Not Detected	24,000	µg/Kg	01/08/25	DS	E, M
Aroclor 1248	Not Detected	24,000	µg/Kg	01/08/25	DS	E, M
Aroclor 1254	Not Detected	24,000	µg/Kg	01/08/25	DS	E, M
Aroclor 1260	Not Detected	24,000	µg/Kg	01/08/25	DS	E, M
Polychlorinated biphenyls (Total)	Not Detected	168,000	µg/Kg	01/08/25	DS	E, M
Surrogate Standards						
Tetrachloro-m-xylene	75.5%	-	% Recovery	01/08/25	DS	
Decachlorobiphenyl	63.2%	-	% Recovery	01/08/25	DS	
Analysis Information						
PCB Extraction	Completed	-	-	12/26/24	LB	

Sample Description:	5-MA-PCB, 12/06/24					
Laboratory ID:	13973-5	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
PCB's						
Aroclor 1016	Not Detected	2,500	µg/Kg	01/08/25	DS	E, M
Aroclor 1221	Not Detected	2,500	µg/Kg	01/08/25	DS	E, M
Aroclor 1232	Not Detected	2,500	µg/Kg	01/08/25	DS	E, M
Aroclor 1242	Not Detected	2,500	µg/Kg	01/08/25	DS	E, M
Aroclor 1248	Not Detected	2,500	µg/Kg	01/08/25	DS	E, M
Aroclor 1254	Not Detected	2,500	µg/Kg	01/08/25	DS	E, M
Aroclor 1260	Not Detected	2,500	µg/Kg	01/08/25	DS	E, M
Polychlorinated biphenyls (Total)	Not Detected	17,500	µg/Kg	01/08/25	DS	E, M
Surrogate Standards						
Tetrachloro-m-xylene	65.4%	-	% Recovery	01/08/25	DS	
Decachlorobiphenyl	67.5%	-	% Recovery	01/08/25	DS	
Analysis Information						
PCB Extraction	Completed	-	-	12/26/24	LB	

Quality Control

PCB Matrix Spike Data

Spiked Sample: 13973 LCS		Matrix: Solid		Units: ppm in extract				
Parameter	Sample Result	Spike Added	MS Result	MSD Result	MS % Rec.	MSD % Rec.	RPD	Data Qualifiers
Aroclor 1260	0.000	0.250	0.292	0.276	117	110	5.5	

Case Narrative

All method protocols and quality control requirements were satisfied for all samples.

Notes

(1) Quality Control Limits available upon request.

(2) Results are applicable only to the sample tested.

(3) All samples will be discarded after 30 days unless the laboratory receives other instructions.

(4) Chain of Custody document attached.

QUANTUM LABORATORIES, INC.

David W. Starr
Analytical Chemistry Manager

Data Qualifiers:
I Internal Standard results outside of acceptance limits
S QC spike recovery outside of acceptance limits
R RPD outside of acceptance limits
E Reporting limit is elevated
D Result is from a dilution
J Result should be considered estimated
M Matrix interference observed
F Matrix Spike four times rule applied
C See Case Narrative

Quantum Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Women's Business Enterprise National Council
WBENC
Cert. No. 2005111505

QUANTUM LABORATORIES, INC.
28221 Beck Road I Suite A-11
Wixom, MI 48393
248-348-TEST or 248-348-8378

CLIENT INFO	
COMPANY	Atlas Technical Consultants
ADDRESS	46555 Humbolt Drive, Suite 100
CITY, STATE, ZIP	Novi, Michigan 48377
TELEPHONE	248-669-5147
FAX	
CONTACT	Jennifer Fashbaugh
ADDITIONAL PHONE	
EMAIL ADDRESS	Jennifer.Fashbaugh@OneAtlas.com

PROJECT INFO		
REPORT NO. (LAB USE)	13973	Page 1 of 1
P.O. NUMBER		
PROJECT NUMBER	188BS24700	
PROJECT NAME	MSU Central Services	
SAMPLING LOCATION		
SAMPLES COLLECTED BY	Andrew DeLodder	
TURN AROUND TIME	☑ Standard ☐ Rush ☐ By Date:	
SPECIAL INSTRUCTIONS		

* SAMPLE TYPE: S=Soil, W=Water, D=Drinking Water, O=Oil/Organic, M=Mixed, V=Vapor, A=Air U=Unknown or Other

** GRAB/COMP: G=Grab Sample, C=Composite Sample

ANALYSIS REQUESTED

LINE NO.	LAB USE	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	TIME SAMPLED	DATE SAMPLED	SAMPLE TYPE *	GRAB / COMP **	SW-846-8082										REMARKS / PRESERVATIVES
1		1-EC-PCB	1		12/06/2024	MC	C	X										
2		2-EC-PCB	1		12/06/2024	MC	C	X										
3		3-WG-PCB	1		12/06/2024	MC	C	X										
4		4-IC-PCB	1		12/06/2024	MC	C	X										
5		5-MA-PCB	1		12/06/2024	MC	C	X										
6																		
7																		
8																		
9																		
10																		

XFER	RELINQUISHED BY	TIME / DATE	ACCEPTED BY
1	Andrew DeLodder	12/18/2024	
2	Fed Ex	11:00am 12/19/24	
3			

SAMPLE RECEIVED
☐ Wet Ice
☐ Blue Ice

Distribution: White - Lab Copy Yellow - Client Report Pink - Sampler

Quantum Laboratories, Inc.

Report Number: 13973
Report Date: January 13, 2025
Project Name: MSU Central Services
Project Number: 188BS24700
Page: 6 of 6

APPENDIX IV
QUALITY ASSURANCE DOCUMENTATION

MICHIGAN DEPARTMENT OF
LABOR AND ECONOMIC OPPORTUNITY

(http://michigan.gov/miosha)

Individual Profile for DELODDER, ANDREW H.

Name and Address

Name

DELODDER, ANDREW H.

Address

5869 LAKE MICHIGAN DRIVE
ALLENDALE, MI 49401

License Information

Accreditation Type: Inspector

ID#: A48677

Status: Apprvd - Full

Expiration Date: 1/30/2025

Training Expiration Date: 11/8/2025

* Although this license may have been renewed, the new expiration date will not appear until the current one expires. Should you have questions, please call the Asbestos Program at 517-284-7680.

New Search (/Individual/IndividualSearch)

Back to Top MI.gov (http://www.michigan.gov) Asbestos Program - Verify and Search (/)

Asbestos Program (https://www.michigan.gov/asbestos) Policies (http://www.michigan.gov/policies)

MICHIGAN DEPARTMENT OF
LABOR AND ECONOMIC OPPORTUNITY

(http://michigan.gov/miosha)

Individual Profile for FASHBAUGH, JENNIFER M.

Name and Address

Name

FASHBAUGH, JENNIFER M.

Address

28312 RIDGEBROOK
FARMINGTON HILLS, MI 48334

License Information

Accreditation Type: Contractor/Supervisor

ID#: A31482

Status: Apprvd - Full

Expiration Date: 5/16/2025

Training Expiration Date: 11/1/2025

Accreditation Type: Inspector

ID#: A31482

Status: Apprvd - Full

Expiration Date: 4/15/2025

Training Expiration Date: 11/8/2025

Accreditation Type: Management Planner

ID#: A31482

Status: Apprvd - Full

Expiration Date: 4/15/2025

Training Expiration Date: 2/6/2026

Accreditation Type: Project Designer

ID#: A31482

Status: Apprvd - Full

Expiration Date: 4/15/2025

Training Expiration Date: 1/16/2026

* Although this license may have been renewed, the new expiration date will not appear until the current one expires. Should you have questions, please call the Asbestos Program at 517-284-7680.

New Search (/Individual/IndividualSearch)

Back to Top MI.gov (http://www.michigan.gov) Asbestos Program - Verify and Search (/)

Asbestos Program (https://www.michigan.gov/asbestos) Policies (http://www.michigan.gov/policies)

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 201028-0

Environmental Testing Laboratories, Inc.

Romulus, MI

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique on ISO/IEC 17025).

2024-04-01 through 2025-03-31

Effective Dates

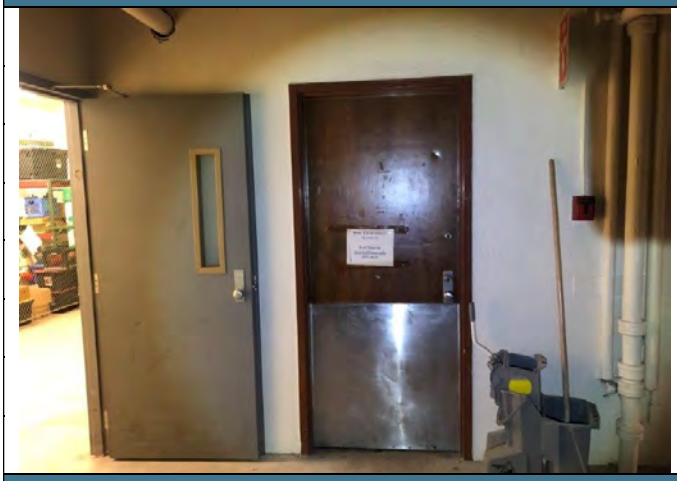
For the National Voluntary Laboratory Accreditation Program

APPENDIX V
PHOTOGRAPHS

Photograph #1

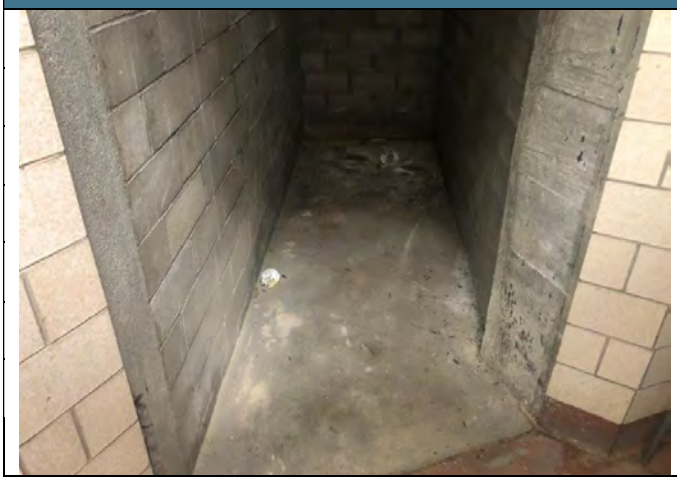
Homogenous Material Description
HA-1: Metal fire door & frame
Asbestos Present (Yes/No/Assumed)
Assumed
Total Quantity Present
97 Doors
Additional Notes

Photograph #2



Homogenous Material Description
HA-2: Wood fire door & frame
Asbestos Present (Yes/No/Assumed)
Assumed
Total Quantity Present
19 Doors
Additional Notes

Photograph #3

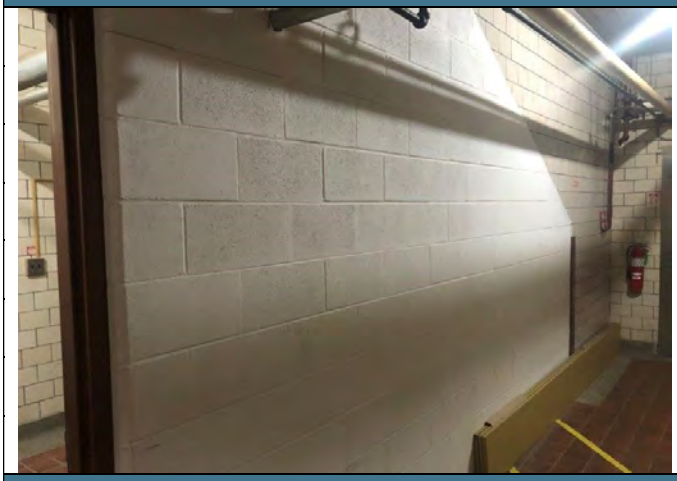


Homogenous Material Description
HA-3: Concrete foundation / deck
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
69470 SF
Additional Notes

Photograph #4

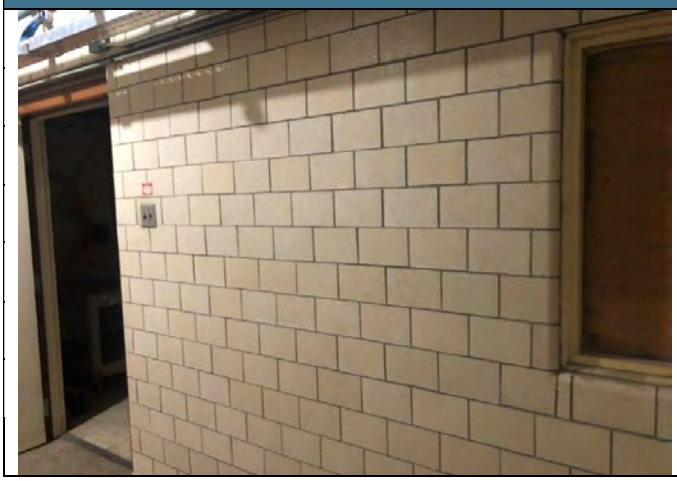
Homogenous Material Description
HA-4: Terrazzo flooring
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
3122 SF
Additional Notes

Photograph #5



Homogenous Material Description
HA-5: CMU block mortar
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
40405 SF
Additional Notes

Photograph #6



Homogenous Material Description
HA-6: Grey glazed ceramic block mortar
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
33190 SF
Additional Notes

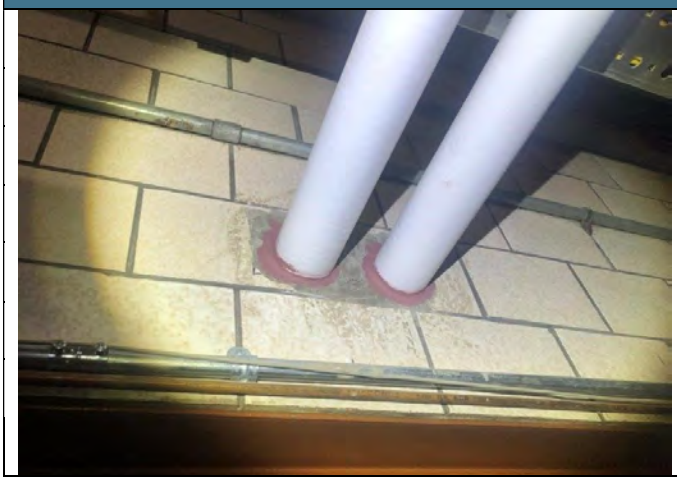
Photograph #7

Homogenous Material Description
HA-7: Skim coat on CMU block
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
341 SF
Additional Notes

Photograph #8

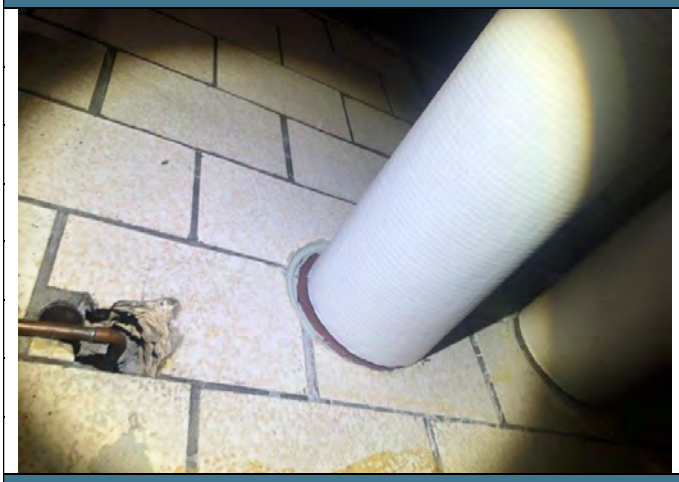
Homogenous Material Description
HA-8: Red ceramic floor tile, grout, mortar
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
28014 SF
Additional Notes

Photograph #9



Homogenous Material Description
HA-9: Red penetration caulk
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
225 LF
Additional Notes

Photograph #10



Homogenous Material Description
HA-10: Grey penetration caulk
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
57 LF
Additional Notes

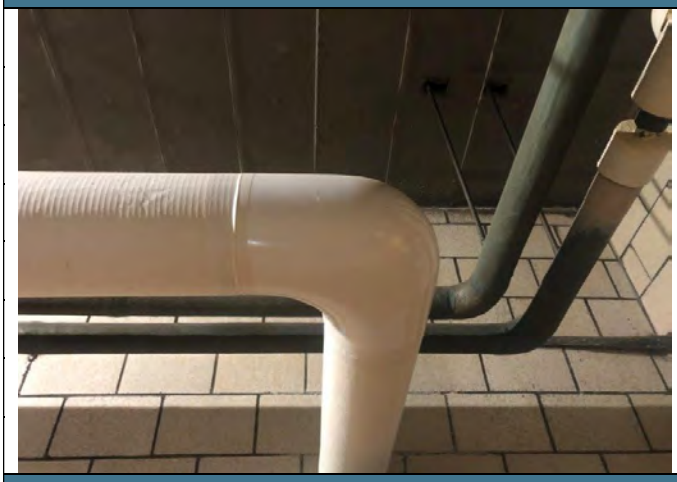
Photograph #11

Homogenous Material Description
HA-11: Dark brown caulk on door frames
Asbestos Present (Yes/No/Assumed)
Yes, 2% Chrysotile
Total Quantity Present
880 LF
Additional Notes

Photograph #12

Homogenous Material Description
HA-12: White paper wrapped fiberglass pipe insulation
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
3410 LF
Additional Notes

Photograph #13

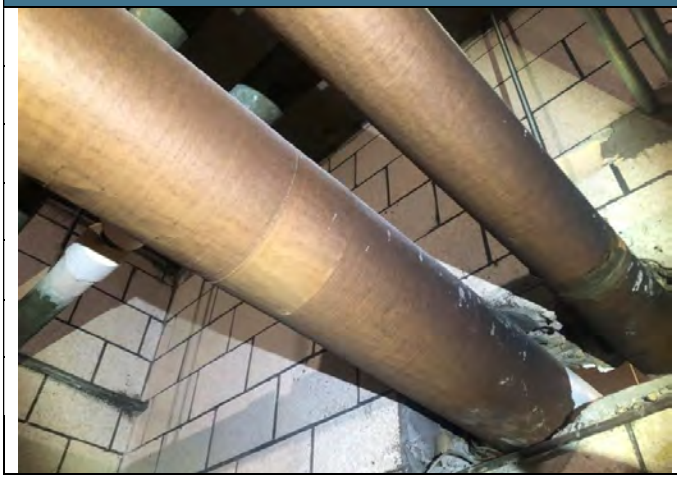


Homogenous Material Description
HA-13: Plastic covered fiberglass pipe fitting
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
1456 Fittings
Additional Notes

Photograph #14

Homogenous Material Description
HA-14: White caulk on HA-12
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
145 SF
Additional Notes

Photograph #15



Homogenous Material Description
HA-15: Brown paper wrapped pipe insulation
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
1830 LF
Additional Notes

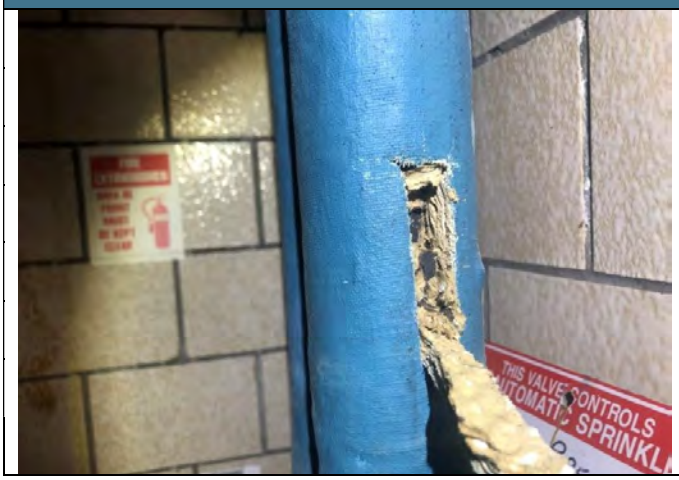
Photograph #16

Homogenous Material Description
HA-16: Canvas covered pipe fittings, brown paper wrapped pipe insulation lines
Asbestos Present (Yes/No/Assumed)
Yes, 30% Chrysotile
Total Quantity Present
283 Fittings
Additional Notes

Photograph #17

Homogenous Material Description
HA-17: Hanger mud
Asbestos Present (Yes/No/Assumed)
Yes, 50% Chrysotile
Total Quantity Present
78 Fittings
Additional Notes

Photograph #18



Homogenous Material Description
HA-18: Wool felt pipe insulation
Asbestos Present (Yes/No/Assumed)
Yes, 35% Chrysotile
Total Quantity Present
875 LF
Additional Notes

Photograph #19

Homogenous Material Description
HA-19: Canvas covered mudded fittings on wool felt pipe insulation lines
Asbestos Present (Yes/No/Assumed)
Yes, 50% Chrysotile
Total Quantity Present
159 Fittings
Additional Notes

Photograph #20

Homogenous Material Description
HA-20: Aircell pipe insulation
Asbestos Present (Yes/No/Assumed)
Yes, 45% Chrysotile
Total Quantity Present
468 LF
Additional Notes

Photograph #21

Homogenous Material Description
HA-21: Canvas covered mudded fittings, on aircell pipe insulation lines
Asbestos Present (Yes/No/Assumed)
Yes, 45% Chrysotile
Total Quantity Present
93 Fittings
Additional Notes

Photograph #22

Homogenous Material Description
HA-22: Cork pipe insulation
Asbestos Present (Yes/No/Assumed)
Cork No, Mag Layer Assumed
Total Quantity Present
11 LF
Additional Notes
Per MSU, mag layer may be hidden under cork

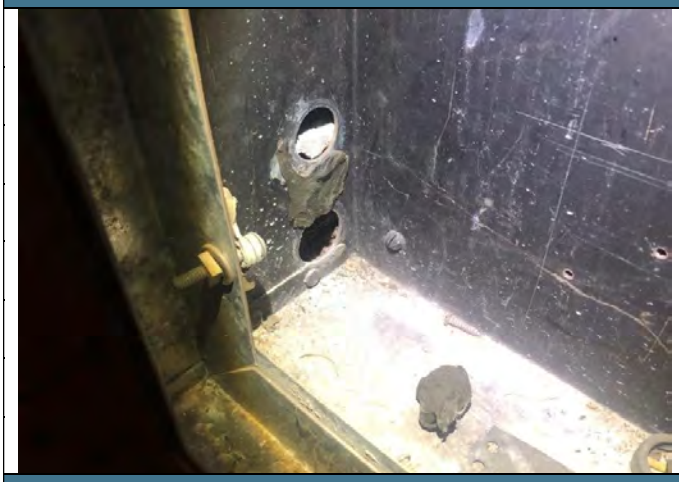
Photograph #23

Homogenous Material Description
HA-23: Cork insulation – wall insulation
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
15645 SF
Additional Notes

Photograph #24

Homogenous Material Description
HA-24: Remnants of original cork ceiling insulation with outer black paper layer adhered to concrete ceiling (assoc. with HA-32)
Asbestos Present (Yes/No/Assumed)
Yes, 2% Chrysotile
Total Quantity Present
50 SF
Additional Notes
Basement Mechanical Room. Associated with HA-32.

Photograph #25

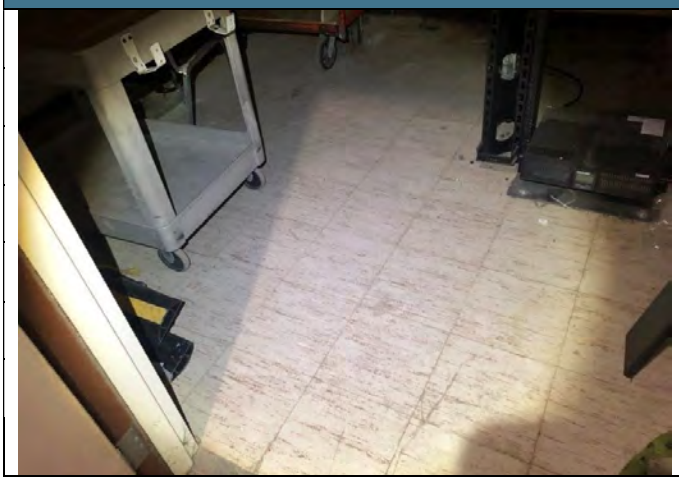


Homogenous Material Description
HA-25: Green caulk in electrical box
Asbestos Present (Yes/No/Assumed)
Yes, 10% Chrysotile
Total Quantity Present
10 LF
Additional Notes

Photograph #26

Homogenous Material Description
HA-26: Pipe insulation – horse hair
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
5 LF
Additional Notes

Photograph #27



Homogenous Material Description
HA-27: 12” beige floor tile, red streaks, mastic
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
100 SF
Additional Notes

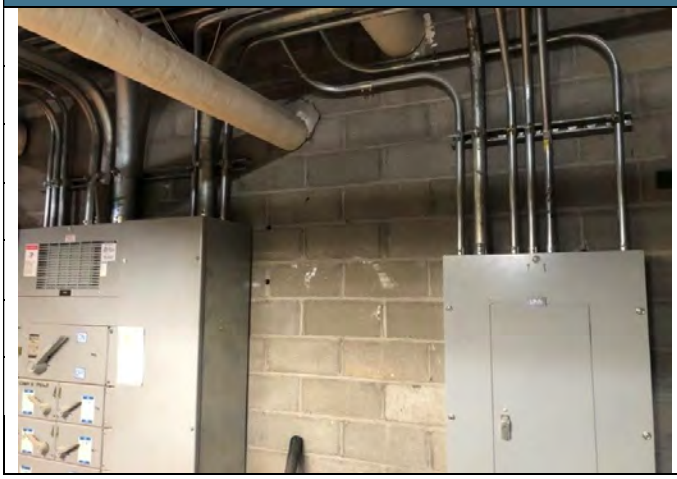
Photograph #28

Homogenous Material Description
HA-28: 4” brown cove base, adhesive
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
40 LF
Additional Notes

Photograph #29

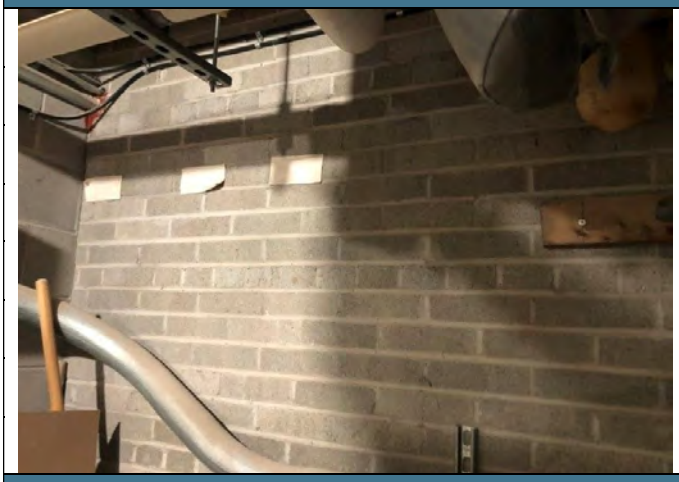
Homogenous Material Description
HA-29: Ceiling panel – pinhole/fissure
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
7480 SF
Additional Notes

Photograph #30



Homogenous Material Description
HA-30: Brick mortar – 12”x4” concrete brick
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
2350 SF
Additional Notes

Photograph #31

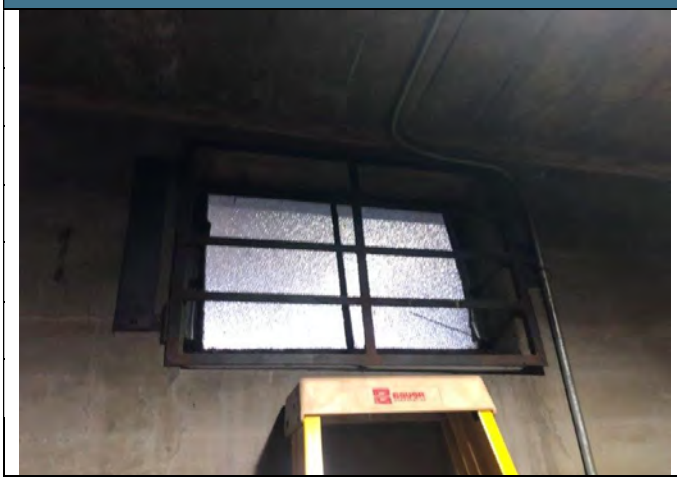


Homogenous Material Description
HA-31: Brick mortar – 2”x6” concrete bricks
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
200 SF
Additional Notes

Photograph #32

Homogenous Material Description
HA-32: Interior caulk (tar), black, perimeter of cork insulation (associated with HA-24)
Asbestos Present (Yes/No/Assumed)
Yes, 3% Chrysotile
Total Quantity Present
160 LF
Additional Notes
Associated with HA-24

Photograph #33

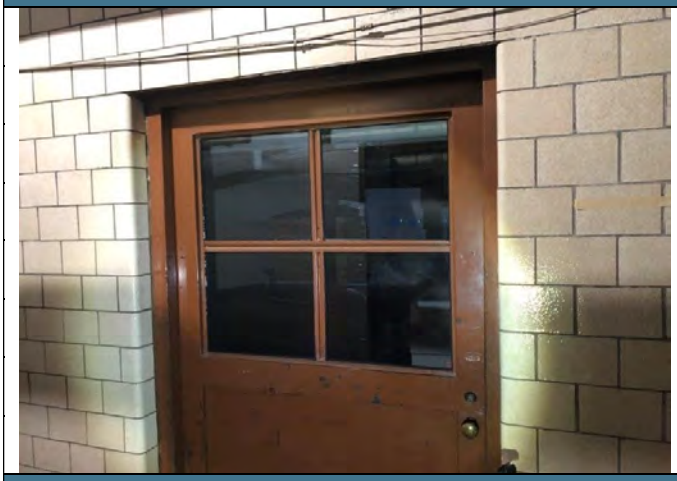


Homogenous Material Description
HA-33: Window glaze - grey
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
1 Window
Additional Notes

Photograph #34

Homogenous Material Description
HA-34: Tank insulation
Asbestos Present (Yes/No/Assumed)
Yes, 30% Chrysotile
Total Quantity Present
1 Tank
Additional Notes

Photograph #35



Homogenous Material Description
HA-35: Black window glaze
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
2 Windows
Additional Notes

Photograph #36

Homogenous Material Description
HA-36: 12” brown mottle
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
4 boxes
Additional Notes

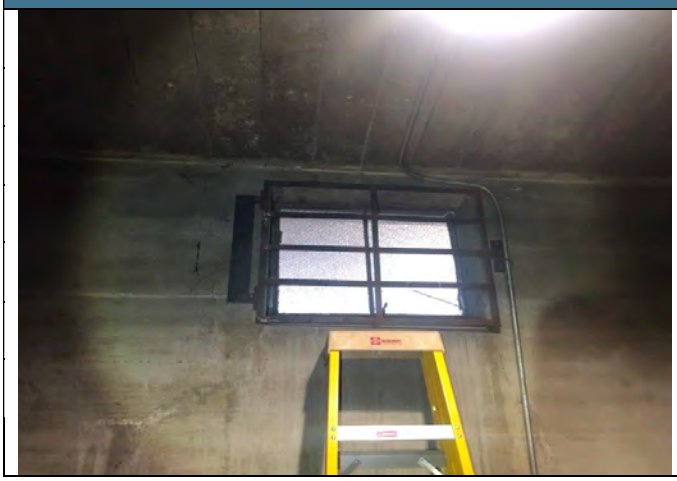
Photograph #37

Homogenous Material Description
HA-37: 12” white with black streaks floor tile
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
6 Boxes
Additional Notes

Photograph #38

Homogenous Material Description
HA-38: Window glaze, stack
Asbestos Present (Yes/No/Assumed)
Yes, 3% Chrysotile
Total Quantity Present
1 Window
Additional Notes

Photograph #39



Homogenous Material Description
HA-39: Soft grey window glaze
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
1 Window
Additional Notes

Photograph #40

Homogenous Material Description
HA-40: Wallboard system
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
2535 SF
Additional Notes

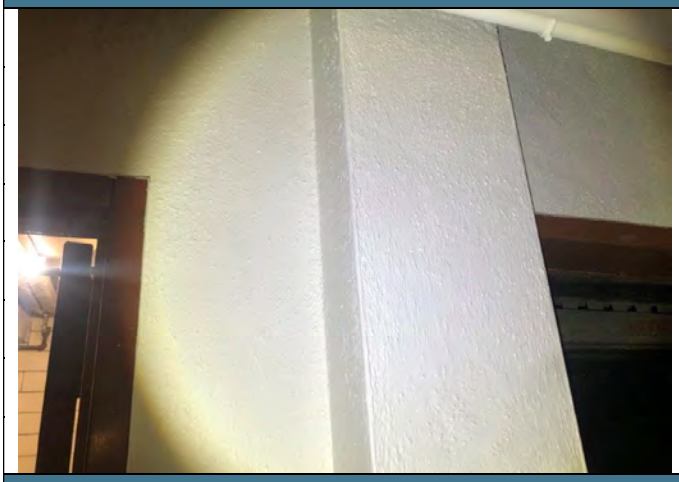
Photograph #41

Homogenous Material Description
HA-41: 4” black cove base, adhesive
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
1315 LF
Additional Notes

Photograph #42

Homogenous Material Description
HA-42: Glue pod, brown
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
285 SF
Additional Notes

Photograph #43



Homogenous Material Description
HA-43: Textured plaster - walls
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
4470 SF
Additional Notes

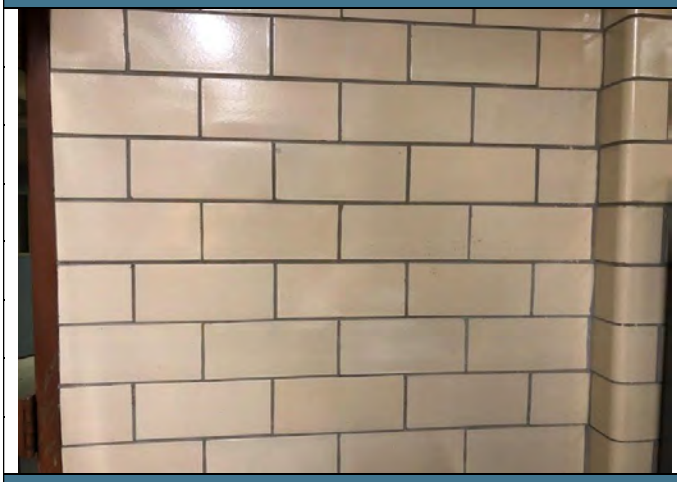
Photograph #44

Homogenous Material Description
HA-44: Magnesia pipe insulation
Asbestos Present (Yes/No/Assumed)
Yes, 30% Chrysotile
Total Quantity Present
985 LF
Additional Notes

Photograph #45

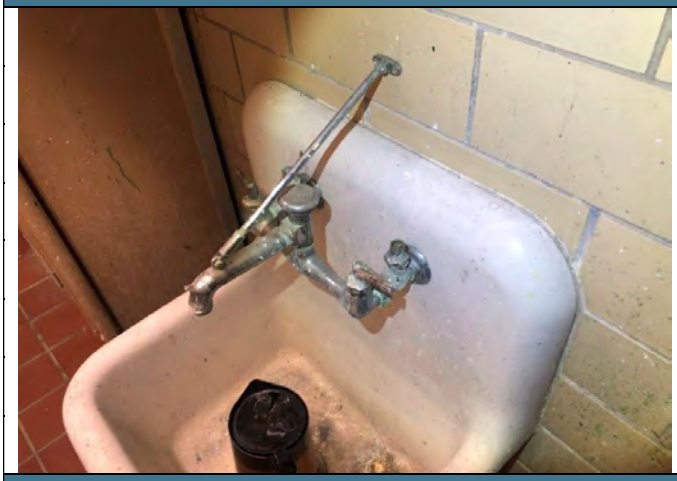
Homogenous Material Description
HA-45: Canvas covered mudded fittings, on magnesia pipe insulation lines
Asbestos Present (Yes/No/Assumed)
Yes, 30% Chrysotile
Total Quantity Present
200 LF
Additional Notes

Photograph #46



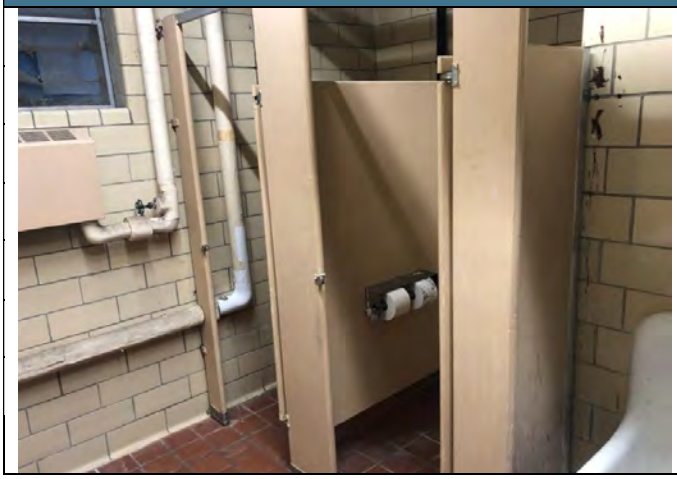
Homogenous Material Description
HA-46: Beige ceramic block mortar
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
11475 SF
Additional Notes

Photograph #47



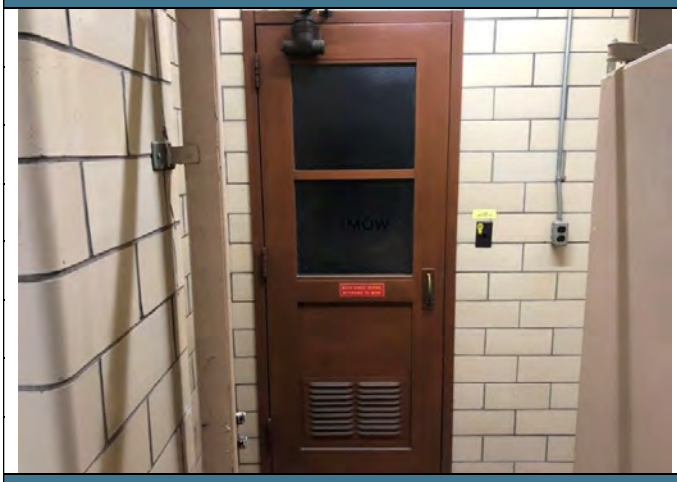
Homogenous Material Description
HA-47: White caulk on restroom fixtures
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
35 LF
Additional Notes

Photograph #48



Homogenous Material Description
HA-48: Bathroom partition insulation, paper
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
95 SF
Additional Notes

Photograph #49

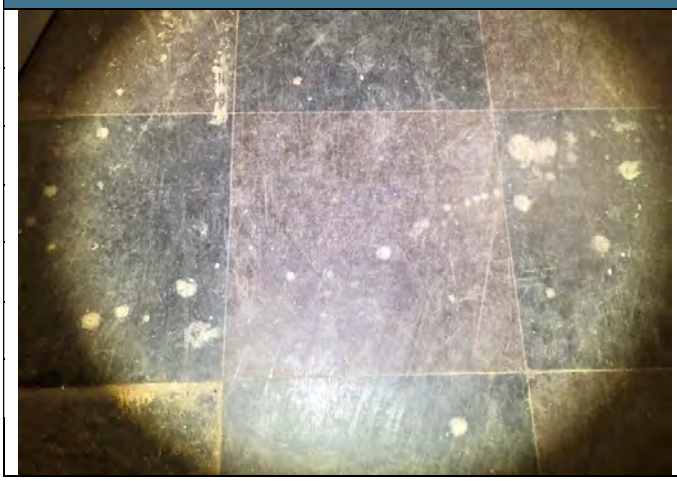


Homogenous Material Description
HA-49: Window glaze – beige, in door windows
Asbestos Present (Yes/No/Assumed)
Point Count: Trace Chrysotile
Total Quantity Present
11 Windows
Additional Notes

Photograph #50

Homogenous Material Description
HA-50: 9” black floor tile, black mastic
Asbestos Present (Yes/No/Assumed)
Yes, FT: 2% Chrysotile Mastic: ND
Total Quantity Present
210 SF
Additional Notes

Photograph #51



Homogenous Material Description
HA-51: 9” dark brown tile, black mastic
Asbestos Present (Yes/No/Assumed)
Yes, FT: 2% Chrysotile Mastic: ND
Total Quantity Present
210 SF
Additional Notes

Photograph #52

Homogenous Material Description
HA-52: 9” grey floor tile, black mastic
Asbestos Present (Yes/No/Assumed)
Yes, FT: 7% Chrysotile Mastic: ND
Total Quantity Present
210 SF
Additional Notes

Photograph #53

Homogenous Material Description
HA-53: rough texture ceiling panel
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
45 SF
Additional Notes

Photograph #54

Homogenous Material Description
HA-54: Metal covered ceiling panel
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
10 SF
Additional Notes

Photograph #55

Homogenous Material Description
HA-55: vinyl covered wallboard ceiling panel
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
956 SF
Additional Notes

Photograph #56

Homogenous Material Description
HA-56: Waterproofing spray-on
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
1360 SF
Additional Notes

Photograph #57

Homogenous Material Description
HA-57: Gasket material – steel pipes
Asbestos Present (Yes/No/Assumed)
Yes, 10% Chrysotile
Total Quantity Present
44 Gaskets
Additional Notes

Photograph #58

Homogenous Material Description
HA-58: Number not used
Asbestos Present (Yes/No/Assumed)
Total Quantity Present
Additional Notes

Photograph #59

Homogenous Material Description
HA-59: Tank insulation
Asbestos Present (Yes/No/Assumed)
Yes, 30% Chrysotile
Total Quantity Present
1 Tank (45 SF)
Additional Notes

Photograph #60

Homogenous Material Description
HA-60: Wallboard walls
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
135 SF
Additional Notes

Photograph #61

Homogenous Material Description
HA-61: Textured plaster – rough ceiling
Asbestos Present (Yes/No/Assumed)
Yes, 3% Chrysotile
Total Quantity Present
180 SF
Additional Notes

Photograph #62

Homogenous Material Description
HA-62: 4” grey cove base, adhesive
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
20 LF
Additional Notes

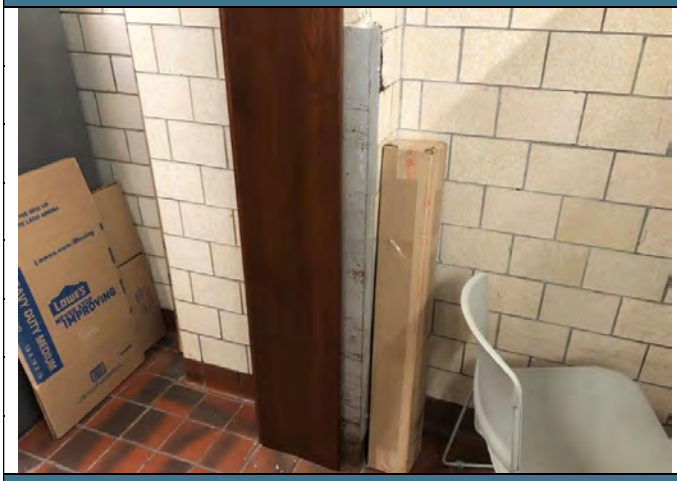
Photograph #63

Homogenous Material Description
HA-63: Grey caulk, window frame perimeter
Asbestos Present (Yes/No/Assumed)
Point Count: 2.25% Chrysotile
Total Quantity Present
570 LF
Additional Notes

Photograph #64

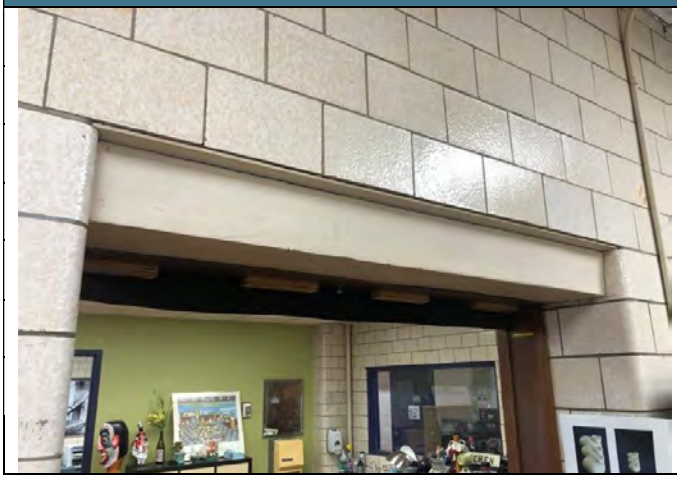
Homogenous Material Description
HA-64: Vibration dampener – white canvas
Asbestos Present (Yes/No/Assumed)
Yes, 20% Chrysotile
Total Quantity Present
40 SF
Additional Notes

Photograph #65



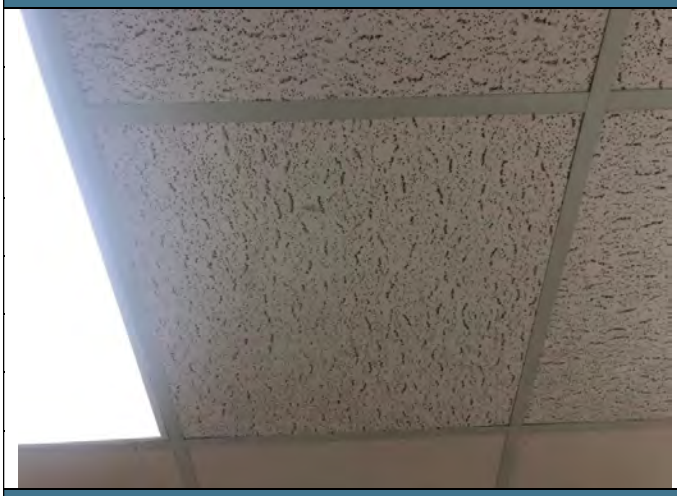
Homogenous Material Description
HA-65: steel corner guard adhesive
Asbestos Present (Yes/No/Assumed)
Yes, 3% Chrysotile
Total Quantity Present
165 SF
Additional Notes

Photograph #66



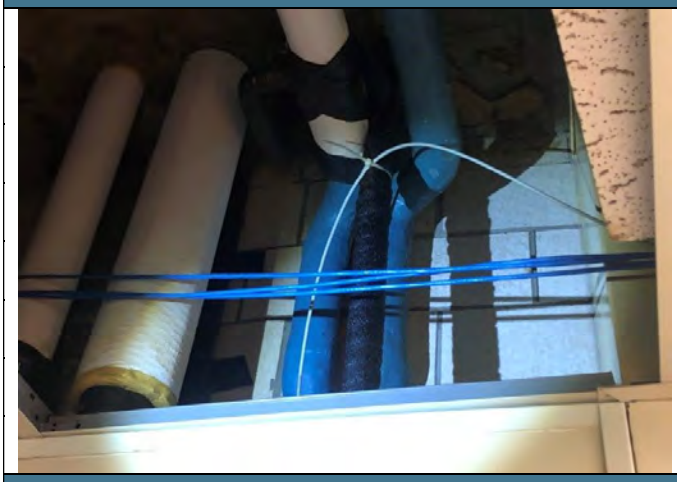
Homogenous Material Description
HA-66: Textured plaster, door frame
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
5 SF
Additional Notes

Photograph #67



Homogenous Material Description
HA-67: Off-white pinhole/large fissure ceiling panel
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
1110 SF
Additional Notes

Photograph #68



Homogenous Material Description
HA-68: Pipe insulation, black tar tape
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
5 LF
Additional Notes

Photograph #69

Homogenous Material Description
HA-69: Brick mortar – red brick siding
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
20305 SF
Additional Notes

Photograph #70

Homogenous Material Description
HA-70: Plastic wrapped fiberglass insulation
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
1100 SF
Additional Notes

Photograph #71

Homogenous Material Description
HA-71: Ceiling tile, pinholes
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
560 SF
Additional Notes

Photograph #72

Homogenous Material Description
HA-72: Ceiling panel – yellowish pinhole/fissure, grey composite material
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
40 SF
Additional Notes

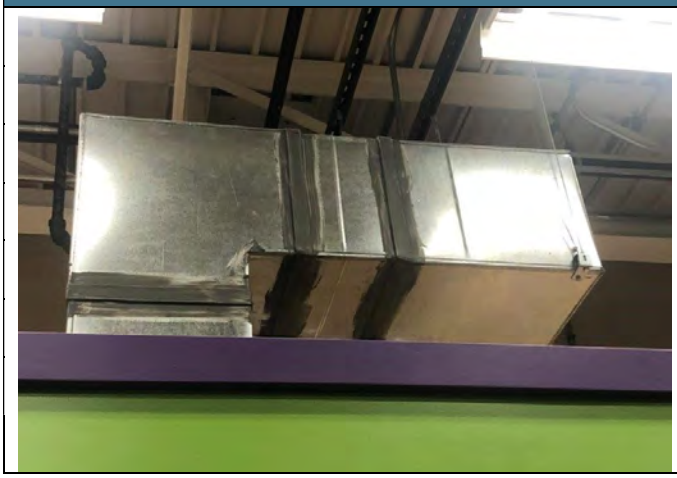
Photograph #73

Homogenous Material Description
HA-73: White pinhole ceiling panel, beige composite material
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
5323 SF
Additional Notes

Photograph #74

Homogenous Material Description
HA-74: Black adhesive behind rubber guard
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
245 SF
Additional Notes

Photograph #75



Homogenous Material Description
HA-75: Grey duct caulk
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
18 SF
Additional Notes

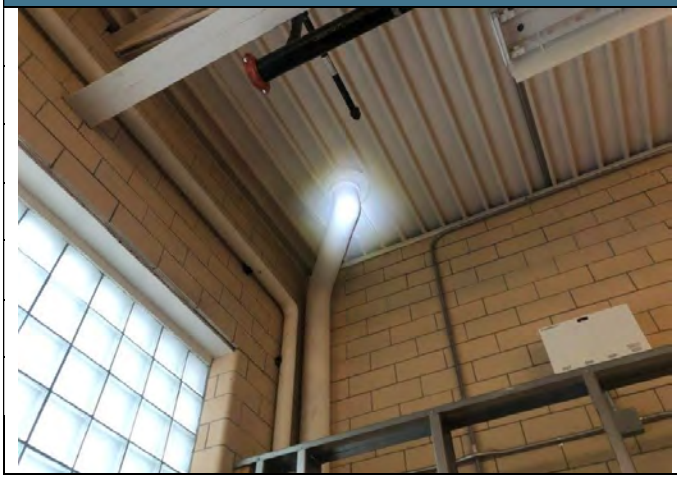
Photograph #76

Homogenous Material Description
HA-76: 6” black cove base, adhesive
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
40 LF
Additional Notes

Photograph #77

Homogenous Material Description
HA-77: black window glaze, office window
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
15 LF
Additional Notes

Photograph #78



Homogenous Material Description
HA-78: Roof drain fitting
Asbestos Present (Yes/No/Assumed)
Assumed
Total Quantity Present
1 Fitting
Additional Notes

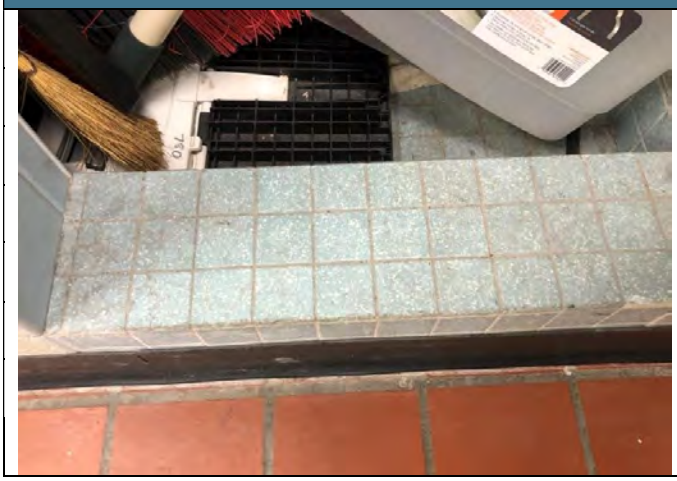
Photograph #79

Homogenous Material Description
HA-79: Floor sheeting, brown vinyl
Asbestos Present (Yes/No/Assumed)
Yes, 15% Chrysotile
Total Quantity Present
265 SF
Additional Notes

Photograph #80

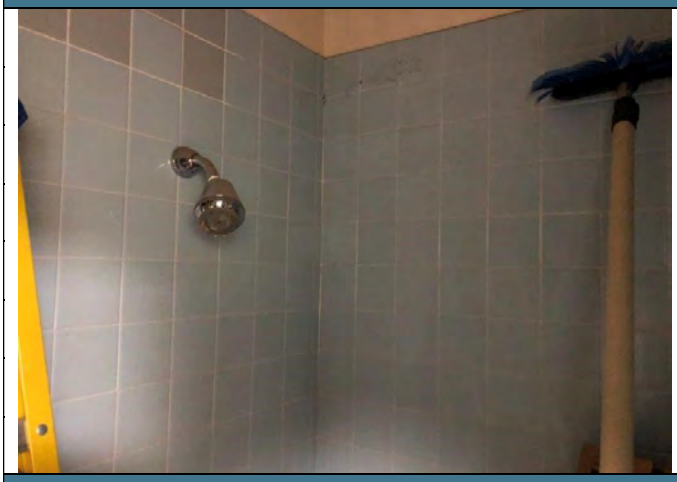
Homogenous Material Description
HA-80: Brown caulk, perimeter of glass block
Asbestos Present (Yes/No/Assumed)
Point Count: 1.75% Chrysotile
Total Quantity Present
390 LF
Additional Notes

Photograph #81



Homogenous Material Description
HA-81: 2” blue ceramic floor tile, grout, mortar
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
25 SF
Additional Notes

Photograph #82



Homogenous Material Description
HA-82: 4” blue ceramic wall tile, grout, mortar
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
40 SF
Additional Notes

Photograph #83

Homogenous Material Description
HA-83: White caulk on backsplash
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
20 LF
Additional Notes

Photograph #84

Homogenous Material Description
HA-84: Concrete slab expansion joint
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
15 LF
Additional Notes

Photograph #85

Homogenous Material Description
HA-85: Carpet mastic, green
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
325 SF
Additional Notes

Photograph #86

Homogenous Material Description
HA-86: Transite window sill
Asbestos Present (Yes/No/Assumed)
Assumed
Total Quantity Present
20 SF
Additional Notes

Photograph #87

Homogenous Material Description
HA-87: Black caulk, perimeter of aluminum window frame
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
690 LF
Additional Notes

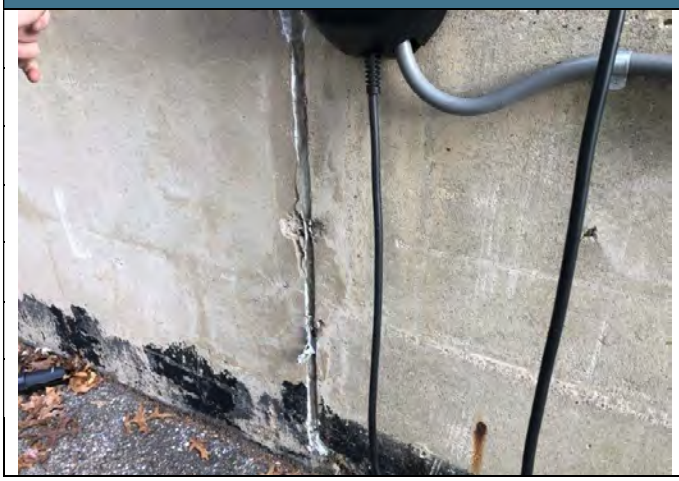
Photograph #88

Homogenous Material Description
HA-88: 12” wood pattern stick-on floor tile
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
100 SF
Additional Notes

Photograph #89

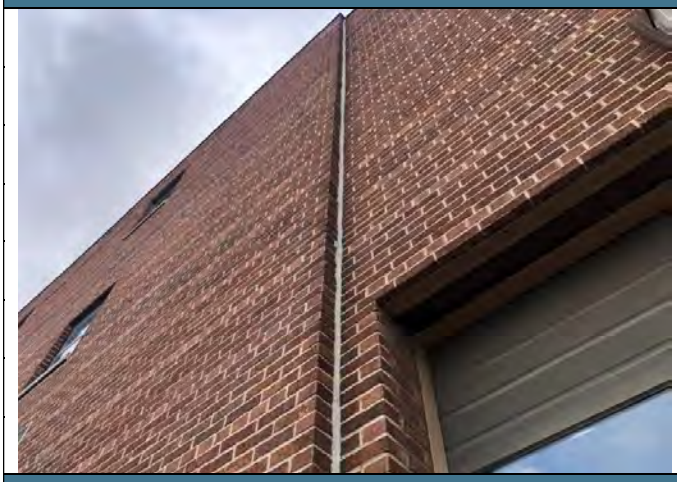
Homogenous Material Description
HA-89: Beige window glaze, window interior
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
6 Windows
Additional Notes

Photograph #90



Homogenous Material Description
HA-90: Grey foundation expansion joint
Asbestos Present (Yes/No/Assumed)
Yes, 8% Chrysotile
Total Quantity Present
5 LF
Additional Notes

Photograph #91



Homogenous Material Description
HA-91: Red brick expansion joint
Asbestos Present (Yes/No/Assumed)
Yes, 2% Chrysotile
Total Quantity Present
300 LF
Additional Notes

Photograph #92

Homogenous Material Description
HA-92: Black expansion joint between foundation wall and walkway
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
260 LF
Additional Notes

Photograph #93

Homogenous Material Description
HA-93: Exterior concrete
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
1578 SF
Additional Notes

Photograph #94

Homogenous Material Description
HA-94: Black spray-on waterproofing
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
715 LF
Additional Notes

Photograph #95

Homogenous Material Description
HA-95: Glass block mortar
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
1050 LF
Additional Notes

Photograph #96

Homogenous Material Description
HA-96: Grey caulk, perimeter of glass block
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
465 LF
Additional Notes

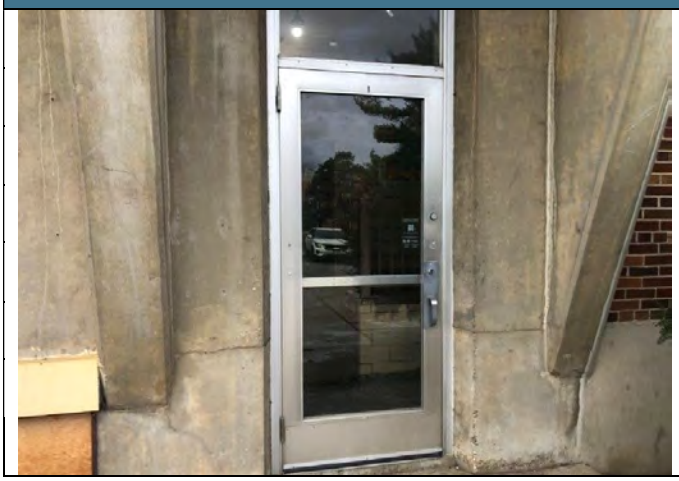
Photograph #97

Homogenous Material Description
HA-97: Window glaze, multi-pane steel windows
Asbestos Present (Yes/No/Assumed)
Point Count: 0.25% Chrysotile
Total Quantity Present
1060 LF
Additional Notes

Photograph #98

Homogenous Material Description
HA-98: Window glaze – basement windows
Asbestos Present (Yes/No/Assumed)
Point Count: 0.25% Chrysotile
Total Quantity Present
375 LF
Additional Notes

Photograph #99

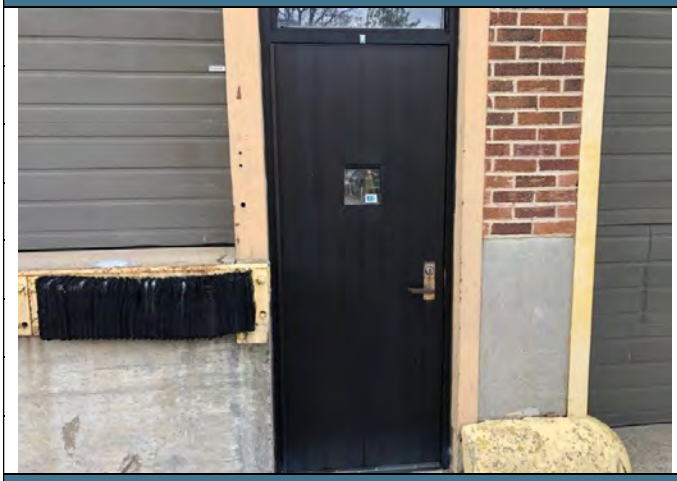


Homogenous Material Description
HA-99: Metal door window glaze, grey
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
15 LF
Additional Notes

Photograph #100

Homogenous Material Description
HA-100: Grey caulk, perimeter of door frames
Asbestos Present (Yes/No/Assumed)
Yes, 7% Chrysotile
Total Quantity Present
70 LF
Additional Notes

Photograph #101



Homogenous Material Description
HA-101: Black caulk, perimeter of door frames
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
45 LF
Additional Notes

Photograph #102

Homogenous Material Description
HA-102: Grey, caulk, perimeter of steel multi-pane windows
Asbestos Present (Yes/No/Assumed)
Yes, 5% Chrysotile
Total Quantity Present
725 LF
Additional Notes

Photograph #103

Homogenous Material Description
HA-103: Grey caulk, perimeter of steel basement windows
Asbestos Present (Yes/No/Assumed)
Yes, 6% Chrysotile
Total Quantity Present
350 LF
Additional Notes

Photograph #104

Homogenous Material Description
HA-104: Grey caulk, perimeter of aluminum windows
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
530 LF
Additional Notes

Photograph #105

Homogenous Material Description
HA-105: Flat rubber membrane roofing materials
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
24300 SF
Additional Notes

Photograph #106

Homogenous Material Description
HA-106: Concrete walkway pads
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
135 SF
Additional Notes

Photograph #107

Homogenous Material Description
HA-107: Terracotta capstone
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
375 SF
Additional Notes

Photograph #108

Homogenous Material Description
HA-108: Grey caulk between terracotta capstones
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
190 LF
Additional Notes

Photograph #109

Homogenous Material Description
HA-109: Black caulk, on parapet wall
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
780 SF
Additional Notes

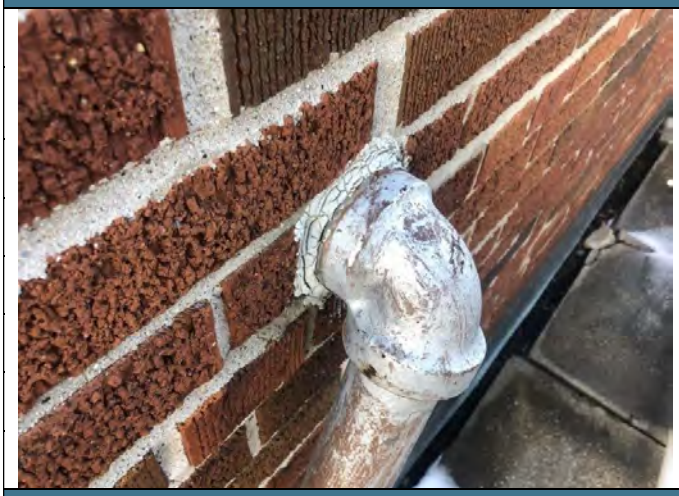
Photograph #110

Homogenous Material Description
HA-110: Black caulk on penthouse flashing
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
60 LF
Additional Notes

Photograph #111

Homogenous Material Description
HA-111: dark grey caulk, perimeter of door frame
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
20 LF
Additional Notes

Photograph #112



Homogenous Material Description
HA-112: Light grey caulk, penthouse penetrations
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
5 LF
Additional Notes

Photograph #113

Homogenous Material Description
HA-113: grey caulk on metal pipe
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
25 LF
Additional Notes

Photograph #114

Homogenous Material Description
HA-114: white caulk on plastic pipe fittings
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
15 LF
Additional Notes

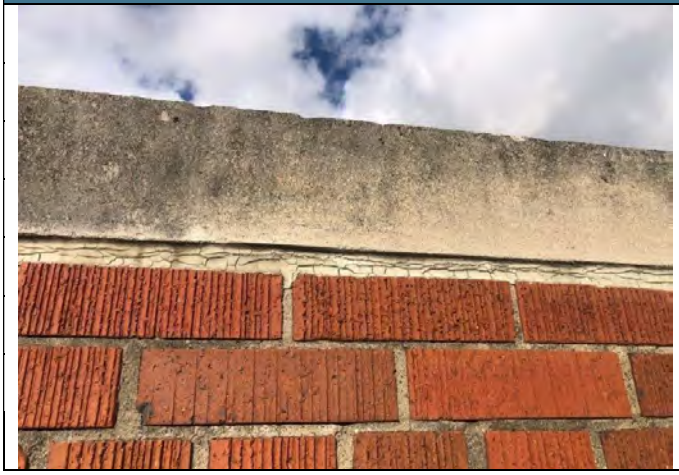
Photograph #115

Homogenous Material Description
HA-115: Grey caulk, on penetrations, fencing base
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
50 SF
Additional Notes

Photograph #116

Homogenous Material Description
HA-116: Grey caulk, seams of concrete capstone
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
200 LF
Additional Notes

Photograph #117

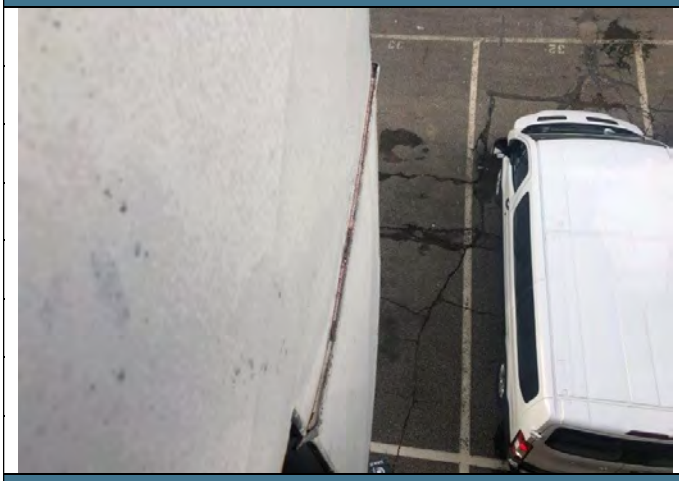


Homogenous Material Description
HA-117: Dark grey caulk, under capstone
Asbestos Present (Yes/No/Assumed)
Yes, 10% Chrysotile
Total Quantity Present
400 SF
Additional Notes

Photograph #118

Homogenous Material Description
HA-118: Grey caulk, on HVAC seams
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
20 LF
Additional Notes

Photograph #119



Homogenous Material Description
HA-119: Pink caulk, on HVAC seams
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
30 LF
Additional Notes

Photograph #120

Homogenous Material Description
HA-120: white caulk, on window angle iron
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
5 LF
Additional Notes

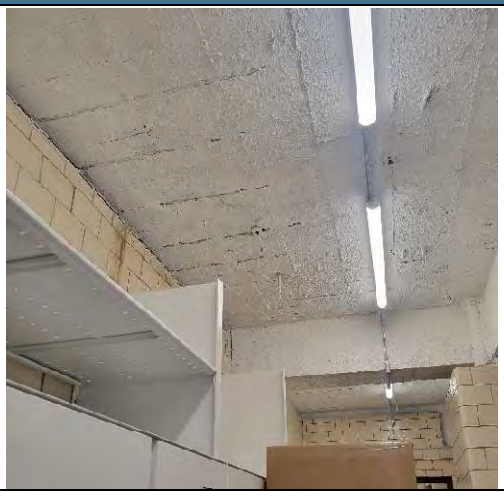
Photograph #121

Homogenous Material Description
HA-121: grey caulk, on vent perimeter
Asbestos Present (Yes/No/Assumed)
Yes, 5% Chrysotile
Total Quantity Present
35 LF
Additional Notes

Photograph #122

Homogenous Material Description
HA-122: Black caulk, on parapet walls
Asbestos Present (Yes/No/Assumed)
Yes, 5% Chrysotile
Total Quantity Present
800 SF
Additional Notes

Photograph #123



Homogenous Material Description
HA-123: Cork insulation, remnants (cork & cork adhesive on concrete).
Asbestos Present (Yes/No/Assumed)
No
Total Quantity Present
14106 SF
Additional Notes
Black paper layer (ACM layer) & several inches of cork (HA-24) were previously removed in abatement project.

Photograph #124

Homogenous Material Description
HA-124: Black asphaltic layer, remnant pieces, at top of interior perimeter walls in select areas
Asbestos Present (Yes/No/Assumed)
Yes, 4% Chrysotile
Total Quantity Present
120 SF
Additional Notes
Associated with HA-123 (and HA-24 which was previously abated).

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY OF WORK

A. Work Under This Contract

1. This Contract encompasses the furnishing of all labor, materials, services, equipment, and insurance to complete the following as shown on drawing and specified herein: This project involves full building remediation and demolition, site and utility demolition, debris removal, recycling of acceptable materials, concrete pavement/curb/gutter removal, shrub removal, stump removal, earthwork, building and other disturbed site sand backfill, site restoration, new concrete curb/gutter pavement installations, asphalt pavement installations, site grading and topsoil hauling from owners stockpile and rough grade placement. Utility removal, demolition, abandonment and reconnection not being performed by the Owner or others, site fencing for construction and permanent installations.

2. Any premium time necessary to complete this project as scheduled shall be included in the Base Bid.

3. All pertinent requirements of the Invitation to Bidders, Instructions to Bidders, and General Conditions shall form a part of these specifications, and the Contractor shall consult them in detail for instructions pertaining to the work in the following divisions.

B. Work Performed Under Separate Contracts

1. The following will be provided by the Owner or by others under separate contracts:

a. Temporary and final keying (see Section 087100)

b. Tie-back, pruning, removal and/or transplanting of existing plantings, and tree protection.

c. Departmental possessions - furniture, books, personal items, etc., shall be relocated by the Department or University as required.

d. Smart Ball utility locators

e. As-built Site Survey

1) The Contractor shall notify the Project Manager when new underground utility installation starts, or when existing utilities are exposed, to allow the Project Representative to coordinate with IPF Facility Information Services for documentation.

2) The Project Manager shall coordinate with IPF Facility Information Services for an As-built Survey upon completion of exterior improvements and utilities.

2. Coordinate pickup of the following site-related, owner-provided materials from Beaumont Supply at 4080 Beaumont Rd., Lansing, MI 48910, phone: (517) 643-6253 (Hours of operation are May 1st – October 31st 6am-4pm Monday – Friday excluding university holidays. November 1st – up until the Thanksgiving Holiday 6am-230pm Monday -Friday and following Thanksgiving Holiday – April 30th 5am-130pm to accommodate for snow) Extended hours are available with a minimum 24-hour notice. Contractor is responsible for transporting materials to the jobsite.

a. Soil Erosion and Sedimentation Control (SESC) materials: (removed and retained by Owner at end of permit)

1) Erosion eels

b. Recycled concrete aggregate for parking bituminous pavement base (see section 321216)

c. Topsoil, final grading, fertilizing, mulching, and seeding of construction site. (see Section 312300).

d. Site Appurtenances (see Section 324000):

1) Barrier-free parking bollards, removable bollards, guard post bollards, Post and chain fence

2) Parking meters and parking meter posts

3) Parking and regulatory U-channel posts and signs

4) Building address and wayfinding signs

5) Benches, tables, litter receptacles and other site furniture

6) Bike loops and bike loop regulatory signs

C. Pre-Ordered Products

1. The Contractor shall assume full responsibility for all pre-ordered products after their arrival at MSU. This includes transportation, handling, storage, start-up, warranty services, and installation in accordance with the General Conditions unless otherwise specified.

D. Work Sequence

1. Project start date: ACM and other hazardous material removals begin on June 1, 2025

2. Building demolition begins on June 16, 2025

3. The Substantial construction completion date for this project is as specified in the Advertisement for Bids.

1.2 WORK RESTRICTIONS

A. Access Routes

1. All materials and equipment (new and demolition), including mechanical and electrical, shall be transported through a building via the designated building receiving area (usually the loading dock), and through main corridor to rooms or areas. Alternate routes may be used only with the approval of the Project Representative.

B. Owner Occupancy

1. Unless otherwise stated, University buildings will continue to function and remain occupied during the construction process.

2. On every project involving new construction, additions or alterations to existing facilities, M.S.U. requires the ability of a person with physical disabilities to independently get to, enter, and use the site, facility, building or element. In no way shall a site, building or facility be restricted to individuals with disabilities, due to alterations or construction, which would normally be made accessible to individuals with no disabilities. Alternate routes for all new and alterations of existing facilities shall incorporate the latest federal, state and local barrier free standards and include temporary access accommodations for individuals with disabilities.

C. Use of Site

1. There shall be a pre-construction site walk-thru with the Project Representative to clarify and discuss limitations and concerns prior to construction.

2. Construction fence

a. A construction fence shall be placed around the construction site as shown on the drawings and as approved by the Project Representative.

b. The Contractor is responsible for installing and maintaining the construction fence and gates to restrict access by the public to the area under construction. The Contractor may be required to reposition the fence and/or gate(s) during the course of construction to accommodate the construction activities in order to minimize the inconvenience to the public.

c. The fence shall be constructed of chain link fabric with a minimum height of 6', with metal or wood posts at not to exceed 8' spacing. Fence fabric shall be supported by either a top bar or tension cable. Gates (where specified) will be constructed of a suitable metal frame with chain link fabric with a height of not less than 6'. This fence shall be installed before work commences.

d. The fence shall have fabric screening to cover the entire perimeter of the site.

e. Metal signs reading "Construction Area - Keep Out" must be attached to the fence at not more than 20' spacing and to the gate(s).

f. Where any fence crosses an existing walk, drive, or road, a lighted MDOT Type 1 barricade or larger shall be attached to the inside of the fence facing on-coming pedestrian and/or vehicular traffic.

g. No construction work, parking, storage of materials or related activities shall occur beyond this boundary fencing.

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION
Not Used

END OF SECTION

SECTION 012000 - PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 PROPOSAL QUOTATION REQUIREMENTS

A. Projects to be bid will be quoted as required by the front-end documents on the specification.

1.2 ALLOWANCES

A. An allowance of $20,000 for soil compaction testing, as defined in section 310000 and elsewhere in this specification, shall be included with the base bid.

1.3 UNIT PRICES

A. Unit prices will be used to adjust the Lump Sum Bid for work that is added to or subtracted from the project. Unit prices quoted shall include all associated work items required to complete the specified task and shall include all labor fringes, overhead, profit, handling fee and any associated cost related to the work item. Unit prices must be reasonable and customary for the work specified. The successful bidder must be able to support and document the prices quoted as they relate to the quoted Base Bid. ALL UNIT PRICES MUST BE PROVIDED FOR THE BASE BID TO BE CONSIDERED VALID.

1.4 CONTRACT BREAKDOWNS

A. Within twenty-four (24) hours after receipt of Bids, the apparent Low Bidder shall submit to the Architect/Engineer, the following:

1. A Schedule of Values (SOV), indicating the cost of each specified Division and/or Major Subdivision of the Bid. The approved SOV will be used as the basis for estimating partial payments to the Contractor when allowed per the front-end documents.

   a. All contracts shall assign a minimum of 1% of the contract value for final completion and project closeout. This item must be identified as a separate line item labeled *Closeout* on the SOV. Exceptions must be approved by the Construction Superintendent.

   b. Due to changes to Generally Accepted Accounting Practices, environmental remediation must be separately reported in the Owner's financial statements. Accordingly, all contracts shall carry remediation costs in separate lines clearly marked *remediation*. These titles should not be used in other line descriptions.

   c. Construction Management contracts shall carry separate detail lines for at least the following lines:

      i. Preconstruction Services
      ii. Construction phase staffing

iii. General conditions
iv. Bonds and Insurance. Note that subcontractor bonds are not required to be separately listed.
v. Fee
vi. Closeout

2. Identify a Subcontractor for each Division and/or Major Subdivision for the Owner's approval. Once approved, no Subcontractors will be changed without the Owner's written consent. The List of Subcontractors will have indicated the MBE/WBE Contractors, and their percentages of the Contract Price as specified in the "Cover Letter" or "Advertisement for Bids" of this project.

3. A list of representatives authorized to perform Unifier functions on behalf of the Contractor using the Unifier System - Vendor Information available at http://ipf.msu.edu/index.cfm/capital-project-procedures/documents/unifier-system-vendor-information/.

1.5 CONTRACT MODIFICATION PROCEDURES

A. Change Management Quotation Requirements

1. Quotations for changes in the Contract will be submitted via Unifier when requested, as outlined in Section 012000-1.5.B, Change Management Procedures. This section will not prohibit the Project Representative from requesting and receiving verbal quotations. It is intended that mutual cooperation will keep any changes to an absolute minimum. The Contractor shall promptly document any verbal request by initiating a Change Management or Change Request record in Unifier. The Contractor shall not engage in added work without proper authorization by the Owner. Any added work the Contractor engages in without authorization shall be at the Contractor's risk. In no event shall the failure of the Construction Representative to initiate a change constitute authorization for the Contractor to proceed with work.

2. The Change Order Quotation Format Form is available on the MSU Capital Project Delivery Procedures website (http://procedures.ipf.msu.edu/index.cfm/capital-project-delivery-procedures/). This Form shall be forwarded to each required Subcontractor and is recommended as an outline of the information required by this Contract.

3. The Contractor will submit quotations through Unifier, including detailed breakdowns. Upon request, originals of any documents shall be provided to the Owner. The Project Representative will receive quotations from the Contractor only. Subcontractors will submit quotations through the Contractor. All Contractors will submit quotations with information and back-up data as indicated on the quotation form.

B. Change Management Procedures

1. Change Orders shall be issued as required to alter the Contract, (i.e. change the work scope, materials, dates, etc.), in accordance with the General Conditions of the Contract, and the following procedure:

a. The Contractor or the Project Manager shall initiate a Change Request in the Unifier Project Management System. Each Change Request will consist of only one change item of work.

b. Items brought up by the Department or Contractor shall be reviewed first with the Project Representative.

c. The Architect/Engineer will review the Change Request, and with the Project Representative, will determine the need for an item to be changed in the Contract by Change Order.

d. If the Change Request is approved, the Contractor will receive a request through Unifier to proceed with the work and/or provide pricing, as applicable. Provide a quotation for the item requiring change, unless the Change Request is submitted as a lump sum with a quotation attached

e. The Contractor will submit a quotation for each Change Request item in accordance with the applicable Unifier business process. Overhead and profit shall be applied consistent with the General Conditions.

f. The Project Manager and Architect/Engineer will evaluate the quotations and accept or reject each item quoted. A Change Order will be created within the Unifier system and will be issued through the MSU Purchasing Department to change the contract amount if required.

g. The Construction Supervisor or Director of Planning, Design and Construction has approval authority for the Contract Change.

1.6 CONTRACT PAYMENT PROCEDURES

A. Payment application requirements
1. Payment applications shall be submitted in Unifier, consistent with the contract documents.

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION
Not Used

END OF SECTION

SECTION 013000 - ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 PROJECT MANAGEMENT AND COORDINATION

A. Project Meetings

1. Project meetings may be called as deemed necessary by the Project Manager.

B. Project Scope Documentation

1. The Contractor shall use Autodesk Build for coordination of changes in the field, punch list items, and potential use for plan review comments.

C. Project Coordination

1. The Contractor is ultimately responsible for coordination to complete all work shown on drawings and specified herein independent of the location of the work on drawings and within the specifications. The arrangement of work within the specification into Divisions and Sections shall be considered as given for convenience of reference only and shall not be held to conform to jurisdictional rules which may prevail in any particular trade. It shall be the responsibility of the Contractor to so arrange or group items of work under a particular trade to conform to the prevailing customs of that trade and best interest of the Owner. Specific items of work will be performed by specific subcontractors or workmen when so specified herein or subsequently deemed necessary by the Project Representative to produce competent results.

2. The Contractor shall lay out the work and be responsible for all lines and measurements of the work. Before ordering material or executing work the Contractor shall obtain field measurements and prepare the work to fit conditions properly.

3. The Contractor will be held responsible for any error resulting from his/her failure to verify the figures shown on the drawing before laying out the work.

4. No extra charge will be allowed on account of slight variations between field dimensions and dimensions given on the drawings.

D. Mechanical and Electrical Coordination

1. Connection to Existing Equipment

a. The Contractor shall make arrangements with Planning, Design and Construction, through the Project Representative, before connecting to existing facilities. Unless otherwise noted, if interruption of service is required it shall be done at the convenience of the Owner.

1.2 CONSTRUCTION PROGRESS DOCUMENTATION

A. Construction Schedule Development/Coordination Responsibilities.

1. The Critical Path Method (CPM) will be used to plan, schedule, execute and report status of work under this contract. It shall include and properly coordinate dates for performance of all divisions for each major portion of the Work and including completion of off-site requirements and tasks if request by Project Representative.

   a. Within fourteen (14) calendar days of the Letter of Intent or contract award, the Contractor shall develop a proposed Baseline schedule for the Work and submit it to each subcontractor to incorporate their own work.

   b. All subcontractors, both direct and indirect, shall, within seven (7) calendar days of receipt of the Contractor's Schedule, submit revisions, comments and feedback to the Contractors, which shall be incorporated into the proposed schedule.

   c. Upon receipt of the schedule from the Subcontractors, the Contractor will incorporate Subcontractors information into the Baseline Construction Schedule with appropriate logic ties and Contract Milestones and distribute to the Architect/Engineer and Owner within seven (7) calendar days. Thus, the Contractor Schedule development will be completed within twenty-eight (28) calendar days from Letter of Intent or Contract, awaiting Owner approval.

   d. After the project schedule has been accepted by the Owner the Contractor within five days (5 days) schedule a meeting with all subcontractors to review and encourage schedule compliance.

2. **All Subcontractors shall cooperate with the General Contractor to prepare and maintain the Construction Schedule, which shall include, without limitation, the following information at the General Contractor request.**

   a. Shop Drawing review and approval, product procurement, fabrication, shop inspection, and delivery dates including lead times. Note: A/E shall be given 14 days upon receipt of submittal to review and return submittal.

   b. Each phase of the Work, including the Punch List, Project Closeout requirements, Contract Completion and Occupancy.

   c. Milestone dates that are required by the Contract Documents and Progress Milestones. Milestones should typically be based on the critical path and not exceed one (1) month between milestones.

   d. The critical path of the Work

   e. Planned disruptions and shutdowns due to other operations, facilities and functions, if any.

3. Upon receipt of the proposed Construction Schedule, the Architect/Engineer (A/E) and Owner (or other designee of the Owner), shall review the Construction Schedule and submit a copy of the Construction Schedule with comments to the Contractor within seven (7) calendar days. Within five (5) calendar days of review of comments from the Owner, all requested changes shall be incorporated into the baseline Construction Schedule and a printout and electronic copy shall be provided to the Owner. Thus, the Contractor Schedule development with Owner review and Contractor modifications/changes shall not exceed forty (40) calendar days from the Letter of Intent.

4. **No progress payments will be made to the Contractor without a Baseline Construction Schedule approved by the Owner (or other designee of the Owner).**

5. Unless otherwise specified in the Contract Documents or waived in writing by the Owner, the Contractor shall provide **monthly progress reports, at a minimum,** to the Architect/Engineer and the Owner, which shall include recommendations for adjusting the construction schedule to meet Milestone Completion dates and contract completion dates.

6. An updated construction schedule shall be submitted each month to the Project Rep. The Project Rep shall review the submittal, provide comments as necessary. No **payment will be made without an updated construction schedule approved by the Project Representative.**

7. When it is apparent to the contractor and A/E that critical path activities, scheduled Milestone completion dates, or contract completion dates will not be met, the Contractor shall submit to the Owner for review and approval, a plan to avoid or minimize any delay. Such a plan may include, without limitation, increasing the Contractor's workforce; increasing the number of working hours per shift, shifts per workday, workdays per week, the amount of construction equipment, and rescheduling of activities, or any combination thereof; to achieve maximum practical concurrency of work efforts and eliminate the cause of such delay. The Contractor agrees that such actions as described in this paragraph or other action deemed necessary by the Contractor will be taken promptly and without additional cost to the Owner.

8. Any request for time extensions or damages due to delay will only be considered where it is proven by the Contractor, using acceptable scheduling techniques, that the project's contractual intermediate milestones or contract completion dates have been directly impacted by the alleged issue causing the delay. This does not preclude the Contractor's right to finish the Project early. It does explicitly establish the condition upon which the Contractor shall be entitled to request time extensions or delay damages.

B. Construction Schedule Technical Requirements

1. The Critical Path Method (CPM) shall be used to plan, schedule, execute and report the status of work under this contract. The CPM Construction Schedule shall be developed utilizing a Scheduling Software approved by Owner. It shall include and properly

coordinate dates for the performance of all divisions for each major portions of the work, including completion of off-site requirements and tasks.

2. The objective of the CPM Construction Schedule is to define and plan the reasonable timing and sequencing of all work, from Letter of Intent or Notice to Proceed to Final Contract Completion (along with interim Milestone Completion dates required by the contract) without exceeding the Contract Time limits. At a minimum, CPM activities shall be used for defining the following:

   a. Permitting
   b. Submittal/procurement/approval process (including shop drawing preparation)
   c. Material and equipment fabrication and delivery
   d. Construction/Installation
   e. Trade coordination
   f. Shutdowns
   g. Owner performed work and Owner-provided items
   h. Work of Other Contractors (indirect) hired by the Owner
   i. Governing Agencies inspections
   j. Punch list
   k. Commissioning
   l. Clean-up and project close-out
   j. Contract Completion/Occupancy

3. The Construction Schedule level of detail shall be broken down to the extent individual activities do not combine (a) Subcontractor work; (b) distinct divisions of work; (c) work in separate facilities or areas; or (d) rough-in and finish items of work. Construction/Installation activities shall not exceed duration of fifteen (15) workdays and Owner review/approval activities are to include a reasonable time for review depending on the size and complexity of the submittal.

4. Preparation of the "Baseline" Construction Schedule shall commence following the issuance of a Letter of Intent and shall be submitted to the Architect/Engineer and Owner (or other designee of the Owner) within twenty-eight (28) calendar days of issuance of the Letter of Intent. The Architect/Engineer and Owner will review and provide comments as it relates to the schedule. The Construction Schedule must involve input from all major subcontractors and be signed by the Contractor and all Primes/Subcontractors indicating their approval in the accuracy of the Baseline Construction Schedule and/or Schedule Updates. Submittal and approval of the Baseline Construction Schedule and/or Monthly Schedule Updates are required prior to the corresponding progress payment being released.

5. The Contractor will utilize "Retained Logic" as the method of calculating the Construction Schedule and Updated Schedules, which will be computer generated, and computer drawn.

6. The Construction Schedule requirement shall include but not be limited to (a) Baseline Schedule; (b) Monthly schedule updates, (c) Weekly 2 week look-ahead schedules.

7. The Contractor shall provide the current updated Construction Schedule for review and discussion at each regular progress meeting. In addition, the Contractor shall prepare a two-week look-ahead schedule for distribution at the progress meetings. This information shall be derived directly from the current Construction Schedule. The two-week look-ahead schedule shall include all activities scheduled to commence, continue or complete in the upcoming two weeks.

8. Each monthly schedule submittal will consist of one electronic file containing current schedule files or back-up, narrative, reports and plots discussed later in this section. Each monthly schedule shall be submitted using the Unifier Transmittal process. Each schedule submittal shall be uniquely identified as to which revision and/or update and will incorporate any Owner schedule review comments from previous schedule submissions. The date of the data shall be within two (2) calendar days of the Schedule submittal date.

9. The Construction Schedule shall meet the following criteria:

   a. Activity descriptions shall be clear and concise

   b. Activities shall be coded with sufficient detail to identify the activity as to phase, type of work, responsibilities, area of work, interface with other contracts, and any other coding necessary to accurately describe or sort the work activity.

   c. Activity durations shall be sufficiently short to accurately disseminate an item of work with the maximum installation activity not to exceed fifteen (15) workdays.

   d. Architect/Engineer and Owner review and approval activities will allow for sufficient time depending on the size, quantity of and complexity of the submission(s) (14 calendar days minimum).

   e. Logic ties shall be shown on graphics at the discretion of the Owner. Logic ties shall be accurate and reasonable with no regard to preferential logic that would sequester float for any one party. Logic ties will be reasonable to the point that a true critical path is identifiable from the beginning of the project (Letter of Intent) to the Final Completion milestone. Constraint dates are to be used at a minimum with a description for their basis if used. No open-ended activities shall be allowed.

   f. The Construction Schedule shall allow for and depict recognized national holidays, proposed number of workdays per week for each activity (calendar), adherence to specific restrictions, constraints and contract completion milestones (interim and final) stipulated in the contract documents and work of separate Contractors.

   g. Contractually specified interim Completion Milestone dates shall be constrained to show negative float, if the early finish date of the last activity in that phase falls after the interim Milestone Completion date.

10. For all major equipment and materials fabricated or supplied for this project, the

Construction Schedule shall show a sequence of activities including:

a. Preparation of submittal shop drawings, samples and O&M instructions.
b. Review of shop drawings, samples and O&M instructions by the Architect/Engineer (allow reasonable time for review depending on size and complexity of the submittal, minimum 14 calendar days).
c. Shop fabrication and delivery
d. Erection or installation
e. Testing of equipment and materials
f. Required dates of completion
g. Instruction of operating personnel

11. Baseline Construction Schedule and Periodic Schedule Monthly Update submittals shall include the following information:

a. Report content:
    1) Activity number
    2) Activity description
    3) Activity durations in workdays (not to exceed 15 workdays)
    4) Remaining durations in workdays
    5) Early and late start dates (Actual dates when progressed)
    6) Early and late finish dates (Actual dates when progressed)
    7) Percent complete
    8) Total float
    9) Free float
b. An electronic file of the schedule files with all current schedule information.

12. If a Construction Schedule revision is required as determined by the Owner, Contractor or Architect/Engineer, the Contractor must include a complete schedule submittal with reports accompanied with a detailed narrative report describing the basis for any and all changes proposed by the Contractor. The Contractor cannot make significant revision(s) to the schedule without written approval by the Owner.

13. Schedule float is not for the exclusive use of any one party and should be shared for the projects benefit. The Contractor's work shall proceed to the early start dates and the Owner shall have the right to reserve and apportion float time according to the needs of the project.

14. If any of the Project Contract Milestones fall behind more than five (5) workdays, the Contractor is required to develop a Time Recovery Plan and Schedule, which shall be monitored weekly by the Contractor. The Contractor shall detail within the next Construction Schedule submittal narrative, the reorganization means and methods instituted in the schedule recovery plan to get back to the contract completion date(s). The recovery period should be achieved within the shortest reasonable time.

    a. If the recovery plan does not achieve its goal by the next pay request period, the Contractor will be required to develop another recovery plan until the Contract Completion Milestones are back on schedule.

b. If the recovery plan has sufficient regained compliance with the Project Milestone Dates, use of the Baseline Construction Schedule will be resumed.

15. Time Extensions/Adjustments will only be granted when the Contractor can accurately demonstrate through the use of the Construction Schedule and accepted scheduling techniques, the need for a time extension due to delays, change orders or impacts by others. Schedule fragments and/or critical path schedule analysis shall be developed and submitted with each change order or other request for time adjustment. Time extension requests shall be submitted within ten (10) days of the onset of the occurrence impacting the Construction Schedule. Failure to submit this information by the time stated above shall result in rejection of the request. Based primarily on information provided by the Contractor, the Owner will decide the extent of impact and respond within a reasonable time depending on the complexity of the analysis required.

    a. If the time extension request is approved, the impact period will then be incorporated into the Construction Schedule.

    b. If the time extension request is rejected, no change to the project schedule will be permitted.

16. The Contractor shall coordinate its work with the Owner and other Subcontractors and shall cooperate with other Subcontractors by utilizing orderly progress toward completion in accordance with the work scheduled.

1. GENERAL SUBMITTALS
   Section 012000 for Contract Breakdowns
   Section 013000 for Safety Documentation
   Section 017000 for FADE Log

2. AS-BUILT DRAWINGS
   As-built Drawings are required as specified in Section 017000.

3. CERTIFICATES OF INSPECTION
   Certificates of Inspection are required as specified in Section 017000.

   024100 for Building Demolition – Notification of Intent to Renovate/Demolish
   142000 for Elevator Decommissioning (MSU to provide)

4. OPERATION AND MAINTENANCE DATA
   Operation and maintenance data is required as specified in Section 017000.

5. GUARANTEES
   Guarantees are required as specified in Section 017000.

A. Shop Drawings and Samples

1. The Contractor shall review, stamp with their approval, and submit via the Unifier Submittal process to the Project Representative all Shop Drawings and Samples asked for in these specifications, or deemed necessary by the Architect/Engineer.

2. Work will not begin on any item requiring Shop Drawings or samples until the Contractor receives approval in writing from the Architect/Engineer. Any material or item, ordered or fabricated prior to final approval shall be at the Contractors' risk. No changes shall be made on the approved drawings or samples without the written consent of the Architect/Engineer. Each Shop Drawing or Sample shall be properly identified as to MSU project title and number, Contractor, item, etc., with cover sheet, stamp, tag, etc., so as not to be confused with any other. The Contractor shall direct specific attention with written explanation to any deviation from what is specified or shown on the drawing.

B. Shop Drawings

1. The Shop Drawing will be identified by job name, date, Contractor name and name of person reviewing for compliance with Contract Documents. Shop Drawings are drawings, diagrams, schedules and other data specifically prepared by the Contractor to illustrate some portion of the Work for which submittals are required by the Contract Documents. The purpose of their submittal is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents.

2. The Contractor shall review for compliance with the Contract Documents, approve and submit to the Owner all Shop Drawings required by the Contract Documents. Submittal shall be with reasonable promptness and in such sequence as to cause no delay in the Work or in activities of the Owner or their separate Contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Owner without action.

3. By approving and submitting Shop Drawings the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

4. The Owner will review and approve or take other appropriate action on the Shop Drawings submitted by the Contractor only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Review of Shop Drawings is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Owner’s review shall not constitute approval of safety precautions or,

unless otherwise stated by the Owner, of any construction means, methods, techniques, sequences or procedures. The Owner's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

E. Samples

1. Samples shall be submitted as directed to provide a representative sample. Samples shall be physical examples, from the actual materials, to be used whenever practical. All packing and transportation charges on samples shall be paid by the Contractor.

2. A Submittal record shall be created in Unifier for each sample, indicating the manufacturer and specifications, and informing the Owner of the status of delivery of the physical sample. The physical sample will be retained by the Owner. The Submittal record will be returned to the Contractor with a review status by the Owner.

3. Approval of Samples shall be generally for quality, color, and finish, and shall not modify the requirements of any of the Contract Documents as to dimensions or design.

1.5 SPECIAL PROCEDURES

A. Constructor Safety Requirements

1. MIOSHA regulations apply to all university projects. Each constructor is responsible for ensuring compliance with "all applicable requirements" that govern their work, including any additional regulations, interpretations, clarifications, and consensus standards incorporated therein by reference.

2. MSU-specific safety requirements are published in the Constructor Safety Requirements Manual. The most current version of this manual is available at http://www.ehs.msu.edu/contractors. Constructors will be held to the version of the manual in effect at the time of contract execution.

3. Requirements specific to work at Michigan State University generally fall into one of two categories:

    a. Administrative Requirements, such as but not limited to communication, planning, documentation, submittals, notifications, reporting, and inspections.

    b. Safety Requirements unique to work at MSU, such as but not limited to Control of Hazardous Energy/Lock Out Tag Out, Confined Space, Electrical, Excavations, Fall Protection, Hot Work, etc.

4. Constructor shall submit a Site-Specific Safety Plan or work under an existing Area-Specific Safety Plan where allowed, as described in the MSU Contractor Safety Requirements Manual.

B. Hazardous Materials

1. If the Contractor suspects a material, preexisting or newly discovered, within the scope of this project to be a hazardous material such as, asbestos, lead, polychlorinated biphenyl or any other potentially hazardous material, that has not already been identified and/or in the scope of work for the Contractor to abate, notify the Project Representative immediately. Do not impact or disturb the material in question until it has been determined to either be non-hazardous, included in the original scope of work, or until other arrangements can be made with the project representative and the MSU Department of Environmental Health and Safety (EHS).

2. Due to the age of buildings on the Michigan State University campus, all coated surfaces shall be assumed to contain lead-based paint. This includes but is not limited to any type of paint, primer, coating, lacquer, or varnish on any building component. Proper precautions must be taken to ensure that workers and building occupants are not exposed to airborne lead concentrations at or above the OSHA Action Level (AL) of 30 ug/m3.

3. If work will be conducted on any coated surface at MSU, the contractor must submit to the Department of Environmental Health and Safety (EHS) and Infrastructure Planning and Facilities Project Representative current proof of appropriate detailed written lead work plan in accordance with 29 CFR § 1926.62 (Michigan Part 603). This submittal will include proof of training, written respirator program, and negative exposure assessments from projects with similar conditions at a minimum. Contractors performing work on campus must follow the provisions of the MSU Lead Management Program from EHS.

4. Any work that impacts Lead shall comply with the provisions of the MSU EHS Lead Management Plan.

5. Any work that impacts Asbestos shall comply with the provisions of the MSU EHS Asbestos Management Plan.

1.6 Requests for Information

A. Requests for Information (RFI's) shall be processed within AutoDesk Build. Failure to complete the tasks within the Auto Desk Build time frames shall not be a basis for a delay claim.

PART 2 – PRODUCTS
Not Used

PART 3 – EXECUTION
Not Used

END OF SECTION

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 REGULATORY REQUIREMENTS

A. Applicable Codes, Standards, and Regulations

1. The following list of codes and regulations, establish the minimum requirements applied to work done at MSU. Where the specifications or plans, exceed the applicable code, the specifications and plans shall be followed.

a. NFPA National Fire Codes.
b. NFPA National Electrical Code.
c. ICC International Building Code.
d. ICC International Plumbing Code.
e. ICC International Mechanical Code.
f. State of Michigan Elevator Safety Act - Act 227, P.A. 1967.
g. State of Michigan Boiler Act - Act 290, P.A. 1965.
h. State of Michigan Construction Code Act - Act 230, P.A. 1972, as amended.
i. State of Michigan Occupational Safety and Health Act - Act 154, P.A. 1974, as amended.
j. Americans With Disabilities Act (ADA) Public Law 101-336.
k. Regulations of Air Pollution Control Commission State of Michigan, and the Federal Clean Air Act (42 U.S.C. 1857C - 8 © (1)).
l. Soil Erosion and Sedimentation Control - Act 451 of 1994, parts 31 and 91, as amended.
m. Environmental Impact Statement Executive Order 1974-4.
n. State Fire Safety Board's New Rules for Schools, Colleges, and Universities.
o. State of Michigan Safe Drinking Water Act, P.A. 339 of 1976, and Federal Water Pollution Control Act (33 U.S.G. 1319 ©).
p. State of Michigan Energy Code (Adopting ASHRAE 90 by reference).

1.2 REFERENCES

A. Abbreviations and Symbols

1. AIA - American Institute of Architects
2. ACI - American Concrete Institute
3. AISC - American Institute of Steel Construction
4. ANSI - American National Standards Institute
5. ASTM - American Society for Testing Materials
6. BOCA - Building Officials and Code Administrators
7. LEED - Leadership in Energy and Environmental Design
7. NFPA - National Fire Protection Association
8. OSHA - Occupational Safety and Health Act
9. SMACNA - Sheet Metal and Air Conditioning Contractors National Association
10. MDOT - Michigan Department of Transportation

11. USGBC - U.S. Green Building Council

1.3 QUALITY CONTROL

A. Testing Laboratory Services

1. All work (materials and installation procedure) shall be tested and inspected by an independent testing and inspection agency, approved by the Project Manager to provide the quality control requirements in accordance with these specifications. Results of these tests and inspections when performed in accordance with these specifications will not be disputed by either party. Failure of the Contractor to provide quality control in accordance with this specification may result in the replacement of the work at the Contractor's expense.

B. Contractor's Responsibilities

1. Submit the name of the proposed testing and inspection agency(s) to the Project Representative for review and approval prior to contracting for such services.

2. Employ and pay the cost of independent testing and inspection as required in this specification. Pay applications from the testing/inspection agency shall be reviewed by the Owner before the Contractor's pay request for testing/inspection services is approved.

3. Advise the testing and inspection agency sufficiently in advance of the work to be inspected in the field to allow time to schedule personnel and equipment to perform the required inspections. Failure of the work to be inspected shall be the sole responsibility of the Contractor regardless of the fault of the testing and inspection agency.

4. Furnish certificates to authenticate the type and or quality of products furnished for installation as required in these specifications.

5. Shall notify the Project Representative in a timely manner when and where testing is to take place to provide sufficient time for the Project Representative to be in attendance.

C. Testing & Inspection Agency Responsibilities

1. Perform all testing and inspection of the work in accordance with these specifications.

2. Furnish qualified personnel and sufficient equipment in a timely manner when required by the Contractor and/or Project Representative to perform all testing and inspection in accordance with these specifications.

3. Provide written reports (2 copies) in a timely manner of the work tested and inspected. The reports shall include complete material test results and for in-place material, a sketch showing the exact location where the test was taken on the project site.

4. The inspection and testing agency and its representatives are not authorized to revoke, alter, relax, enlarge or release any requirements of the Contract Documents, nor to approve or accept any portion of the work.

5. Work will be checked by representatives of the testing agencies as it progresses, but failure to detect any defective work or product will not in any way prevent later rejection when such defect is discovered, nor will it obligate the Owner to final acceptance. When it appears that the work or product furnished is in non-conformance with the Contract Documents, the representative of the testing agency will direct the attention of the Project Representative and Contractor to such non-conformance.

6. Quality control testing items shall include the following:

   a. Soil densities
   b. Proof roll
   c. Concrete testing
   d. Asphalt field testing (density and yield)
   e. Bituminous mix design approval and batch plant verification
   f. Asphalt plant mix verification
   g. Verify pavement sections
   h. Determine need for and extent of sub-grade undercutting and testing

D. Authority of the Project Manager

1. May order additional tests and inspection beyond those required, if in their opinion, the subject work may not meet specification. The costs for these tests and inspections shall be borne by the Contractor.

2. May terminate the testing and inspection agency. The Contractor shall then furnish to the Project Representative the name of an additional agency for approval.

3. May perform quality control tests and inspections.

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION
Not Used

END OF SECTION

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1- GENERAL

1.1 TEMPORARY UTILITIES

A. General

1. The Contractor for the general construction work shall be responsible for all items specified in Section 015000. The Contractor shall install and maintain all items until project is finished and shall remove same and restore areas to their original conditions.

B. Temporary Electricity

1. The Contractor may use any permanent electrical outlets in the construction area.

2. Construction lighting shall be turned off during unoccupied periods, with the exception of lighting required for safety reasons such as path of egress.

3. Temporary service for heavy loads, or where no other service is available, will be provided by the general Contractor at the Contractor's expense. Power for temporary service connected to public utility company lines, (before an MSU service meter) will be paid for by the Contractor. Power for temporary service connected to the MSU power system, or after an MSU service meter, will be furnished by the Owner at no charge.

4. The contractor shall install temporary lighting within the construction area consistent with MIOSHA requirements.

C. Temporary Heat

1. All equipment and labor for temporary heat shall be furnished by the Contractor. Use of University utilities for temporary heat will be at the discretion of the Owner. The cost of natural gas or steam for heating new structures or other applications requiring temporary heat will be paid by the Contractor.

D. Temporary Telephone Service

1. If there is no University phone at the immediate work site, the Contractor shall provide a temporary job site telephone and/or provide the Job Superintendent with a phone activated paging device or cell phone.

E. Temporary Water

1. Each Contractor may use water for construction purposes from the nearest University source.

F. Temporary Sanitary Facilities

1. A toilet in the work area may be used by the Contractor's employees.

2. Where there is no toilet in the work area, an approved chemical type portable toilet will be provided by the Contractor.

1.2 VEHICULAR ACCESS AND PARKING

A. Parking Regulations

1. Unless otherwise directed, all non-University personnel working on the Campus of Michigan State University are required to park as Visitors. Between 7:00 a.m. and 6:00 p.m., Monday through Friday, Visitors may park only in metered parking spaces or gate-controlled parking lots.

2. Commercial permits are available from the Department of Police and Public Safety (355-8440), which will allow parking in specific areas. The cost of a commercial permit is the responsibility of the Contractor.

3. Permits for one day parking in areas reserved for university employees are available to Contractors or their personnel from the Department of Police and Public Safety at the current rate, with a signed note from the Project Representative.

4. Parking permits are not required for vehicles south of Mount Hope Road.

5. The Contractor will be responsible for developing and maintaining an adequate employee parking area within the construction fence. The minimum surface of such an area shall be gravel paving. MSU parking permits will not be required in the Contractor maintained lots. At the completion of the project, all temporary parking provisions will be removed and the site restored.

1.3 TEMPORARY BARRIERS AND ENCLOSURES

A. General

1. The Contractor shall provide, install, and maintain necessary temporary barriers, warning signs, and other safety measures to protect the public, property, and plant growth.

2. The Contractor will be required to work within limitations imposed by the University Police and Public Safety Department with respect to vehicular and pedestrian traffic. When approved by the Owner, if it becomes necessary to occupy a traffic lane for **ANY** length of time, proper directional signs, flashers and barricades shall be provided at the Contractor's expense in accordance with the most recent edition of the Michigan Manual of Uniform Traffic Control Devices. The Contractor will replace if damaged or stolen, all barricades, flares, and night protection at Contractor's expense, all being considered as incidental to the work.

B. Dust Control

1. Temporary Partitions

a. The Contractor shall construct necessary temporary partitions to isolate the new work from the existing building.

b. Unless noted otherwise, construct partitions of 2" x 4" wood studs, 16" on center and heavy mil, fire retardant plastic sheeting securely attached so as to keep dust, dirt, and debris from spreading beyond the work area.

2. Return Air Openings

a. The Contractor shall block all return air openings in the work area so that dust will not carry into other areas of the building.

3. Site Dust

a. The General Contractor shall be responsible for eliminating airborne dust in the work area and staging area by application of appropriate mitigation measures, as approved by the Owner.

C. Security Measures

1. Temporary & Access Keying

a. The MSU Infrastructure Planning and Facilities Key Shop will furnish construction keys and furnish and install construction cores for use during construction as deemed necessary by the Project Representative. The Contractor may pick up the construction keys at the Key Shop with the form, "Authorization for Construction Cores and Keys," completed and authorized by the Project Representative.

b. All construction keys and facility keys issued to a Contractor for a particular project will be returned to the Project Representative before final payment will be processed. If keys are not returned, the Contractor may be held responsible to pay for re-keying any and all affected facilities.

2. Campus Security and Access Control System

   a. When deemed necessary by the Project Representative, temporary security access cards will be issued to the Contractor for building exterior doors, rooms, and/or spaces that are secured by the Campus Security and Access Control System.

   b. On construction projects where the security system is active and armed during construction the Contractor will be assessed a false alarm fee for any unauthorized entry of a secure space and/or setting off an alarm by propping open secured doors/windows, cutting into the security wiring, removing security devices, or any other action causing an alarm.

   c. The false alarm fees shall be as follows:

First occurrence	No assessed fee
Second occurrence	$500
Third and subsequent occurrences	$1,000 each

   d. The breaches of security and associated fees shall be assessed by project to the Contractor, not by sub-contractor, vendor, supplier, etc.

D. Campus Woody Plant Protection

1. Coordinate all plant protection and site work limits with the Project Manager. SITE WORK CANNOT COMMENCE WITHOUT A PRE-CONSTRUCTION WALK-THROUGH.

   All Contractor employees engaged on the project site shall attend, or are expected to have attended, the Contractor Woody Plant Protection Seminar, hosted by MSU's Landscape Services (formerly Grounds Maintenance) Division. This seminar will be presented on an annual basis at a minimum. Coordinate with the Project Representative for times and locations of the seminar(s).

2. Work by Owner

   a. Tie-back of existing plantings. Pruning, thinning, and sealing of existing plantings. Root pruning and root protection of exposed roots. Watering of existing trees under stress. Salvaging of existing small trees, shrubs, and other plant growth that the Owner wishes to retain.

   b. Tree protection barricades will be provided by the Owner. Plant damage occurring within installed barricades does not absolve the Contractor from damage assessment.

   c. Work shall be performed by MSU Landscape Services Department unless otherwise arranged, as needed to provide either preventative or remedial care to

plants on a construction site. Contractor shall immediately contact the Project Representative should "protected plants" be compromised in violation of agreed upon fencing locations and work limits. Failure to communicate promptly could result in 100% damage assessment of fines.

3. Protection of Plantings

   a. Protect existing trees and other vegetation indicated to remain in place. Prohibited practices include breaking of branches, scraping of bark, or unauthorized cutting; nailing or bolting into trees or plants; use of trees or plants as temporary support (i.e. for cables); unauthorized filling, excavating, trenching or auguring within the root zone; compaction/driving over the root zone; (see definitions below), storage of any materials or vehicles within the root zone; dumping of construction waste or materials (including liquids); unauthorized removal or relocation of woody plants; removal of tree protection barricades or construction fencing prior to completion of project.

   b. Compaction within the root zone is the increasing of the soil density caused by heavy equipment or concentrated foot traffic which significantly alters the soil conditions from that which was present prior to construction.

   c. The root zone of a tree is one and a half the distance of plant crown drip line outward from the stem, along undisturbed grade. Should placement of concrete be specified or authorized by the Owner within the root zone, a sulfur application will be applied by the Owner. The Contractor shall notify the Owner at least 48 hours prior to pouring concrete. Trees to receive sulfur shall be identified by Owner.

   d. Tree protection barricades shall be wood rail fencing constructed of 4" x 4" x 11' posts, at 8' maximum o.c. and two 2" x 6" wood rails, lined with snow fence (or similar approved construction barrier fencing) which meets existing grade. Standard fence height shall be 8'; for variations see site drawings. Failure to install barricades as directed may halt work. Plant damage occurring within installed barricades does not absolve the Contractor from damage assessment.

   e. All tree protection shall be installed prior to the beginning of construction and continually maintained. Tree protection shall not come in contact with anything except the construction fence, when shown on the drawings.

4. Damage

   a. Damage to campus woody plants shall include any of the items indicated in paragraph 3.a above as determined solely by the Owner. The Owner shall evaluate damage and establish proportional fines up to 100% of the value shown below, regardless of the current disposition of the plant.

   b. 100% Value Schedule for Campus Trees

1" - 3" caliper	$200/inch
3" - 6" DBH	$290/inch
6" - 9" DBH	$380/inch
9" - 12" DBH	$480/inch
12" - 15" DBH	$670/inch
15" DBH or greater	$960/inch

c. DBH is the tree trunk diameter at breast height.

d. Replacement value for shrubs, vines, and perennials shall be assessed at three times the current market cost of the plant.

e. Alternatives to the above protective measures, or any variations, must be approved by the staff Landscape Architect and the Project Representative. (Measures may include: thinning and root pruning, fertilization, aeration, boring & jacking, hand excavation, supervision by campus arborist, seasonal schedule recommendations.) Alternatives would be based on the specific requirements of the plant species in question, as determined by the staff Landscape Architect.

1.4 TEMPORARY CONTROLS

A. Soil Erosion and Sediment Control (SESC)

1. The Contractor shall comply with all Contract Documents, approved SESC plans, permit conditions and with Parts 31 and 91 of Public Act 451 of 1994. The Owner shall obtain a Soil Erosion and Sedimentation Control (SESC) permit from the appropriate Municipal (MEA) or County (CEA) Enforcing Agency. Permit Fees and MEA/CEA routine inspections will be paid for by the Owner.

2. Prior to beginning any earth change, the Contractor shall retain a DEQ Certified Storm Water Operator (CSWO) to provide the required SESC reports (which include the weekly and storm event reports as well as all follow up reports for both violations and storm event corrections) on the standard DEQ form. The Contractor shall provide the reports to the Owner on a weekly basis, and retain those reports for 3 years.

3. Prior to beginning any earth change, and during the life of the contract, the Contractor shall install and maintain all temporary SESC measures as shown on the Contract Documents, SESC plans, and as directed by the Owner, CSWO, DEQ, or MEA/CEA, until MSU officially takes over responsibility for the site.

4. Immediately prior to MSU taking responsibility for the site, the Contractor:
   a. Will be required to clean all catch basins affected by the construction, both within the Contract Limits and all surrounding roads and lawn areas when soil may have spread as the result of construction activities.
   b. Shall put all temporary SESC measures in satisfactory condition as determined by the CSWO.

5. All temporary SESC measures will remain in place and will become the property of the Owner when responsibility for maintaining the SESC measures becomes the Owner's responsibility.

6. The Contractor shall conduct all excavation, filling, grading and clean-up operations in a manner such that sediment generated by wind or water is not discharged off site or into any storm sewer, drainage ditch, river, lake, air or underground utility system. Stage the work per plan to minimize the area of exposed soil, thereby reducing the opportunity for soil erosion.

7. Water from trenches and other excavation shall be passed through an approved filtration bag to remove sediments from the water before it is released into the storm water drainage system.

8. If sediment extends beyond the project limits, the Contractor shall be responsible for cleanup and restoration of all surfaces and utility systems to the condition that existed prior to the Contract award.

9. All SESC measures shall be maintained daily.

10. Should violations (irrespective of a fine being assessed) be identified by the Owner, CSWO, MEA/CEA or DEQ, they shall be corrected within 24 hours of notification. The correction(s) shall be approved by the Owner, CSWO, MEA/CEA or DEQ. All subsequent inspections performed by the Owner, CSWO, MEA/CEA or DEQ as a result of the violation (and any other associated costs) will be paid by the Contractor. If identified violations are not corrected within 24 hours of written notice, the Owner shall have the right to make necessary repairs at the Contractor's expense, without being required to provide further notice to Contractor.

11. Fines assessed as a result of the violation for non-compliance of the SESC provisions, will be paid by the Contractor. If a "Stop Work" order for non-compliance is issued, a time extension request for that time period will **not** be granted. (Fines could be assessed up to and including $25,000/DAY for each violation.)

12. Only one Seven Day Notice will be issued for violations of the SESC provisions. Should subsequent violations be identified, the contractor will be expected to make the satisfactory correction within 24 hours of notification. Should the corrections not be made, the Owner, without further notice to the Contractor, will correct the violation. The cost of the corrective action will be charged to the Contractor.

1.5 CONSTRUCTION DEBRIS CONTROL

A. The Contractor shall provide and administer a system for disposal of construction debris and shall be responsible for seeing that the site and the new building are at all times free of accumulated debris caused by the construction. For purposes of this paragraph, debris shall include ALL materials used in construction including construction roads and pads. Special attention should be given to materials that could leach into the ground, including but not limited to lime based materials, all chemicals, and any liquids except clean water.

B. The Contractor shall comply with LEED Materials & Resources Credit 2, including documentation of the Construction Waste materials recycled, reused and sent to the landfill, using the Construction Waste Management form and process provided by the Owner in Unifier. This form shall be submitted monthly and will be generated from completed payment applications. Negative reports are required.

C. This shall include, but not be limited to, rubbish containers conveniently located throughout the site for the daily disposal of debris directly into them from each work location. Debris shall not be allowed to accumulate on the ground through-out the site overnight.

D. All combustible debris shall be removed to a solid waste disposal site properly licensed under Act 87 of the Public Acts of 1965 of the State of Michigan.

E. No burning of debris will be permitted on the Project site or elsewhere on the Owner's property.

F. Should the Contractor not execute the work required in this section, the Owner reserves the right to perform the work by other forces and deduct the cost from the contract price.

1.6 CONFINED SPACES

A. The workplace may contain permit confined spaces and entry is allowed only through compliance with a confined space program as defined by 29 CFR 1910.146. The contractor is responsible for assessing real or potential atmospheric hazards and other serious safety and health hazards in the confined space. MSU will make available records of known confined space hazards. The contractor shall provide all necessary equipment for confined space entry. If MSU personnel will be working in or near confined spaces occupied by the contractor, the contractor is required to coordinate activities with the Project Representative. The contractor will inform the Project Representative of procedures followed and hazards confronted or created during entry operations.

1.7 LOCK-OUT/TAG-OUT PROCEDURE

A. The Contractor shall conform to Michigan State University Infrastructure Planning and Facilities lock-out/tag-out procedure. Copies are available from Planning, Design and Construction, Infrastructure Planning and Facilities Building, Michigan State University.

1.8 FM RED TAG PERMIT MONITORING SYSTEM

A. When working on fire protection sprinkler systems the Contractor shall conform to the Factory Mutual Red Tag Permit Monitoring System modified by notifying the Project Representative in lieu of the Emergency Organization, Public Fire Department, and Factory Mutual. Documentation is available from Factory Mutual, (781) 255-4359.

1.9 FM HOT WORK PERMIT SYSTEM

A. For all hot work operations, the Contractor shall conform to the Factory Mutual Hot Work Permit System modified by notifying the Project Representative in lieu of the Fire Safety Supervisor and Factory Mutual. Documentation is available from Factory Mutual, (781) 255-4359.

1.10 HAZARDOUS SUBSTANCE SPILLS

A. Releases of hazardous substances that pose a significant threat to health and safety, or that, by their very nature, require more than a routine response, are emergency situations. If a release of an emergency nature occurs, call 911 immediately. Provide all applicable information and stay on the phone until told to hang up. If a non-emergency release of a hazardous substance occurs, contact the MSU Infrastructure Planning and Facilities Project Representative immediately.

1.12 CRANE HOISTING

A. Crane hoisting of equipment or materials over occupied spaces shall be performed at the convenience of the Owner, with arrangements made by the Project Representative.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 PRODUCT STORAGE AND HANDLING REQUIREMENTS

A. Storage and Protection

1. The Contractor shall be responsible for work, material, and equipment until finally inspected, tested, and accepted. The project shall be protected against theft, injury, and damage. Material and equipment received on the site shall be carefully stored until installation.

B. Staging Area

1. Should the Contractor require exterior staging or on-site storage of materials - the location of this area must be agreed upon prior to actual use of the space by the Project Representative and the Contractor. The area will not be within the drip-line of any tree or in plant beds, as per Section 015000.1.3.D.3.

2. If this exterior area is outside the fenced project site, the area shall be enclosed with a minimum 4' high welded wire fence, with metal fence T-posts not exceeding 8' on center. Fence fabric shall be supported by either a top bar or a tension cable.

3. The Contractor shall be responsible for the cost of placing and removing the fence.

4. Each designated area shall have only one access route from the road or drive.

5. The area is not to be used for employee parking, but may be utilized by the Contractors' vehicles and equipment necessary to service the project.

6. Any areas damaged as a result of the staging operation shall be repaired by the Contractor, at no additional cost to the Owner.

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION
Not Used

END OF SECTION

SECTION 017000 - EXECUTION REQUIREMENTS

PART 1- GENERAL

1.1 EXAMINATION

A. Pre-Bid Site Inspection

1. Each Bidder shall be held to have visited the site of the proposed work before submitting their proposal and to have familiarized themselves with all existing conditions affecting the execution of the work in this project. No allowance or extra consideration on behalf of the Contractor or Subcontractor will subsequently be made by reason of failure to observe the site conditions.

1.2 PREPARATION

A. Protection of Work and Property

1. Contractor shall protect existing and new work as required by this construction or as requested by the Project Representative.

2. Interior Protection

a. This will include, but not be limited to the wall, floor, and ceiling finishes to remain at the construction site, along the access route to the site, existing elevators, and other areas such as roofs and mechanical rooms where related work is specified or required.

3. Exterior Protection

a. The Contractor shall be responsible for any damage to existing facilities, including but not limited to the following: buildings, trees and shrubs, walks, roads, utility systems, terraces and steps, lights, and unreasonable turf damage as determined by the Project Representative. Damage shall be repaired by the Contractor in accordance with MSU's Construction Standards at no cost to the Owner.

b. No crawler cranes, bulldozers, or other equipment, fitted and running on steel treads, shall be permitted to traverse any walk, road, street, or other thoroughfare on the Campus of Michigan State University. Where it is necessary to unload such equipment on these thoroughfares, and when approved by the Project Representative, planking shall be provided to protect same. If this is not done, and damage is observed, the cost of replacing shall be the burden of the Contractor causing such damage.

c. Staging zones for materials and equipment shall be coordinated with Project Representative. They are to be placed on paved areas where possible. Set-up and storage areas shall be fenced with minimum 6-foot high pedestal-type chain link fencing. Locations shall be reviewed with the Department of Police and Public

Safety and approved by the Project Representative.

d. Crane hoist dates shall be coordinated with Project Representative for sufficient notice to building users. Project Representative shall direct the notice to the building users and coordinate with DPPS.

e. Owner may provide temporary access-ways in turf or root zone areas, as determined in pre-construction walk-through. For heavy equipment on turf areas, Alturna mats or approved equal, must be utilized for travel and set-up zones.

f. All electric, telephone, and steam vaults and water valves shall be protected and remain accessible at all times. Heavy equipment shall not be run over the top of vaults or valve boxes, nor shall materials be stored over them.

g. Contractor shall provide lighted barricades if building entrances or pedestrian walks are closed after work hours or on the weekends.

h. Tree pruning, plant tie-back, and vine removal shall be done by the Owner, as coordinated with the Project Representative, and as noted in Section 015000.1.3.D.2.a. Trees or other plant material shall not be used as anchor points for any lines or equipment.

i. Plant protection as directed by the Project representative:

a. Minor work: Plants adjacent to, or below work zones are to be washed off daily. In no case shall masonry dust or other construction debris remain on plants for more than 24 hours.
b. Major work: Plants adjacent to, or below work zones are to be covered with breathable woven mesh tarp. Tarp shall be removed at the end of each day and debris disposed of. Debris and dust shall not be absorbed into soil.

B. Field Engineering

1. Quality Assurance

a. Surveyor

1. Engage a Registered Land Surveyor, registered in Michigan, to perform ALL project surveying, including construction layout, as outlined in Section 017000-1.2.B, "Field Engineering."

2. Submittals

a. Project Record Documents

1. Upon completion of Work requiring Field Engineering, submit a record of Work performed and record survey data as required in Section 017000-1.2.B.5.

2. Upon completion of Work requiring Field Engineering, submit a certificate signed by the Registered Land Surveyor, certifying the location and elevation of improvements comply with the Contract Documents.

3. Control Points

a. The Owner will identify existing control points and property line corner stakes.

b. Verify layout information shown on the Drawings in relation to the property survey and existing benchmarks before proceeding to lay out the Work. Locate and protect existing benchmarks and control points. Preserve permanent reference points during construction.

c. If a discrepancy between the contract drawings and the existing site is found, contact the Project Representative for a resolution BEFORE any actual layout of the work is begun.

d. Do not change or relocate benchmarks or control points without prior written approval. Promptly report lost or destroyed reference points, or requirements to relocate reference points because of necessary changes in grades or locations.

e. Promptly replace lost or destroyed control points. Base replacements on the original survey control points.

f. Establish and maintain a minimum of two permanent benchmarks on the site, referenced to data established by survey control points.

g. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.

h. The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities and other construction.

i. Prior to construction, verify the location and invert elevation at points of connection to existing utilities.

4. Benchmarks and Markers

a. Working from lines and levels established by the property survey, establish benchmarks and markers to set lines and levels at each story of construction and elsewhere as needed to properly locate each element of the Project. Calculate and measure required dimensions within indicated or recognized tolerances. Do no scale Drawings to determine dimensions.

b. Advise entities engaged in construction activities of marked lines and levels

provided for their use.

c. As construction proceeds, check every major element for line, level, and plumb.

5. Registered Land Surveyor's Log

a. Maintain a surveyor's log of control and other survey Work. Make this log available for reference.

b. Record deviations from required lines and levels, and **immediately** advise the Project Representative when deviations that exceed indicated or recognized tolerances are detected. On Project Record Drawings, record deviations that are accepted and not corrected.

c. On completion of foundation walls, major site improvements, and other Work requiring field engineering, submit this log and associated Project Drawings to the Project Representative.

6. Existing Utilities

a. Furnish information necessary to adjust, move or relocate existing structures, utility poles, lines, services or other appurtenances located in or affected by construction.

7. Site Improvements

a. Locate and layout all site improvements including, but not limited to, pavements, structures, earthwork and utility locations and grades.

8. Structure Lines and Levels

a. Locate and layout batter boards for structures, building foundations, column grids and locations, floor levels and control lines and levels required for mechanical and electrical Work.

1.3 EXECUTION

A. Cutting and Patching – Concrete and Masonry

1. The Contractor shall be responsible for any cutting, fitting, and patching that may be required to complete this project, except for core drilling required for mechanical and electrical installations, which shall be the responsibility of the Mechanical or Electrical Contractor.

2. The Contractor shall not endanger any work of any other Contractors by cutting, excavating, or otherwise altering any other work and shall not cut or alter the work of any other Contractor except with the written consent of the Architect/Engineer.

3. No cutting of structural members of the building, likely to impair its strength, shall be done without written approval from the Architect/Engineer.

4. To avoid damage to hidden utilities and structural re-enforcement any cutting or core drilling over one inch in diameter, through concrete floors and slabs will be x-rayed/scanned by the contractor prior to cutting.

    a. A qualified engineer will conduct an on-site assessment before any cutting or drilling of a pre-tensioned or post-tensioned component or other structural component of a building or structure commences. The assessment will be documented and provided to the person contracted to carry out the work.

    b. If any load bearing member is cut, cored or removed all the requirements of 29 CFR 1926 Subpart T (LARA Part 20) shall apply. This will require notifications to the DEQ 10 working days before cutting begins. Emergency notifications are possible under specific conditions.

    c. The responsible person for the project shall ensure substantial compliance with the requirements for exposure to Silica Dust. Substantial compliance will also be required for all other construction safety standards and published by the State of Michigan or Federal OSHA.

    d. Work shall be conducted outside of the regular hours to avoid disturbing the building occupants. An exception to this rule will be granted only by the project manager and shall be in writing.

    e. The MSU project representative or employee shall be responsible for locating all utilities in the area to be cut. This part of the job is mandatory and shall be given appropriate attention. Minimally the responsible person shall review all available prints and consider structural scanning. The MSU representative or employee shall take necessary steps to isolate and lock out any energy sources that may be jeopardized by the cut to protect worker safety and avoid equipment damage. In some cases, utilities will need to be cut and relocated to conduct the work. The responsible person shall take steps to notify repair persons in advance of the anticipated timing and scope of the repair project or the need for temporary services.

    f. Responsible person shall inspect the area to ensure that no damage has occurred and that the area is cleaned to an acceptable level.

5. Cutting and Patching for Mechanical Work

    a. The Mechanical Contractor shall be responsible for any core drilling required to complete their work.

    b. The Mechanical Contractor shall be responsible for the accurate location of all openings necessary for the installation of the mechanical work. Any additional openings required to move their work due to an error in the initial layout and the repair of inaccurate openings, shall be made at the expense of the Mechanical

Contractor.

6. Cutting and Patching for Electrical Work

   a. The Electrical Contractor shall be responsible for any core drilling required to complete their work.

   b. The Electrical Contractor shall be responsible for the accurate location of all openings necessary for the installation of the electrical work. Any additional openings required to move their work due to an error in the initial layout and the repair of inaccurate openings, shall be done at the expense of the Electrical Contractor.

B. Salvaging of Materials

1. Materials or equipment shown on drawing or specified herein to be removed, which are not to be reused or salvaged, shall become the property of the Contractor and will be removed from University property and disposed of legally.

2. Salvage the following items to the locations as directed:

   a. Post and chain fencing
   b. Catch basin and/or manhole frames and covers
   c. Bike racks and loops
   d. Waste cans
   e. Street and area light fixtures
   f. Face brick and concrete for recycling
   g. Paver brick
   h. Limestone cap
   i. Sprinkler valves
   j. Exterior Transformers
   k. Freight elevator controls and motor skid in elevator room
   l. Fire alarm devices and annunciator panel
   m. Interior coiling doors and associated motors and controls.
   n. Loading dock scale
   o. ADA ramp

3. Deliver all fire alarm equipment, sprinkler valves, exterior transformers, elevator controls, and interior coiling doors removed from the job to the IPF Storage Building 210, 1457 Recycling Drive, East Lansing, MI.

4. Deliver all Best key cylinders to be removed from the job to the MSU Key Shop in the Infrastructure Planning and Facilities Building, 1147 Chestnut Road, East Lansing, MI.

5. Deliver the loading dock scale and ADA ramp to MSU Surplus and Recycling 468 Green Way, East Lansing, MI 48824

6. Deliver all building concrete/brick and site concrete that is free of contaminated

materials to Landscape Services at 4080 Beaumont Rd., Lansing, MI 48910, phone: (517) 643-6253 (Hours of operation are May 1st – October 31st 6am-4pm Monday – Friday excluding university holidays. November 1st – up until the Thanksgiving Holiday 6am-230pm Monday -Friday and following Thanksgiving Holiday – April 30th 5am-130pm to accommodate for snow) Extended hours are available with a minimum 24-hour notice.

1.4 CLEANING UP

A. Cleaning up shall be in accordance with the General Conditions of the Contract.

B. A thorough final cleaning of all the adjacent streets, as specified by the Project Representative, will be required before final payment is made.

C. If the Contractor fails to clean up, the Owner may do so and the cost thereof shall be charged to the Contractor.

1.6 CLOSEOUT PROCEDURES

A. In general, one or more walk-throughs will be performed with the Contractor and punch lists developed of items to be completed before the project can be closed out.

1.7 CLOSEOUT SUBMITTALS AND PROJECT DELIVERABLES

A. Operation and Maintenance Data

1. The Contractor shall provide operation and maintenance data as required in this specification, and submit the required information through use of the Unifier and Autodesk Build systems.

2. Submittals for equipment and systems shall contain the manufacturer's information on installation, balancing, operating, maintenance, lubrication, and repair instructions and parts list for each component.

3. Please refer to MSU Document Submittal Standards.

B. As-Built Drawings

1. Submission of all As-built Drawings called for in this specification shall precede request for final payment.

2. The Contractor shall submit As-built Drawings in electronic (.pdf) format, that is not password protected, indicating any deviations from the Contract Drawings, including contract Change Orders. Upon request of the Owner, printed copies of the As-Built drawings shall be provided as well. Provide any Building Information Model (BIM) data developed for this Project to the Project Manager.

3. Please refer to MSU Document Submittal Standards

C. Facility Asset Data Exchange (FADE) Log

1. The Constructor shall furnish all information as indicated on the FADE log spreadsheet. The University's FADE procedure and requirements for asset tracking and populating the log can be found at the following web addresses:

   FADE process during design phase:
   https://us.promapp.com/msu/Process/Minimode/Permalink/BrVwOrmhTRjBaJ5QaaOZKI

   FADE process during construction:
   https://us.promapp.com/msu/Process/Minimode/Permalink/BDKsT36upoGpxJeNiakDkW

   Should the Owner change the FADE process change in form or content, the Constructor is not relieved of fully executing the work required to compile the information and complete the Log.

D. Construction Safety Documentation

1. The Contractor shall provide written documentation of the following site safety information, as it pertains to the project only:

   a. List of all lost time accidents.
   b. Reportable incident rate (total hours worked).
   c. Details of many MIOSHA site visits, including resulting citations, violations, or actions.

E. Certificates of Inspection

1. The Contractor shall provide a copy of all Certificates of Inspection called for in this specification. Refer to Section 013000 Part 1.4.B.

F. Construction Waste Management – LEED Documentation

1. The Contractor shall provide written documentation of the Construction Waste Management program, as required for LEED Materials & Resources Credit 2. A form for this purpose is provided within this specification. Refer to Section 024200, Construction Waste Management.

G. Warranty

A. The Contractor shall provide a written guarantee stating that all work performed and material furnished is free from all defects in workmanship, and material for a period of

one year, unless noted otherwise, after the equipment has been accepted by the Owner. Final payment or Certificate of Substantial Completion, whichever is issued first, shall constitute Owner acceptance.

B. Additional warranties are required for site concrete pavement (Section 321313), curb/gutter (Section 321613), bituminous pavement (Section 321216), and specific mechanical equipment (Division 23)

H. Final payment

A. The contractor shall provide a sworn statement with final payment. The statement shall detail all subcontractors paid on the project and other information detailed in the link below:

https://api.gis.msu.edu/edms/file/{C500C6DD-E852-11ED-0000-76DDD13A85C5}

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION
Not Used

END OF SECTION

SECTION 024100 - DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the demolition of existing pipes, concrete structures and buildings.

1.3 REFERENCES

A. Except as herein specified or as indicated on Drawings, the work of this Section shall comply with the following:
   1. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations.

1.4 DEFINITIONS

A. Terms:
   1. Abandon: Remove an item to the extent that it is not visible and does not interfere with new construction. Portions of the abandoned item may be left in place. No abandoned items shall be left below new footings.
   2. Demolish: Remove existing items from their present location in the Project area and haul to an area outside of the Project area. Remove utilities serving these items.
   3. Relocate: Move existing items from their present location to another location in the Project area. Extend utilities serving the present location to the new location.
   4. Remove: Remove existing items from their present location in the Project area and haul to an area outside of the Project area. Remove utilities serving these items.
   5. Replace: Remove existing items from their present location in the Project area, haul them to an area outside of the Project area, and furnish and install new items in the same or another location. Extend utilities serving the present location to the new location.
   6. Reuse: Move existing items from their present location to another location in the Project area. Extend utilities serving the present location to the new location.

1.5 PROTECTION

A. Comply with requirements of NFPA 241.

B. Existing Structures:
   1. Demolition and disassembly will not be allowed until it is coordinated with Owner's operations.
   2. Maintain free and safe passage to and from buildings.
   3. Prevent movement or settlement of structures.
   4. Provide and place bracing, shoring and underpinning, and be responsible for safety and support of structures and assume liability for such movement, settlement, damage or injury.

5. Cease operations and notify Engineer immediately if safety of structure appears to be endangered. Take precautions to properly support structure. Do not resume operations until safety is restored.
6. All active utility mains traversing the project site shall be maintained.
7. Do not close or obstruct any streets, sidewalks, alleys or passageways unless specifically authorized.

C. Barricades:
1. Provide, erect and maintain barricades, lighting and guard rails as required by applicable regulatory agencies to protect occupants of building and workers.
2. Provide temporary fencing for security if it is necessary to temporarily remove Owner's security fencing for access to the site. Obtain Owner's approval prior to removing any existing fencing.

D. Coordination With Local Authorities:
1. Cooperate with local authorities and utility companies whose work affects or will be affected by the demolition operations. Ascertain the rules, regulations and requirements of these authorities which affect the demolition process; notify them of conditions affecting their work. Disconnect or arrange for disconnection of utility services if required.
2. Comply fully with all provisions of the local codes, laws and ordinances applicable to work of this Section.

1.6 SUBMITTALS

A. Upon request, submit to Owner for review 2 copies of proposed methods and operations of demolition of the structures and modifications specified herein prior to the start of work. Include in the submittal a schedule for the coordination of shutoff, capping and continuation of utility services as required.

B. Provide a detailed sequence of demolition, disassembly and removal work to ensure the uninterrupted progress of Owner's operations.

1.7 SEQUENCING AND SCHEDULING

A. Scheduling:
1. Before commencing demolition work, complete all modifications necessary to bypass the affected structure.
2. Actual work shall not begin until Owner has inspected and approved the modifications and authorized commencement of the demolition work.
3. Follow this procedure for each individual demolition operation.

PART 2 - PRODUCTS

2.1 SALVAGED MATERIALS

A. Ownership:
1. Owner will retain ownership of items shown on the Drawings.
2. Owner shall have the option of retaining ownership of any or all existing equipment, materials, and items removed under this Work.

3. Should Owner decide not to retain ownership of certain items removed under the work of this Section, those items shall become property of Contractor and shall be promptly removed from the Project Site.

B. Deliver items which remain property of Owner to a location, or locations, as selected by Owner.

2.2 MATERIALS

A. Weatherproof Closures: Polyethylene sheets or plywood.

B. Temporary Protective and Dustproof Partitions: Plywood and 2 x 4 wood studs; polyethylene sheets

PART 3 - EXECUTION

3.1 PREPARATION

A. Permits: Obtain all necessary permits.

1. Demolition contractor shall submit the appropriate Notification of Intent to Renovate/Demolish not less than 10 working days in advance of the anticipated start of demolition activities.

B. Weatherproof Closures:
1. Erect weatherproof closures for exterior openings.
2. Maintain exit requirements.

C. Temporary Dustproof and Protective Partitions:
1. Erect temporary partitions separating construction areas from occupied areas to prevent the spread of dust, fumes and smoke to other parts of the building and to protect occupants from falling debris.
2. Construct temporary corridor walls and ceilings within construction areas to give occupants access to exits, toilet rooms, etc.
3. On completion, remove partitions and repair damaged surfaces to match adjacent surfaces.

D. Be responsible for all safety requirements in accordance with the General Requirements.

E. Carry out demolition work to cause as little inconvenience to existing occupied building areas as possible.

3.2 DEMOLITION

A. General:
1. Repair all demolition performed in excess of that required at no cost to Owner.
2. Do not use explosives in the work.
3. Remove all demolished concrete, masonry and other debris completely from within new building areas.
4. Remove concrete walls and other debris completely within building limits.
5. Remove all mechanical, electrical, piping and miscellaneous equipment and appurtenances before commencing structural demolitions.
6. Patch and repair existing surfaces from which items have been removed leaving holes, fasteners and surface blemishes exposed to view.

B. Wells: Properly abandon existing wells where indicated on the Drawings and in accordance with all applicable State of Michigan laws and regulations.

C. Burning: Do not burn materials on Site.

D. Specific Items of Demolition: Refer to Drawings for extent and locations of various items of demolition work. Also, verify conditions at the Site.

E. Disposal of Materials:
   1. Remove contaminated, dangerous and other materials from Site and dispose of in accordance with applicable regulations.
   2. Pay for all hauling, storage, collection and disposal costs.

3.3 CLEANING

A. Clean affected areas in accordance with Division 02 Section “Construction Waste Management for Minor and Major Projects.”

END OF SECTION 024100

SECTION 024113– SITE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.2 SUMMARY

A. Provide labor, materials and equipment as necessary to complete work as indicated on the Drawings and specified herein.

B. This section includes the removal of existing structures, fences, pavements, and other items indicated on the Drawings or specified, or both.

C. Related sections include the following:
1. Division 01 Section “General Requirements – Temporary Facilities and Controls.”
2. Division 31 Section “Site Clearing.”
3. Division 31 Section “Earthwork.”

1.3 PROJECT CONDITIONS

A. Do not close or obstruct streets, walks or other occupied or used facilities without permission from the Project Representative. Provide alternate routes around closed or obstructed traffic ways if required.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 DEMOLITION OPERATIONS

A. At the direction of the Project Representative, certain items within the Project limits may be salvaged by the Contractor to the Owner. Salvaged materials or equipment will be indicated on the Drawings or specified. Salvaged items not indicated or noted to be reinstalled shall be delivered to designated location(s) on campus as directed by Project Representative.

B. Materials to be recycled shall be hauled from the project to Beaumont Landscape Supply, 4080 Beaumont Road, East Lansing MI 48824. Call (517) 884-4880 to coordinate drop-off time and location.

1. Items to be salvaged include, but are not limited to:
a. Post and chain fencing
b. Ornamental fencing and gates
c. Chain link fence
d. Catch basins and manhole frames and covers

e. Bike racks
f. Litter receptacles and ash urns
g. Light fixtures and poles
h. Face brick
i. Paver brick
j. Limestone cap
k. Steel and concrete bollards
l. Irrigation system components, including but not limited to valves, heads, and vacuum breakers

2. Materials to be recycled include, but are not limited to:
   a. Concrete material (pavement, curb and gutter, walls and footings)
   b. Bituminous pavement millings
   c. Topsoil
   d. Clean pavement base aggregate

C. The use of explosives is not permitted.

D. Conduct demolition operations and the removal of debris to ensure minimum interference with adjacent roads, streets, walks, and other facilities, operations and people.

E. Conduct operations to prevent damage by falling debris or other cause to adjacent buildings, structures, vegetation to be retained, and other facilities as well as persons.

F. Promptly repair damages caused to adjacent facilities by demolition operations, as directed by the Project Representative. Repairs shall be made at no cost to the Owner.

3.2 REMOVAL OF PAVEMENTS

A. Saw cut concrete curb and gutter and flatwork on nearest existing joint beyond area required to be removed as shown on the Drawings.

B. Provide a minimum of 18 inches between the new gutter pan edge and the bituminous paving edge.

C. Remove curb and gutter and asphalt to saw cut.

3.3 CLEANUP

A. Contractor shall be responsible for disposing debris from demolition and salvage operations. Disposal of debris shall be done legally off the Owner's property, except that specifically requested for salvage by the Project Representative. Burning of debris is not permitted.

B. During demolition operations, keep dust to a minimum using appropriate methods.

C. During demolition operations, access roads and adjacent concrete pathways shall be maintained broom clean. Roads shall be cleaned by using a pick-up type sweeper. A front-end tractor mounted sweeper is not permitted.

D. The site shall be graded to provide surface drainage and shall be left in a clean condition.

END OF SECTION 024113

SECTION 024200– CONSTRUCTION WASTE MANAGEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for the following:
   1. Salvaging nonhazardous demolition and construction waste.
   2. Recycling nonhazardous demolition and construction waste.
   3. Disposing of nonhazardous demolition and construction waste.

B. Related sections include the following:

   1. Division 01 Section “General Requirements – Temporary Facilities and Controls.”

1.3 DEFINITIONS

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations and clearing debris including soil, vegetation, and rocks are not to be included.

C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

D. Recycle: Collect, reprocess and reuse of materials diverted or recovered from solid waste stream.

E. Salvage: Recovery of demolition or construction materials from existing buildings or construction sites and subsequent sale or reuse in another facility.

F. Salvage and Reuse: Recovery of demolition or construction materials from existing buildings or construction sites and subsequent incorporation into the Work.

1.4 PERFORMANCE GOALS

A. General: Develop waste management plan that results in end-of-Project rates for salvage/recycling of 50 (75) percent by weight of total waste generated by the Work.

1.5 SUBMITTALS

A. Waste Management Plan: Submit 3 copies of plan within 14 days of date established for commencement of the Work

B. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit 2 copies of report. Include separate reports for demolition and construction waste. Include the following information:

1. Material category.
2. Generation point of waste.
3. Total quantity of waste in tons.
4. Quantity of waste salvaged, both estimated and actual in tons or cubic yards.
5. Quantity of waste recycled, both estimated and actual in tons or cubic yards.
6. Total quantity of waste recovered (salvaged plus recycled) in tons or cubic yards.
7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.

C. Waste Reduction Calculations: Before request for Substantial Completion, submit 2 copies of calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.

D. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.

E. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.

F. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

G. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licenses to accept them. Include manifests, weight tickets, receipts, and invoices.

H. LEED Submittal: LEED letter template for Credit 2, signed by Contractor, tabulating total waste material, quantities and weight (tons) diverted and means by which it is diverted, and statement that requirements for the credit have been met.

1.6 QUALITY ASSURANCE

A. Waste Management Coordinator Qualifications: LEED Accredited Professional by U.S. Green Building Council, or person familiar and experienced with LEED construction waste management requirements.

B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 01 Section. Review methods and procedures related to waste management including, but not limited to, the following:

1. Review and discuss waste management plan including responsibilities of Waste Management Coordinator.

2. Review requirements for documenting quantities of each type of waste and its disposition.
3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

1.7 WASTE MANAGEMENT PLAN

A. General: Develop plan consisting of waste identification, waste reduction plan, and cost/revenue analysis. Include separate sections in plan for demolition and construction waste. Indicate quantities by weight or volume but use same units of measure throughout waste management plan.

B. Waste Identification: Indicate anticipated types and quantities of construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses and telephone numbers.
3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses and telephone numbers.
4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
5. Disposed materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number for each landfill and incinerator facility.
6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

D. Plan for and describe the means for securing waste containers from unauthorized users.

E. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there was no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Include the following:

1. Total quantity of waste.
2. Estimated cost of disposal (cost per unit). Include hauling and tipping fees and cost of collection containers for each type of waste.
3. Total cost of disposal (with no waste management).
4. Revenue from salvaged materials.
5. Revenue from recycled materials.
6. Savings in hauling and tipping fees by donating materials.
7. Savings in hauling and tipping fees that are avoided.

8. Handling and transportation costs. Include cost of collection containers for each type of waste.
9. Net additional cost or net savings from waste management plan.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement waste management plan as approved by Owner. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

1. Comply with Division 01 Section "Temporary Facilities and Controls" for operation, termination, and removal requirements.
2. Observe and follow site measures that prevent cross-contamination of waste. Cross-contamination could render some portion of waste to be non-recyclable, thereby disqualifying the Project from earning LEED Credit MR 2, and the exemplary performance credit of diverting 95% of waste from landfill.

B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan. Coordinator shall be present at Project site full time for duration of Project. The Construction Superintendent may perform the role of the Waste Management Coordinator.

C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at the Project site.

a. Distribute waste management plan to everyone concerned within three days of submittal return.
b. Distribute waste management plan to entities upon execution of their contracts. Review plan procedures and locations established for salvage, recycling, and disposal.

D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

a. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
b. Comply with Division 01 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

A. Salvaged Items for Reuse in the Work:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until installation.
4. Protect items from damage during transport and storage.

5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

B. Salvaged Items for Sale and Donation: Not permitted on Project site.

C. Salvaged Items for Owner's Use:

a. Clean salvaged items.
b. Pack or crate items after cleaning. Identify contents of containers.
c. Store items in a secure area until delivery to Owner.
d. Transport items to Owner's storage area off-site designated by Owner.
e. Protect items from damage during transport and storage.

D. Doors and Hardware: Brace open end of door frames. Except for removing door closes, leave door hardware attached to doors.

3.3 RECYCLING DEMOLITION AND CONTRUCTION WASTE, GENERAL

A. General:

a. Recycle paper and beverage containers used by on-site workers.
b. Concrete, masonry, or asphalt crushed and reused are to be identified and include in calculations.
c. Exclude hazardous waste from calculations.

B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.

C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.

a. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.

i. Inspect containers and bins for contamination and remove contaminated materials if found.

b. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
c. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
d. Store components off the ground and protect from the weather.
e. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

3.4 RECYCLING CONSTRUCTION WASTE

A. Packaging:

a. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
b. Polystyrene Packaging: Separate and bag materials.
c. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
d. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Site-Clearing Wastes: Chip brush, branches, and trees on-site.

a. Comply with requirements in Division 2 Section "Exterior Plants" for use of chipped organic waste as organic mulch.

C. Wood Materials:

a. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
b. Clean Sawdust; Bag sawdust that does not contain painted or treated wood.
    i. Comply with requirements in Division 2 Section "Exterior Plants" for use of clean sawdust as organic mulch.

D. Gypsum Board: Stack large clean pieces on wood pallets and store in a dry location.

a. Clean Gypsum board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.
    i. Comply with requirements in Division 2 Section "Exterior Plants" for use of clean ground gypsum board as inorganic soil amendment.

E. Metals: Separate metal by type or to meet requirements of recycling receiver or processor.

3.5 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

a. Except as otherwise specified, do not allow excessive on-site accumulation of waste materials.
b. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
c. Coordinate with each product manufacturer for take-back programs. Set aside scrap to be returned to manufacturer for recycling into new product.

B. Burning: Do not burn waste materials.

C. Disposal: Transport waste materials off Owner's property and legally dispose of them.

END OF SECTION 024200

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SECTION 02 82 00 – ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 MSU EHS POLICIES

A. If the Contractor suspects a material, preexisting or newly discovered, within the scope of this project to be a hazardous material such as, asbestos, lead, polychlorinated biphenyl or any other potentially hazardous material, that has not already been identified and/or in the scope of work for the Contractor to abate, notify the Project Representative immediately. Do not impact or disturb the material in question until it has been determined to either be non-hazardous, included in the original scope of work, or until other arrangements can be made with the project representative and the MSU EHS.

B. MSU EHS Asbestos Policies
   1. The EHS annually prequalifies asbestos abatement contractors to perform asbestos abatement work on Campus. **Asbestos abatement work shall only be performed by one of the asbestos abatement contractors on the approved list**. The current list is available from the PDC Project Manager, the MSU EHS Asbestos Program Manager, and at Asbestos | Environmental Health & Safety | Michigan State University .
   2. Any work that impacts asbestos shall comply with the provisions of the MSU EHS Asbestos Management Plan

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.3 SUMMARY

A. This Section includes the following:
   1. Asbestos abatement.

B. Provided by Owner:
   1. Notification to building occupants.
   2. Building access.
   3. Electricity and water.
   4. Location for dumpster.

1.4 REFERENCES

A. Except as herein specified or as indicated on the Drawings, the work of this Section shall comply with the following:
   1. USDOT
      a. Title 49 Code of Federal Regulations Part 171-180 – Hazardous Substances.
   2. USEPA
      a. Title 40 Code of Federal Regulations Part 61 Subpart A and M (Revised Subpart B) – National Emission Standard for Hazardous Air Pollutants – Asbestos
   3. MIOSHA
      a. Construction Health Standard Part 602 – Asbestos Standard for Construction
      b. Construction Safety Standard Part 12 – Scaffolding
      c. Construction Safety Standard Part 32 – Aerial Work Platforms
      d. Construction Safety Standard Part 45 – Fall Protection
   4. State of Michigan
      a. Public Act 154 of 1974
      b. Public Act 135 of 1986
      c. Public Act 440 of 1988
   5. OSHA:
      a. Access to Employee Exposure and Medical Records Title 29, Part 1910, Section 20 of the Code of Federal Regulations
      b. Personal Protection Equipment Title 29, Part 1910, Section 132 of the Code of Federal Regulations
      c. Respiratory Protection Title 29, Part 1910, Section 134 of the Code of Federal Regulations
      d. Specifications for Accident Prevention Signs and Tags Title 29, Part 1910, Section 145 of the Code of Federal Regulations
      e. Construction Standard for Asbestos Title 29, Part 1926, Section 1101 of the Code of Federal Regulations
      f. Hazard Communication Title 29, Part 1910, Section 1200 of the Code of Federal Regulations
      g. Construction Industry Title 29, Part 1926 of the Code of Federal Regulations
         1) Subpart J, Fire Prevention Title 29, Part 1926 of the Code of Federal Regulations
         2) Subpart T, Demolition Title 29, Part 1926 of the Code of Federal Regulations
   6. Local Requirements: Abide by local requirements which govern asbestos abatement work or hauling and disposal of asbestos waste materials.

1.5 DEFINITIONS

A. AAC: Asbestos Abatement Contractor: Having a license with the State of Michigan employing at least one competent person and all workers with State of Michigan accreditations.

B. ACBM: Asbestos-Containing Building Material; surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a building.

C. ACM: Asbestos-Containing Material; any material containing more than 1% by weight of asbestos of any type or mixture of types.

D. ACPI: Asbestos-Containing Pipe Insulation.

E. Adequately Wet: To sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from ACM, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet.

F. Air Cell: Insulation normally used on pipes and ductwork that is comprised of corrugated cardboard which is frequently comprised of asbestos combined with cellulose or refractory binders.

G. Air Monitoring: The process of measuring the fiber content of a specific volume of air.

H. Amended Water: Water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the ACM and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of 1 ounce of a surfactant consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with 5 gallons of water.

I. Asbestos: The asbestos-form varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite. For purposes of determining respiratory and worker protection, both the asbestiform and non-asbestiform varieties of the above minerals, and any of these materials that have been chemically treated and/or altered, shall be considered as asbestos.

J. Asbestos Abatement Contractor: Any person licensed to conduct asbestos abatement.

K. Authorized Visitor: The Owner, the Owner's Consultant, testing lab personnel, or a representative of any federal, state and local regulatory or other agency having authority over the project.

L. Barrier: Any surface that seals off the work area to inhibit the movement of fibers.

M. Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.

N. Bridging Encapsulant: An encapsulant that forms a discrete layer on the surface of an *in situ* asbestos matrix.

O. CFR: Code of Federal Regulations.

P. CIH: Certified Industrial Hygienist; an industrial hygienist certified in Comprehensive Practice by the Board for Global EHS Credentialing.

Q. Critical Barrier: A single layer of 6-mil or greater polyethylene sheeting or an equivalent airtight barrier installed initially over all doors, windows, ventilation openings, drains, wall penetrations, etc., as an additional measure to prevent contaminated air from escaping the work area.

R. Disposal Bag: 6-mil thick leak-tight plastic bags used for transporting asbestos waste from work and to disposal site.

S. EHS: Michigan State University Department of Environmental Health and Safety.

T. Encapsulant: A material that surrounds or embeds asbestos fibers in an adhesive matrix to prevent release of fibers.

U. Encapsulation: The application of a liquid material to ACM which controls the possible release of asbestos fibers from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant).

V. f/cc: fibers per cubic centimeter

W. Fiber Release Episode: Any uncontrolled or unintentional disturbance of ACM resulting in visible emissions.

X. Filter: A media component used in respirators to remove solid or liquid particles from the inspired air.

Y. Final Cleaning: The cleaning of all dust and debris from the work areas near the end of the active abatement phase, immediately prior to the final visual inspection.

Z. Friable: Any material, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure, and includes previously non-friable material after such previously non-friable material becomes damaged to the extent that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure.

AA. GC: General Contractor

BB. Glove Bag: A sack (typically constructed of 6-mil transparent polyethylene or polyvinyl chloride plastic) with two inward projecting long-sleeved gloves, which are designed to enclose an object from which an ACM is to be removed.

CC. HAZCOM: Hazard Communication

DD. HEPA Filter: A high efficiency particulate air filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in length

EE. HEPA Filtered Vacuum: High efficiency particulate air (absolute) filtered vacuum with a filter system capable of collecting and retaining asbestos fibers. Filters shall be of 99.97% efficiency for retaining fibers of 0.3 microns or larger.

FF. MDEGLE: Michigan Department of Environment, Great Lakes, and Energy

GG. MDLEO: Michigan Department of Labor and Economic Opportunity

HH. MIOSHA: Michigan Occupational Safety and Health Administration

II. MSU: Michigan State University

JJ. Negative Pressure: Air pressure lower than surrounding areas, generally caused by exhausting air from a sealed space (work area).

KK. Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.

LL. NESHAPS: National Emissions Standard for Hazardous Air Pollutants

MM. NIOSH: National Institute of Occupational Safety and Health

NN. OSHA: U.S. Department of Labor, Occupational Safety and Health Administration

OO. Penetrating Encapsulant: an encapsulant that is absorbed by the *in situ* asbestos matrix without leaving a discrete surface layer.

PP. Personal Monitoring: Sampling of the asbestos fiber concentrations within the breathing zone of an employee.

QQ. Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 4.0 or 6-mil thick as indicated, clear, frosted, or black as indicated.

RR. Removal Encapsulant: A penetrating encapsulant specifically designed for removal of ACMs rather than for *in situ* encapsulation.

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

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

UU. TWA: Time Weighted Average; the average concentration of a contaminant in air during a specific time period.

VV. TSI: Thermal systems insulation.

WW. USEPA: U.S. Environmental Protection Agency

XX. USDOT: U.S. Department of Transportation

YY. VAT: Vinyl asbestos tile.

ZZ. Wetting Materials: For wetting prior to disturbance of ACM, use either amended water or a removal encapsulant.

AAA. Work Area: The area where asbestos related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers or debris, and entry by unauthorized personnel. Work area is a Regulated Area as defined by 29 CFR 1926.1101.

1.6 DESIGN AND PERFORMANCE REQUIREMENTS

A. Legal Requirements:
1. The AAC shall be licensed for asbestos abatement work in the State of Michigan as required by Michigan Public Act 135 of 1986, effective July 2, 1986.
2. Use only workers who have received health and safety training which, as a minimum, fulfills the training required by Michigan Public Act 440 of 1988 effective December 27, 1888.
3. Furnish labor, supervision, materials (lien free), training, physicals, insurance and equipment necessary to carry out asbestos abatement/demolition procedures in accordance with OSHA, USEPA, MIOSHA, and other applicable federal, state, and local government regulations and standards of care for the industry.
4. Asbestos waste shall be manifested and disposed of at a Type II landfill approved by the Owner. Manifests shall be signed by the following: The AAC Supervisor, transporting firm, and the landfill's representative. Submit Manifests with complete signatures within 30 days of disposal.
5. Hazardous waste shall be manifested and disposed of at a landfill approved by the Owner. Manifests shall be signed by the following: The MSU Hazardous Waste Coordinator (or designee), transporting firm, and the landfill's representative. Submit Manifests with complete signatures within 30 days of disposal.
6. Provide project notification, where applicable, to the MDEGLE and MDLEO Asbestos Programs at least 10 working days prior to commencement of asbestos abatement work.

B. AAC Responsibilities:
1. Provide items, articles, materials, operations or methods listed, required to be furnished or accompanied by reason of the Contract Documents, including labor, materials, equipment, and incidentals required or necessary for their completion.
2. It is understood and agreed by the AAC, that the work herein described is to be completed in every detail. The AAC shall be held responsible to provide labor and materials necessary for

the entire completion of the work described in the Contract Documents and reasonably implied there from.

3. Quantities of ACBMs shall be verified by the AAC prior to formulating his/her bid.
4. The asbestos quantities provided in the Contract Documents, if any, are for general information only.
5. It is the responsibility of the AAC that the waste manifests are received by Mr. Gary Bosh, Asbestos Program Manager, MSU.
6. Provide a copy of all notifications to the MDEGLE and MDLEO Asbestos Programs, revisions, and variance requests to the following:

Mr. Gary Bosh
Environmental Technologist
Environmental Health and Safety
Michigan State University
4000 Collins, B20
East Lansing, MI 48824
Direct (517) 353-8956
Mobile (734)320-2491
Boshgary@msu.edu

7. The AAC assumes full responsibility and liability for the compliance with standards pertaining to work practices, hauling, disposal, and protection of workers, visitors to the Site, and persons occupying areas adjacent to established regulated areas and the Site. The AAC holds the Owner harmless for failure to comply with applicable standards on the part of AAC, AAC's workers, or subcontractors.

1.7 SUBMITTALS

A. Asbestos Related Submittals: Prior to initiation of asbestos removal, provide a bound notebook with the following information:
   1. Proof that non asbestos worker assigned to this project, for general labor, bag-out, and similar activities, have received 2-hour asbestos awareness training.
   2. Copies of the USEPA and/or designated state agency Notification of intent to Renovate/Demolish as required under 40 CFR 61.22 (d)
   3. A detailed job-specific work plan of the procedures proposed for use in complying with the requirements of the specification.
   4. Name and address of landfill proposed by the AAC.

B. General Submittals (if requested):
   1. SDS documentation for materials brought on site before materials are used.
   2. Written HAZCOM program and proof of worker training for working around ACM.
   3. Written confined space entry program and proof of employee training (if appropriate)
   4. Written hot work program and proof of employee training (if appropriate)
   5. Written silica exposure control program and proof of employee training (if appropriate)

C. Close-Out Submittals: Waste shipment records at project completion.

1.8 QUALITY ASSURANCE

A. Faithfully comply with Federal, State, and Local laws, standards, and regulations while carrying out work.

B. Quality Assurance:
   1. A neutral third party will be employed to provide industrial hygiene consultation, conduct air monitoring, and ensure compliance with applicable asbestos abatement standards,

regulations, and procedures. Air monitoring procedures will follow the NIOSH 7400 A Method (second revision of August, 1992), Appendix A of 29 CFR 1926.1101 (Construction Standard for Asbestos), and USEPA: Title 40, Part 763, Subpart E. Air samples will be collected as follows:

a. Background, baseline, or pre abatement samples will be collected by the IHC prior to the start of area preparation. The results of these samples assess the condition of the air in each regulated area prior to commencement of work.
b. General (clean) area samples will be collected outside the restricted area by the IHC to verify that the engineering controls established on this project are effective in preventing the spread of airborne asbestos fibers to uncontaminated areas. In the event that general area samples obtained outside the enclosure but in the regulated area are equal to or exceed 0.05 f/cc, work inside the regulated area shall cease and the cause identified. Should there be contamination from inside the work area, the cause shall be eliminated, and the IHC will notify the AAC that the contamination source has been eliminated before work may resume.
c. Task-specific personal breathing zone samples will be collected by the IHC while the AAC's employees perform representative asbestos related activities. Personal samples will be collected regardless of current NEA status.
d. Clearance samples will be collected by the IHC for asbestos only after a visual examination has been performed in the regulated area by the IHC and a representative of the AAC. If asbestos is observed subsequent to clearance sampling, the ACM shall be removed and additional clearance samples may be required. Clearance samples will be collected after abatement of non-friable and friable materials and will be analyzed onsite by the IHC, using PCM analysis.

2. The AAC shall be responsible for additional clearance samples and the IHC's costs if the first set of samples do not meet the established release criteria of less than 0.01 f/cc for asbestos for PCM clearances.

1.9 SEQUENCING AND SCHEDULING

A. The abatement shall be completed according to the schedule described by the Owner at the site inspection. Abatement work areas will be made available within the general time frames discussed with the Owner. It is the AAC's responsibility to clearly demarcate restricted areas and provide notification of abatement to other contractors working in the building.

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PART 2 - EXECUTION

2.1 AAC'S MATERIALS AND EQUIPMENT

A. As selected by the AAC for the performance of the work.

B. Electrical equipment shall be in good repair with no exposed wires or insulation. Plugs shall be equipped with a ground. Extension cords shall be rated for "hard surface" and shall have watertight connectors. Ground Fault Circuit Interrupters (GCFI) shall be used for all electrical connections.

C. Light fixtures shall be general service, incandescent lamps of sufficient power for adequate illumination. Guard cages or tempered glass shall be used to protect the lamps. Exterior fixtures shall be used if exposed to moisture.

D. The Owner will provide a source of water for the duration of the project in each building. The AAC shall be responsible for disposal of wastewater generated on site during the project. Water may not be discharged to storm sewers. Wastewater discharged to the sanitary sewer must be filtered thought a 5.0 µm filter. AAC shall be responsible for water damage to building materials that is the result of AAC activities on site,

E. All circuits in the area of abatement will be disconnected by the Owner to avoid electrical shock and circuit interruptions when necessary for abatement. The AAC will coordinate with the Owner when disconnecting circuits in an area. The AAC must independently verify electrical system status.

F. Dumpsters:
   1. Ensure that the dumpsters, used for storage of asbestos waste, maintained onsite are locked at all times when not attended. In addition, the dumpsters shall have a hard top.
   2. Provide "Danger - Asbestos Hazard" signs and banner tape encompassing the dumpster to prevent entry by any unauthorized personnel from the dumpster area.
   3. AAC shall coordinate with the Owner to identify an appropriate location for the dumpster in a discrete area and, if required, emptying the dumpster before project completion.

2.2 PREPARATION

A. Personal articles and supplies in the offices, rooms, corridors, and hallways will be removed by the Owner.

B. Before initiation of asbestos abatement, the AAC shall:
   1. Effectively isolate the regulated area from other areas of the floor/building. Special attention shall be taken to isolate and seal supply and exhaust air ducts, doors, hallways, and other openings into the project area that may conduct airborne fibers from the regulated area.
      Post warning signs and barrier tape at entrances or openings to the regulated area and in accordance with applicable regulations. Provide in accordance with 29 CFR 1910.1001(f) of OSHA's Asbestos standard:

      DANGER
      ASBESTOS
      MAY CAUSE CANCER
      CAUSES DAMAGE TO LUNGS
      AUTHORIZED PERSONNEL ONLY

      In addition, where the use of respirators and protective clothing is required in the regulated area, the warning signs shall include the following:

WEAR RESPIRATORY PROTECTION AND PROTECTIVE CLOTHING IN THIS AREA

~~3.~~2. Provide for complete decontamination by constructing decontamination facilities and require that non-emergency access to the regulated area from the outside be limited to passage through these decontamination facilities. The location of the decontamination facility shall be contiguous with the regulated area and determined by the AAC. The IHC will review the work plan showing the location(s) of the decontamination facility.

C. Maintain the regulated area so that a net movement of air from outside the regulated area to the inside exists until acceptable final clearance results have been obtained. This may be accomplished by filtering exhaust air through HEPA filters, or by other methods that conform to accepted industry practices and applicable USEPA and OSHA regulations.

D. Carry out work practices that minimize generation of airborne asbestos fibers from work areas. Practices that cause high airborne fiber levels, such as dry sweeping, use of compressed air, or other high-risk activities are expressly prohibited.

E. Establish emergency and fire exit routes from the work area. In an emergency, preservation of life and treatment of seriously injured workers shall have priority over decontamination. Emergency response personnel (fire, police, and emergency technicians) shall have immediate access to the work area in an emergency. In case of a fire, the Fire Marshall or his designated representative shall have complete jurisdiction over the building and work area.

F. Provide and make arrangements necessary to access utilities on Site:
   1. Hard wired connections of AAC's equipment to the Owner's utilities shall be performed by licensed electricians and is the responsibility of the AAC.
   2. Access to sufficient cold running water for decontamination and asbestos removal will be provided by the Owner. Where applicable, the AAC is responsible for supplying hot water for the purpose of personnel decontamination. Water used in abatement and/or worker decontamination is filtered and disposed of in the sanitary sewer. Plumbing connections shall be performed by licensed plumbers.

G. Work Area Preparation – NPEs:
   1. Isolate the project areas from the remainder of the facility. Each area shall be pre cleaned and suspect ACM and ACM debris found on floors or ledges shall be wetted and removed with the use of a HEPA vacuum prior to erecting the enclosure. The IHC will inspect the integrity of the AAC's barriers prior to the start of abatement in each area. Isolate work areas for the duration of the project by completely sealing off openings to the area. Sealing of openings and fixtures of the work area shall include, but not be limited to, heating and ventilation ducts and openings, attic ventilation ducts extending downward into the floor, doors, windows, skylights and lighting, electrical panels and conduit openings. Sealing shall be accomplished with 6-mil polyethylene sheeting, or equivalent, taped or glued into place in areas where burning and/or cutting is anticipated. Enclosure walls shall be constructed of layer of polyethylene sheeting taped and glued into place. The floors of the enclosures shall be constructed of a single layer of 6-mil polyethylene sheeting, or equivalent, taped or glued into place.
   2. Airlocks for entrance into and egress from the work area shall be constructed of 6-mil polyethylene sheeting and wooden or metal framing. The airlocks from the work area, to the equipment (dirty) room, to the shower area, to the clean (change) room shall be contiguous. Should conditions warrant non-contiguous decontamination facilities, consult with the IHC to determine a lawful and appropriate decontamination procedure.

3. Provide ventilation controls that facilitate movement of airborne fibers away from the worker in removal areas. The equipment used for such ventilation controls shall have HEPA filters for filtering exhaust air that may be discharged into the work area or into areas outside the work area. The ventilation controls shall provide a net inward movement of air from the outside to inside the restricted area. In each restricted area, ventilation controls shall operate continuously throughout the project until final clearance sampling levels are attained. In no case shall ventilation controls damage the integrity of the enclosure. The AFDs shall be exhausted outside unless otherwise directed by the Owner.
4. Post lawfully required notification of asbestos removal, AAC's license and training certificate of AAC's personnel trained in the requirements of the NESHAP standard, adjacent to the entrance of the removal area, and adjacent to other points of access to the work area.
5. If contaminated movable objects are located within the removal area, vacuum, clean, and remove these objects from the regulated area while setting up the restricted area.

H. Work Area Preparation – Glove Bags:
1. Isolate the area of asbestos abatement by posting "DANGER ASBESTOS" barrier tape around the perimeter of the work area. "DANGER ASBESTOS" signs shall be posted at entrances to the work area.
2. All asbestos-containing insulation and asbestos-containing pipe fitting insulation shall be removed using, as a minimum glove bags or glove bags within mini enclosures. The AAC shall isolate the area of insulation removal with caution tape and no entry signs.
3. Airlocks for entrance into and egress from the decontamination facility shall be constructed of 6-mil polyethylene sheeting and wooden or metal framing. The airlocks from the regulated area, to the equipment (dirty) room, to the shower area, to the clean (change) room shall be contiguous. Should conditions warrant non-contiguous decontamination facilities, consult with IHC to determine a lawful and appropriate decontamination procedure.
4. Post lawfully required notification of asbestos removal, AAC's license and training certificate of AAC's personnel trained in the requirements of the NESHAP standard, adjacent to the entrance of the removal area, and adjacent to other points of access to the work area.
5. If contaminated movable objects are located within the removal area, vacuum, clean, and remove these objects from the regulated area while constructing the restricted area.

2.3 ABATEMENT

A. Worker Protection:
1. General:
   a. Workers shall wear disposable full-body coveralls, head covers, and appropriate footwear in the removal area. Reusable footwear (i.e., boots) may be left in the dirty room of the removal area between workdays but must be either disposed of with other contaminated wastes or decontaminated thoroughly before removal from the dirty room.
   b. Provide gloves, hard hats, goggles or safety glasses and other personal protective equipment as may be appropriate for use by workers on the project site.
2. Respiratory Protection:
   a. Individuals entering the regulated area during the project shall comply with MIOSHA Part 451, including selection of an approved respirator with HEPA filters, or an approved supplied air respirator. The individuals shall have passed a medical examination as specified in the respiratory standard, shall have completed a pulmonary function test, shall have their doctor's permission to engage in activities while wearing a respirator, and shall have passed a respiratory fit test.
   b. The minimum respiratory protection for workers shall be a half-mask air purifying respirator equipped with HEPA filter cartridges approved by the NIOSH.

c. Should air sampling indicate that the airborne asbestos fiber concentration within the restricted area is in excess of the safe allowable limits for the respiratory protection worn, provide for worker respiratory protection that will allow for safe working conditions.
d. Communicate the results of the air sampling to workers by posting the air sampling results on the project site, or in writing within 24 hours.
e. In the event the results of the personal breathing zone samples exceed the PEL of 0.10 f/cc for asbestos, at the discretion of the IHC, work will be stopped until the cause can be isolated
f. During asbestos abatement, personnel shall wear Powered Air Purifying Respirators (PAPR) for respiratory protection until sufficient data has been collected through personal breathing zone sampling to ensure the method of removal does not result in airborne concentrations in excess of the restrictive limits of the respirator. The abatement contractor may provide data from a previous project of similar nature that supports downgrading from a PAPR. Respiratory protection requirements may be relaxed to Negative Pressure Respirators when sufficient data has been generated and with the approval of the Engineer.

3. Decontamination:
   a. Construct and isolate a decontamination area in accordance with 29 CFR 1926 Appendix F.
   b. Workers shall remove street clothes in the clean changing room, and dress in disposable coveralls, head covers, foot covers, and respiratory protection prior to entering work areas. Unless plastic suits provided with supplied air are worn, personal clothing shall not be worn under protective outerwear while working within an NPE.
   c. When workers leave a regulated area with a three-chamber decontamination unit, they shall remove their head coverings, disposable coveralls, and foot coverings in the "dirty" or "equipment" room, and while wearing a respirator, proceed to the shower. Respirators shall be removed while showering with soap and water.
   d. Because cold water showers discourage thorough worker decontamination, provide showers with hot and cold water that can be adjusted by the user while in the shower and that is at least 70 degrees F for worker decontamination. Provide a portable water heater, disposable towels, soap, and shampoo.
   e. When workers leave a regulated area without a three-chamber decontamination unit, they shall vacuum work clothes with a vacuum equipped with a HEPA filter prior to removing their head coverings, disposable coveralls, and foot coverings in the "dirty" or "equipment" room. While wearing a respirator, workers shall proceed to a decontamination area consisting if an impenetrable drop cloth to vacuum themselves with a vacuum equipped with a HEPA. Respirators shall be removed while in decontamination area.
   f. Workers shall shower, as a minimum:
      1) Before lunch.
      2) At the end of each work day.
      3) At any other time the worker leaves the contaminated area.
   g. Provide the details for equipment and recyclable material decontamination and include procedures, testing, and on-site storage of materials that will be taken off-site for recycling.
4. Prohibited Activities: Smoking, drinking, eating, or chewing gum or tobacco inside the contaminated area and surrounding work areas shall be prohibited. Immediately release individuals of the privilege of working on the project if the individual is smoking, eating, drinking, or chewing tobacco or gum inside the work area. Before a worker smokes, drinks, eats, or chews tobacco or gum, the worker must thoroughly decontaminate and leave the work area. A worker break area shall be designated and approved by the AAC, the IHC, and the Owner.

B. Asbestos Removal:
   1. General:
      a. Removal of asbestos shall be with wet methods. Asbestos surfaces shall be sprayed with water and an acceptable wetting agent. A fine spray of this solution shall be applied to prevent fiber liberation preceding removal. Fine spraying of surfaces shall be continued, to minimize worker exposure.
         1) If dry removal methods are to be used, the AAC shall submit, for the IHC and the Owner's approval, a written work plan outlining dry removal methods prior submitting the request to the MDEGLE.
      b. Every effort shall be made to remove asbestos containing floor tile and cementitious materials intact.
      c. ACM shall be removed and placed into 6-mil, labeled bags while still wet. Bags shall be labeled with legally required hazard warnings, sealed, washed, and placed into a second 6-mil, labeled, polyethylene bag or fiber drum, which shall be labeled and sealed in accordance with federal and state regulations.
      d. ACM shall not be removed with power tools.
      e. Asbestos covered pipes shall not be removed during the removal process of the asbestos containing pipe insulation unless appropriate.
      f. Equipment used during removal shall be wet cleaned before removal from the work area.
      g. Plastic sheeting, cleaning materials, clothing, and other disposable materials used during removal shall be double bagged or bagged and fiber barreled in the same manner as asbestos containing insulation.
      h. Transportation of ACMs to the landfill shall be in vehicles with hard roofs. Transportation of asbestos containing wastes in open pickup trucks, or in pickup trucks with tarpaulins is expressly prohibited.
      i. Waste shall be removed from the building in sealed waste containers in a discrete manner. If it is transported through the building, it must be clearly labeled while secondarily contained in a transport cart (or equivalent) to obscure the contents.
      j. If abatement is to occur on active piping, shutdowns (of steam) will occur only at convenience of the Owner.
   2. Glovebag Method: If glovebags are used to remove ACM in occupied areas, comply with MIOSHA Part 602, which states that glovebagging shall be conducted by 2 person teams according to the procedure described following:
      a. Prior to removal, the glovebags shall be inspected by the IHC and the AAC's foreman to ensure the glovebag has an adequate seal.

C. Decontamination of Work Area:
   1. Clean surfaces in the work area with water or a HEPA-filter equipped vacuum, or both. After the work area has been cleaned, the foreman, together with the IHC, will conduct a thorough visual inspection for the complete removal of ACM and ACM debris. Upon completion of the visual inspection and approval by the IH consultant, apply a sealant (encapsulant) to potentially contaminated surfaces inside the removal area. The encapsulant shall be allowed to dry before clearance air sampling will occur.
   2. If after final clearance air sampling, the IHC finds the work area is not sufficiently decontaminated, repeat the cleaning and encapsulation. This shall continue until no asbestos is found during the area inspection.
   3. After the regulated work area(s) meet the clearance criteria, barriers, plastic sheeting, tape, and other wastes and debris shall be removed and disposed of as asbestos-containing wastes.

D. Disposal:
   1. Dispose of the ACMs in disposal bags labeled as follows:
      a. First Label: Provide in accordance with 29 CFR 1910.1001(f) of OSHA's Asbestos standard:

DANGER
CONTAINS ASBESTOS FIBERS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATHE DUST
AVOID CREATING DUST

      a. Second Label: Provide in accordance with U.S. DOT regulation on hazardous waste marking. 49 CFR parts 106, 107, 171 to 180, published December 21, 1990:

RQ, ASBESTOS, NA 2212
CLASS 9

      b. Third Label

MICHIGAN STATE UNIVERSITY
Central Services 570 Red Cedar Rd
EAST LANSING, MI 48824

   2. Labels shall be applied to bags before bags are loaded into dumpsters.
   3. Waste shall be stored in dumpsters onsite prior to being transported to the landfill.
   4. Waste shall be transported to the landfill in hard-roofed trucks and waste shipment records shall be submitted to the Owner following their receipt from the landfill.

B. Visual Inspection: When the AAC believes the asbestos removal is complete, request a visual inspection. The onsite industrial hygienist will enter the regulated area and inspect the work area. The industrial hygienist will inspect the area for visible or suspect asbestos material. If any such material is discovered, the AAC shall immediately clean up the area to the satisfaction of FTC&H and at no extra cost to the Owner. Once the IHC is satisfied, the industrial hygienist will begin clearance air testing if applicable.

C. Clearance Air Testing (PCM): After the cleaning process results have passed the industrial hygienist visual inspection, the AAC may apply an encapsulant to the areas abated. Once the encapsulant has dried, the IHC will collect air samples in the regulated area. The IHC will collect a minimum of three air samples in each of the regulated areas where ACMs were removed. PCM will be used to analyze all air samples for asbestos. The IHC will collect a minimum of 1,200 liters of air for clearance samples. All samples results must be less than the clearance criteria of 0.01 f/cc. Only after satisfying the clearance criteria, may the AAC proceed with deconstructing the regulated area.

PART 3 - SCOPE OF SERVICES

3.1 SUMMARY OF WORK GENERAL

A. The AAC shall make every attempt to coordinate work with activities of other contractors in the building.

B. The AAC shall demarcate the area of abatement using the appropriate signage and work shall proceed as expeditiously as possible.

C. After each regulated area has been inspected for asbestos-like debris and found to meet ASTM criteria and after air sample results are found to meet clearance criteria, an inspection will be conducted by the AAC, the IHC, the GC, and the MSU Project Manager to generate a punch list of any damage, deficiencies, or other issues that may be the responsibility of the AAC. The AAC has 48 hours after the scheduled completion date for that building to complete all punch list items. Liquidated damages will be assessed and will be deducted from the monies owed to the AAC for any work conducted after the stated completion date.

D. The AAC will be responsible to complete the work according to the schedule. The building will be made available in according to the schedule Monday through Friday, from 7:00 a.m. until 7:00 p.m. Expanded hours may be available at the discretion of the PDC Project Manager.

E. The Owner must approve in writing, prior to starting the project, any proposed deviations from these specifications. Questions asked at the site inspection, along with their respective answers, will be documented and presented with the minutes as an addendum. The Owner is only bound by information distributed in writing to all parties.

F. At the completion of the abatement, the IHC will perform a visual inspection of the regulated areas. Final air clearance samples will be collected in the interior regulated area following the successful completion of the visual inspection.

G. The AAC shall verify the location and quantities of ACMs listed in the building inspection report (attached) prior to submitting their bid. Quantities included in the inspection report are for accessible ACMs only. The AAC shall include unit prices in bid for removal of inaccessible ACMs.

3.2 ASBESTOS ABATEMENT

A. All ACBMs identified on the interior and exterior of the building in the attached building inspection report shall be remove according to applicable regulations and best industry practices.

3.3 BID FORM

A. AACs are asked to submit a bid for quantities of ACBMs identified in the attached building inspection report.

B. The Contractor shall also provide unit pricing to respond to small scale abatement on an as needed basis throughout the project.

See Advertisement of Bid

END OF SECTION 02 82 00

SECTION 311400 – SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.2 SUMMARY

A. Provide all labor, materials and equipment as necessary to complete all work as indicated on the Drawings and specified herein.

B. This Section includes sod and topsoil stripping.

C. Related sections include the following:

1. Division 01 Section “General Requirements - Temporary Facilities and Controls.”
2. Division 02 Section “Site Demolition.”
3. Division 31 Section “Earthwork.”

1.3 DEFINITIONS

A. Topsoil: Friable clay loam surface soil containing 2.5% to 12% organic matter. Topsoil shall be free of subsoil, clay lumps, stones, rocks, weeds, roots, construction debris, and other unsuitable materials as determined and approved by the Project Representative.

1.4 PLANT PROTECTION

A. Refer to Division 01 Section “General Requirements - Temporary Facilities and Controls.”

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 SOD STRIPPING

A. Stripping and stockpiling sod shall be done under reasonably dry conditions. Secure approval of soil quality in advance from the Project Representative to begin sod stripping. Sod removal shall include the entire root system but not an excess amount of topsoil. Contractor shall haul the sod to a campus location, as directed.

3.2 TOPSOIL STRIPPING

A. Stripping and stockpiling topsoil shall be done under reasonably dry conditions. Stripping and stockpiling under wet conditions will not be allowed.

B. Contractor shall strip available topsoil to its full depth from within the Contract limits, excluding areas in close proximity to trees designated to remain, unless otherwise specified or directed by the Project Representative.

C. Contractor shall stockpile topsoil in a storage pile in an area shown on the Drawings or as directed by the Project Representative. Storage pile shall be shaped to freely drain surface water during and after stockpiling operations. Excess topsoil shall be removed from campus by the Contractor unless directed otherwise prior to bidding. The stockpile shall be protected from soil and sediment erosion as required elsewhere in these Specifications.

END OF SECTION 311400

SECTION 312300 – EARTHWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.2 SUMMARY

A. Provide all labor, materials and equipment as necessary to complete all work as indicated on the Drawings and specified herein.

B. Related sections include the following:

1. Division 01 Section 15000-TEMPORARY FACILITIES AND CONTROLS
2. Division 02 Section 024116-SITE DEMOLITION
3. Division 31 Section 311400-SITE CLEARING
4. Division 32 Section 321216-BITUMINOUS PAVEMENT
5. Division 32 Section 321313-CONCRETE PAVEMENT

C. Approved Topsoil Installation Contractors shall bid directly to and be contracted directly by the General Contractor or Construction Manager.

D. Approved Topsoil Installation Contractors:

1. Anderson Fischer Associates Inc., 225 E. Kipp Rd, Mason MI 48854-1946
(517) 676-5522

2. Carols Excavating Inc., 5103 Lansing Rd, Charlotte MI 48813
(517) 645-0670

3. Central Excavating LLC , 11303 W Price Rd, Westphalia MI 48894-8208
(517) 749-2566

4. E.T. MacKenzie, 4248 W. Saginaw Highway, Grand Ledge MI 48837
(517) 627-8408

5. Eagle Excavation Inc., 4295 Holiday Drive, Flint MI 48507
(810) 767-7878

6. Owner Pre-Approved Topsoil Installation Contractor

E. Testing and inspection agency will be under contract with the contractor and will perform QA activities of the material below all pavements and structures.

1.3 DEFINITIONS

A. Excavation: Removal of material encountered to indicated subgrade elevations and subsequent disposal of materials removed. Excavation material is unclassified.

B. Unauthorized Excavation: Removal of materials beyond indicated subgrade elevations or dimensions without specific direction by the Project Representative. Unauthorized excavation shall be at the Contractor's expense. Undermining of existing footings or disturbing the bearing soil shall not be permitted unless it is specifically indicated or specified in the Contract Documents.

C. Additional Excavation: When excavation has reached required subgrade elevations the Contractor shall notify the Project Representative who will inspect conditions. If the Contractor encounters unsuitable bearing materials at the required subgrade elevations Contractor shall carry excavations deeper and replace excavated material as directed by the Project Representative. Removal of unsuitable material and its replacement, as directed, is part of this Contract.

D. Backfilling: Placement of fill soil, either provided on site or Contractor-furnished, which shall be uniformly compacted to the required density.

E. Bedding: The material placed around a utility between 4 inches below to 12 inches above the utility the full width of the trench.

F. Building Compacted Areas: Areas under slabs on ground within the building line. Exterior concrete slabs attached to the building, such as entrances, shall be considered within the building line.

G. Contract Limits: Those areas of the project site on which, or upon which, work will be done in accordance with the Contract.

H. Fill: Imported material which is placed in structure undercut.

I. Imported Material: Soil material which is purchased by Contractor and hauled onto the site.

J. MDOT: Michigan Department of Transportation's Standard Specifications for Construction, 2012.

K. Proof-Rolling: The use of a loaded 10 CY capacity or larger truck driven over the subgrade and subbase to check for unstable areas that should be undercut. The method, pattern and frequency will be determined by the Pavement Consultant.

L. Quality Assurance (QA): All activities that have to do with the Owner ensuring the quality of the product as specified, including materials sampling and testing, construction inspection, and review of Contractor quality control documentation. This work will be performed by the Pavement Consultant.

M. Quality Control (QC): All activities that have to do with the Contractor producing the quality of the product as specified, including training, materials sampling and testing, project oversight and documentation.

N. Rock Excavation:

1. Excavation of igneous, metamorphic or sedimentary rock or hardpan which cannot be excavated without continuous drilling or continuous use of a ripper or other special equipment.

2. Excavation of boulders of 1/2-cubic yard or more in volume.

O. SESC: Soil Erosion and Sedimentation Control as required in Division 01 "General Requirements – Temporary Facilities and Controls" and elsewhere in these Specifications.

P. Site Compacted Areas: Areas outside of the building line within the Contract limits.

Q. Structure: A building, retaining wall, tank, footing, slab or other similar construction.

R. Structure Backfill: Soil or other material which is placed against walls or sides of structures.

S. Subbase: Compacted fine and coarse aggregate layers used in the pavement between the subgrade and the pavement.

T. Subgrade: Compacted soil, either existing or provided as part of the Work, upon which new construction is to be installed.

U. Undercut: Excavation of native material from below the bottom of footings, floors, structures and subbases.

1.4 SUBMITTALS

A. Warranties: Submit written special warranty as specified in this Section. Include contact information, description of coverage, and start date for each special warranty.

1.5 SOIL EROSION AND SEDIMENTATION CONTROL

A. Prior to and during earthwork operations refer to Division 01 Section "General Requirements - Temporary Facilities and Controls" to ensure that provisions of that section are fulfilled.

1.6 BACKFILL COMPACTION TESTING

A. Contractor shall retain a licensed soils testing engineer, approved by the Owner, paid for as an allowance item, and shall submit to the Project Representative 3 copies of a report containing testing procedure, test results, and a statement that soil has been compacted in accordance with the specifications. The Project Representative shall give final approval of the backfill before construction continues. The following submittals shall be submitted directly to the Project Representative from the soils testing engineer, with one copy to the Contractor:

1. Test reports of borrow material.
2. Verification of each footing subbase.
3. Field density test reports.
4. One optimum moisture-maximum density curve for each type of soil.

B. Where more than one lift of soil is being placed, the soils testing engineer shall be present during the entire filling operation to confirm that each lift is properly compacted with approved soil.

C. Perform a maximum density test conforming to ASTM D1557 (Modified Proctor) for each type of soil encountered.

D. Field density tests shall conform to ASTM D2922 - Nuclear Method.

E. The frequency of testing shall be as follows:

1. Footing Subgrade: As required by Project Representative.

2. Paved Areas and Building Slab Subbase: One test per 2000 square feet for Subbase and one test per 1500 square feet per lift.

3. Footing and Trench Backfill: One test per 50 lineal feet per lift.

4. Trench Backfill: One test per 50 lineal feet per lift.

5. Post Backfill: One test per 12-inch lift (provided equipment is available).

6. Tree Stump Backfill: One test per 12-inch backfill lift (same as above).

7. Building demolition excavation backfill: One test per 12-inch backfill lift per 1,000 square feet.

F. Quality Assurance for Bituminous Pavement: the Pavement Consultant will perform QA of existing and installed material below the bituminous pavement. In order to perform that function, Contractor shall contact the Pavement Consultant 2 days prior to seperatly proof rolling the subgrade and subbase material, as well as keep the Pavement Consultant informed of the schedule of the installation of aggregates prior to paving. the Pavement Consultant will inform the Owner of deficient areas that have not been identified by Contractor as part of the Contractor’s quality control procedure. This inspection by the Pavement Consultant does not relieve Contractor of Contractor's responsibility to provide adequate quality control.

1.7 DESIGN AND PERFORMANCE REQUIREMENTS

A. Trench Bottom Suitability:

1. Contractor shall be responsible for the suitability of the normal trench bottom in supporting utility, bedding and backfill.

2. Contractor shall notify the Project Representative and await the Project Representative’s decision if a possible unsuitable condition exists.

3. NOTE: Poor dewatering techniques or lack of excess water control shall not be a reason for additional payment for remedial measures.

B. Trench Wall Stability:

1. Contractor shall be responsible for trench configuration, including sheeting, shoring and bracing necessary to support trench side walls from collapsing.

2. Contractor shall be responsible for structural design and stability of a pipe-laying box if utilized on the Project to prevent trench walls from collapsing.

C. Excavation Side Stability: Be responsible for structural design of sheet piling, underpinning, shoring and bracing to prevent sides of excavation from collapsing and causing damage to adjacent structures pavements and materials.

1.8 MATERIAL STORAGE

A. Stockpile satisfactory excavated materials in accordance with MDOT Standards where directed, until required for backfill or fill. Place grade, and shape stockpiles for proper drainage. Locate and retain soil materials away from edge of excavations. Do not store within drip line of trees indicated to remain. Place silt fence around stockpile, if left overnight.

1.9 WARRANTY

A. Failures of surface areas caused by settlement shall be repaired at Contractor's expense for a period of 3 years after completion of Contract.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Satisfactory Soil Materials: For backfill and fill, soils complying with ASTM D2487 soil classification groups GW, GP, GM, SM, SW, and SP. (Contractor shall note exceptions under Article 3.11 – Backfill and Fill.)

B. Unsatisfactory Soil Materials: For backfill and fill, soils complying with ASTM D2487 soil classification groups GC, SC, ML, MH, CL, CH, OL, OH, and PT.

C. Granular Materials: In accordance with MDOT Sections 301, 302 and 902 for 22A aggregate, Class I, II and Class II Subbase materials, except no foundry sand is permitted. Granular material shall contain sufficient binder to provide fill capable of supporting construction equipment without displacement.

1. Sections 2.11 and 8.02 for Class II Subbase and shall meet or exceed a minimum permeability requirement (K) of 8 feet per day as determined by the Michigan Test Method (MTM) 122.

2. Quality control shall include a lab test prior to delivery and field testing each 1000 cubic yard delivered or fraction thereafter. Each test shall include taking 3 samples, testing them individually and averaging the results.

3. The Michigan Test Method (MTM) shall be used to determine acceptable material. Once tested and accepted, Contractor shall acquire the material from the identical location.

4. Contractor shall notify the Project Representative in advance of changing the source location.

5. Field permeability test samples shall only be taken after the material has been spread uniformly on the subgrade and before compaction takes place. Material shall be less than 90% saturated upon completion of the test.
6. Material that fails the test shall be replaced at no cost to the Owner, and the cost for failed tests shall be paid by Contractor.

D. Sand:

1. Fill Sand: MDOT Class II granular material that is free of clay.
2. Washed Sand: MDOT 2NS.

E. Lean Concrete: Mixture of Portland cement, aggregate and water having compressive strength of 2,000 psi at 28 days.

F. Granular Surface Materials: In accordance with MDOT specifications.

1. Gravel Drives: 22A aggregate modified to minimum 6% wash.

2. Limestone Drives: 21AA limestone aggregate.

3. Construction Tracking Mat: 6A crushed limestone.

4. Pavement Subbase: If not specified on Drawings, place thicknesses and materials as follows:

a. For concrete pavement, use 2-inch Class II sand compacted in place (CIP).

b. For bituminous pavement in parking lots, use 6-inch Owner provided 21AA recycled concrete aggregate (CIP) over 6-inch Class II Subbase (CIP).

1) Provided to Contractor from Owner stockpile. Loaded by Owner. Contractor is responsible for hauling, spreading and compacting.

c. For bituminous pavement in roadways and loading docks with parking spaces, use 8-inch -21AA aggregate (CIP) over 12-inch Class II Subbase (CIP).

G. Topsoil
1. Topsoil (Owner-Provided & Placed)

2.2 UTILITY SLEEVING

A. Schedule 80 PVC under roads.

B. Schedule 40 PVC under walks.

C. End caps as required.

2.3 SMART BALL

A. Product 1428-XR/1D purple; manufactured by 3M Dynatel. Michigan Representative: Gregware Equipment, Grand Rapids, Michigan; 1-800-248-5678.

1. Provided by Owner

B. Quantity:

1. One smart ball on pipe lengths 0 to 12 feet; with end cap at other end.
2. For pipe lengths over 12 feet, place one smart ball at each end of the sleeve.

PART 3 - EXECUTION

3.1 SOIL EROSION AND SEDIMENTATION CONTROL

A. Prior to and during earthwork operations, refer to Division 01 Section “General Requirements - Temporary Facilities and Controls” to ensure that provisions of that section are fulfilled.

3.2 PREPARATION

A. Plan the Work to minimize the time excavation remains open. If excavation remains open beyond the time approved in the Project schedule, additional requirements may be imposed at no additional cost to the Owner.

B. Adequately barricade the excavation at all times to protect workers and the public from the danger of the open excavation.

3.3 EXCAVATION FOR STRUCTURES

A. Excavations shall extend a sufficient distance from footings and foundations to permit placement and removal of concrete formwork, installation of services, other construction, and inspection. Care shall be taken not to disturb bottom of excavation. Trim bottoms to required lines and grades to leave solid base to receive concrete.

B. Bracing and Sheeting:

1. Do not install by jetting.

2. Furnish, put in place and maintain sheeting, bracing and shoring, as may be required to properly support the sides of excavations and to prevent movement of earth which could in any way injure the Work or adjacent property.

3. Exercise care in removal of sheeting, shoring, bracing and timbering to prevent collapse or caving of excavation faces being supported and damage to the Work and adjacent property.

4. Do not leave sheeting or bracing in the excavation after completion of the Work, unless approved by the Project Representative.

C. Undercut:

1. If suitable bearing for foundations is not encountered at elevations indicated on the Drawings, immediately notify the Project Representative.

2. If soft material, which in the opinion of the independent testing laboratory is not suitable, is encountered below a structure, the Project Representative may order removal of this soft material and its replacement with specified material in order to make a suitable foundation for construction of the structure.

3. Undercutting made at the order of the Project Representative will be paid for on the basis of the actual quantity of material excavated. Do not proceed further until instructions are received and necessary measurements made for purposes of establishing additional volume of excavation.

4. No extra payment will be made if removal is required as a result of poor dewatering techniques.

5. Undercutting, which is specifically indicated on the Drawings or herein specified, shall be included in the base bid.

6. Soil removed may be used as fill in areas not below driving surfaces, structures or utility structures.

7. Compact subgrade at bottom of undercut prior to placing fill.

8. Place and compact specified fill in undercut.

9. Lateral extent of undercut shall be a horizontal distance equal to the depth of undercut below structure.

D. Excavating:

1. Excavation shall be by open cut from the surface except as herein specified or as indicated on the Drawings.

2. Excavations for structures shall be made in such manner and to such depth and width as will give ample room for building the structures and for bracing, sheeting and supporting the side of the excavation, for pumping and draining groundwater and wastewater which may be encountered, and for removal of material excavated.

3. Excavate to required cross section and elevation indicated on the Drawings. Subgrade shall not vary more than 0.1 feet above or below the established elevations.

4. Depression caused by excess excavation, traffic or rolling shall be filled with MDOT 902 Granular Material Class II or approved fill and rerolled and compacted in place as specified herein.

5. If required because of excess water conditions, place stone stabilization course prior to proceeding with construction. Place filter fabric over stone stabilization course.

3.4 EXCAVATION FOR PAVEMENT

A. Cut surface under pavements to comply with cross-sections, elevations and grades as indicated on Drawings.

3.5 EXCAVATION FOR UTILITIES

A. Width of Trenches:

1. Steam Tunnels: Widths at bottom of trench shall be 3 feet wider than the overall width of tunnel or vault, and shall at all times be of sufficient width to permit tunnel and vaults to be built properly, waterproofed and backfilled.

2. Pipelines: Widths of trenches for pipe lines shall allow for proper compaction of the haunching. The trench width at the spring line of the pipe for pipes less than 48 inches shall be pipe width plus 18 inches. The trench width for pipes larger than 48 inches shall be the pipe diameter plus 30 inches.

3. Electric and Telephone Ducts: Trench shall be the proper width and depth for the duct bank, allowing a minimum of 3 inches of concrete on each side of the duct formation.

4. Street Light Cable: Minimum trench width shall be 6 inches, maximum width shall be 12 inches, and minimum depth shall be 30 inches.

B. Length of Trenches: Excavation shall be finished to the required grade for an adequate distance in advance of the completed installation. Unless otherwise permitted by the Project Representative, the amount of trench that shall be open in advance of the construction shall not exceed the following limits:

1. Steam Tunnels: Length between 2 vaults, minimum.
2. Buried Steam Systems: Length between 2 vaults, minimum.
3. Sewers: 50 lf.
4. Water Mains: 50 lf.
5. Electric and Telephone Ducts: The amount that can be encased in concrete in a day.
6. Street Light Cable: The amount of cable that can be laid in a day.

3.6 REMOVAL OF EXCESS SUBSOIL

A. Excess subsoil shall be removed from the Owner’s property and legally disposed.

3.7 UTILITIES TO BE ABANDONED

A. When pipes, conduits, sewers or utility structures are removed from the trench, leaving dead ends in the ground, fully plug such ends with brick and mortar.

B. Entirely remove abandoned utility structures unless otherwise specified or indicated on Drawings.

C. Remove materials which can be readily salvaged from the excavation and store on site as indicated on the Drawings.

D. Salvageable materials will remain the property of the Owner unless otherwise indicated on the Drawings.

3.8 UTILITY SLEEVING

A. Place sleeve as located on the Drawings. Maintain structural integrity of pipe.

B. Place Smart ball at end of pipe and fabric. Attach with duct tape to end of pipe. See PART 2 - PRODUCTS for quantities.

C. Place PVC cap on end of pipe when only one Smart ball is required.

3.9 BEDDING

A. Place bedding material up to 1/8 the height of the utility. Compact as herein specified.

B. Accurately shape bedding material to fit pipe shape. Recess bedding to relieve pressure on the bell or other projecting utility joint.

C. After laying out the utility, tamp additional bedding in place up to the midpoint of the utility. Use hand-operated compactors to achieve required compaction.

D. Place additional bedding up to 12 inches above top of utility. Use hand-operated compactors to achieve required compaction.

E. Place bedding in maximum lifts of 12 inches.

F. No payment shall be made for aggregate or stone bedding when used for Contractor convenience.

G. Provide concrete encasement at utilities as indicated on the Drawings.

3.10 SHEETING, SHORING AND BRACING EXCAVATIONS

A. General:

1. Furnish, put in place and maintain sheeting, bracing and shoring as may be required to properly support side of excavations and to prevent movement of earth, which could in any way injure the Work or adjacent property.

2. Exercise care in the removal of sheeting, shoring, bracing and timbering to prevent collapse or caving of excavation faces being supported and damage to the Work or adjacent property.

3. A pipe-laying box may be used in lieu of sheeting.

B. Sheeting:

1. Do not install by jetting.

2. Remove as backfilling proceeds, unless ordered left in place by the Project Representative. Use care to fill and compact voids created by removal, especially below mid-height of utility.

3. Sheeting Left In Place:

a. Required written approval of the Project Representative.
b. Cut off minimum of 4 feet below finished grade.

3.11 BACKFILL AND FILL

A. General:

1. Commencement of Backfill Operations: Backfill excavations as promptly as work permits, but not until completion of the following:

a. Acceptance by Project Representative of construction below finish grade including where applicable, dampproofing, waterproofing and perimeter insulation.

b. Removal of trash and debris.

c. Permanent or temporary horizontal bracing is in place on horizontally supported wall.

d. Removal of concrete formwork.

e. Removal of shoring and bracing, and backfilling of voids with satisfactory materials. Cut off temporary sheet piling driven below bottom of structures and remove in manner to prevent settlement of the structure or utilities. Contractor shall leave shoring to be embedded in the backfill of the trench or other excavation, for the purpose of preventing injury to the completed structure or other adjacent structures or property. Ends of sheeting, bracing or timber left embedded in the backfill shall be cut off and removed at least 2 feet below the established grade.

2. Acceptable Backfill: Place specified soil material in layers to required subgrade elevations, up to, but not including subbase material, for each area classification listed below:

a. In excavations, use approved excavated or borrow material, except as otherwise specified.

b. Under grassed areas use satisfactory excavated materials, unsatisfactory excavated soil classification groups GC, SC, ML, and CL, or approved borrow material.

c. Under pavement use satisfactory excavated Class II and Class II subbase granular material. Soil classification groups GC, SC, ML and CL may be used with the approval of the Project Representative.

d. Under building slabs, use Class II granular material.

e. In utility trenches, use Class II granular material.

3. Required Concrete Within Backfill:

a. Backfill trenches with concrete where trench excavations pass within 18 inches of column or wall footings and are carried below bottom of such footings, or which pass under wall footings. Place concrete to level of bottom of adjacent footing.

b. For piping or conduit less than 2′-6″ inches below surface of roadways, provide 4-inch thick concrete base slab support. After installation and testing of piping or conduit, provide minimum 4-inch thick encasement (sides and top of concrete) prior to backfilling or placement of roadway subbase.

B. Ground Surface Preparation:

1. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow strip, or break-up sloped surfaces steeper than 1-foot vertical to 4 feet horizontal so that fill material will bond with existing surface.

2. Subsoil Preparation Prior to Topsoiling: This procedure is required to prevent permanent establishment of a dense layer of soil caused by construction operations, that would make it difficult for vigorous plant growth and proper drainage. In areas of the Project site that are compacted during construction, as determined by Project Representative, and after completion of exterior building construction operations, where vehicles/equipment would be required to travel across the soil around the structure or the constructed site improvements, or both, the existing subsoil, as well as the top 12 inches of newly placed subsoil, shall be loosened using the following procedures:

a. Prior to beginning this work, notify Project Representative at least 1 business day in advance. Also, re-stake existing and new utilities that may be disturbed by these earthwork operations.

b. The moisture content of existing and new soil shall be optimum for this earthwork operation. Each step shall be approved by the Project Representative, prior to continuing to the next step, and prior to satisfactory completion of the final step.

c. For areas where the existing subsoil grade is to remain and for areas which will receive additional soil:

1) STEP 1 – Loosening Existing Subsoil and Debris Removal: Existing subsoil shall be brought to a friable condition 12-inches deep, prior to placing additional subsoil fill. Possible equipment to use to loosen the soil include, but are not limited to, chisel plow, backhoe bucket, disc or harrow; followed by discing, if a disc is not initially used, to reduce the soil clump to the desired size. Contractor will submit a proposed method of loosening the subsoil to the Project Representative for approval at least 14 days prior to commencement of the work. The submittal shall include the method of equipment to be used. The soil shall be broken up sufficiently so that the resulting soil fragments are small. Also it is equally important to legally dispose of construction debris and rocks larger than 27 cubic inches exposed during this process.

2) STEP 2 – Placing of Additional Subsoil Fill- Transitional Layer Blending: Where additional fill is required, place the initial "transitional" layer and blend with the existing subsoil utilizing methods mentioned in Step 1.

3) STEP 3 –Subsoil Fill - Top Layer Loosening: Loosen top layer to a friable condition, blending in the first 1"-2" of topsoil. If no additional subsoil is required, delete Step 2.

4) STEP 4 – Final Grading and Protection: Grade the disturbed area to the elevations as specified, in preparation for topsoil placement. Do not otherwise recompact the subsoil. Once the subgrade is approved, construction equipment and vehicles unrelated to topsoiling and planting operations shall be prohibited. (Contractor may be required to provide temporary construction fencing to prevent recompaction of the subsoils. Costs for temporary fencing is a Contractor expense.)

d. For areas where existing subgrade is to be lowered:

1) STEP 1 – Existing Subsoil Excavation and Debris Removal: Excavate the subsoil, removing all excess material from the site to the proposed subgrade. Remove and legally dispose of construction debris exposed during this process.

2) STEP 2 – Subsoil Loosening: Existing subsoil shall be brought to a friable condition 12-inches deep. Possible equipment to use to loosen the soil include, but are not limited to, chisel plow, backhoe bucket, disc or harrow; followed by discing, if a disc is not initially used, to reduce the soil clump to the desired size. The resulting soil shall be broken up sufficiently so that the resulting soil fragments are small.

3) STEP 3 – Final Grading and Protection: Grade the disturbed area, as specified, in preparation for topsoil placement. Do not otherwise recompact the subsoil. Once the subgrade is approved, construction equipment and vehicles, unrelated to topsoiling and planting operations, shall be prohibited. (Contractor may be required to provide temporary construction fencing to prevent recompaction of the subsoils. Costs for temporary fencing is a Contractor expense.)

3. Subsoil Preparation for Paved Areas:

a. If, after rough grade has been achieved in cut areas and prior to placement of fill material in fill areas, the exposed subgrade has a density less than that specified under Article 3.12 – Compaction for particular area classification, break-up ground surface, pulverize, moisture condition to optimum moisture content, and compact to required depth and percentage of maximum density. Entire area shall be proof rolled with a heavy rubber-tired vehicle, such as a loaded scraper or loaded dump truck, to locate areas of extreme pumping and yielding, which shall be repaired as follows:

1) Soft areas due to moisture laden soil shall be corrected by applying an appropriate soil stabilization procedure to be specified, or as directed by Project Representative.

2) If required density cannot be obtained, the objectionable material shall be removed and replaced as ordered by the Project Representative.

3) The cost of corrective measures incurred as a result of stabilizing poor subgrade conditions shall be paid on basis of contract conditions relative to changes in work.

C. Placement and Compaction:

1. No backfill shall be placed without it being compacted in place. Backfill material shall be compacted in layers not exceeding 6 inches in compacted thickness.

a. Granular, non-cohesive soils shall be compacted with mechanical tamping or vibration-type compactors. Sand may be compacted by flooding the trench when water is available.

b. When clays are encountered, a mechanical tamper or sheeps-foot roller shall be used to compact the soil. Manual mechanical tamping equipment shall have a rammer which weighs not less than 20 pounds and has surface area of not more than 36 square inches. Hand compaction is not acceptable.

2. Before compaction, moisten or aerate each layer as necessary to provide the optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen or contain frost or ice.

3. Place backfill and fill materials evenly adjacent to structures, to required elevations. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around structure to approximately same elevation in each lift.

4. Existing Utilities: Where existing utilities are required to be tunneled under, the area under the utility shall be filled with compacted sand, and have the pipe embedment reconstructed as for new piping.

5. Pipe Embedment: New piping shall be laid on a sand leveling bed compacted to maximum thickness of 6 inches. Dig holes in bedding for bells and fittings so pipe bears uniformly along its length. Hand compact the haunching under the spring line of the pipe. Take extra care to control the density of the haunching on plastic pipe in accordance with the manufacturer's instructions.

3.12 COMPACTION

A. General: Control soil compaction during construction providing minimum percentage of density specified for each area classification. Perform all required tests.

B. Moisture Control:

1. Where soil material must be moisture conditioned before compaction, uniformly apply water to surface of subbase, or layer of soil material, to prevent free water appearing on surface during or subsequent to compaction operations.

2. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.

3. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing until moisture content is reduced to a satisfactory value.

C. Required Densities:

1. Structures, Building Slabs and Steps: Compact top 18 inches of subgrade and each layer of backfill or fill material to 95% of maximum density or greater.

2. Pavements: Compact disturbed soil to remain and subbase material to 95% maximum density or greater.

3. Lawn or Unpaved Areas: 80-85% maximum density, Refer to Article 3.11.B.

4. Trench Backfill: Compact layers 6 inches or less to 95% maximum density or greater.

5. Walkways: Compact top 6 inches of subgrade and each layer of backfill or fill material to 95% maximum density or greater.

6. Fill Under Existing Utilities: Compact top 6 inches of subgrade and each layer of backfill to 95% maximum density or greater.

7. Sand Pipe Bedding: Compact top 6 inches of subgrade and 6-inch layer of sand to 95% maximum density or greater.

3.13 FINISH GRADING

A. Finish surfaces free from irregular surface changes, and as follows:

1. Lawn or Unpaved Areas: Finish topsoil to within not more than 0.10 feet above or below specified finish grade as measured after settlement and/or specified compaction is attained

2. Pavements: Shape surface of areas under pavement to line, grade and cross section, with finish surface not more than ¾ of an inch above or below required subgrade elevation.

3. Grading Surface of Fill Under Building Slabs: Grade smooth and even, free of voids, compacted as specified, and to required elevation. Provide final grades within tolerance of 2 inches when tested with a 10 foot straightedge.

B. After grading, compact subgrade surfaces to the depth and indicated percentage of maximum or relative density for each area classification.

C. Proof Roll: Contractor shall arrange with the Pavement Consultant to approve subgrade as indicated in Articles 3.11 and 3.12.

3.14 PAVEMENT SUBBASE COURSE

A. Grade Control: During construction, maintain lines and grades including crown/cross-slope of subbase course.

B. Placing: Place subbase course material on prepared subgrade in layers of uniform thickness of 6 inches or less, conforming to indicated cross section and thickness. Maintain optimum moisture content for compacting subbase material during placement operations.

C. Class II subbase shall be spread and compacted identical to regular Class II material.

D. Proof-roll before placing the bituminous pavement.

3.15 GRANULAR SURFACE COURSE

A. Grade Control: During construction, maintain lines and grades including cross-slope of subbase course.

B. Placing: Place granular course material (22A gravel for parking areas and 21AA for roadways and loading docks) on prepared subbase in a layer of uniform thickness, as indicated on the Drawings for cross section and thickness.

3.16 BUILDING SLAB SUBBASE

A. Place subbase material on prepared subgrade in layers of uniform thickness, conforming to indicated cross-section and thickness. Maintain optimum moisture content for compacting material during placement operations.

B. Compact subbase in maximum 6-inch lifts.

3.17 TOPSOIL OPERATIONS (SUBSOIL SURFACE PREPARATION, HAULING, SPREADING, ROUGH GRADING AND CLEAN-UP)

A. Project Representative shall approve rough grade elevations of existing subsoil prior to commencement of subsoil loosening operations.

B. Once loosening of subsoil has been completed, the Project Representative shall approve prior to topsoiling.

C. Topsoiling operation shall be complete before October 31, unless approved by the Project Representative.

D. Topsoil shall be placed by an approved topsoil installation contractor.

E. Contractor shall submit a proposed method for placement of topsoil to the Project Representative for approval at least 14 days prior to commencement of the Work. The submittal shall include equipment to be used.
Owner will identify topsoil stockpile for use. The contractor will be responsible for hauling and spreading the topsoil. Stockpile storage site is open from 6 a.m. to 4:30 p.m., unless other times are arranged with Project Representative and MSU Landscape Services Department.

F. Topsoil shall be placed in quantities appropriate to result in 6 inches of depth when compacted to 80-85% maximum density, spread to minimize uneven compaction, and placed as follows:

1. Place 6 inches of screened topsoil over loosened subgrade blending first 1”-2” into the subgrade. Obtain approval of subgrade from Project Representative prior to placement of topsoil (review Article 3.11 B Ground Surface Preparation for requirements and procedures).

G. Place silt fence at locations designated on the Contract Documents and locations specified by the Project Representative prior to topsoil placement. Silt fence shall become property of Owner and removed by Owner.

H. Notify the Project Representative when topsoiling is complete for final inspection, approval and Owner seeding of site.

3.18 INSPECTION

A. Contractor shall notify the Project Representative when the excavation is complete. A visual subgrade inspection shall be performed prior to placing reinforcing steel, concrete, pipe beddings, etc. If satisfactory soil conditions are not found at the depths indicated, immediately notify the Project Representative in writing before proceeding further. Should Contractor fail to notify the Project Representative, all settlement and damage caused by new work resting on soft or unsound earth shall be made good at the sole expense of the Contractor.

3.19 PROTECTION

A. Protect newly graded areas from traffic and erosion. Keep free of trash, debris and plant material, including weeds and grass.

B. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances. Where settling is measurable or observable at excavated areas during Project warranty period, remove pavement, lawn or other finish, add backfill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

C. Where completed compacted areas are disturbed beyond specified tolerances by subsequent construction operations or adverse weather, scarify, reshape, and restore surface to match surface of originally installed work. Eliminate evidence of the repair to the greatest extent possible.

D. Continue to properly maintain soil erosion and sedimentation control measures. Perform and document required site inspections until the Owner has officially accepted the Project site.

3.20 CLEAN-UP

A. Refer to Division 01 Section “General Requirements - Temporary Facilities and Controls.”

B. The Contractor shall perform daily maintenance and cleanup of construction materials and debris tracked on and off site. Materials and debris that accumulate and are not removed or maintained after a 24-hour notification of a violation by the Owner, will be separately contracted by the Owner and all associated costs will be charged to the Contractor.

END OF SECTION 312300

SECTION 312319 – DEWATERING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.2 SUMMARY

A. Provide all labor, materials and equipment as necessary to complete all work as indicated on the Drawings and specified herein.

B. This section includes dewatering.

C. Related section includes Division 01 Section "General Requirements - Temporary Facilities and Controls."

PART 2 - PRODUCTS

2.1 DEWATERING BAG

A. Dirtbag brand dewatering bag manufactured by ACF Environmental, 800-644-9223, www.acfenvironmental.com; or equal.

PART 3 - EXECUTION

3.1 DEWATERING

A. Contractor shall remove by pumping, bailing, or other acceptable methods, water which accumulates in trenches and other excavations made under this Contract, and shall take necessary precautions to keep the trenches and other excavations entirely clear of water.

B. During freezing conditions, water discharge onto paved areas shall only occur if approved provisions are taken to protect public safety.

C. Soil Erosion and Sedimentation Control: Water pumped from excavations, low areas or other site situations shall meet soil erosion and sedimentation control requirements and restrictions. Refer to Division 01 Section "General Requirements - Temporary Facilities and Controls" for specific information.

3.2 WATER DISPOSAL

A. Pumped storm water shall pass through an approved pumped sediment removal system, prior to water leaving the construction site. Sediment removal system shall meet or exceed SESC requirements. At all times, the system shall be cleaned and replaced, if necessary, to maintain its maximum efficiency.

B. Water shall not be pumped into sanitary sewers.

C. Where existing storm sewers are encountered in the construction of the Work, Contractor shall make adequate provision for diverting the flow of the existing storm sewers, so as to keep the Work entirely dry during construction.

D. At all times, Contractor shall have sufficient pumping equipment and sediment filter equipment ready for immediate use to carry out the intent of this section.

END OF SECTION 312319

SECTION 312323 - FLOWABLE FILL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the furnishing and installation of flowable fill in abandoned piping.

B. Related Sections include the following:

1. Division 2 Section “Site Demolition”.
2. Division 2 Section “Site Clearing”.
3. Division 2 Section “Earthwork”.

1.3 REFERENCES

A. Except as herein specified or as indicated on the Drawings, the work of this Section shall comply with the following:

1. ASTM Standards, Specifications, Methods, Test Methods and Classifications:
   a. C33 - Specification for Concrete Aggregates.
   b. C39 - Test Method for Compressive Strength of Cylindrical Concrete Specimens.
   c. C94 - Specification for Ready-Mixed Concrete.
   d. C136 - Sieve Analysis of Fine and Coarse Aggregates.
   e. C150 - Specification for Portland Cement.
   f. C260 - Specification for Air-Entraining Admixtures for Concrete.
   g. C618 - Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete.
2. ACI - American Concrete Institute:
   a. 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete.
   b. 304R - Guide for Measuring, Mixing, Transporting and Placing Concrete.
   c. 304.2R - Placing Concrete by Pumping Methods.
   d. 305R - Hot Weather Concreting.
   e. 306R - Cold Weather Concreting.
3. MDOT:
   a. 2012 Standard Specifications for Construction.
   b. Standard Plans.

1.4 DESIGN AND PERFORMANCE REQUIREMENTS

A. Formwork: The design and construction of all formwork shall be the responsibility of Contractor.

B. Mix Proportions: Select flowable fill proportions according to the procedures specified herein to achieve the specified performance requirements.

1.5 SUBMITTALS

A. Design Data:

1. Submit flowable fill mix design.
2. Required Information:
   a. Dry weights of cement.
   b. Saturated surface-dried weights of fine aggregate.
   c. Quantities, type and name of all mix design contents.
   d. Weight of water.

1.6 QUALITY ASSURANCE

A. Installation Personnel Qualifications:

1. Trained and experienced in the installation of the materials.
2. Knowledgeable of the design and the reviewed mix designs.

B. Flowable Fill Supplier Qualifications:

1. Ready-mix concrete producer.
2. Experienced in design and control of flowable fill.

C. Testing of Flowable Fill: Not required.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cement:

1. Portland cement, ASTM C150, Type I.
2. Do not use different types or manufacturers of cement interchangeably without Engineer's approval.

B. Fly Ash: ASTM C618, Type C or F.

C. Aggregates:

1. Grade aggregates according to procedures of ASTM C136.
2. Fine aggregate: ASTM C33 or MDOT 902 Fine Aggregate 2NS.

D. Water: Clean, fresh, and potable.

E. Admixtures:

1. Chlorides:
   a. No admixture shall contain more than 0.1% water soluble chloride ions by mass of cementitious material.
   b. No admixture shall contain calcium chloride.
2. Air-Entraining: Daravair series or Darex series, by W.R. Grace & Company; Micro Air, by Master Builders; or equal.
3. Stable Air Generator: Darafill, by W.R. Grace & Company; Flow-Air, by Axim Concrete Technologies; or equal.

2.2 MIXES

A. Mix Design Performance Requirements:

1. Flowable fill which may be hand excavated in the future.
2. Compressive Strength Range f'c: 40 to 75 psi at 28 days.
3. Slump: 8 to 10 inches, minimum.
4. Air Content: 15% to 35% utilizing stable air generator.

2.3 SOURCE QUALITY CONTROL

A. Production and Delivery:

1. Batch, mix and transport flowable fill in accordance with ASTM C94.
2. Furnish a delivery ticket with each batch of flowable fill before unloading at the Site, on which is printed, stamped or written the following information:
   a. Name of ready-mix batch plant.
   b. Serial number of ticket.
   c. Date and truck number.
   d. Name of Contractor.
   e. Job name and location.
   f. Specific class or designation of flowable fill.
   g. Amount of flowable fill (cubic yards).
   h. Time loaded or of first mixing of cement and aggregates.
   i. Type, name and amount of admixture.
   j. Type, brand and amount of cement and fly ash.
   k. Total water content by producer (or water-cementitious ratio).
   l. Maximum size of aggregate.
   m. Weight of fine aggregate.
3. Flowable fill delivered in an outdoor temperature lower than 40 degrees F shall arrive at the Site of the Work having a temperature of not less than 50 degrees F and not greater than 90 degrees F unless otherwise specified or permitted by Engineer's representative.
4. Complete the discharge of the flowable fill within 2-1/2 hours after introduction of mixing water to the cement or 2 hours after arriving at the Site, whichever is sooner.

PART 3 - EXECUTION

3.1 PREPARATION

A. Preplacement Inspection:

1. Before placing flowable fill, inspect and complete the formwork installation.
2. Notify other trades to permit the installation of their work; cooperate with other trades in setting such work, as required.

B. Components:

1. Seal pipes, manholes and similar components not intended to be filled.
2. Restrain from floatation.

3.2 PLACEMENT

A. General:

1. Ensure flowable fill fills all cavities required to be filled.
2. Avoid dislocation of components.
3. Place in lifts if required to prevent floatation or to limit fluid pressures on formwork, walls, flexible wall pipe, or similar conditions.
4. Wait 24 hours, minimum, between the start of subsequent placement lifts.

B. Handling:

1. Handle flowable fill from mixer to place of final deposit in chutes, carts, buggies, conveyors, pumps or crane buckets.
2. Do not deliver flowable fill by a method with a free fall of more than 3 feet.
3. Take every possible precaution to prevent separation or loss of ingredients while transporting flowable fill.

C. Rate: Carry on placement at such a rate that flowable fill surfaces not yet to grade or lift shall not have reached their initial set before additional flowable fill is placed.

D. Retempering: Do not add water to the flowable fill once it has left the ready-mix plant.

E. Cold-Weather Operations:

1. Comply with the recommendations of ACI 306R.
2. Recommended Protective Measures:
   a. Heating materials.
   b. Providing insulating blankets and windbreaks.
   c. Use heated enclosures.
3. Do not use frozen materials or materials containing ice or snow.
4. Do not place on frozen subgrade.

F. Hot-Weather Operations:

1. Comply with the recommendations of ACI 305R.
2. Recommended Protective Measures:
   a. Cooling materials.
   b. Placement during cooler hours of the day.
   c. Providing shading and windbreaks.

3.3 PROTECTION

A. Cold Weather:

1. Keep all freshly placed flowable fill from damage due to low temperatures when the mean daily temperature is below 40 degrees F (4.5 degrees C) in accordance with ACI 306R.
2. Protect flowable fill from freezing until hardened, 36 hours minimum.

B. Loading: Protect flowable fill from construction, traffic or other loads until sufficient strength has been reached.

END OF SECTION 02228

SECTION 314100 – SHORING AND UNDERPINNING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.2 SUMMARY

A. Provide all labor, materials and equipment as necessary to complete all work as indicated on the Drawings and specified herein.

B. This section includes shoring and underpinning of utilities, structures and property.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Materials utilized shall be as selected by Contractor.

PART 3 - EXECUTION

3.1 SHORING AND UNDERPINNING

A. Contractor shall design, furnish, install, and maintain sheeting, bracing, and shoring required to properly support the sides of excavation and to prevent movement of earth which could in any way damage the work under construction, existing utilities and structures, and adjacent property.

B. If the Project Representative is of the opinion that sufficient or proper supports have not been provided at any point, additional supports may be ordered, at the expense of the Contractor. Neither the placing of such additional supports by the order of the Project Representative nor the failure of the Project Representative to order such additional supports placed shall release the Contractor from the responsibility of the adequacy of such supports and the integrity of the Work.

C. In the removing of sheeting and bracing, special care shall be taken to prevent caving of the sides of the excavation and damage to the completed work or adjacent property.

END OF SECTION 314100

SECTION 314116 – STEEL SHEET PILING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.2 SUMMARY

A. Provide all labor, materials and equipment as necessary to complete all work as indicated on the Drawings and specified herein.

B. This section includes sheet piling for the temporary protection of utilities, structures and property during construction.

1.3 DESIGN AND PERFORMANCE REQUIREMENTS

A. Perform the structural design of the steel sheet piling and provide the material and labor as determined by the structural design, but no less than the minimum requirements specified herein.

B. Owner may order additional bracing, strength, or depth for adequacy of the sheet piping. These additions shall not be the cause for claim for additional cost to the contract. Neither shall they relieve Contractor of their responsibility for the sufficiency of the strength of the system.

1.4 SUBMITTALS

A. Shop Drawings:

1. Sheet piling and bracing type.
2. Material strength.
3. Bracing system.
4. Location and depth.

B. Submit structural calculations for review upon request. Review shall not relieve Contractor of design responsibility.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Supply all necessary steel sheet piling, waters, braces, connections, and equipment as necessary to construct the sheet piling work.

PART 3 - EXECUTION

3.1 SHORING AND UNDERPINNING

A. Contractor shall design, furnish, install, and maintain sheeting, bracing, and shoring required to properly support the sides of excavation and to prevent movement of earth which could in any way damage the work under construction, existing utilities and structures, and adjacent property.

B. If the Project Representative is of the opinion that sufficient or proper supports have not been provided at any point, additional supports may be ordered, at the expense of the Contractor. Neither the placing of such additional supports by the order of the Project Representative nor the failure of the Project Representative to order such additional supports placed shall release the Contractor from the responsibility of the adequacy of such supports and the integrity of the Work.

C. In the removing of sheeting and bracing, special care shall be taken to prevent caving of the sides of the excavation and damage to the completed work or adjacent property.

D. Removal of sheet piling shall not damage waterproofing applied to the exterior of concrete walls.

E. Should Contractor choose to allow the sheet piling to remain in place, no additional price shall be added to the Contract.

END OF SECTION 314116

SECTION 321216 – BITUMINOUS PAVEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.2 SUMMARY

A. Provide all labor, materials, and equipment as necessary to complete all work as indicated on the Drawings and specified herein.

B. This section includes bituminous pavement.

C. Work Excluded: This section does not apply to bituminous pavement patching.

D. Related sections include the following:

1. Division 02 Section 024113-SITE DEMOLITION
2. Division 31 Section 312300-EARTHWORK
3. Division 32 Section 321723-PAVEMENT MARKING

E. Quality assurance

1. Removal:

a. If the pavement density for a sublot (average of sublot cores) is less than 92.0 percent, the Contractor shall remove and replace the sublot.

b. The Engineer reserves the right to evaluate a sublot whose test results for asphalt binder content, Gmm, VMA, or air voids, exceed the single test tolerances indicated in Table 1 – Bituminous Quality Assurance Testing Tolerances (+ or -) from JMF, included at the end of this section. If the Engineer determines that the in-place mixture will not perform in accordance with normal standards, the Contractor shall remove and replace the sublot.

c. General: The cost of the mixture removed and the removal cost shall be borne by the Contractor. Removal decisions will be applied to individual sublots.

1.3 REFERENCES

A. Except as herein specified or as indicated on the Drawings, the Work of this section shall comply with the following:

1. ASTM:

a. C 117 – Test Method for Materials Finer Than 75µ-m (no. 200) Sieve in Mineral Aggregates by Washing.

b. C 136 – Test Method for Sieve Analysis of Fine and Coarse Aggregates.

c. D 1559-89 – Test Method for Resistance to Plastic Flow of Bituminous Mixtures using Marshall Apparatus (section 4.5).

d. D 2041 – Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures.

e. D 2172 – Test Methods for Quantitative Extraction of Bitumen from Bituminous Paving Mixtures.

f. D 2726 – Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Saturated Surface-Dry Specimens.

g. E 29 – Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications. All equipment requirements to perform these sampling and testing procedures shall apply.

2. MTM (Michigan Test Method):

a. 110 – Determining Deleterious and Objectionable Particles in Aggregates.

b. 117 – Determining Percentage of Crushed Particles in Aggregates.

c. 118 – Measuring Fine Aggregate Angularity.

d. 311 – Determining Aggregate Gradation for Bituminous Mixture.

e. 313 – Sampling Bituminous Mixtures.

f. 319 – Determination of Asphalt Content from Asphalt Paving Mixtures by the Ignition Method.

1.4 DEFINITIONS

A. Quality Control (QC): Activities that have to do with the Contractor producing a quality product as specified; including training, materials sampling and testing, project oversight and documentation.

B. Quality Assurance (QA): Activities that have to do with the Owner ensuring a quality product, as specified; including materials sampling and testing, construction inspection, and review of Contractor quality control documentation. To perform this service, the Contractor shall notify the Engineer 2 days (see definition below) in advance so that QA activities can be properly performed.

C. Bituminous Mix Design: The selection and proportioning of aggregate(s), mineral filler (if required), reclaimed asphalt pavement (RAP) and asphalt binder such that the specified mixture design criteria are met. Laboratory evaluation is required to determine if the stated mix design complies with specifications.

D. Job Mix Formula (JMF): A bituminous mixture for a specific project. This may include adjustments to the mix design to optimize the field application.

E. Target Value: A JMF parameter value that may be adjusted, if approved by the Engineer, to account for changes in the physical properties of the mixture.

F. JMF Adjustment: The Contractor may propose an adjustment to the JMF based upon QC or QA test results; or both. The proposed JMF shall meet the requirements of MDOT 2012 Standard Specifications for Construction. When approved by the Engineer, a JMF adjustment may be applied retroactively to 1 lot, for parameters with target values. The Engineer may also require the Contractor to make adjustments to the mixture to assure that the parameters of the mix design are being met.

G. Voids in Mineral Aggregate (VMA): The volume of void space between the aggregate particles of a compacted paving mixture that includes the air voids and the asphalt binder, including the absorbed asphalt binder, expressed as a percent of the total volume of mixture.

H. Effective Specific Gravity (Gse): The ratio of the oven dry weight in air of a unit volume of an aggregate (excluding voids permeable to asphalt) at a stated temperature to the weight of an equal volume of water at a stated temperature.

I. Bulk Specific Gravity of Aggregate (Gsb): The ratio of the oven dry weight in air of a unit volume of an aggregate at a stated temperature to the weight of an equal volume of water at a stated temperature.

J. Maximum Specific Gravity of Mixture (Gmm): The ratio of the weight in air of a unit volume of an uncompacted bituminous paving mixture at a stated temperature to the weight of an equal volume of water at the same temperature.

K. Lot: Bituminous mixtures produced and placed under this specification will be evaluated on a lot-by-lot basis. A lot is made up of a discrete tonnage of 1 mixture. Each lot consists of up to 3 sublots. These sublots shall be of approximately equal size up to a maximum of 2,000 tons. The sublot size shall be approved by the Engineer prior to the start of production. The Contractor may request a change in the sublot size during production based upon the Contractor's ability to produce a mixture that meets the specification contained within the Contract Documents, and upon approval of the Engineer. If only 1 or 2 sublots are included in a lot at the end of production, they shall be combined with the previous lot using the same mix, and this combined lot shall be evaluated based upon all sublot samples.

L. Lot Average Test Result: The average of all sublot QA test results, for a specific parameter, for the lot. Test results for a sublot removed from the project shall not be used in calculating a lot average. However, the replacement material shall be tested and the results included in the lot average.

M. Process Quality Control Targets: Targets established by the Contractor based upon initial production lot test results (and from an approved trial run) for air voids, VMA, asphalt binder content and Gmm. QC tolerances shall be applied to these established targets to determine the need for production changes, including stopping production, to control the quality of the product. Process quality control targets shall be reported to the Engineer prior to the end of placement of the second lot.

N. Rounding of Numbers: Rounding of numerical data shall follow ASTM E 29-93a, as described in MDOT Bituminous QC/QA Procedures Manual of Field Testing.

O. Random Sampling: Selection of QA samples (bituminous mixture and density) and verification samples may be by a random process managed by the Engineer. The Engineer may use a random number generating calculator to determine the locations of each density core and mixture sample. The Contractor will be given the opportunity to observe the sampling process. However, the random numbers selected and the sampling locations will not be revealed to the Contractor until the time of sampling in order to avoid bias in the random sampling process.

P. Project Representative: An individual appointed by the Owner, Board of Trustees, Michigan State University.

Q. Engineer: Third party testing and inspection agency.

R. MDOT Specification: Michigan Department of Transportation 2012 Standard Specifications for Construction.

S. RAP: Recycled Asphalt Pavement.

1.5 SUBMITTALS

A. Submit a 4-point mix design, including regression chart, to the Owner for review and approval. Mix design shall follow the format as indicated in the Asphalt Institute Manual MS-2 Marshall Stability Method. It is the intent of this specification for the Contractor to produce mixtures at the parameters indicated in Table 3 – Mixture Type and Table 4 – Gradations (Percent Passing), both included at the end of this section.

B. If the Engineer believes the Contractor is producing mixture at the high or low end of any of these specification limits, the Engineer shall have the authority to make changes necessary to bring the mixture back to the specified parameters.

1.6 QUALITY CONTROL

A. Sampling and Testing:

1. Follow the sampling and testing procedures listed in Article 1.2 - References in completing this work.

B. The Contractor shall take random samples of loose mixture at a sampling frequency agreed upon with the Engineer. The Contractor shall provide the Engineer a split Sample of QC Samples. This Sample may be taken anywhere in the production process, except behind the paver. The Contractor shall be responsible for establishing process quality control targets for air voids, asphalt binder content, aggregate gradation, Gmm, obtaining QC Samples, and conducting QC testing in accordance with the Contractor's quality control plan (QCP).

C. Each QC Sample shall be identified to allow test reports to be linked to a specific lot or sublot within the Project.

D. The Contractor shall maintain daily control charts and have them available for review at Infrastructure Planning and Facilities at all times. Copies of these control charts shall be provided to the Engineer, if requested. Test results shall be plotted and used in quality control decisions. When corrective action is necessary, the Contractor shall notify the Engineer in writing of the specific action taken, if it required a JMF adjustment.

E. The Contractor shall have available a density gauge for quality control testing during the compaction process and an apparatus for determining the temperature of the hot mix asphalt. The Contractor shall also have the capability to take 6-inch cores from random locations throughout the paved area for acceptance testing. The Contractor may take up to 3 informational cores from each mixture type, to help correlate the density gauge. The average in-place density shall be not less than 95 percent of the theoretical maximum density.

1.7 QUALITY ASSURANCE

A. The Engineer may collect bituminous mixture quality assurance Samples and provide the Contractor with splits of these Samples. If the criteria for the verification procedure are satisfied, the Contractor's test results may be incorporated into the acceptance and payment decisions for the mixture. During the course of production, the Engineer may acquire random Samples at any point in the production process. These Samples may be tested to determine if the mixture, the aggregate and the binder meet the specification requirements contained in the Contract Documents. As the Samples are collected, the Engineer will assign an alphanumeric identifier to the sample and split, which can be used to trace the test results to the lot and sublot. This alphanumeric identifier must be included on Engineer test reports associated with that Sample. An example is 4-2-A, which would designate the Engineer's split (A) of the Sample from sublot 2 of lot 4 on a Project.

B. A minimum 16,000 gram Sample may be taken. The Sample will be divided equally for Contractor and Engineer testing. The following tests may be conducted by the Engineer on the QA Sample splits.

1. Maximum Specific Gravity, Gmm (ASTM D 2041).

2. Bulk Compacted Density (ASTM D 1559, paragraph 4.5).

3. Air Voids (calculated).

4. Voids in Mineral Aggregate, VMA (calculated).

5. Composition of the Mixture: Asphalt binder content based on calculated value using sublot maximum specific gravity (Gmm) and current JMF effective specific gravity (Gse). The retained Gmm sample may be used for gradation (ASTM C 117 and C 136) and crushed particle content (MTM 117) from extracted (ASTM D 2172) or incinerated (MTM 319) aggregate, or from MTM 311.

C. In-Place Density: The Engineer may identify random core sample locations for each sublot based on longitudinal and transverse measurements. The Engineer will mark each core location with a paint dot, which represents the center of the core. The Contractor shall drill a 6-inch core sample at each core location. The Contractor shall notify the Engineer sufficiently in advance of coring to ensure that a representative can be present to witness the coring. The core Samples shall be taken after final rolling.

1. As an option, when mutually agreed to by the Engineer and Contractor, the core Samples may be waived and the density gauge will be used for acceptance testing.

2. Core Samples shall not be damaged during removal from the roadway. If, for any reason, a core is damaged or determined not to be representative at the time of coring, the Engineer will evaluate and document the problem and determine whether re-coring is necessary.

3. All previous pavement, base aggregate or bond coat material shall be sawed off the bottom of the core Samples before the core density is calculated.

4. The core holes shall be filled with hot mixture and thoroughly compacted as part of the coring operation. The method of filling holes and obtaining compaction shall be agreed upon prior to production. Pavement density acceptance testing will be completed within 1 work day after the cores were taken. Testing will be in accordance with ASTM D 2726. The test results on the compacted bituminous mixture may be used as a basis of acceptance and payment.

D. Verification of Quality Control Test:

1. The Engineer will review the Contractor's sampling and testing procedures, test results and Engineer QA test results. If, in the opinion of the Engineer, sampling and testing procedures are proper, the Contractor's quality control test data may be used for acceptance decisions.

2. The Contractor's QC test results may be considered verified if the following criteria are satisfied:

   a. The difference between the Contractor's QC test results and the JMF fall within the single test tolerance indicated in Table 1 – Bituminous Quality Assurance Testing Tolerances (+ or -) from JMF, included at the end of this section, **or**

   b. The difference between the Engineer's test results and the Contractor's test results fall within the single test tolerance indicated in Table 1 – Bituminous Quality Assurance Testing Tolerances (+ or -) from JMF, included at the end of this section.

3. If the difference between the Contractor's QC test results, compared to the JMF, exceed the single test tolerances indicated in Table 1 – Bituminous Quality Assurance Testing

Tolerances (+ or -) from JMF, included at the end of this section, the Engineer's test results will be used as the acceptance test. If the sublot is not verified, the Contractor shall be notified and given a copy of the test results. Both the Contractor and the Engineer will verify that testing equipment is calibrated and operating properly, and correct testing procedures have been followed. Unless it is documented that the difference resulted from equipment or procedural problems, the Engineer's test results will remain as the acceptance test of record.

E. Project Documentation:

1. The format of test reports and QC charts to be submitted by the Contractor shall be approved by the Engineer before mixture production is allowed to commence. Suggested formats of reports and charts are available from the Engineer. Project documentation to be provided by the Contractor shall include, but may not be limited to, the following:

   a. Lot Basis:

      1) A complete report of QA tests shall be submitted to the Engineer within 24 hours of the time the last tests were completed.

      2) Control charts of test data must be current (data should be plotted as soon as the test is complete) and available for review by the Engineer.

   b. Project Summation:

      1) Control charts for test data indicating individual test values, lot averages and the running average of 5.

      2) A tabulation of test data including sublot data, lot averages, Project average, Project standard deviation and a projection of which lots are subject to a price adjustment.

2. Provide documentation to confirm that the material used on the Project meets or exceeds minimum specified requirements in accordance with MDOT 2012 specifications.

3. The Contractor shall provide a letter to the Owner certifying that materials approved in the mix design were, in fact, used in the production of the mixture installed on this Project.

1.8 DELIVERY, STORAGE AND HANDLING

A. Provide to the Engineer the asphalt delivery tickets showing asphalt cement grade, date of delivery, and quantity delivered.

1.9 PROJECT CONDITIONS

A. Weather and seasonal limitations shall not exceed those specified in MDOT 2012
B. MSU will reject loads with a temperature either below 250 deg F or greater than +/- 20 deg F from the recommended maximum mixing temperature selected by the binder producer at the time of discharge from behind the screed.

1.10 WARRANTY

A. Furnish and sign 5 year written warranty (last page of this section) which shall cover the following conditions:

1. Cracking: A crack caused by improper joints in the pavement, either a construction joint, a butt joint, or cracking caused by expansion or contraction of the pavement, or by any settlement of the pavement.

2. Delamination: An instance where the surface course de-bonds from the underlying layer of asphalt pavement, causing slippage or complete separation.

3. Raveling: An area where the aggregate or matrix becomes loose, or separates from the asphalt pavement. This condition will generally be caused by poor density or segregation.

B. Remedies for the conditions described above shall be as follows:

1. Cracking: Cracks over 3-inch length or wider than 1/8-inch, or both, shall be corrected by routing/sawing and sealing or overband sealing, as directed by the Engineer, with a sealer approved by the Engineer.

2. Delamination: Areas that exhibit delamination shall be repaired by removing the surface course and cleaning the leveling course, installing a bond coat, and furnishing and installing a new surface course of a like hot mix asphalt.

3. Raveling: Areas that exhibit raveling, or a loss of aggregate or matrix, shall be repaired by removing the distressed area, cleaning the leveling course, applying a bond coat, and furnishing and installing a new surface course of a like hot mix asphalt.

C. At least once a year, for the duration of the warranty period, Project Representative will inspect the pavement to determine if warranty work is necessary. If deficiencies are found, the Project Representative shall notify the Contractor in writing as to the extent of the repairs needed. The Contractor shall perform the repairs within 30 calendar days or other period as approved by the Project Representative. Should the Contractor not perform the required repairs, the Owner may make the repairs at the Contractor’s expense. The Contractor may also inspect the lot from time to time to determine if warranty work is necessary. The Contractor will be allowed, with approval of the Project Representative, to perform warranty work that will retard any further deterioration of the warranted conditions. Any and all costs to repair deficiencies in the asphalt shall be paid for by the Contractor.

PART 2 - PRODUCTS

2.1 SUBBASE COURSE

A. See Division 31 Section 312300-EARTHWORK.

2.2 BASE COURSE

A. Not used.

2.3 BITUMINOUS MIXTURES

A. See Table 3 – Mixture Type and Table 4 – Gradations, both included at the end of this section.

2.4 ASPHALT EMULSION

A. The bond/tack coat shall conform to the current edition of MDOT Specification for Asphalt Emulsion SS-1h.

2.5 ASPHALT CEMENT

A. Final binder properties shall meet asphalt PG 58-28. The asphalt cement shall conform to the current edition of MDOT Specification for Asphalt Cement and conform to the Project Specifications. If the binder obtained from the recycled asphalt pavement exceeds 17 percent of the total binder in the mixture, the Contractor shall furnish documentation (i.e., blending chart) in order to determine the proper grade of virgin binder required to achieve the desired final binder properties.

2.6 TRAFFIC PAINT

A. See Division 32 Section 321723-PAVEMENT MARKING.

PART 3 - EXECUTION

3.1 PREPARATION

A. Prepare subbase according to the current edition of MDOT Specifications and Project requirements.

B. Where entire pavement thickness is to be completely removed, cut existing pavement neatly with a saw. Otherwise, edges shall be cut straight and smooth allowing for a full depth pavement throughout.

C. Proof roll subgrade and subbase to check for unstable areas and areas requiring additional compaction. Perform proof rolling as directed by the Engineer.

D. Notify Project Representative of unsatisfactory conditions. Do not begin paving work until deficient subgrade areas have been corrected, tested, and approved by the Project Representative.

E. Required Grades for Barrier Free Parking Areas:

1. In areas designated on the Drawings as a barrier free parking space, either so noted or with a uniform barrier free graphic symbol, the slope of the parking space and adjacent access aisle shall not exceed 2 percent (1/4-inch per foot) in any direction.

2. Should this provision conflict with the Drawings, inform the Project Representative so that the necessary revision(s) can be made.

3.2 INSTALLATION OF PAVEMENT

A. General: Place bituminous pavement and bond coats over approved subbase or existing pavement according to MDOT 2012 Specifications, Division 5.

B. Pavement Thickness and Type: Over the subbase, place bituminous pavement as indicated on the Drawings. For courses exceeding 3-inch, place bituminous pavement in 2 lifts with a bond coat between each layer. For patching, provide 4-inch leveling course and 2-inch surface course over compacted subbase.

1. Mix Type:

a. Surface Course – Roadway and Dock Areas:

1) Thickness: 1.5-inch.
2) Yield: 165 lbs/syd.

b. Surface Course – Parking:

1) Thickness: 1.5-inch.
2) Yield: 165 lbs/syd.

c. Leveling Course – Roadway and Dock Areas:

1) Thickness: 3.5-inch.
2) Yield: 385 lbs/syd.

d. Leveling Course – Parking:

1) Thickness: 2.5-inch.
2) Yield: 275 lbs/syd.

C. Bond Coat: Uniformly apply a coat of SS-1h at a rate of 0.10 to 0.15 gallon per square yard over the entire surface of each bituminous course, except the last.

D. Protection: After final rolling, protect pavement from vehicular traffic until the surface has cooled sufficiently to eliminate surface abrasion.

3.3 TABLES

TABLE 1 – BITUMINOUS QUALITY ASSURANCE TESTING TOLERANCES (+ OR -) FROM JMF

Parameter	Single Test	Lot Average
Air Voids	1.00%	0.60%
Voids in Mineral Aggregate (VMA)*	1.20%	0.75%**
Maximum Specific Gravity (Gmm)*	0.019	0.012
Asphalt Binder Content*	0.50%	0.35%

* Parameters with Target Values

** Or less, determined by VMA Value from MDOT 2012 Standard Specifications for Construction.

TABLE 2 – BITUMINOUS MIXTURE PAY ADJUSTMENTS

Parameter (Lot Average)	Deviation (d)	Negative Unit Price Adjustment (%)
Asphalt Binder Content (deviation from JMF)	$0.35 < d \leq 0.55$	10
	$d > 0.55$	25
Air Voids (deviation from JMF)	$0.6 < d \leq 0.7$	2
	$0.7 < d \leq 0.8$	4
	$0.8 < d \leq 1.0$	6
	$1.0 < d \leq 1.1$	8
	$1.1 < d \leq 1.2$	10
	$d > 1.2$	25
Maximum Specific Gravity (Gmm) (deviation from JMF)	$0.012 < d \leq 0.014$	2
	$0.014 < d \leq 0.015$	4
	$0.015 < d \leq 0.017$	6
	$0.017 < d \leq 0.019$	8
	$0.019 < d \leq 0.021$	10
	$d > 0.021$	25
Voids in Mineral Aggregate (VMA) (deviation below minimum value in the MDOT 2012 Standard Specifications for Construction)	$0.0 < d \leq 0.1$	2
	$0.1 < d \leq 0.3$	4
	$0.3 < d \leq 0.4$	6
	$0.4 < d \leq 0.5$	8
	$0.5 < d \leq 0.6$	10
	$d > 0.6$	25

TABLE 3 – MIXTURE TYPE

	Surface Course		Leveling Course	
	Roadway & Dock Area	**Parking Only**	**Roadway & Dock Area**	**Parking Only**
Mixture Number	5C Modified	36A Modified	3C Modified	13A Modified
VMA % (Eff. Spec. Gravity)	16.0	16.5	15.0	15.5
Air Voids % *	3.0	2.5	3.0	2.5
Fines to Binder Ratio (Max.)	1.2	1.2	1.2	1.2
Fine Angularity (Min.) MTM 118	4.0	3.0	4.0	2.5

* Modified from MDOT specifications.
No more than 50% of the material passing the #4 sieve shall pass the #30 sieve for Parking mixtures.

TABLE 4 – GRADATIONS (PERCENT PASSING)

	Surface Course		Leveling Course	
	Roadway & Dock Area	**Parking Only**	**Roadway & Dock Area**	**Parking Only**
Mixture Number	5C Modified	36A Modified	3C Modified	13A Modified
1-inch	100	100	100	100
3/4-inch	100	100	99-100	100
1/2-inch	100	100	90 Max.	75-95
3/8-inch	99-100	92-100	77 Max.	60-90
#4	90 Max.	65-90	57 Max.	45-80
#8	55-70	55-75	15-45	30-65
#16	30-55		33 Max.	20-50
#30	20-30	25-45	25 Max.	15-40
#50	15-25		19 Max.	10-25
#100	15 Max.		15 Max.	5-15
#200	3-6	3-7	3-6	3-6
Crush (Min.) MTM 117*	90	60	90	50

* Modified from MDOT specifications.
No more than 50% of the material passing the #4 sieve shall pass the #30 sieve for Parking mixtures.

(BITUMINOUS PAVEMENT WARRANTY ON THE FOLLOWING PAGE.)

BITUMINOUS PAVEMENT WARRANTY

PROJECT:

CONTRACTOR:

OWNER: **BOARD OF TRUSTEES**
MICHIGAN STATE UNIVERSITY

We, the undersigned, hereby provides a five (5) year warranty to Owner against defects caused by deficiencies in the materials and/or workmanship of the bituminous pavement in accordance with the requirements set forth in the Drawings and Specifications for the above named project.

The warranty covers the following conditions:

1. Cracking as defined shall be any cracked caused by improper joints in the pavement, either a construction joint, a butt joint, or any cracking caused by expansion or contraction of the pavement, or by any settlement of the pavement, i.e., thermal cracking. Cracks caused by fatigue or settlement will not be covered by this Warranty.
2. Delamination as defined shall be any instance where the surface course de-bonds from the underlying layer of bituminous pavement, causing slippage or complete separation.
3. Raveling, as defined shall be any area where the aggregate or matrix becomes loose, or separates from the asphalt pavement. This condition is generally caused by poor density or segregation.

Remedies for the conditions described above will be as follows:

1. Cracking. Any cracks over 3" in length and/or wider than 1/8" shall be corrected by routing/sawing and sealing or band sealing, as directed by the Owner's Representative, with a sealer approved by the Owner's Representative.
2. Delamination. Any area that exhibits delamination will be repaired by removing the surface course and cleaning the leveling course, installing a bond coat and furnishing/installing a new surface course of a like hot mix asphalt.
3. Raveling. Any area that exhibits raveling, or a loss of aggregate or matrix, will be repaired by removing the distressed are, cleaning and leveling course, applying a bond coat and furnishing and installing a new surface course of a like hot mix asphalt.

At least once a year, for the duration of the Warranty period, Owner's Representative will inspect the pavement to determine if any warranty work is necessary. If deficiencies are found, the Owner's Representative will notify the Contractor, in writing, as the extent of the repairs needed. The Contractor will perform the repairs within 30 calendar days, or within period as approved by the Owner's Representative. Should the Contractor not perform the required repairs, the Owner may make the repairs at the Contractor's expense. The Contractor may also inspect the lot from time to time to determine if any warranty work is necessary. The Contractor will be allowed, with approval of the Owner's Representative, to perform any warranty work that it appears will retard any further deterioration of any of the warranted conditions. Any and all costs to repair any deficiencies in the pavement shall be paid by this Contractor.

CONTRACTOR: _____ DATE _____

ADDRESS: _____

AUTHORIZED REPRESENTATIVE: _____ _____
(Print) (Signature)

SUBSCRIBED AND SWORN TO BEFORE ME,
THIS____DAY OF_____
A.D._____
NAME
MY COMMISSION EXPIRES

END OF SECTION 321216

SECTION 321218 – BITUMINOUS PAVEMENT PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.2 SUMMARY

A. Provide all labor, materials, and equipment as necessary to complete all work as indicated on the Drawings and specified herein.

B. This section includes bituminous pavement patching.

C. Related sections include the following:

1. Division 02 Section 024113-SITE DEMOLITION
2. Division 31 Section 312300-EARTHWORK
3. Division 32 Section 321723-PAVEMENT MARKING

1.3 PROJECT CONDITIONS

A. Weather and seasonal limitations shall not exceed those specified in MDOT Standard Specification for Construction, current edition.

PART 2 - PRODUCTS

2.1 SUBBASE COURSE

A. See Division 31 Section 312300-EARTHWORK

2.2 BASE COURSE

A. Not used.

2.3 LEVELING COURSE

A. An approved commercial bituminous mixture from a local bituminous mixture producer. Design air voids shall be designed at not more than 3 percent. Provide the Engineer with a copy of the mixture design or a signed Job Mix Formula (JMF) from the producer.

2.4 SURFACE COURSE

A. An approved commercial bituminous mixture from a local bituminous mixture producer. Design air voids shall be designed at not more than 3 percent. Provide the Engineer with a copy of the mixture design or a signed JMF (Job Mixture Formula) from the producer.

2.5 ASPHALT EMULSION

A. Conform to MDOT 2012 Specification Section 904.03, Table 904-4 for Asphalt Emulsion SS-1h.

2.6 ASPHALT CEMENT

A. Conform to MDOT 2012 Specification for Asphalt Cement PG 64-22 or as approved by the Engineer.

2.7 TRAFFIC PAINT

A. See Division 32 Section “Pavement Markings.”

PART 3 - EXECUTION

3.1 PREPARATION

A. Prepare subbase according to MDOT 2012 Specification-Division 5, and Project requirements.

B. Where entire pavement thickness is to be completely removed, cut existing pavement neatly with a saw. Cut edges straight and smooth allowing for a full-depth pavement patch.

C. When possible, proof roll subgrade and subbase layers to check for unstable areas and areas requiring additional compaction. Perform test rolling as directed by the Engineer.

D. Notify Project Representative of unsatisfactory conditions. Do not begin patching work until deficient subgrade and subbase areas have been corrected, tested, and approved by the Engineer.

E. Required Grades for Barrier Free Parking Areas:

1. In areas designated on the Drawings as a barrier free parking space, either so noted or with a uniform barrier free graphic symbol, the slope of the parking space and adjacent access aisle shall not exceed 2 percent (1/4-inch per foot) in any direction.

2. Should this provision conflict with the Drawings, inform the Project Representative so that the necessary revision(s) can be made.

3.2 INSTALLATION

A. General: Place bituminous pavement and bond coat over approved subbase or existing pavement according to MDOT 2012 Specification, Division 5.

B. Pavement Thickness and Type: Over the subbase, place 3-inch hot mix asphalt leveling course with a maximum air void content of 3 percent, and 2-inch bituminous surface course with a maximum air void content of 3 percent. If the existing surrounding pavement is thicker than 5 inches, match existing depth. Place bituminous pavement in 2 layers with a tack coat between each layer. The surface of completed patch shall be true to the line and grade of the surrounding pavement, and shall not pond water.

C. Compaction: The bituminous mixture shall be placed as uniformly as possible and compacted, with the compaction equipment approved by the Engineer. The goal is to compact the mixture to the maximum achievable density as determined by the Engineer.

D. Tack Coat: Uniformly apply a coat of SS-1h at a rate of 0.10 to 0.15 gallon per square yard over the entire surface of each bituminous course, except the last one, and to the sides of the existing pavement that were saw cut.

E. Protection: After final rolling, protect pavement of vehicular traffic until the surface has cooled sufficiently to prevent surface deformation.

END OF SECTION 321218

SECTION 321313 – CONCRETE PAVEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.2 SUMMARY

A. Provide all labor, materials and equipment as necessary to complete all work as indicated on the Drawings and specified herein.

B. This section includes concrete pavement.

C. Related sections include:

1. Division 01 Section 014000-QUALITY REQUIREMENTS
2. Division 31 Section 312300-EARTHWORK
3. Division 33 Section 334000-Storm Drainage

1.3 SUBMITTALS

A. Shop Drawings: For heated walks, paving areas showing the layout of expansion joints, tubing and manifold areas.

1. Submit to Project Representative for approval.

2. Design tubing system to minimize the crossing of expansion joints. Adjustments can be made to correspond to design requirements of the tubing system, with approval from Project Representative.

1.4 QUALITY ASSURANCE

A. Provide required testing and inspection as indicated in Division 01 Section “General Requirements - Quality Requirements.”

B. Concrete sampling, testing, and inspection shall conform to the following requirements:

1. Sampling Fresh Concrete: ASTM C172, except initial Samples shall be taken immediately after first 1/4 cubic yard (CY) has been discharged and subsequent Samples shall be taken as specified herein. If found to be in non-conformance, the concrete shall be removed from the forms.

2. Slump: ASTM C143, except initial Sample shall be taken in accordance with paragraph above. Additional tests shall be made for each set of compressive strength test specimens, and as required by the Project Representative.

3. Air Content: ASTM C231, except as previously specified herein and additional tests at the end of the load, if possible.

4. Concrete Temperature: Taken each time compression test specimens are made and hourly when temperature is 40 degrees F and below and over 80 degrees F.

5. Unit Weight: ASTM C138, except the Sample volume shall be equal to air content specimen.

6. Compressive Strength: ASTM C31 and C39, except one set of 3 cylinders for every 40 cy or fraction thereof. One specimen shall be tested at 7 days and the remaining 2 specimens shall be tested at 28 days. Strength level of the concrete will be considered unsatisfactory if the 7 day compressive strength does not equal or exceed 60% of the 28 day design strength. Strength level of concrete will be considered satisfactory if the average compressive strength of two consecutive 28 day tests equals or exceeds the 28 day design strength, and neither individual strength test results falls below the specified compressive strength requirement by more than 100 psi.

7. Inspection: Monitored by the Project Representative.

8. Frequency: In accordance with Division 01 Section "General Requirements - Quality Requirements."

9. Concrete Replacement: Failure of a test or to follow proper installation procedures will require that the concrete be removed and properly replaced at Contractor's expense.

10. Additional Tests: Contractor may have the testing agency make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained. Testing agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42. Contractor shall pay for all such tests conducted. Holes shall be patched at the Contractor's expense.

1.5 SEQUENCING AND SCHEDULING

A. Concrete shall not be placed after October 15 without written permission from the Project Representative.

1.6 WARRANTY

A. Furnish and sign 2 year written warranty (last page of this section) which shall cover cracking, spalling, settling, finishing and forming.

PART 2 - PRODUCTS

2.1 CEMENT

A. Portland cement conforming to the requirements of the current specifications for Portland Cement ASTM C150 Type 1.

2.2 AIR-ENTRAINING ADMIXTURE

A. Conform to ASTM C260 for concrete.

2.3 FINE AGGREGATE

A. Limestone or other fine aggregate that is free of soft particles or other material that could cause staining or pitting of the pavement surface. For gradation purposes only, the material shall conform to MDOT Specification 2NS.

2.4 COARSE AGGREGATE

A. Well-graded limestone. Gradation and physical requirements to conform to MDOT Specification 6AA.

2.5 WATER

A. Potable.

2.6 REINFORCEMENT

A. Welded Wire Reinforcement:
   1. Standard; Welded wire fabric (6 x 6 - W4.0 / W4.0) in flat sheets only, conforming to ASTM A1064.
   2. Heavy duty and heated pavement; Welded wire fabric (4 x 4 - W4.0 / W4.0) in flat sheets only, conforming to ASTM A1064.

B. Bar Reinforcement: No. 3, No. 4 and No. 5 bar reinforcement as specified on the Drawings. It shall be new billet stock of intermediate grade in accordance with ASTM A615.

2.7 DOWELS

A. Construction Expansion Joints:

   1. No. 5 speed dowel 9 inches long, as manufactured by Greenstreak, Inc., 3400 Tree Court Industrial Blvd., St Louis, MO; 800-325-9504; or approved equal.

   2. Dowel: 18 inches long, No. 5 smooth epoxy-coated rebar (coated all surfaces); or approved equal.

   3. 1/4” x 4-1/2” x 4-1/2” electroplated zinc steel, ASTM A36, ASTM B633 with pocket formers

      a. Diamond Dowel System as manufactured by PNA Construction Technologies www.PNA-INC.com ; 800-542-0214 ; or approved equal.

B. Construction Joints:

   1. As specified above.

2.8 FORMED KEYWAY

A. Standard keyway, 1-5/8-inch x 1-3/4-inch x 2-3/4-inch, as manufactured by Dee Concrete Accessories Company, P.O. Box 11119, Chicago, IL 60611; or approved equal.

2.9 ASPHALT EXPANSION JOINTS

A. Conform with ASTM Specification D994-53. Fiber joint material is not acceptable.

2.10 JOINT SEALER

A. Tremco Spectrem 800. Primer: Tremco Silicone Primer No. 23. Tremco-Sealant/Weatherproofing Division, 3735 Green Road, Beachwood, OH 44122; 800 321 7906.

2.11 CURING AND ANTI-SPALLING COMPOUNDS

A. Curing and Anti-Spalling Compound:

1. For use when the concrete is placed at 40 degrees F and above.

2. Sealtight brand Lin-Seal Emulsion curing and sealing compound; Clear emulsion product (not to be confused with Lin-Seal or Lin-Seal white).

3. Manufactured by M.G. by W.R. Meadows, Inc, PO Box 338, Hampshire, IL 60140 0338; 847-683-4500, 800-342-5976.

B. Waterproofing Compound:

1. For use when the concrete is placed below 40 degrees F or when the concrete pavement is within 50 feet of building entrances; or both. Either of the following will be accepted.

2. Products:

a. Lifetime™ Water Sealant by Coatings International, Inc., 112 North Monroe, N.E. Rockford, MI 49341; 616-863-6529; Fax: 616-863-1076; www.coatingsinternational.com

b. Consolideck Saltguard WB by PROSOCO, Inc., 3741 Greenway Circle, Lawrence, KS 66046; 785-865-4200; Fax: 785-830-9016; www.prosoco.com.

C. Evaporation Retardant:

1. Conspec Aquafilm by Conspec Marketing & Manufacturing, 636 S. 66th Terrace, Kansas City, Kansas 66111; 800-348-7351

2. Confilm Evaporation Reducer by BASF Construction Chemicals, LLC, 23700 Chagrin Boulevard, Cleveland, Ohio 44122-5544, 800-628-9990; Fax 216-839-8821

3. Approved equal

2.12 ADMIXTURES

A. As approved by Project Representative.

2.13 FORMWORK

A. Steel or wood forms of an approved section shall be used throughout the construction. On radii 3 feet or less, 1/4-inch plywood or masonite shall be used. All forms shall have a height equal to concrete thickness. Built-up, battered, bent, twisted, or broken forms shall be removed from the Work. Expansion joint materials shall not be used.

2.14 CONCRETE QUALITY

A. The mixture shall contain 6 sack Portland cement concrete, coarse aggregate, fine aggregate admixtures and water. The concrete mix design shall have a minimum 4000 psi compressive strength at 28 days. The maximum allowable slump shall be 4.5 inches. Aggregates shall be batched by weight. Air content shall be 5% to 8%. Maintain a maximum water/cement ratio of 0.46 pounds of water per pound of cement.

B. Contractor shall provide the Project Representative with delivery tickets which shall list slump, sack mix, percent of air entraining agent, time the truck left the plant, arrived on the site and departed the site, and water added at the site.

C. When requested, Contractor shall provide documentation from the concrete supplier certifying that the concrete meets the specifications of this section.

D. Color shall be limestone. Consistency of the color shall be uniform throughout the Project.

2.15 DETECTABLE WARNING PLATES

A. 24” x 24” Duralast Detectable Warnings, Product number 00700571, Natural Finish by East Jordan Iron Works, Inc.; 800-626-4653

PART 3 - EXECUTION

3.1 PLACING FORMS

A. Forms shall be so constructed and set as to resist, without springing or settlement, the pressure of the concrete. Forms shall not deviate more than 1/8-inch in 10 feet from the true horizontal alignment and no more than 1/8-inch in vertical alignment.

B. Where forms are set above general surrounding area, earth shall be placed along outside edges of forms to ensure stability.

C. Forms shall be cleaned and oiled each time they are used.

D. Forms shall be reviewed by the Project Representative prior to pouring.

3.2 PLACING REINFORCEMENT

A. Place reinforcement mesh as indicated on the Drawings and in the following areas:

1. Where the pavement crosses a recently filled trench and extending a minimum of 5 feet beyond the trench wall.

2. Where fill soil of 18 inches or more occurs.

3. As directed by the Project Representative.

B. Concrete shall be placed in 2 layers when mesh reinforcing is used. Use of brick, stones, etc., or unusual raising with bars or tools is prohibited. Proper positioning of the mesh can be achieved by either; (1) the use of metal or plastic chairs specifically intended for holding mesh reinforcement in the soil conditions present at the required depth, or (2) placing and consolidating a layer of concrete at the specified elevation of the reinforcement prior to placing reinforcement and a top layer of concrete

3.3 PLACING CONCRETE

A. Placing 6-inch (or greater, if specified) concrete shall not commence until the subbase and forms have been approved. Subbase shall be moistened in advance of concreting, but shall not be muddy or excessively wet. A sufficient quantity of forms shall be placed to accommodate the concrete that is scheduled to be poured at any one time. Concrete shall be deposited with a minimum of re-handling and shall be spaded adjacent to forms and joints. In the case of isolation joints, concrete shall be placed simultaneously against both sides of the joint.

B. Concreting shall not be continued when the air temperature is below 45 degrees F, unless the aggregates or water, or both, are heated to produce a placing temperature of the concrete between 60 degrees F and 90 degrees F., and unless adequate provisions are made for maintaining protection against freezing of the concrete for at least 7 days after placing. No concrete shall be placed on frozen subbase.

C. Should placement of concrete be necessary over or near tree roots, a thin layer of sulfur shall be placed on the area of the subbase which may be affected by the roots. Owner shall place sulfur. Provide 2 day notice to coordinate work with Owner’s crews.

3.4 JOINTING

A. As indicated on the Drawings, as directed in the field by the Project Representative and in the following situations, unless otherwise specified:

1. Control (contraction) joints shall ordinarily be placed at intervals equal to the width of the slab or 8 feet, whichever is less. They shall be 1/8-inch to 3/16-inch wide and 1-1/4 inch deep, or 1/4 the thickness of the slab, whichever is greater. Where slabs exceed 8 feet in width, a straight longitudinal control joint shall be placed along the centerline of the slab. This joint shall begin and end only at isolation or construction joints.

2. Expansion joints shall be placed as indicated on the Drawings and if not conflicting with Drawings at intervals of at least every 40 lineal feet (LF), adjacent to footings and foundations, adjacent to curbs when required, adjacent to existing concrete where new concrete is to abut or at next available joint that is parallel to the edge of the existing concrete. Continue joints in adjoining concrete, in the same location as existed in the concrete that was removed, and where 2 or more walks intersect. Joints shall be placed in a vertical position through the entire slab thickness.

3. Construction joints (with dowels) shall be installed when placing operations are delayed more than a 1/2-hour at locations where normal control joints would occur, as indicated on the Drawings and as directed by the Project Representative.

B. Joints shall be tooled to the specified depth. If the pavement thickness is greater than 6 inches, sawing will be permitted after the joints have first been tooled. The only exception to this requirement is for basketball courts, where only saw cutting is permitted.

C. Joints shall be perpendicular to the edge and tangents and normal to curves. The joints shall not vary from the true line more than 1/4-inch.

D. When new walkways are adjacent to new curb and gutter or when required by the Project Representative, the Contractor shall install a formed keyway. A pre-molded tongue and groove is not permitted.

E. Place sealant in non-heated pavement joints when specified, according to manufacturer's recommendations, using primer as specified.

3.5 FINISHING

A. Concrete shall be placed and struck off with a straight board until voids are removed in the surface at the required grade and cross section.

B. Adding water to the surface of the concrete to assist in finishing operations is not permitted. If a finishing aid is permitted by the Project Representative, it shall only be an approved product for that intended purpose and then applied according to the product recommendations.

C. Immediately after the concrete has been struck off, the surface shall be floated with a magnesium bull float, just enough to produce a smooth surface free from irregularities. Edges shall be rounded to a radius of 1/4-inch with an approved edging tool. Jointing shall then commence immediately after edging and before the large aggregate in the concrete has started to settle.

D. The entire surface shall then be steel-troweled so that the large aggregate is set and the surface is free of edging joints and trowel marks.

E. The surface shall be heavy-broomed, keeping mortar out of joints. Brooming direction shall generally be perpendicular to the normal path of travel, unless otherwise directed by the Project Representative. Provide 2-inch retool at joints, if detailed on the Drawings.

F. Surface variations greater than 1/8-inch in 10 feet are unacceptable.

G. Walks shall be protected from pedestrian traffic for 2 days and vehicles for 7 days.

H. Concrete shall be stamped at each end of the work with the Contractor's name and the current year.

3.6 CURING AND ANTI-SPALLING COMPOUND APPLICATION

A. For temperatures above 40 degrees F, concrete shall be cured utilizing the specified curing/anti-spalling compound in accordance with product specifications using only a motorized sprayer. This application includes the sides of the concrete, once the forms have been removed.

B. For temperatures between 32 degrees F and 40 degrees F and on concrete within 50 feet of building entrances, cure pavement using an approved wet cure method for a period of not less than 7 full days while maintaining a concrete temperature above 34 degrees F for 14 days. After 30 days, the specified water proofing compound shall be applied according to product specifications.

3.7 DETECTABLE WARNING PLATES

A. Follow manufacturer’s installation specifications to properly install detectable warning plates per site plan layout. Pay special attention to be sure the plastic concrete comes through all the holes in the plate to eliminate all cavities below the plate that could trap water.

3.8 HEATED PAVEMENT AREAS

A. Layout:

1. Each zone shall have its manifold area within the area heated and each zone shall be independent from other zones and separated with sealed expansion joints.

2. All main line piping shall be bedded under the concrete slab. If this is not possible, then the main line piping shall be installed in appropriate sleeving to protect it from damage by gardening equipment.

B. Coordinate height of sand chair to correspond to the depth of tubing from the concrete paving surface to top of tubing.

C. Reinforcing shall be held at the correct elevation with sand chairs. No other materials shall be permitted.

D. Drainage from a heated pavement area shall flow to a catch basin within the heated pavement area or directly adjacent to the heated paving. No drainage shall flow onto a cold pavement surface.

E. In areas designated on the Drawings as a barrier free parking space, either so noted or with a uniform barrier free graphic symbol, the slope of the parking space and adjacent access aisle shall not exceed 2 percent (1/4-inch per foot) in any direction.

F. Installation of concrete shall be as specified in this section.

(CONCRETE PAVEMENT WARRANTY ON THE FOLLOWING PAGE.)

CONCRETE PAVEMENT WARRANTY

PROJECT:
CONTRACTOR:
OWNER: BOARD OF TRUSTEES
MICHIGAN STATE UNIVERSITY

We, the undersigned, herewith warranty all the work to be free from defective workmanship and/or materials for **two (2) years** from November 1st of the calendar year of the date written below, in accordance with the requirements set forth in the Drawings and Specifications for the above-named Project.

The Contractor agrees that by acceptance of this Work and in consideration thereof, for them and for each of their Subcontractors, binds themselves to all warranties called for. The Contractor shall warranty all work, except as noted elsewhere in these Contract Documents in which a longer warranty is specified. This shall include, but not be limited to, the following defects:

1. Cracking
2. Spalling
3. Settling
4. Finishing
5. Forming

If during the warranty period, it is found by the Owner's Representative, that the warranty Work needs to be repaired or replaced because of the use of materials, equipment, or workmanship which is inferior, defective, or not in accordance with the terms of Agreement, the Contractor, upon notification, shall promptly and without additional expense to the Owner:

a. Place in satisfactory condition all of such warranted Work,
b. Make good all damage to the project, or contents thereof, which is a result of such unsatisfactory warranted Work, and
c. Make good any Work, materials and equipment that are disturbed in fulfilling the Warranty, including any disturbed work, materials and equipment that may have been warranted under another contract.

Should the Contractor fail to proceed promptly in accordance with the Warranty, the Owner's Representative may have such work performed at the expense of the Contractor and their surety.

CONTRACTOR: _____ DATE: _____

ADDRESS: _____

AUTHORIZED REPRESENTATIVE: _____ _____
(Print) (Signature)

SUBSCRIBED AND SWORN TO BEFORE ME,

THIS _____ DAY OF _____

A.D. _____

NAME

MY COMMISSION EXPIRES

END OF SECTION 321313

SECTION 321613 – CONCRETE CURBS AND GUTTERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.2 SUMMARY

A. Provide all labor, materials and equipment as necessary to complete all work as indicated on the Drawings and specified herein.

B. This section includes:

1. Curb and gutters.

C. Related sections include the following:

1. Division 01 Section 015000-TEMPORARTY FACILITIES AND CONTROLS
2. Division 31 Section 312300-EARTHWORK
3. Division 32 Section 321218-BITUMINOUS PAVEMENT
4. Division 32 Section 321313-CONCRETE PAVEMENT

1.3 QUALITY ASSURANCE

A. Provide the required testing and inspection as indicated in Division 01 Section “General Requirements - Temporary Facilities and Controls.” Concrete sampling, testing, and inspection shall conform to the requirements found in Division 32 Section “Concrete Pavement.”

1.4 SCHEDULE

A. Concrete shall not be placed after October 15 without written permission from the Project Representative.

1.5 WARRANTY

A. Furnish and sign 2 year written warranty (last page of this section) which shall cover cracking, spalling, settling, finishing and forming.

PART 2 - PRODUCTS

2.1 Refer to Division 32 Section “Concrete Pavement” for all products, except for the following:

A. Reinforcement: Shall be No. 4 bar reinforcement of new billet stock of intermediate grade in accordance with ASTM A615.

PART 3 - EXECUTION

3.1 PLACING FORMS

A. Steel or wood forms of an approved section shall be used throughout the construction. On radii 3 feet or less, 1/4-inch plywood or masonite shall be used. All forms shall have a height equal to concrete thickness. Built-up, battered, bent, twisted, or broken forms shall be removed from the work. Expansion joint materials shall not be used.

B. Forms shall be so constructed and set as to resist, without springing or settlement, the pressure of the concrete. On curbs of sharp radius, plywood or other approved flexible material shall be used in sections short enough to form a smooth, uninterrupted curb which shall not vary form the true radius by more than 1/4-inch. Forms shall not deviate more than 1/8-inch in 10 feet from the true horizontal alignment and no more than 1/8-inch in vertical alignment.

C. Where forms are set above general surrounding area, earth shall be placed along outside edges of forms to ensure stability.

D. Forms shall be cleaned and oiled each time they are used.

E. Forms must be approved by the Project Representative prior to placing concrete.

3.2 PLACING REINFORCEMENT

A. Place 2 bars in gutter pan as specified in Drawings and in the following areas:

1. Where curb crosses a recently filled trench and extending a minimum of 5 feet beyond trench wall.

2. Where fill soil of 18 inches or more occurs.

3. In all valley gutter pans. (exception – 3 bars as shown on the detail drawing)

4. In all path ramps and extending a minimum of eighteen inches beyond the bottom of the curb taper or curb transition.

5. As directed by the Project Representative.

3.3 PLACING CONCRETE

A. Refer to Division 32 Section “Concrete Pavement.” However, the time restriction may be extended with the approval of the Project Representative.

3.4 JOINTING

A. Control (contraction) joints shall be perpendicular to the curb edge, 1-1/2-inch deep, open and free of all excess concrete. Control joints shall be placed at intervals of not more than 10 feet as indicated on the Drawings.

B. Expansion joints shall be placed at all points of curvature, tangency, and at intervals of not more than 100 lineal feet.

3.5 FINISHING

A. Concrete shall be struck off true to cross section, after which it shall be finished smooth and even. Face forms, if used, shall be left in place until the concrete has set sufficiently so that they can be removed without injury to the curb. The remaining forms shall be rounded with an edging tool. No tool marks are to be left on exposed edges.

B. A straight edge check is to be made while concrete is still plastic. Irregularities exceeding 1/8-inch shall be corrected. Finish surfaces shall not vary form the required cross section as indicated on Drawings by more than 1/8-inch. They shall not vary from the true horizontal alignment by more than 1/4-inch in 10 lineal feet. Sections exceeding those limitations are subject to rejection and replacing at Contractor's expense.

C. Adding water to the surface of the concrete to assist in finishing operations is not permitted. If a finishing aid is permitted by the Project Representative, it shall only be an approved product for that intended purpose and then applied according to the product recommendations.

D. For heated pavement (or snow melt) systems, the heated portion of the concrete shall be stamped with the words "Heated Walk Limit" at the edge of the heated pavement. If part of the system includes the curb or gutter, then the stamp shall be placed on the gutter pan. Stamp spacing shall be at approximately 20-foot increments and positioned exactly between each control joint. Stamp locations shall be approved by the Project Representative in advance. A stamp may be available for use from the Project Representative if arrangements are made in advance. Otherwise, the Contractor is responsible to secure a stamp that is approved by the Project Representative.

3.6 CURING AND ANTI-SPALLING COMPOUND APPLICATION

A. Refer to Division 32 Section "Concrete Pavement."

(CONCRETE CURB AND GUTTER WARRANTY ON FOLLOWING PAGE.)

CONCRETE CURB & GUTTER WARRANTY

PROJECT:
CONTRACTOR:
OWNER: BOARD OF TRUSTEES
MICHIGAN STATE UNIVERSITY

We, the undersigned, herewith warranty all the work to be free from defective workmanship and/or materials for **two (2) years** from November 1st of the calendar year of the date written below, in accordance with the requirements set forth in the Drawings and Specifications for the above-named Project.

The Contractor agrees that by acceptance of this Work and in consideration thereof, for them and for each of their Subcontractors, binds themselves to all warranties called for. The Contractor shall warranty all work, except as noted elsewhere in these Contract Documents in which a longer warranty is specified. This shall include, but not be limited to, the following defects:

1. Cracking
2. Spalling
3. Settling
4. Finishing
5. Forming

If during the warranty period, it is found by the Owner's Representative, that the warranty Work needs to be repaired or replaced because of the use of materials, equipment, or workmanship which is inferior, defective, or not in accordance with the terms of Agreement, the Contractor, upon notification, shall promptly and without additional expense to the Owner:

a. Place in satisfactory condition all of such warranted Work,
b. Make good all damage to the project, or contents thereof, which is a result of such unsatisfactory warranted Work, and
c. Make good any Work, materials and equipment that are disturbed in fulfilling the Warranty, including any disturbed work, materials and equipment that may have been warranted under another contract.

Should the Contractor fail to proceed promptly in accordance with the Warranty, the Owner's Representative may have such work performed at the expense of the Contractor and their surety.

CONTRACTOR: _____ DATE: _____

ADDRESS: _____

AUTHORIZED REPRESENTATIVE: _____ _____
(Print) (Signature)

SUBSCRIBED AND SWORN TO BEFORE ME,

THIS _____ DAY OF _____

A.D. _____

NAME

MY COMMISSION EXPIRES

END OF SECTION 321613

SECTION 321723 – PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.2 SUMMARY

A. Provide all labor, materials and equipment as necessary to complete all work as indicated on the Drawings and specified herein.

B. This section includes pavement markings.

C. Related sections include the following:

1. Division 32 Section “Bituminous Pavement.”
2. Division 32 Section “Concrete Pavement.”

1.3 QUALITY ASSURANCE

A. Approved installation contractors for both pavement marking types:

1. P.K. Contracting, P.O. Box 184, Clawson, MI 48017; 313-362-2130.
2. Parallel Contracting, Inc., 3420 E. Grand River, Williamston, MI 48895; 517-819-3853.

PART 2 - PRODUCTS

2.1 THERMOPLASTIC PAVEMENT MARKINGS

A. According to 2012 MDOT Section 811 specification. Color: White and yellow, as indicated on the Drawings.

2.2 PRE-FORMED THERMOPLASTIC BARRIER FREE SYMBOL

A. Barrier Free Kit White on Blue Item #89230237HS, 40-inch x 40-inch size. Color: Blue.

B. Manufacturer: Ennis-Flint, Inc. (allow 2 weeks for delivery), 115 Todd Court, Thomasville, NC 27360; 336-475-6600, Fax: 336-475-7900.

2.3 THERMOPLASTIC BIKE WITH HELMET SYMBOL

A. Bicycle Rider Item #89230524(+)HS add “L” for Left or “R” for Right to indicate facing direction of marking. (Ennis-Flint, Inc.) 6′-6″ x 3′-4″.

2.4 THERMOPLASTIC BIKE LANE ARROW

A. Yield Line (Shark's Teeth) Item #8231002 (Ennis-Flint, Inc.) 2-foot x 3-foot.

2.5 PRIMER FOR THERMOPLASTIC MATERIAL

A. #623206-20 – 5 gallon.

B. #623206-4 – 1 gallon.

2.6 GLASS BEADS

A. According to 2012 MDOT Section 811 specification.

2.7 CONCRETE PAVEMENT MARKINGS/SPEED TABLES

A. Liquid pavement markings using a polyurea coating material 3M Stamark, Epoplex L590; or approved equal.

2.8 TRAFFIC PAINT

A. Regular dry pavement marking paint according to 2012 MDOT Section 811 specification.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Pavement cleaning and marking application shall be according to 2012 MDOT section 811 specification and as indicated on the Drawings.

B. Use primer on installations as indicated in the manufacturer's specifications.

C. Cyclist symbol with arrow to be located as indicated on the Drawings.

D. Barrier Free Symbol Placement: Bottom edge of the symbol square shall be aligned with the end of the line striping closest to the travel aisle and in the center of the parking space.

E. Place glass beads on thermoplastic lines.

F. All thermoplastic pavement markings (symbols and line work) on bituminous pavement in roadways shall be recessed to the thickness of the pavement marking.

1. The resulting surface interface between the markings and the bituminous shall be smooth.

2. Concrete pavement shall not be recessed for pavement markings.

G. Pavement markings in new bituminous pavement parking areas shall be thermoplastic unless otherwise noted on plans.

H. Thermoplastic pavement markings in parking areas are not required to be recessed unless otherwise noted on the plans.

END OF SECTION 321723

SECTION 32 3113 – CHAIN LINK FENCES AND GATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:
   1. Chain-link fences.
   2. Swing gates.

B. Related Requirements:
   1. Section 03 3000 "Cast-in-Place Concrete" for cast-in-place concrete perimeter edges and post footings.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.
   1. Inspect and discuss any preparatory work specified elsewhere.
   2. Review coordination of accessories specified in this Section and elsewhere.
   3. Review required testing, inspecting, and certifying procedures.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for the following:
      a. Fence and gate posts, rails, and fittings.
      b. Chain-link fabric, reinforcements, and attachments.
      c. Gates and hardware.
      d. Miscellaneous accessories.

B. Shop Drawings: For each type of fence and gate assembly.
   1. Include plans, elevations, sections, details, dimensions, finishes, colors, and attachments to other work.
   2. Include hardware, gates, and operational clearances.

C. Samples for Initial Selection: For each type of factory-applied finish.

D. Samples: For each exposed product and for each color and texture specified.

1.5 INFORMATIONAL SUBMITTALS

A. Field quality-control reports.

B. Sample Warranty: For special warranty.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For fence components and accessories to include operation and maintenance manuals.

1.7 QUALITY ASSURANCE

1.8 FIELD CONDITIONS

A. Field Measurements: Verify layout information for chain-link fences and gates shown on Drawings in relation to property survey, grading and existing structures. Verify dimensions by field measurements.

1.9 WARRANTY

A. Special Warranty: Provide Manufacturer and Installer warranty stating agreement to repair or replace components of chain-link fences and gates that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Failure to comply with performance requirements.
      b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
      c. Faulty operation of gates.
      d. Leaning, tipping, heaving, settlement, or other misalignment.
   2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Chain-link fence and gate frameworks including all hardware attachments shall withstand the design wind loads and stresses for fence height(s), chain link fabrics, and under exposure conditions indicated according to ASCE/SEI 7.

2.2 CHAIN-LINK FENCE FABRIC

A. General: Provide fabric in one-piece heights measured between top and bottom of outer edge of selvage knuckle or twist according to "CLFMI Product Manual" and requirements indicated below:
   1. Fabric Height: As indicated on Drawings.
   2. Steel Wire for Fabric: 9-gauge wire diameter of 0.148 inch.
      a. Mesh Size: 1-3/4 inches.
      b. Polymer-Coated Fabric: ASTM F 668, Class 2b over zinc-coated steel wire.
         1) Color: Black, according to ASTM F 934.
      c. Coat selvage ends of metallic-coated fabric before the weaving process with manufacturer's standard clear protective coating.
   3. Selvage: Knuckled at both selvages.

2.3 FENCE FRAMEWORK

A. Fence Framework Members
   1. Posts and Rails: ASTM F 1043 for framework, including rails, braces, and line; terminal; and corner posts. Provide members with minimum dimensions and wall thickness according to ASTM F 1043 based on the following:
      a. Fence Height: As indicated on Drawings.
      b. Post Sizes: 4-inch O.D. as indicated on drawings.
         1) Material Designation: SS-40
      c. Horizontal Framework Members:
         1) Rail Sizes: 2.375-inch O.D. as indicated on drawings.
         2) Material Designation: SS-40
      d. Brace Rails:
         1) Rail Sizes: 2.375-inch O.D. as indicated on drawings.
         2) Material Designation: SS-40
      e. Metallic Coating for Steel Framework:
         1) Type B: Zinc with organic overcoat, consisting of a minimum of 0.9 oz./sq. ft. of zinc after welding, a chromate conversion coating, and a clear, verifiable polymer film.
      f. Polymer coating over metallic coating.
         1) Color: Black, according to ASTM F 934.

2.4 SWING GATES

A. General: ASTM F 900 for gate posts and single swing gate types.
   1. Gate Leaf Width: As indicated on drawings.
   2. Framework Member Sizes and Strength:
      a. 2.375-inch O.D. minimum.

B. Pipe and Tubing:
   1. Zinc-Coated Steel: ASTM F 1083; protective coating and finish to match fence framework.
   2. Gate Posts: Round tubular steel.
   3. Gate Frames and Bracing: Round tubular steel.

C. Frame Corner Construction: Welded.

D. Extended Gate Posts and Frame Members: Fabricate gate posts and frame end members to extend as indicated on drawings above top of chain-link fabric at both ends of gate frame.

E. Hardware:
   1. Hinges: 180-degree outward swing.
   2. Latch: Permitting operation from both sides of gate with provision for padlocking accessible from both sides of gate. Drop pins with slot in bituminous to be included at each gate.
   3. Padlock: To be provided by Owner.

2.5 FITTINGS

A. Provide fittings according to ASTM F 626.

B. Post Caps: Provide for each post.
   1. Provide flat (slightly domed) post caps.

C. Rail and Brace Ends: For each gate, corner, pull, and end post.

D. Rail Fittings: Provide the following:
   1. Rail **Caps and Brace Bands**: **Rail caps and** line and corner **brace bands** for connecting top, intermediate, and bottom rails to posts. **Rail caps shall be 2-hole type to accommodate double brace bands at each connection.**

E. Tension and Brace Bands: Pressed steel.

F. Tension Bars: Steel, length not less than 2 inches shorter than full height of chain-link fabric. Provide one bar for each gate and end post, and two for each corner and pull post, unless fabric is integrally woven into post.

G. Tie Wires, Clips, and Fasteners: According to ASTM F 626.
   1. Standard Round Wire Ties: For attaching chain-link fabric to posts, rails, and frames, according to the following:
      a. Hot-Dip Galvanized Steel: 0.148-inch- diameter wire; coatings and finishes matching chain-link fence fabric.

H. Finish:
   1. Metallic Coating for Pressed Steel or Cast Iron: Not less than 1.2 oz./sq. ft. of zinc.
      a. Polymer coating over metallic coating.

2.6 GROUT AND ANCHORING CEMENT

A. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout, recommended in writing by manufacturer, for exterior applications.

B. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating, and that is recommended in writing by manufacturer for exterior applications.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, earthwork, pavement work, and other conditions affecting performance of the Work.
   1. Do not begin installation before final grading is completed unless otherwise permitted by Architect.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Stake locations of all fence lines, gates, and terminal posts. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

B. Coordinate preparation and installation with integral concrete work.

3.3 CHAIN-LINK FENCE INSTALLATION

A. Install chain-link fencing according to ASTM F 567 and more stringent requirements specified.
   1. Install fencing on established boundary lines inside property line.

B. Post Excavation: Excavate holes for post footings to diameters and spacings indicated, in firm, undisturbed soil. Widen bottom of excavated holes to create belled footing bottom. Holes shall be approved by Owner Architectural Inspector prior to placement of posts or concrete.

C. Post Setting: Set posts or post sleeves in concrete at indicated spacing into firm, undisturbed soil.
   1. Verify that posts or post sleeves are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
   2. Concrete Fill: Place concrete around posts or post sleeves to dimensions indicated and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.
      a. Posts Set into Sleeves in Concrete: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts are inserted into sleeves, fill annular space between post and sleeve with nonshrink, nonmetallic grout, mixed and placed according to anchoring material manufacturer's written instructions. Finish anchorage joint to slope away from post to drain water.

D. Terminal Posts: Install terminal end, corner, and gate posts according to ASTM F 567 and terminal pull posts at changes in horizontal or vertical alignment of 15 degrees or more.

E. Line Posts: Space line posts uniformly as indicated on drawings.

F. Post Bracing and Intermediate Rails: Install according to ASTM F 567, maintaining plumb position and alignment of fence posts. Diagonally brace terminal posts to adjacent line posts with truss rods and turnbuckles. Install braces at end and gate posts and at both sides of corner and pull posts.
   1. Locate horizontal braces at mid-height of fabric 72 inches or higher, on fences with top rail, and at two-third fabric height on fences without top rail. Install so posts are plumb when diagonal rod is under proper tension.

G. Top, Intermediate, and Bottom Rails: Secure to posts with fittings.

H. Chain-Link Fabric: Apply fabric to the inside of enclosing framework. Leave 1/2-inch bottom clearance between adjacent pavement and bottom selvage unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.

I. Tension or Stretcher Bars: Thread through fabric and secure to end, corner, pull, and gate posts, with tension bands spaced not more than 15 inches o.c.

J. Tie Wires: Use wire of proper length to firmly secure fabric to line posts and rails. Attach wire at one end to chain-link fabric, wrap wire around post a minimum of 180 degrees, and attach other end to chain-link fabric according to ASTM F 626. Bend ends of wire to minimize hazard to individuals and clothing.
1. Maximum Spacing: Tie fabric to line posts at 12 inches o.c. and to braces at 24 inches o.c.

K. Fasteners: Install nuts for tension bands and carriage bolts on the side of fence opposite the fabric side. Peen ends of bolts or score threads to prevent removal of nuts.

3.4 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests.

B. Prepare test reports.

3.5 ADJUSTING

A. Gates: Adjust gates to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

B. Lubricate hardware and other moving parts.

3.6 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust and maintain chain-link fences and gates.

END OF SECTION 32 3113

SECTION 334000 – STORM DRAINAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.2 SUMMARY

A. Provide all labor, materials and equipment as necessary to complete all work as indicated on the Drawings and specified herein.

B. This section includes storm drainage systems.

C. Related sections include the following:

1. Division 01 Section “General Requirements - Temporary Facilities and Controls.”
2. Division 31 Section “Earthwork.”

1.3 DESCRIPTION

A. Storm and sanitary sewers shall be 2 separate systems.

B. New manholes and catch basins shall be precast construction except for bases.

C. Surface drainage shall be to catch basins; no storm water shall pass into a storm sewer without first passing through a catch basin.

D. Concrete storm sewer pipe shall use a rubber "O" ring joint.

E. Manholes and catch basins shall be constructed as specified herein and indicated on Drawings.

1.4 REFERENCES

A. Except as herein specified or as indicated on the Drawings the work of this section shall comply with the following:

1. AASHTO Standards M36 – Corrugated Steel Pipe, Metallic-Coated for Sewers and Drains

2. M218 – Sheet Steel, Zinc-Coated (Galvanized) for Corrugated Steel Pipe.

3. MDOT:

a. 2012 MDOT Standard Specifications for Construction.
b. MDOT Standard Plans.

1.5 SUBMITTALS

A. Before commencing work, the Contractor shall provide an affidavit from the material manufacturers, that their materials meet the Specifications.

PART 2 - PRODUCTS

2.1 PRECAST CONCRETE SECTIONS

A. ASTM C-478: Cone section shall be eccentric to allow for a straight vertical ladder.

2.2 STRUCTURE BLOCK AND BRICK

A. Block: ASTM C-139.

B. Brick: ASTM C-139.

2.3 COVERS AND GRATES:

A. As specified on Drawings, or as indicated below:

1. Curb Inlet: EJIW 7045, M1 grate.

2. Square Inlet: EJIW 5105, M1 grate (for valley gutter pans).

3. Round Inlet – Light Duty: EJIW 1130, M3 grate.

4. Round Inlet – Heavy Duty: EJIW 1040, M1 grate for parking lots, M3 grate for walks – ADA compliant.

5. Manhole Structure: EJIW 1040, Type B – Vented cover.

6. Rolled Curb: EJIW 7065, M1 grate.

2.4 ADJUSTING RINGS

A. The inside diameter shall not be less than the diameter of the casting for which it is used.

B. Allowable types include:

1. Precast Reinforced Concrete: Without cracks. 2-inch to 6-inch thick, minimum 3000 psi. Reinforcement rod shall not be visible on the surface.

2.5 MANHOLE STEPS

A. EJIW 8500.

2.6 PORTLAND CEMENT

A. ASTM C150 Type 1.

2.7 HYDRATED LIME

A. ASTM C207.

2.8 SAND AND GRAVEL AGGREGATE

A. ASTM C33.

2.9 CONCRETE

A. Refer to Division 32 Section “Concrete Pavement.”

2.10 MASONRY CEMENT

A. ASTM C91.

2.11 CORRUGATED PERFORATED POLYETHYLENE DRAIN TILE

A. ASTM F405 with heavy sock.

2.12 PVC GASKETED DRAIN PIPE

A. Storm sewer less than 12-inch diameter.

1. SDR 35, ASTM D2729.
2. Other products as specified.
3. Rubber boot to connect pipe to structure.

2.13 REINFORCED CONCRETE PIPE

A. Storm Sewer 12-inch Diameter and Larger: ASTM C76.

2.14 INLET STRUCTURE SILT SCREEN

A. Silt-Saver sold by Price and Company, Inc. 425 36th St., SW, Wyoming, MI 49548; 800-248-8230, 616-530-8230; or approved equal and as shown on the Drawings.

1. SS-100A: Fits round structures to 48-inch ID.
2. SS-200A: Fits square structures to 60-inch OD.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Connections and changes in direction or grade shall be made in manholes.

B. Structure bases shall be cast-in-place concrete, transit mixed with minimum compressive strength of 3000 psi at 28 days, formed and finished level. Precast bases may be used with written approval of the Project Representative and where required by extremely difficult site conditions. Base slab shall be fully cured before precast portions are set.

C. Precast concrete shall be used to construct structures. Only when precast sections are not manufactured in the size and shape required will block constructed structures be permitted. The Project Representative shall be notified prior to construction of block structures. Set precast sections in full mortar bed.

D. Trench drains shall be constructed so that they sit on a foundation of a minimum depth of 42 inches, measured from finish grade to bottom of structure.

E. Adjustment to Casting Elevations:

1. Concrete rings shall be used wherever possible to adjust casting elevations. Rings shall be set in full mortar bed. Use a maximum of 3 rings.

F. Tile shall be laid through the manhole and 3000 psi concrete shall be placed around the tile up to half of the diameter. The concrete shall slope from the walls of the manhole to the sewer. When there is a change in grade, direction, or pipe size, the flow channel shall be built from bricks and 3000 psi concrete to make a uniform, smooth change in grade, direction or pipe size.

G. Vertical elevation of the invert shall be within plus or minus 0.04 foot (1/2-inch) of required elevation. Horizontal alignment must meet the same tolerance.

H. Pipe Connections to Structures:

1. Connections with existing sewers shall be made at points and in a manner indicated on the Drawings and approved by the Project Representative.

2. Sewers being disconnected shall be sealed off with concrete.

3. If PVC pipe connects to an existing or new structure, the pipe shall connect with an appropriately sized rubber boot.

I. Catch basin sump shall extend 2 feet below the pipe outlet invert.

J. Construct a peripheral sub-drainage system for catch basins.

1. Install 4-inch diameter perforated polyethylene corrugated drain pipe with a heavy duty sock covering around each new structure and existing structure, if at least 4 vertical feet is exposed or the outlet pipe is exposed.

2. Pipe shall enter catch basin with a tee connector, 2 inches above and directly opposite the outlet invert.

3. The peripheral drain pipe shall be positioned at 1/4-inch to provide positive drainage to the catch basin. The peripheral drain pipe shall be placed over the outlet pipe. Do not cut and cap the drain pipe at the outlet pipe.

4. Backfill the drain pipe with properly compacted Class II sand to the finish subgrade.

3.2 TESTING AND INSPECTION

A. Internal Television Inspection of Storm Sewers:

1. General:

a. Inspect storm sewers using a closed-circuit color television camera.

b. Provide Engineer with videos DVD format and written logs to document the internal television inspection:

1) Written logs shall note the location of sewer laterals and pipe deficiencies by distance from the upstream manhole.

2) The video tape shall include audio commentary regarding the sewer condition.

c. Engineer will review the videos and written logs to verify that the storm sewers were constructed in accordance with the Contract Documents.

d. The videos shall verify that the storm sewers are clean and free of sediment and debris to the satisfaction of Engineer. Storm sewers not satisfactorily cleaned shall be promptly cleaned and reinspected by closed-circuit color television camera.

e. Television inspection shall be completed, documentation of television inspection shall be provided and Engineer shall determine that the sewers were constructed in accordance with the Contract Documents before payment for completed sections of sanitary sewer will be recommended to Owner.

2. Performance Requirements:

a. Inspection procedures and equipment shall meet the applicable standards as presented in the National Association of Sewer Service Companies (NASSCO) Recommended Specifications for Sewer Collection System Rehabilitation.

b. Each section of storm sewer between manholes shall be television inspected separately utilizing a video camera and related equipment specifically designed for the purpose of internal sewer inspection.

c. The camera speed shall not exceed 30 feet per minute.

d. The camera shall be stopped for no less than 10 seconds at the entrance manhole, each service lateral, exit manhole, and at points where the sewer is damaged or deficient.

e. Lighting for the camera shall be adequate to allow a clear picture of the entire periphery of the sewer and shall be varied as required to be effective for all pipe diameters inspected.

f. Cables and equipment used to propel the camera shall not obstruct the camera view or interfere with the documentation of the sewer conditions.

g. The video recording shall be continuous video file.

h. The mobile recording studio shall have adequate space to accommodate up to 3 persons for the purpose of viewing the video monitor while the inspection is in progress.

i. Whenever possible, the camera shall move in a downstream direction.

j. The location of the camera in the sewer shall be monitored by an accurate measuring system which records the distance traveled from the upstream manhole on the video.

k. Video DVDs and written logs shall be clearly labeled with the Project name and location identification.

l. If sewer has dirt and debris which prohibits video inspection, the sewer shall be cleaned and re-televised at no expense to Owner.

END OF SECTION 334000