



State of Michigan

**Department of Technology, Management and Budget
State Facilities Administration
Design and Construction Division**

**DCSPEC
Bidding and Contract Document
Minor Projects**

**File No.186/23271.MNB
Department of Labor and Economic Growth
Unemployment Insurance Agency
Cadillac Place – UIA Lobby Redesign
3044 W. Grand Blvd.
Detroit, MI 48202**

January 16, 2024

BID SUMMARY

**DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
STATE FACILITIES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION
3111 W. St. Joseph Street
Lansing, Michigan 48917**

Bids must be submitted electronically at: <https://sigma.michigan.gov/webapp/PRDVSS2X1/AltSelfService>

FILE NUMBER 186/23271.MNB	DEPARTMENT/AGENCY Department of Labor & Economic Growth – Unemployment Insurance Agency		
CONTRACT TIME(S) 150 days for Substantial Completion 180 days for Final Completion	PROJECT NAME Cadillac Place – UIA Lobby Redesign	LOCATION 3044 W. Grand Blvd. Detroit, MI 48202	
BID OPENING DATE February 19, 2025 at 2:00 pm ET		FOR AN EXAMINATION OF THE SITE CONTACT: Derek Slupka – DS Architects, Inc. Derek@dsarchitects.com 248-310-3899	
SEE SECTION 00100 INSTRUCTIONS TO BIDDERS AND SECTION 00700 GENERAL CONDITIONS PROVIDED WITH THE BIDDING DOCUMENTS. BID: WE PROPOSE TO FURNISH, PERFORM AND COMPLETE THE ENTIRE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS IN CONSIDERATION OF THE BID PRICE (S) STATED BELOW.			
FIRM NAME AND COMPLETE ADDRESS		TELEPHONE NUMBER and E-MAIL ADDRESS	
<input type="checkbox"/> Qualified Disabled Veteran		<u>SIGMA VENDOR NUMBER</u>	
		<small>(protected information required for processing payments)</small>	
BIDDER'S SIGNATURE AND TITLE	DATE	WITNESS' SIGNATURE	DATE

By signing this bid above, bidder certifies their enclosed Qualified Disabled Veteran and Michigan-Based Business Certifications.

BASE BID FROM BID SCHEDULE (Include specified Allowances):

<u>N/A</u> <small>(use words)</small>	Dollars \$	<u>N/A</u> <small>(in figures)</small>
Alternate 1: (Add/Subtract) _____	Dollars \$	<u>N/A</u> <small>(in figures)</small>
<u>N/A</u> <small>(use words)</small>	Dollars \$	<u>N/A</u> <small>(in figures)</small>
Alternate 2: (Add/Subtract) _____	Dollars \$	<u>N/A</u> <small>(in figures)</small>
<u>N/A</u> <small>(use words)</small>	Dollars \$	<u>N/A</u> <small>(in figures)</small>
Alternate 3: (Add/Subtract) _____	Dollars \$	<u>N/A</u> <small>(in figures)</small>

A PERFORMANCE BOND AND A PAYMENT BOND ARE REQUIRED FOR ALL BIDS OVER \$50,000.00. EACH BID MUST BE ACCOMPANIED BY A FIVE (5) PERCENT BID GUARANTEE. BUILDERS RISK INSURANCE IS REQUIRED TO BE PROVIDED BY THE CONTRACTOR UNLESS OTHERWISE INDICATED IN THE BID DOCUMENTS.

BIDDERS ARE ALSO CAUTIONED TO FAMILIARIZE THEMSELVES WITH ALL OF THE OTHER CONDITIONS OF THE CONTRACT.

Project Scope of Work:

The Unemployment Insurance Agency lobby redesign consists of demolition of the existing lobby to office wall partition and constructing a new security glass wall partition. This project also consists of expanding the suite, new modular furniture by DBI, electrical in the furniture, and all new finishes throughout. The suite is approximately 6,571 sq.ft.

The Bidder must figure its Base Bid on the specified, or Addendum-approved, materials and equipment **only**. No "or equal" or substitution proposals will be permitted after Bid opening, except as provided in the General Conditions.

Addenda: Bidder acknowledges receipt of Addenda: No. ___ dated: _____, No. ___ dated: _____ No. ___ dated: _____

BID SCHEDULE

Base Bid Schedule - The Bidder will complete the Work and accept as full payment, for the Work items listed, the following Unit Prices and/or Item Bid Prices, as applicable:

Base Bid Item No.	Bid Quantity	Description	Unit Price	Item Bid Price
1	1 LS	General Conditions		
2	1 LS	Mobilization		
3	1 LS	Bonds		
4	1 LS	Insurance		
5	1 LS	Demolition		
6	1 LS	Metal studs and gypsum board		
7	1 LS	Doors, frames, and hardware		
8	1 LS	Ballistic windows		
9	1 LS	Door, frames, hardware, windows		
10	1 LS	Flooring and Base		
11	1 LS	Painting		
12	1 LS	Millwork (Transaction tops)		
13	1 LS	Electrical		
14	1 LS	Mechanical		
15	1 LS	Misc.		
		ALLOWANCE AMOUNT		\$20,000.00
TOTAL (This amount should equal the Base Bid amount on the Bid Summary Form)				\$

Base Bid (Sum of Item Bid Prices for all Base Bid Items):

_____ Dollars \$ _____
(use words) (in figures)

DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
State Facilities Administration
Design & Construction Division

**Qualified Disabled Veteran (QDV)
Business Representation**

'Qualified Disabled Veteran,' means a business entity that is 51% or more owned by one or more veterans with a service-connected disability.

'Qualified Disabled,' means a business entity that is 51% or more owned by one or more with a service-connected disability.

The vendor represents that it IS _____, a qualified disabled veteran.

The contractor represents and warrants that the company meets the above (when checked) and has attached supporting documentation per the following:

Each bid requesting the Qualified Disabled Veterans (QDV) preference, in accordance with Public Act 22 of 2010, MCL 18.1241.3 shall include a DD214 Proof of Service and Discharge, a Veterans Administration rating decision letter, proof of disability (if the disability is not indicated on the DD214), and appropriate legal documents setting forth the 51% natural persons QDV ownership.

Fraudulent Certification as a Qualified Disabled Veteran may result in debarment under MCL 18.264.

Certification of a Michigan Based Business

(Information Required Prior to Contract Award for Application of State Reciprocity Provisions)

To qualify as a Michigan Based Business:

Vendor must have, during the 12 months immediately preceding this bid deadline:

or

If the business is newly established, for the period the business has been in existence, it has:

(Check all that apply):

- Filed a Michigan single business tax return showing a portion, or all the income tax base allocated or apportioned to the State of Michigan pursuant to the Michigan Single Business Tax Act, 1975 PA 228, MCL 208.1 – 208.145:
or
- Filed a Michigan income tax return showing income generated in or attributed to the State of Michigan; or
- Withheld Michigan income tax from compensation paid to the bidder's owners and remitted the tax to the Department of Treasury; or

I certify that **I have personal knowledge** of such filing or withholding, that it was more than a nominal filing for the purpose of gaining the status of a Michigan business, and that it indicates a significant business presence in the state, considering the size of the business and the nature of its activities.

I authorize the Michigan Department of Treasury to verify that the business has or has not met the criteria for a Michigan business indicated above and to disclose the verifying information to the procuring agency.

Bidder shall also indicate one of the following:

- Bidder qualifies as a Michigan business (provide zip code: _____)
- Bidder does not qualify as a Michigan business (provide name of State: _____).
- Principal place of business is outside the State of Michigan, however service/commodity provided by a location within the State of Michigan (provide zip code: _____).

Fraudulent Certification as a Michigan business is prohibited by MCL 18.1268 § 268. A BUSINESS THAT PURPOSELY OR WILLFULLY SUBMITS A FALSE CERTIFICATION THAT IT IS A MICHIGAN BUSINESS OR FALSELY INDICATES THE STATE IN WHICH IT HAS ITS PRINCIPAL PLACE OF BUSINESS IS GUILTY OF A FELONY, PUNISHABLE BY A FINE OF NOT LESS THAN \$25,000 and subject to debarment under MCL 18.264.

BID BOND

BID SUBMITTED ON the _____ day of _____, 20____.

Bid Security is in the form of a Bid Bond _____ Bid Bond form has been duly executed _____; or

A Bank Certified or Cashier's check ___ or Money Order ___ is attached to this page ____ (*If Bid Security is by Check or Money Order, the original check or money order must be delivered to the issuing office before Bid Due Time. ALL other SIGMA bid submittals are also still to be made.*)

If the Bidder is an Individual:

Name of Individual: _____

Name & Title of Person Authorized to sign: _____

Signature: _____
(If not the Individual, Attach Power of Attorney) Date

Doing Business as: _____

Business Address: _____

County of registration _____

Telephone: _____ FAX: _____

If the Bidder is a Partnership:

By: _____
(True Name of the Partnership)

Partner Authorized to Sign Date

Signature: _____
(Attach evidence of Authority to sign) Date

Business Address: _____

County of registration _____

Telephone: _____ FAX _____

If the Bidder is a Corporation:

By: _____
(Legal Corporation Name)

Name & Title of Authorized Officer: _____

Signature: _____
(Attach evidence of Authority to sign) Date

Name & Title of Officer Attesting: _____

Signature: _____
Date

Business Address: _____

Telephone: _____ FAX _____

(State of Incorporation): _____

If The Bidder is A Joint Venture: JOINT VENTURE SIGNATURES MUST BE AS PROVIDED IN INSTRUCTIONS TO BIDDERS. EACH JOINT VENTURER SIGNING THE BID MUST SIGN IN THE MANNER INDICATED FOR AN INDIVIDUAL, A PARTNERSHIP OR A CORPORATION. IF MORE THAN TWO JOINT VENTURERS OF THE SAME TYPE ARE INCLUDED, USE ADDITIONAL PAGES. JOINT VENTURE STATE OF INCORPORATION _____ OR COUNTY OF REGISTRATION _____

POST-BID SUBMITTALS

The PSC will request this submittal after bid opening. Complete and submit these items within two business days after the request.

BIDDER'S EXPERIENCE MODIFICATION RATING (EMR) _____

Attach letter of explanation if the Bidder does not have an EMR.

PROPOSED PROJECT SUPERINTENDENT _____

Attach brief resume or list of similar successful projects.

LIST OF SIMILAR PROJECTS COMPLETED BY THE BIDDER

Please list at least three completed projects of similar size and complexity to the project being bid, with reference contact information

REFERENCE # _____

Owner: _____

Project/Contract Name: _____

Location of Project/Contract: _____

Contract Price: _____ Project/Contract Started: _____ Completed: _____

Owner's Representative (Name and Telephone): _____

Scope of Project/Contract: _____

REFERENCE # _____

Owner: _____

Project/Contract Name: _____

Location of Project/Contract: _____

Contract Price: _____ Project/Contract Started: _____ Completed: _____

Owner's Representative (Name and Telephone): _____

Scope of Project/Contract: _____

REFERENCE # _____

Owner: _____

Project/Contract Name: _____

Location of Project/Contract: _____

Contract Price: _____ Project/Contract Started: _____ Completed: _____

Owner's Representative (Name and Telephone): _____

Scope of Project/Contract: _____

POST BID SUBMITTALS: LIST OF SUBCONTRACTORS

The Apparent Low Bidder shall nominate for each Division of Specification and/or trade category, the Subcontractor to be awarded Sub-agreements, including the apparent Low Bidder if work is to be self-performed. Nominated subcontractors shall not be removed, replaced, or added to except by written request for good reason, subject to Owner acceptance.

Division, Specification Section and/or Trade	Nominated Subcontractor(s)	Amount of Subcontract
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____
7. _____	_____	_____
8. _____	_____	_____
9. _____	_____	_____
10. _____	_____	_____
11. _____	_____	_____
12. _____	_____	_____
13. _____	_____	_____
14. _____	_____	_____

The undersigned Apparent Low Bidder _____ certifies that all the information and data furnished in this List of Subcontractors are current, accurate and complete as of the date stated below.

Signed by: _____ Name _____ Title _____

on this _____ day of _____, 20_____.

PERFORMANCE BOND
SURETY COMPANY REFERENCE No. _____

That "the **Contractor**," _____, a corporation ____, individual ____, partnership ____, joint venture ____, of the State of _____, qualified to do business in the State of Michigan, as Principal, and "the Surety," _____, of the State of _____, as surety, are held and bound unto the State of Michigan, "the **Owner**," as Obligee, in the amount of _____ Dollars (\$_____), for the payment of which the **Contractor** and Surety bind themselves, their respective heirs, successors, legal representatives and assigns, jointly and severally, in compliance with 1963 PA 213, as amended, MCL 129.201 et seq.

The **Contractor** has entered into "the Contract" with the **Owner** for _____, "the Work," covered by the Contract Documents, which are incorporated into this Performance Bond by this reference.

If the **Contractor** faithfully performs and fulfills all the undertakings, covenants, terms, conditions, warranties, indemnifications and agreements of the Contract Documents within the Contract Time (including any authorized changes, with or without notice to the Surety) and during the Correction Period, and if the **Contractor** also performs and fulfills all the undertakings, covenants, terms, conditions, warranties, indemnifications and agreements of any and all duly authorized modifications of the Contract Documents, then THIS OBLIGATION IS VOID, OTHERWISE TO REMAIN IN FULL FORCE AND EFFECT.

A. No change in Contract Price or Contract Time, "or equal" or substitution or modification of the Contract Documents (including addition, deletion, or other revision) releases the Surety of its obligations under this Section 00610 Performance Bond. The Surety expressly waives notice of any such change in Contract Price or Contract Time, "or equal" or substitution or

modification of the Contract Documents (including addition, deletion, or other revision).

B. This Performance Bond must be solely for the protection of the **Owner** and its successors, legal representatives or assigns.

C. It is the intention of the **Contractor** and Surety that they must be bound by all terms and conditions of the Contract Documents (including, but not limited to General Conditions and this Performance Bond). However, this Performance Bond is executed pursuant to 1963 PA 213, as amended, MCL 129.201 et seq., and if any provision(s) of this Performance Bond is/are illegal, invalid, or unenforceable, all other provisions of this Performance Bond must nevertheless remain in full force and effect, and the **Owner** must be protected to the full extent provided by 1963 PA 213, as amended, MCL 129.201 et seq.

IMPORTANT: The Surety must be authorized to do business in the State of Michigan by the Department of Licensing and Regulatory Affairs, must be listed on the current U.S. Department of the Treasury Circular 570, and, unless otherwise authorized by the **Owner** in writing, must have at least an A- Best's rating and a Class VII or better financial size category per current A. M. Best Company ratings.

Name, Address and Telephone of the Surety:

Address and Telephone of Agent, who is either a resident of, or whose principal office is maintained in, the State of Michigan

Signed and sealed this _____ day of _____, 20_____.

THE **CONTRACTOR**: (Print Full Name and Sign) By: _____

WITNESS _____ Name & Title: _____
Telephone No. _____

THE **SURETY**: (Print Full Name and Sign) Agent: _____

WITNESS _____ Attorney-in-Fact: _____
Telephone No. _____

Email: _____

PAYMENT BOND
SURETY COMPANY REFERENCE No. _____

"the **Contractor**," _____, a corporation ____, individual ____, partnership ____, joint venture __ of the State of _____, qualified to do business in the State of Michigan, as Principal, and "the **Surety**," _____, of the State of _____, as surety, are held and bound unto the State of Michigan, "the **Owner**," as Obligee, in the amount of _____ Dollars (\$ _____), for the payment of which the **Contractor** and Surety bind themselves, their respective heirs, successors, legal representatives and assigns, jointly and severally, in compliance with 1963 PA 213, as amended, MCL 129.201 et seq.

The **Contractor** has entered into "the Contract" with the **Owner** for _____, "the Work," covered by the Contract Documents, which are incorporated into this Payment Bond by this reference.

If the **Contractor** promptly pays all claimants supplying labor or materials to the **Contractor** or to the **Contractor's** Subcontractors in the prosecution of the Work, then THIS OBLIGATION IS VOID, OTHERWISE TO REMAIN IN FULL FORCE AND EFFECT.

A. All rights and remedies on this Payment Bond are solely for the protection of all claimants supplying labor and materials to the **Contractor** or the **Contractor's** Subcontractors in the prosecution of the Work and must be determined in accordance with Michigan Law.

B. No change in Contract Price or Contract Time, "or equal" or substitution or modification of the Contract Documents (including addition, deletion, or other revision) must release the Surety of its obligations under this Payment Bond. The Surety

hereby expressly waives notice of any such change in Contract Price or Contract Time, "or equal" or substitution or modification of the Contract Documents (including addition, deletion, or other revision).

C. It is the intention of the **Contractor** and Surety that they must be bound by all terms and conditions of the Contract Documents (including, but not limited to this Payment Bond). However, this Payment Bond is executed pursuant to 1963 PA 213, as amended, MCL 129.201 et seq., and if any provision(s) of this Payment Bond is/are illegal, invalid, or unenforceable, all other provisions of this Payment Bond must nevertheless remain in full force and effect, and the **Owner** must be protected to the full extent provided by 1963 PA 213, as amended, MCL 129.201 et seq.

IMPORTANT: The Surety must be authorized to do business in the State of Michigan by the Department of Licensing and Regulatory Affairs, must be listed on the current U.S. Department of the Treasury Circular 570, and, unless otherwise authorized by the **Owner** in writing, must have at least an A- Best's rating and a Class VII or better financial size category per current A. M. Best Company ratings.

Name, Address and Telephone of the Surety:

Address and Telephone of Agent, who is either a resident of, or whose principal office is maintained in, the State of Michigan

Signed and sealed this _____ day of _____, 20_____.

THE **CONTRACTOR**: (Print Full Name and Sign) By: _____

WITNESS _____ Name & Title: _____
Telephone No. _____

THE **SURETY**: (Print Full Name and Sign) Agent: _____

WITNESS _____ Attorney-in-Fact: _____
Telephone No. _____

Email: _____

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DIVISION 00

BIDDING REQUIREMENTS AND CONTRACT CONDITIONS

SECTION 00010 PRE-BID INFORMATION

1. **Invitation to Bid (ITB)** – Your firm is invited to submit a Bid. The State of Michigan as the Owner will receive **bids electronically through the SIGMA VSS website at <https://sigma.michigan.gov/webapp/PRDVSS2X1/AltSelfService>**, for Cadillac Place - UIA Lobby Redesign until 2:00 p.m., ET, on February 19, 2025. The State reserves the right to cancel this Invitation to Bid (ITB) or change the date and time for submitting Bids by announcing same at any time before the established date and time for Bid opening. Bids must remain open for acceptance by the Owner for no less than the Bid hold period. Contractor may agree to extend the Bid hold period. However, any such extension must be based upon no increase in the Bid Price and/or Contract Time.

2. **Work Description** – The Work, at The Unemployment Insurance Agency lobby redesign consists of demolition of the existing lobby to office wall partition and constructing a new security glass wall partition. This project also consists of expanding the suite, new modular furniture by DBI, electrical in the furniture, and all new finishes throughout, DTMB File No. 186/23271.MNB.

The site is located Cadillac Place - 3044 W. Grand Blvd Detroit MI, 48202, as shown on the Drawings.

3. **Bidding Documents** – Sets of Bidding Documents may be obtained at <https://sigma.michigan.gov/webapp/PRDVSS2X1/AltSelfService>.

4. **Bid Security** – Each Bid must enclose a duly executed Bid Security, in the amount of five percent (5%) of the Bidder's Base Bid, paid to the "State of Michigan" in the form of a certified or cashier's check or money order drawn upon a bank insured by an agency of the Federal Government, or a bid bond signed by both the Contractor and authorized surety company. *If Bid Security is by check or money order, such certified or cashier's check or money order must be delivered in original copy before the Bid Due Time to:*

State Facilities Administration
Design & Construction Division
3111 W. St. Joseph Street
Lansing, Michigan 48917

All other Bid information must be submitted via SIGMA as per standard bidding procedure

5. **Pre-Bid Conference** – A mandatory X voluntary pre-bid conference will be held at 3044 W. Grand Blvd. Detroit, MI 48202 on February 3, 2025 at 10:00am ET. A Contractor walkthrough will X will not be held on the same day, starting at 10:15am ET. All prospective Bidders are required X encouraged to attend the tour, if held. Other parties interested in the Work are encouraged to attend the tour. Addenda may be issued, in response to issues raised at the pre-bid conference and tour, or as the Owner and/or Professional may otherwise consider necessary.

The purpose of the pre-bid conference and inspection is to answer questions and provide an inspection tour of the Project site at the scheduled time on the day of the meeting. A representative will be available to assist the Contractors. Other inspection visits may be allowed if needed. Individuals needing special services to fully participate in the meeting due to a disability may contact [Derek Slupka](mailto:Derek.Slupka@state.mi.gov) at (248) 605-2030.

FOR CORRECTIONAL FACILITIES ONLY: All contractor/vendor representatives attending a Pre-Bid Walk Through Meeting must submit a Vendor/Contractor LEIN Request five business days prior to the meeting date, (LEIN Request For CAJ-1037 attached to Bid posting). Send the LEIN Request form, filled out and signed, by email to SmithD76@michigan.gov & FrostS1@michigan.gov. The email "Subject" must include (Facility Name, Project Name, Date & Time of Pre-Bid Walk Through Meeting).

6. **SIGMA VENDOR NUMBER:** If you are bidding a State job for the first time, visit the State of Michigan SIGMA website, <https://sigma.michigan.gov/webapp/PRDVSS2X1/AltSelfService>, and follow the "SOM VSS User Guide for New Vendors" instructions, located under Forms and Reference Documents. Registration is required for bid submission. **Do not wait until the last minute to submit a proposal**, as the SIGMA system requires the creation of an account and entry of certain information, in addition to uploading and submitting the materials. The SIGMA system **will not** allow a proposal to be submitted after the proposal deadline, even if a portion of the proposal has been updated.

Questions on how to submit information or how to navigate in the SIGMA VSS system can be answered by calling **(517) 373-4111 or (888) 734-9749**.

7. **Equal Employment Opportunity** – Covenants to not discriminate in employment by Contractors, Subcontractors and Suppliers required by Law are contained in Instructions to Bidders and General Conditions and are applicable to the Work and any Sub-agreement under the Contract.

8. **Contract Times** – The Contract Times and the associated liquidated damages are specified in the Contract.

9. **Contact Person** – All requests or inquiries concerning the Bidding Documents, or the Work must be addressed to: Derek Slupka, DS Architects, Inc. 7300 Dixie Hwy., Suite 600 Clarkston, MI 48346. derek@dsarchitects.com. Questions will be accepted until February 7, 2025 at 2:00pm ET.

- 10. Award** – Subject to any agreed extension of the period for holding Bids, Bids must remain valid for acceptance by the Owner for 60 Calendar Days after the date of Bid opening. In addition, the Owner expressly reserves the right, within the Owner's sole discretion, to reject any or all Bids, to waive any irregularities, to issue post-Bid Addenda and re-bid the Work without re-advertising, to re-advertise for Bids, to withhold the award for any reason the Owner determines and/or to take any other appropriate action.
- 11. Performance and Payment Bonds** – A performance bond and a payment bond are required for all contracts over \$50,000.00.

END OF SECTION 00010

SECTION 00100 INSTRUCTIONS TO BIDDERS

- 1. PREPARATION OF BID:** Execute Bid fully and properly. Bid Summary Form (DTMB -0401D) and Bid Form Attachments must be used and completely filled out for the Bid to be considered responsive and meeting the requirements of the contract solicitation. All Bid prices must be printed or typed in both words and figures.
- 2. BID CHECKLIST:** Submit Bid Summary Form with original signatures plus Bid Form Attachments in accordance with the electronic bidding procedures on the SIGMA VSS website.

A complete Bid will consist of the following forms, which are included immediately following the Bid Summary Form:

<u>Bids</u>	<u>SUBMIT THESE Bid Forms and Bid Form Attachments</u>
--------------------	---

- | | |
|----------|---|
| All Bids | <input type="checkbox"/> Signed and completed Bid Summary Form (DTMB-0401D). |
| | <input type="checkbox"/> Bid Schedule. |
| | <input type="checkbox"/> Qualified Disabled Veteran (QDV) Business Representation. |
| | <input type="checkbox"/> Bid Security in the amount of 5% of Base Bid Price. |
| | <i><u>If Bid Security is by check or money order, such certified or cashier's check or money order must be delivered in original copy before the Bid Due Time to:</u></i> |

State Facilities Administration
Design & Construction Division
3111 W. St. Joseph Street
Lansing, Michigan 48917

All other Bid information must be submitted via SIGMA as per standard bidding procedure

- | | |
|-------------|--|
| | <input type="checkbox"/> Signature Authorization or copy of the partnership agreement if signed by all partners. |
| | <input type="checkbox"/> Byrd Anti-Lobbying Certification (Only when Federal Provisions Addendum is included) |
| | <input type="checkbox"/> Other Forms; None |
| Over \$50K | <input type="checkbox"/> Forms listed under All Bids. |
| | <input type="checkbox"/> Payment and Performance Bond (upon issuing the Notice of Award). |
| Over \$100K | <input type="checkbox"/> Forms listed under All Bids. |
| | <input type="checkbox"/> Certification of a Michigan Based Business. |
| | <input type="checkbox"/> Payment and Performance Bond (upon issuing the Notice of Award). |
| Over \$250K | <input type="checkbox"/> Forms listed under All Bids. |
| | <input type="checkbox"/> Certification of a Michigan Based Business. |
| | <input type="checkbox"/> Payment and Performance Bond (upon issuing the Notice of Award). |

Apparent Low Bidders ONLY (upon request from the Professional)

- Experience Modification Rating (EMR), or a letter stating why the Bidder does not have one.
- Identification of the proposed project superintendent, with a resume or list of similar projects handled by that individual.
- A list of at least three (3) projects completed by the Bidder, within the last three (3) years of similar size and complexity, with contact information for references for each.
- A list of nominated sub-contractors, including proposed self-performed categories, for each Division/Trade/etc.

- 3. BID SUBMISSION:** Bids must be submitted electronically through the SIGMA VSS website at <https://sigma.michigan.gov/webapp/PRDVSS2X1/AltSelfService>.

4. **BID GUARANTEE:** Each proposal must be accompanied by either a bank certified or cashier's check on an open, solvent bank or a bid bond with an authorized surety company (the surety must be listed on the current U.S. Department of the Treasury Circular 570) in the amount of five percent of the base bid payable to the State of Michigan, as a guarantee of good faith. If the successful Bidder fails to furnish satisfactory bonds and insurance within fifteen Calendar Days after Notice of Award, such guarantee must be forfeited to the State as liquidated damages. If Bid Security is by check or money order, such certified or cashier's check or money order must be delivered in original copy before the Bid Due Time to the Issuing Office. The bid security, exclusive of bid bonds, of all unsuccessful Bidders will be returned when an award is made or upon substitution of a bid bond. The bid security of the successful Bidder will be returned when the performance bond and labor and material bond are approved.
5. **Left Blank Intentionally.**
6. **MICHIGAN BASED BUSINESS CERTIFICATION:** All Bidders submitting Bids in excess of \$100,000.00 must complete the Certification of Michigan Based Business. This information will determine if a Bidder qualifies as a "Michigan" business for purposes of application of reciprocity where applicable.
7. **POST-BID SUBMITTAL:** For all projects, the Professional may request a Post-Bid Submittal from the Apparent Low Bidders. The Apparent Low Bidders must submit to the Professional, within **two** Business Days after receipt of the Professional's request,
 - Experience Modification Rating (EMR), or a letter stating why the Bidder does not have one.
 - Identification of the proposed project superintendent with a resume or list of similar projects managed by that individual.
 - A list of at least three (3) projects completed by the Bidder, within the last three (3) years of similar size and complexity, with contact information for references for each.
Failure to provide the submittals may disqualify the Bid.
8. **SIGNATURES:** All Bids, notifications, claims, and statements must be signed as follows:
 - (a) **Corporations:** Signature of official must be accompanied by a certified copy of the Resolution of the Board of Directors authorizing the individual signing to bind the corporation.
 - (b) **Partnerships:** Signature of one partner must be accompanied by a signed copy of the legal document (e.g., Power of Attorney or partnering agreement) authorizing the individual signing to bind all partners. If Bid is signed by all partners, no authorization is required.
 - (c) **Individual:** No authorization is needed. Each signature must be witnessed.
9. **BID PRICES:** The Bidder's Base Bid and Alternate Bid prices must include, and payment for completed Work will compensate in full for: all services, obligations, responsibilities, management, supervision, labor, materials, devices, equipment, construction equipment, general conditions, permits, patent fees and royalties, testing, inspection and approval responsibilities, warranties, temporary facilities, small tools, supplies, Bonds, insurance, taxes, mobilization, close-out, overhead and profit and all connections, appurtenances and any other incidental items of any kind or nature, as are necessary to complete the Work, in a neat, first quality, workmanlike and satisfactory manner in accordance with the Drawings and Specifications and as otherwise required to fulfill the requirements of the Bidding Documents. For each Cash Allowance item, the Bidder must include, within the Bid, all labor costs, construction equipment costs, insurance and Bond premiums and other general conditions costs and Fees (Bidder's and Subcontractors') to complete Work associated with the material, equipment, or other designated item to be furnished under the Cash Allowance. For each Provisionary Allowance, the Bidder must include, within the Bid, insurance, premiums (not recoverable as labor burden) and Bond premiums required to complete Work that may be ordered under a Provisionary Allowance.
10. **INSPECTION OF BIDDING DOCUMENTS AND SITE CONDITIONS:** The Bidder must carefully review and inspect all documents referenced and made part of this ITB, site conditions, all applicable statutes, regulations, ordinances, and resolutions addressing or relating to the goods and services under this contract. Failure to do so or failure to acquire clarifications and answers to any discovered conflicts, ambiguities, errors, or omissions in the Bidding Documents will be at the Bidder's sole risk.
11. **SAFETY REQUIREMENTS AND LAWS:** The Bidder awarded the Contract must comply with all applicable federal, state, and local Laws including health and safety regulations, environmental protection, permits and licensing.
12. **INTERPRETATIONS AND ALTERATIONS TO THE BID AND BIDDING DOCUMENTS:** All requests for clarification or interpretation of the Bidding Documents, all proposals for any modifications to the Bidding Documents, all requests for information and all other questions or inquiries about the Bidding Documents and/or the Work shall be submitted in writing to the Contact Person identified in the Bid Documents. Requests or inquiries received less than seven Calendar Days before the date of Bid opening will be answered only if (a) the response can be given through an Addendum made available at least seventy-two hours before Bid opening (counting Business Days only), (b) the Bid opening is postponed by Addendum, or (c) the Work is rebid without re-advertising following the issuance of post-Bid Addenda.

Bidders must not rely upon any oral statements or conversations regarding interpretations, clarifications, corrections, additions, deletions or other revisions or information to the Bidding Documents. Any addition, limitation or provision made with or attached to the Bid may render it non-responsive and/or irregular and be a cause for rejection. The Owner reserves the right to issue a post-Bid Addendum after opening the Bids and set a new date for the receipt and opening of sealed Bids. The Bidder acknowledges that any quantities of Unit Price Work given in this ITB are approximate only and payments will be made only for actual quantities of Unit Price Work completed in accordance with the Contract Documents.

13. MODIFICATION OF BID: The entire bid must be resubmitted on the SIGMA VSS website.

- 14. BID WITHDRAWAL:** Except for timely filed claims of mathematical or clerical errors granted by the State, no Bid may be withdrawn within sixty Calendar Days after the Bid Opening time and date or before the Bid expiration date without forfeiting Bid security. The request to withdraw a Bid due to error must be submitted in writing along with the supporting documents within two Business Days after the date of Bid Opening. The claim must describe in detail the error(s), include a signed affidavit stating the facts of the alleged error(s) and request that the Bidder be released from its Bid. The review of the claim and its supporting documents by the State is only for the purpose of evaluating the Bidder's request and must not create duty or liability on the State to discover any other Bid error or mistake. The sole liability of any Bid error or mistake rests with Bidder.
- 15. OBJECTION TO THE AWARD:** A Bidder may file a written protest with the Director-DCD to object to the Apparent Low Bidder. This objection must be filed within seven Calendar Days after the date of Bid opening and must describe in detail the basis for the protest and request a determination. The Director-DCD will either dismiss or uphold the protest and notify the protestor within ten Calendar Days after receipt of the written protest.
- 16. BID IRREGULARITIES:** The following irregularities on any Bid Form or Bid Form Attachment must be resolved as follows:
- (a) between SIGMA entry and signed Bid Summary attachment, the signed Bid Summary attachment will be used.
 - (b) between words and figures, the words must be used.
 - (c) between any sum, computed by the Bidder, and the correct sum, the sum computed by the Bidder must be used.
 - (d) between the product, computed by the Bidder, of any quantity and Bid Unit Price and the correct product of the Unit Price and the quantity of Unit Price Work, the product extended by the Bidder must be used.
 - (e) between a stipulated Allowance and the amount entered, the Allowance must be used.
 - (f) any mobilization pay item exceeding the maximum specified must be ignored and the Bid must remain unchanged.
 - (g) if any Bidder fails or neglects to bid a Unit Price for an item of Unit Price Work but shows a "Bid Price" for that item, the missing unit price must be computed from the respective quantity and the Item Bid Price shown.
 - (h) if any Bidder fails or neglects to show a "Bid Price" for an item of Unit Price Work but bids a unit price, the missing Bid Price must remain as "zero"; and
 - (i) if any Bidder fails or neglects to enter a Bid Price in both words and figures, the Bid Price printed or typed, whether in words or figures, must be used.
- 17. CERTIFICATION:** The bidder certifies to the best of its knowledge and belief that, within the past three (3) years, the bidder, an officer of the bidder, or an owner of a 25% or greater interest in the bidder:
- (a) Has not been convicted of a criminal offense incident to the application for or performance of a contract or subcontract with the State of Michigan or any of its agencies, authorities, boards, commissions, or departments.
 - (b) Has not had a felony conviction in any state (including the State of Michigan).
 - (c) Has not been convicted of a criminal offense which negatively reflects on the bidder's business integrity, including but not limited to, embezzlement, theft, forgery, bribery, falsification, or destruction of records, receiving stolen property, negligent misrepresentation, price-fixing, bid rigging, or a violation of state or federal anti-trust statutes.
 - (d) Has not had a loss or suspension of a license or the right to do business or practice a profession, the loss or suspension of which indicates dishonesty, a lack of integrity, or a failure or refusal to perform in accordance with the ethical standards of the business or profession in question.
 - (e) Has not been terminated for cause by the Owner.
 - (f) Has not failed to pay any federal, state, or local taxes.
 - (g) Has not failed to comply with all requirements for foreign corporations.
 - (h) Has not been debarred from participation in the bid process pursuant to Section 264 of 1984 PA 431, as amended, MCL 18.1264, or debarred or suspended from consideration for award of contracts by any other State or any federal Agency.
 - (i) Has not been convicted of a criminal offense or other violation of other state or federal law, as determined by a court of competent jurisdiction or an administrative proceeding, that in the opinion of DTMB indicates that the bidder is unable to perform responsibly or which reflects a lack of integrity that could negatively impact or reflect upon the State of Michigan, including but not limited to, any of the following offenses under or violations of:
 - 1. The Natural Resources and Environmental Protection Act, 1994 PA 451, MCL 324.101 to 324.90106.
 - 2. A persistent and knowing violation of the Michigan Consumer Protection Act, 1976 PA 331, MCL 445.901 to 445.922.
 - 3. A finding that the bidder failed to pay the wages and/or fringe benefits as required by applicable law.
 - 4. Repeated or flagrant violations of 1978 PA 390 MCL 408.471 to 408.490 (law relating to payment of wages and fringe benefits).
 - 5. A willful or persistent violation of the Michigan Occupational Health and Safety Act, 1974, PA 154, MCL 408.10001 to 408.1094, including: a criminal conviction, repeated willful violations that are final orders, repeated violations that are final orders, and failure to abate notices that are final orders.
 - 6. A violation of federal or state civil rights, equal rights, or non-discrimination laws, rules, or regulations.
 - 7. Been found in contempt of court by a Federal Court of Appeals for failure to correct an unfair labor practice as prohibited by Section 8 of Chapter 372 of the National Labor Relations Act, 29 U. s. C. 158 (1980 PA 278, as amended, MCL 423.321 et seq).
 - (j) Is not an Iran-Linked Business as defined in MCL 129.312.

A false statement, misrepresentation, or concealment of material facts on this certification may be grounds for rejection of this proposal or termination of the award and may be grounds for debarment.

- 18. REJECTION OF BID:** The Bidder acknowledges the right of the Owner to reject any Bids and to waive any informality, defects or irregularity in any Bid received. In addition, the Bidder recognizes the right of the Owner to reject a Bid if:
- (a) the Bid is in any way incomplete or irregular.
 - (b) the Bidder, Subcontractor or Supplier is not responsible as determined by the Owner.
 - (c) the Bidder's performance as a Contractor was unsatisfactory under a prior Contract with the Owner for the construction, repair, modification, or demolition of a facility with the Owner, or under any other Contract, which was funded, directly or indirectly, by the Owner.
 - (d) there are reasonable grounds for believing that collusion or unlawful agreements exists between any Bidders, that a Bidder is interested in more than one Bid, or that the Bid is not genuine.
 - (e) the Bid exceeds the funds available.
- 19. MATERIALS AND EQUIPMENT SUBSTITUTION:** Any Bidder wishing to use manufacturers or materials other than those specified must submit a written request to the Professional not later than seven days before due date for Bids. Request must be accompanied by product data to permit evaluation and comparison with specified products or materials. The Person submitting the request will be responsible for its prompt delivery. The Professional and the Owner will examine and evaluate the product data and if found acceptable, an Addendum will be issued and mailed or delivered to each Person who has received a set of Drawings and Specifications. All Addenda issued must be made a part of the Contract requirements. Contractor will be responsible for any extra work and expense incurred to satisfactorily and completely incorporating each substitute product into the Project.
- 20. MICHIGAN PRODUCTS AND RECYCLED PRODUCTS:** All Contractors and Suppliers are encouraged to provide Michigan-made products and/or recycled products and/or green products and/or environmentally friendly products whenever possible where price, quality, and performance are equal to, or superior to, non-Michigan products and the requirements of the Contract Documents. The Contractor will be required to use alternatives to landfills for waste disposal such as reuse or recycle of asphalt, bricks, concrete, masonry, plastics, paint, glass, carpet, metals, wood, drywall, insulation, and any other waste materials to the extent practical.
- 21. PRE-AWARD PRODUCT SUBMITTALS:** If requested, the Apparent Low Bidders must submit a summary of preliminary technical data on each product listed in N/A. The Apparent Low Bidders will furnish this summary data to the Professional within forty-eight hours of the Bid Opening. These submittals will be used to evaluate the Bid before the award. Failure to provide the submittals may disqualify the Bid.
- 22. CONTRACT AND CONTRACT AWARD:** The Owner intends to award a Contract to the responsive and responsible best value bidder, except as provided below relative to veteran's preference.
- 22.1 Determination of the lowest three Bidders shall be based on the sum of the Base Bid and any additive and deductive Alternates the Owner accepts, in the order in which they are listed only. The Owner will accept an Alternate only if all other previously listed Alternates are also accepted unless acceptance by the Owner of Alternates in a different order does not affect determination of the lowest three bidders in any way.
 - 22.2 The bids will be evaluated for best value based on price and qualitative components by comparing the qualitative components of the three lowest responsive and responsible Bidders. The comparison may also include other Bidders whose bids are within 10% of the lowest responsive and responsible Bidder.
 - 22.3 If a Qualified Disabled Veteran meets the requirements of the contract solicitation, provides acceptable responses to both Part One and Part Two of the Best Value Construction Bidder Evaluation to achieve a Best Value recommendation and with the veteran's preference is the lowest responsive, responsible, best value Bidder, the Owner will award the contract to the Qualified Disabled Veteran bidder. A determination as to whether the requirements of the bid solicitation have been met will be based solely on the Owner's and Professional's evaluation of the Bid Summary, Bid Attachments, Bidder-provided documents, and interview.
 - 22.4 For the purpose of evaluating and determining the low responsive bid, 10% of the lowest responsive bid (the bid that would otherwise receive the contract award if the preference were not being considered) will be deducted from all QDV bids. If the low responsive QDV bid, less the 10% preference, is less than the lowest responsive bid, then the QDV bid will be declared the official low responsive bid. The original QDV bid amount will be the basis of the contract award.

Example:

Lowest Responsive Bid	\$100,000
Lowest Responsive QDV Bid	\$109,000
Preference (10% of the Lowest Responsive Bid)	\$ 10,000
Lowest Responsive QDV Bid Less Preference	\$ 99,000 (\$109,000 - \$10,000)
Official Low Responsive Bid	\$109,000

22.5 The Apparent Low Bidders will be evaluated for responsiveness and responsibility based on the following:

- Compliance with the bid specifications and requirements.
- The Bidder's financial resources.
- The Bidder's technical capabilities.
- The Bidder's technical experience.
- The Bidder's past performance.
- The Bidder's insurance and bonding capacity.
- The Bidder's business integrity.

Some qualitative components that may be evaluated are:

- Technical approach.
- Quality of proposed personnel.
- Management plans.

22.6 For contracts under \$250,000, best value will primarily be based on the lowest responsive and responsible bid.

23. CONTRACT TIME; LIQUIDATED DAMAGES: Work of all trades as specified in the Contract Documents must be completed in 180 calendar days from the date of Notice-to-Proceed or by 150 days based on Notice-to-Proceed except for minor replacement, correction, or adjustment items which do not interfere with the complete operation and utilization of all parts of the Contract Work. This Contract Time is of the essence and liquidated damages for each Calendar Day that expires after this Substantial Completion of the entire Work must be in the amount of \$400. Liquidated damages are not a penalty, are cumulative and represent a reasonable estimate of the Owner's extra costs and damages, which are difficult to estimate with accuracy in advance.

24. MOBILIZATION: If used in the Specifications/Bid schedule, all the up-front costs incurred by the Contractor must be covered by the mobilization. The costs to establish temporary site offices, to obtain required permits for commencing the Work and for bonds and insurance premiums are examples of costs to the Contractor that are covered by mobilization pay item. This cost must not exceed four percent (4%) of the Base Bid, unless otherwise expressly provided in the Bidding Documents.

25. SOIL EROSION AND SEDIMENTATION CONTROL: All Work under this Contract must meet the storm water management requirements of the Project and comply with the applicable Soil Erosion and Sedimentation Control (SESC) rules and regulations and specific provisions for same within the Contract Documents. SESC measures will be monitored and enforced by the State Facilities Administration, or another authorized enforcing agency if so delegated, through the review of the Contractor's implementation plans and site inspections. State Facilities Administration or the Professional will notify the Contractor in writing of any violation(s) of the applicable SESC statutes and/or the corrective action(s) undertaken by the Owner and may issue stop work orders. State Facilities Administration has the right to assess a fine to the Contractor for noncompliance with the provisions of the Contract Documents and/or SESC regulations applicable to this Work and fines must be in addition to any other remediation costs or liquidated damages applicable to the Project and may exceed the value of the Contract.

26. PREVAILING WAGE: The Bidding Documents include either the attached Appendix V of prevailing rates of wages and fringe benefits for all classes of Construction Mechanics called for in the Bid and resulting Contract, if any, or the attached current prevailing wage determination issued by the U.S. Department of Labor, as applicable depending on the funding source(s).

END OF SECTION 00100

SECTION 00120 SUPPLEMENTARY INSTRUCTIONS

The provisions of this Section amend or supplement Section 00100 Instructions to Bidders and those other provisions of the Bidding Requirements that are indicated below. All other Bidding Requirements that are not so amended or supplemented remain in full force and effect.

END OF SECTION 00120

SECTION 00200 INFORMATION FOR BIDDERS

1. UNDERGROUND UTILITIES

Information or data about physical conditions of existing Underground Utilities, which have been used by the Professional in preparing the Bidding Documents, is shown, or indicated in the Drawings and technical Specifications and those Underground Utility drawings itemized immediately below: None

2. PERMITS, APPROVALS, LICENSES AND FEES

2.1 If the Owner has secured or will secure any permits, approvals and licenses and has paid or will pay any associated charges and fees, any such permits, approvals and licenses are itemized in this paragraph: None

2.2 If any permits, approvals, and licenses itemized above have been obtained by the Owner and the fees have been paid, copies of those permits, approvals, licenses, and corresponding fee receipts, are attached to this Section 00200 Information for Bidders.

Except for any permits, approvals, licenses, and fees identified above, the Contractor shall be responsible for all permits, approvals, licenses, and fees applicable to Work.

3. SEQUENCING REQUIREMENTS

Refer to the technical Specifications, including, but not limited to the General Requirements, for information, data, and criteria on sequences of Work restraints, construction, and maintenance of service to existing facilities, which, if provided, must govern the selection of Work sequences. Each Bidder must be responsible for any conclusions or interpretations the Bidder makes related to the selection of sequences and Means and Methods, based on the technical data made available, and/or those additional investigations or studies made or obtained by that Bidder.

END OF SECTION 00200

SECTION 00700 GENERAL CONDITIONS

1. **Interpretations:** Any requests for clarifications or interpretations of the Contract Documents must be in writing to the Professional, who will issue written clarifications or interpretations as appropriate. If the Contractor believes that such clarification or interpretation justifies an adjustment to the Contract Price/Time, the Contractor must promptly notify the Professional in writing before proceeding with the Work Involved.
- 1.1 **Standards:** The Contract Documents describe the entire Work. The provisions of the Contract Documents must govern over any standard specifications, manual or code of any technical society, organization, or association but, if lower than the standards set by any Law applicable to the Work or the Project, the higher standards must govern. The Contractor's responsibilities extend to cover Subcontractors and Suppliers if liable as a result of their actions or obligations.
- 1.2 **Contract Time Computation:** The time to complete the Work must be made in Calendar Days and must include both the first and last day. The first day is established by the Notice-to-Proceed.
- 1.3 **Technical Specifications and Priority:** The following applies whenever priority is called for in Contract Documents: specifications must govern Drawings; figured dimensions must govern scaled dimensions; detail drawings must govern general drawings; Drawings must govern Submittals.
- 1.4 **Indemnification:** The Contractor is required to defend, indemnify and hold harmless the Owner and the Professional, their employees, agents, servants, and representatives from and against all claims, suits, demands, actions of whatever type and nature and all judgments, costs, losses and damages, whether direct, indirect or consequential including, but not limited to, charges of architects, engineers, attorneys and others and all court, hearing and any other dispute resolution costs arising from:
 - (a) any patent or copyright infringement by the Contractor.
 - (b) any damage to the premises or adjacent lands, areas, properties, facilities, rights-of-way, and easements, including loss of use to the business and property of others as a result of Contractor's operations.
 - (c) any bodily injury, sickness, disease or death, or injury to or destruction of property, including loss of use due to or related to the Work and caused in whole or in part by the Contractor or Subcontractor or Supplier's negligence, omissions, or failure to maintain the required insurance and coverage and,
 - (d) a failure by the Contractor to appropriately handle Hazardous Materials for the Work or the Contractor's operations in compliance with the Owner requirements and/or applicable Laws and regulations.

The indemnification obligations are not affected by the limitation on the amount and types of damages, compensation or benefits payable by or for the Contractor or Subcontractor or Supplier under worker's or workman's compensation acts, disability benefit acts or other employee benefit acts.

- 1.5 **Contract Documents Ownership:** The State is the owner of the Contract Documents. The Contractor, Subcontractor or Supplier must not reuse any of the documents on any other Project without prior consent of the State and Professional. The Professional will furnish on behalf of the Owner at no cost to the Contractor, one (1) electronic copy of the Drawings and Project Manual. If the **Contractor**, or the Contractor's Subcontractors or Suppliers request hard copy sets, reproduction of these documents will be the responsibility of the **Contractor**.

2. GENERAL PROVISIONS

- 2.1 **Owner:** The Project Director and/or Owner Field Representative will represent the Owner. Neither the Project Director nor the Owner Field Representative has the authority to interpret the requirements of the Contract Documents or to authorize any changes in the Work or any adjustment in Contract Price/Time. The State will provide the necessary easements for permanent structure and permanent changes in existing lands, areas, properties, and facilities. However, the Contractor must obtain, at no increase in Contract Price/Time, permits for any other lands, areas, properties, facilities, rights-of-way, and easements required by the Contractor for temporary facilities, storage, disposal of soil or waste material or any other purpose. The Contractor must submit copies of the permits and written agreements to the Owner. The Contractor must engage a registered land surveyor to establish the necessary reference points and/or base lines for construction and must be responsible for protecting them including benchmarks and Project elevations.
- 2.2 **Professional:** Acting as the Owner's representative during the Contract Time period, the Professional will endeavor to guard the Owner from Defective work and to keep the Owner informed of the progress of the Work. Unless delegated by specific written notice from the Owner, the Professional and the Professional's representatives do not have the authority to authorize any changes in the Work or any adjustment in Contract Price/Time. The On-site Inspections by the Owner Field Representative and/or the Professional do not relieve the Contractor from its obligation to provide the Work in accordance with the Contract Documents or represent acceptance of Defective Work.

2.3 **Contractor:** The Contractor must manage, supervise, and direct the Work competently, applying the management, supervision, skills, expertise, scheduling, coordination, and attention necessary to provide the Work in accordance with the Contract Documents with a minimum disturbance to or interference to the business operations on site or adjacent properties. The Contractor must assign and maintain a competent full-time **superintendent** on the Work, as its representative, at all times while Work is being done on site and must not be replaced without the Owner's consent. The DTMB Superintendent Designation [form](#) must be completed by the Contractor and submitted before beginning any work. The Contractor shall enforce good order among its employees and shall not employ on the work any disorderly, intemperate, or unfit persons, or not skilled in the work assigned to them. The Contractor is solely responsible for his Means and Methods, safety precautions and programs related to safety, the Contractor's failure to execute the Work in accordance with the Contract Documents and any act of omissions by the Contractor, Subcontractor or Supplier. The Contractor must **compare Contract Documents for conflicts**, unworkable or unsafe specified Means and Methods and verify against manufacturer's recommendations for installations and handling and must notify the Professional in writing of the discovery of any such conflicts or errors. The Contractor is required to furnish certifications that lines and grades for all concrete work were checked before and after placing concrete, and that final grades are as required by the Contractor Documents. Wherever required, the Contractor must be responsible for all cutting, fitting, drilling, fixing-up, and patching of concrete, masonry, gypsum board, piping and other materials that may be necessary to make in-place Work and dependent Work fit together properly. The Contractor must restore to pre-existing conditions all walks, roadways, paved or landscaped areas and other real and personal property not designated for alteration by the Contract Documents. The Contractor must maintain at the site one copy of safety data sheets (SDS) and one copy of all **as built/Record Documents** in good order and annotated in a neat and legible manner to show:

- (a) all revisions made,
- (b) dimensions noted during the furnishing and performance of the Work, and
- (c) all deviations between the as-built installation and the Contract Documents, all approved Submittals and all clarifications and interpretations.

The Contractor must maintain and furnish promptly to the Owner and the Professional upon their request **daily field reports and photos** recording the on-site labor force and equipment (Contractor and Subcontractors); materials/equipment received; visits by Suppliers; significant in-progress and completed trade Work within major areas; and other pertinent information. The Contractor is obligated to act to prevent threatened damage, death, injury, or loss without any special instruction in **emergencies** and must give the Owner prompt written notice of any changes in Work resulting from the action taken for review and approval.

2.4 **Subcontractors and Suppliers:** The Owner assumes no contractual obligations to anyone other than the Contractor. All trade construction Drawings must be field coordinated before fabrication and/or installation. The Owner reserves the right to reject or revoke, for its convenience, any approved Subcontractor/Supplier. Work performed by any Subcontractor or Supplier must be through an appropriate written agreement that:

- (a) expressly binds the Subcontractor/Supplier to the requirements of the Contract Documents,
- (b) requires such Subcontractor or Supplier to assume toward the Contractor all the obligations that the Contractor assumes toward the Owner and the Professional, and
- (c) contains the waiver of rights and dispute resolution provisions.

2.5 **Prevailing Wages and Access to Payroll Records:**

2.5.1 **Prevailing Wages:**

To the extent applicable, Contractor will comply with federal and state (2023 PA 10, MCL 408.1101 to 408.1126) prevailing wage requirements.

Federal Prevailing Wages -The federal prevailing wage requirements in the attached Federal Provisions Addendum apply when the Davis-Bacon Act ([40 USC 3141-3148](#)) as supplemented by Department of Labor regulations ([29 CFR Part 5](#), "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction") applies.

Prevailing Wage and Fringe Benefits--The rates of wages and fringe benefits to be paid to each class of Construction Mechanic by DB Entity and Subcontractors, shall not be less than the wage rates and fringe benefit rates prevailing in the locality in which the work is performed.

Nondiscrimination, Nonretaliation- Contractor or a Subcontractor shall not discharge, discipline, retaliate against, or otherwise discriminate against a Construction Mechanic, or threaten to do any of these things, because the Construction Mechanic reported or was about to report a violation or suspected violation of the act.

Construction Mechanics under this Contract are intended beneficiaries of the contractual prevailing wage, fringe benefit, and nondiscrimination nonretaliation requirements of the Contract. Any such Construction Mechanic aggrieved by failure of a contractor or subcontractor to pay prevailing wages or benefits as specified in the Contract, or by violation of section 7 of 2023 PA 10, in addition to any other remedies provided by law, may bring an action in a court of competent jurisdiction against such

contractor or subcontractor for damages or injunctive relief and may be awarded reinstatement or other appropriate relief, and all damages sustained, together with actual costs and attorney fees at trial and on appeal.

Contractor and Subcontractors shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in this Contract and shall keep an accurate record showing the name and occupation of and the actual wages and benefits paid to each Construction Mechanic employed by it in connection with the Contract. This record shall be available for reasonable inspection by the State.

2.5.2 Payroll: The Contractor and its Subcontractors must maintain and keep, in accordance with generally accepted accounting principles, records pertaining to the bidding, award and performance of the Work, including, but not limited to certified payroll, employment records and all data used in estimating the Contractor's prices for the Bid, Change Order, proposal or claim. The Owner or its representative must have access to those records, must have the right to interview the Contractor's employees and must be provided with appropriate facilities for the purpose of inspection, audit/review and copying for five years after final payment, termination, or date of final resolution of any dispute, litigation, audit exception or appeal. The payroll and other employment records of workers assigned to the site must contain the name and address of each worker, correct wage classification, rate of pay, daily and weekly number of hours worked, deduction made, and actual wages paid. The Contractor must maintain records that show: (a) the anticipated costs or actual costs incurred in providing such benefits, (b) that commitment to provide such benefits is enforceable, and (c) that the plan or program is financially responsible and has been communicated in writing to the workers affected.

3. Bonds and Insurance:

3.1 Both the Performance Bond and Payment Bond must remain in effect from the date of Contract Award until final completion of the Work or the end of Correction Period, whichever comes later. The surety bonds required for a Construction Contract will not be accepted by SFA unless the surety bonding company is listed in the current United States Government, Department of Treasury's, Listing of approved sureties (bonding/insurance companies), Department Circular 570. Copies of the current Circular listing may be obtained through the internet web site <https://www.fiscal.treasury.gov/fsreports/ref/suretyBnd/c570.htm>.

Insurers must have an "A-" A.M. Best Company Rating and a Class VII or better financial size category as shown in the most current A.M. Best Company ratings. Insurance must be provided by insurers authorized by the Department of Insurance and Financial Services (DIFS) to do business as an insurer in Michigan. The insurance company and must attach evidence of the authorization. These certificates must specify the Project File No., Project Title, and a description of the Project. The Contractor agrees that insurance coverage afforded under the policies as such coverage relate to the State under this Contract as determined by the Contractor will not be modified or canceled without at least thirty calendar days prior written notice to the State. The latest A.M. Best's Key Ratings Guide and the A.M. Best's Company Reports (which include the A.M. Best's Ratings) are found at: <http://www.ambest.com>. The Contractor must not perform any part of the Work unless the Contractor has all the required insurance in full force and effect.

3.2 The Contractor is required to provide proof of the minimum levels of insurance coverage as indicated below. The purpose of this coverage must be to protect the State from claims which may arise out of or result from the Contractor's performance of services under the terms of this Contract, whether such services are performed by the Contractor, or by any subcontractor, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable.

The Contractor waives all rights against the State for recovery of damages to the extent these damages are covered by the insurance policies the Contractor is required to maintain pursuant to this Contract. The Contractor also agrees to provide evidence that all applicable insurance policies contain a waiver of subrogation by the insurance company.

All insurance coverages provided relative to this Contract/Purchase Order is PRIMARY and NON-CONTRIBUTING to any comparable liability insurance (including self-insurances) carried by the State.

The Insurance must be written for not less than any minimum coverage herein specified or required by law, whichever is greater. All deductible amounts for any of the required policies are subject to approval by the State.

The State reserves the right to reject insurance written by an insurer the State deems unacceptable.

BEFORE THE CONTRACT IS SIGNED BY BOTH PARTIES and BEFORE THE PURCHASE ORDER IS ISSUED BY THE STATE, THE CONTRACTOR MUST FURNISH TO THE DIRECTOR-DCD CERTIFICATE(S) OF INSURANCE VERIFYING INSURANCE COVERAGE. THE CERTIFICATE MUST BE ON THE STANDARD "ACCORD" FORM. THE CONTRACT OR PURCHASE ORDER NUMBER MUST BE SHOWN ON THE CERTIFICATE OF INSURANCE TO ASSURE CORRECT FILING. All such Certificate(s) are to be prepared by the Insurance Provider and not by the Contractor. All such Certificate(s) must contain a provision indicating that coverages afforded under the policies WILL NOT BE CANCELLED, MATERIALLY CHANGED, OR NOT RENEWED without THIRTY days prior written notice, except for 10 days for non-payment of premium, having been given to the Director-DCD. Such NOTICE must include the CONTRACT NUMBER affected and be mailed to the Project Director.

The Contractor is required to provide the type and amount of insurance below:

- (a) Commercial General Liability Insurance with a limit of not less than \$1,000,000 each occurrence. If such CGL insurance contains a general aggregate limit, it must apply separately to this project.

The Contractor must list the State, its departments, divisions, agencies, offices, commissions, officers, employees, and agents as ADDITIONAL INSUREDS on the Commercial General Liability policy.

- (b) Vehicle Liability Insurance for bodily injury and property damage as required by law on any auto including owned, hired, and non-owned vehicles used in the Contractor's business.

The Contractor must list the State, its departments, divisions, agencies, offices, commissions, officers, employers, and agents as ADDITIONAL INSUREDS on the vehicle liability policy.

- (c) Worker's disability compensation, disability benefit or other similar employee benefit act with minimum statutory limits.

NOTE:

- (i) If coverage is provided by a State fund or if Contractor has qualified as a self-insurer, separate certification must be furnished that coverage is in the state fund or that Contractor has approval to be a self-insurer.
- (ii) Any citing of a policy of insurance must include a listing of the States where that policy's coverage is applicable; and
- (iii) This provision must not be applicable where prohibited or limited by Michigan law.

- (d) Employer's Liability Insurance with the following minimum limits:

\$1,000,000 each accident
\$1,000,000 each employee by disease
\$1,000,000 aggregate disease

- (e) Pollution Liability Insurance in the amounts of not less than \$1,000,000 per occurrence is required.

3.3 **Liability Insurance:** Liability insurance must be endorsed to list as additional insureds the Professional's consultants and agents. Worker's Compensation, Employer's Liability Insurance and all other liability insurance policies must be endorsed to include a waiver of rights to recover from the Owner, Professional and the other additional insureds. The Contractor's liability insurance must remain in effect through the Correction Period and through any special correction periods. For any employee of the Contractor who is resident of and hired in Michigan, the Contractor must have insurance for benefits payable under Michigan's Worker's Compensation Law. For any other employee protected by Worker's Compensation Laws of any other state, the Contractor must have insurance or participate in a mandatory state fund, where applicable, to cover the benefits payable to any such employee. These requirements must not be construed to limit the liability of the Contractor or its insurers. The Owner does not represent that the specified coverage or limits of insurance are sufficient to protect the Contractor's interests or liabilities.

3.4 **Builder's Risk Insurance:** Unless indicated otherwise in the bid document, the Contractor will purchase and maintain property insurance for 100% of actual cash replacement value of the insurable Work (minimum amount to be the contract award amount) while in the course of construction, including foundations, additions, attachments, and all fixtures, machinery and equipment belonging to and constituting a permanent part of the building structures. The property insurance also will cover temporary structures, materials and supplies to be used in completing the Work, only while on the building site premises or within five hundred feet of the site. The property insurance insures the interests of the Owner, Contractor and all Subcontractors and Suppliers at any tier as their interest may appear. The property insurance insures against "all risk" of physical loss or damage to the extent usually provided in policy forms of insurers authorized to transact this insurance in Michigan. A copy of the master insurance policy will be available for review by the State, upon request. Any deductible shall be both the option and responsibility of the **Contractor**.

3.5 The Owner and Contractor intend that the required policies of property insurance must protect all the parties insured and provide primary coverage for all losses and damages caused by the perils covered. Accordingly, to the extent that the insurance company pays claims, the Owner and the Contractor and its Subcontractors/Suppliers waive all rights against each other for any such losses and damages and waive all such rights against the Professional and all other persons named as insureds or additional insureds.

4. **Prosecutions; Substantial Completion:**

4.1 The Contractor must not start the Work at the site before the first day established by the Notice to Proceed and/or before all insurance is in effect. A pre-construction conference will be held with the Contractor to review its Progress Schedule, qualifications of its key personnel, its proposed access to the site, traffic and parking, procedures for submittal, change orders, etc., and to exchange emergency contact information. The Contractor must use its accepted Progress Schedule when making proposals or claims for adjustment in Contract Time/Price.

4.2 Except in an Emergency, all Work at the site must take place during normal working hours; 6:00 AM to 6:00 PM, during Business Days and in accordance with the special working conditions for the Agency. If the Contract Documents allow work outside the normal hours, the Contractor must provide a written notice to the Owner twenty-four hours before performing such Work and must reimburse the Owner any related increase in the costs incurred by the Owner such as overtime charges of the Professional and payments for custodial and security personnel.

4.3 If, upon inspection and completion of all pre-requisite testing of the Work, the Contractor considers that a portion of the work or all the Work is substantially completed, it must provide a list of items to be corrected or completed to the Owner and the Professional for joint inspection. Within ten Calendar Days of this joint inspection, the Professional will deliver to the Owner and Contractor a list of incomplete/Defective work or a Certificate of Substantial Completion with a Punch List. The certificate must:

- (a) fix a reasonable date of Substantial Completion,
- (b) fix a date for completion of the Punch List, and
- (c) recommend the division of responsibilities between the Owner and Contractor for utilities, security, safety, insurance, maintenance, etc.

Upon issuing the Certificate of Substantial Completion, the Owner will pay for the completed Work subject to (a) withholding of two hundred percent of the value of any uncompleted Work, as determined by the Professional, and (b) any other deductions as the Professional may recommend or may withhold to cover Defective work, liquidated damages and the fair value of any other items entitling the Owner to a withholding. Prerequisites for Substantial Completion, over and above the extent of Work completion required, include (a) receipt by the **Owner** of operating and maintenance documentation, (b) all systems have been successfully tested and demonstrated by the **Contractor** for their intended use, and (c) the **Owner** having received all required certifications and/or occupancy approvals from the State and those Political Subdivisions having jurisdiction over the Work. Receipt of all certifications and/or occupancy approvals from those Political Subdivisions with jurisdiction in and of itself does not necessarily connote Substantial Completion. The Contractor must provide all related operating and maintenance (O&M) documentation to the Owner before training if training is required and not later than Substantial Completion otherwise. The Contractor must give the Owner the final O&M documentation (with revisions made after Substantial Completion) before the request for final payment.

4.4 The Owner may decide to use, at its sole option, any functioning portion of the Work and will inform the Contractor in writing of the decision. The portion of Work to be used must be jointly inspected to determine the extent of completion if it has not undergone the inspection for Substantial Completion. The Professional must prepare a list of items to be corrected/completed and the Owner will allow the Contractor reasonable access to correct/complete the listed items and finish other work.

5. **Warranty; Tests, Inspections and Approvals; Corrections of Work:**

5.1 **Warranty:** The Contractor must furnish the State with a written guarantee to remedy any defects due to faulty materials or labor which appear in the Work within one year from the date of final acceptance by the State. This warranty excludes defect or damage caused by (a) abuse, modification by others, insufficient or improper operation or maintenance, or (b) normal wear and tear under normal usage. Manufacturer warranties for materials and equipment received by the Contractor must be assigned

and promptly delivered to the Owner at Substantial Completion. The warranties period starts from the date of the substantial completion and must be in full force and effect for the entire duration of the Correction Period.

Roof Warranty: For roofing systems, the following warranties are required as minimum:

- (a) A two-year contractor's warranty against any defects due to faulty materials or labor.
- (b) A fifteen-year manufacturer's total system warranty; and
- (c) A twenty-year membrane/shingles/tiles warranty.

5.2 **Tests, Inspections and Approvals:** The Owner will perform or retain a professional/agency to perform inspections, tests or approvals for those materials required to meet quality control standards specified in the Contract Documents except for those inspections, tests or approvals specifically designated to the Contractor in the Contract Documents. However, the Contractor must assume full responsibility for any testing, inspection, or approval.

- (a) required to meet code requirements, as promulgated by code inspecting authorities.
- (b) required by Law.
- (c) indicated or required by the Contract Documents as designated to the Contractor.
- (d) required for the Professional's acceptance of a Supplier, materials or equipment or mix designs submitted for prior approval by the Contractor; or
- (e) Defective work, including an appropriate portion of the Delay and costs occasioned by discovery of Defective work. The Contractor must (a) pay all related costs; (b) schedule related activities; and (c) secure and furnish to the Professional the required certificates of inspection, testing or approval. The Contractor must provide proper and safe access to the site for inspection, testing or approval. The Contractor must provide the Professional a timely notice whenever any Work is ready for inspection, testing or approval. If the Contractor covers any Work without proper approval by the Professional as required by the Contract Documents, the Contractor must, at its own expense, uncover, expose, or otherwise make available, when requested by the Professional or Owner, for testing, inspection, or approval of the covered Work.

5.3 **Correction of Work:** If any testing, inspection, or approval reveals Defective Work and the Work is rejected by the Professional, the Contractor, at its sole expense, must promptly, as directed, correct, or remove the Defective Work from the site and replace it with non-Defective Work within the Correction Period. The Contractor must bear responsibility for its proportionate share of the Delay and costs resulting from the correction and/or removal and replacement of Defective Work. If the Contractor, within reasonable and agreed upon time after receipt of written notice, (a) fails to correct Defective Work or remove and replace rejected Work, or (b) fails to correct or complete items on any Punch List, or (c) fails to perform Work in accordance with the Contract Documents, or (d) fails to comply with any other provision of the Contract Documents, the Owner, directly or through others, after seven Calendar Days from the date of the written notice to the Contractor, may correct and remedy the Defective Work. To the extent necessary to correct and remedy such Defective Work, the Owner must be allowed to exclude the Contractor from all or part of the site; take possession of all or part of the Work and stop related operations of the Contractor; take possession of the Contractor's tools, plant and office and construction equipment at the site; and incorporate into the Work materials and equipment for which the Owner has paid the Contractor. The Contractor must allow the Owner and the Professional easy access to the site to correct such Defective Work. The Owner must be entitled to an appropriate decrease in Contract Price for all claims, costs, losses, damages, and Delay incurred or sustained by the Owner which are attributable to the Contractor. Such costs may include, but not limited to, costs of correction or removal and replacement of Defective Work, costs of repair and replacement of other work destroyed or damaged by the action and related charges of the Professional. If the discovery of the Defective Work takes place after final payment and the Contractor fails to correct and pay the Owner any of these costs, the Owner must demand due performance under the Performance Bond. Until the period of limitation provided by Michigan Law, the Contractor must promptly, and upon receipt of written notice from the Owner, correct Defective Work. In the event of an Emergency or unacceptable risk of loss or damage or if appropriate under the circumstances, the Owner, directly or through others under contract with the Owner, may correct or remove and replace the Defective Work. The specified correction of Work requirements has no limitation on the rights of the Owner to have Defective Work corrected or removed and replaced, if rejected, except as otherwise provided by the Michigan Law.

5.4 **Special Correction Period Requirements:** Whenever the Owner undertakes any portion of the Work because the Contractor's act or omission Delays completion of the Work or it is eligible for Partial Use, the warranties for all materials and equipment incorporated into that portion of the Work must remain in full force and effect between the start of such Partial Use and the date when the Correction Period starts. The Correction Period for any Defective Work that is corrected or rejected and replaced within the last three months of the Correction Period must be extended by an additional six months, starting on the date such Work was made non-Defective.

5.5 **Special Maintenance Requirements:** If the Contract Documents specify that the entire Work, or a portion of the Work, upon reaching Substantial Completion, must not be placed in use by the Owner, the Contractor must maintain the Work, or specified part of the Work, in good order and proper working condition and must take all other actions necessary for its protection between the certified date of Substantial Completion and the date when the Work, or designated part of the Work, is placed in use. If no separate price for such special maintenance period was requested and made part of the Contract Documents, the Owner will amend the Contract Documents to appropriately increase the Contract Price.

6. Changes:

- 6.1 Changes in the Work:** The Owner may, at any time, without notice to sureties, make any changes bilaterally or unilaterally, by a written Change Order, in the Work within the general scope of the Contract, including but not limited to changes in the Specifications, materials, or Contract Time. In a bilateral change order, the Owner may direct the Professional to prepare a Bulletin describing the change being considered. Upon receiving the Bulletin, the Contractor establishes the cost and returns it to the Professional for review within 15 calendar days. The Contractor's proposal must be irrevocable for 60 Calendar Days after it is submitted to the Professional. If the Professional recommends acceptance of the Bulletin and the Owner agrees with the changes, the Owner issues a written bilateral Contract Change Order to amend the Contract Documents. However, the Owner may issue a unilateral Change Order if the Owner and Contractor are unable to agree on the adjustment in Contract Price or Time. If the Contractor disagrees with such unilateral Contract Change Order, the Contractor must complete the Work and may deliver notice of a claim in accordance with the claim submittal process.
- 6.2 Differing Site Condition:** The Owner does not warrant that any technical data, including the Project reference points, provided by the Owner is necessarily sufficient and complete for the purpose of selecting Means and Methods, initiating, maintaining, and supervising safety precautions and programs or discharging any other obligation assumed by the Contractor under the Contract Documents. If different or unknown site conditions are discovered, the Contractor must notify the Owner in writing before the conditions are disturbed or before proceeding with the affected Work. Upon review, if the Owner decides to agree with the differing site conditions, with the Professional's advice, the Owner may issue a written Contract Change Order to amend the Contract Price or Time through the Bulletin authorization process. If the Owner decides to disagree with the Contractor and the Contractor disagrees with the Owner's decision, the Contractor must complete the Work and may deliver notice of a claim in accordance with the claim submittal process. No proposal or claim by the Contractor due to differing site conditions will be allowed (a) if the Contractor knew of their existence before submitting its Bid or if those conditions could have been discovered by any reasonable examinations for which the Contractor, as Bidder, was made responsible under the Bidding Requirements and/or (b) unless the Contractor's written notice is provided within not more than 21 days after the contractor first recognizes the condition giving rise to the proposal or claim and gives the Owner adequate opportunity to investigate the asserted differing site conditions. A full and detailed breakdown of cost and time requested, with supporting documentation, if not provided with the initial notice shall be delivered to the Professional and Owner within 15 days of the notice, unless otherwise agreed in writing, by the Owner prior to expiration of such time.
- 6.3 Responsibilities for Underground Utilities:** The Contractor must comply with the 2013 PA 174, as amended, MCL 460.721 et seq., and all other Laws concerning Underground Utilities. Before performing site Work, all Underground Utilities, lines, and cables (public and private) must be located and marked. The Contractor must notify MISS DIG to locate and mark utilities on properties that are not State properties. In addition, the Contractor must be responsible for immediately notifying the Owner of any contact with or damage to Underground Utilities, and for the safety, protection of and repairing any damage done to any Work, surface, and subsurface facilities. If the Contractor encounters Underground Utilities that inaccurately located by the Contract Documents or not previously located/located, which could not be reasonably have been seen, the Owner may issue a written Contract Change Order to amend the Contract Price or Time through the Bulletin authorization process.
- 6.4 Hazardous Material Conditions:** If the Contractor encounters material reasonably believed to be Hazardous Material, which was not described in the Drawings and/or Specifications and was not generated or brought to the site by the Contractor, the Contractor shall immediately stop all affected work, give written notice to the Owner of the conditions encountered, and take appropriate health and safety precautions in accordance with all federal, state, and local laws. Upon receipt of the notice, the Owner will investigate the conditions and (a) may stop the Work and terminate the affected Work or the Contract for convenience; (b) may contract others to have the Hazardous Material removed or rendered harmless or (c) issue a written Contract Change Order to amend the Contract Price/Time through the Bulletin authorization process. If the Hazardous Material is brought to site by the Contractor or as a result in whole or in part from any of its violation of any Law covering the use, handling, storage, disposal of, processing, transport and transfer or from any other act or omission within its control, the Contractor is responsible for the Delay and costs to clean up the site, remove and render harmless the Hazardous Material to the satisfaction of the Owner, State and all Political Subdivisions with jurisdiction.
- 6.5 Incidents with Archaeological Features:** The Contractor must immediately notify the Owner in writing of any Archeological Feature deposits encountered at the site and must protect the deposits in a satisfactory manner. If the Contractor encounters such features, which result in an anticipated change to the Contract Price/Time, the Owner may issue a written Contract Change Order through the Bulletin authorization process.
- 6.6 Unit Price Work:** Quantities as listed have been carefully estimated but are not guaranteed. The Owner reserves the right to increase or decrease the quantities of the Work to be performed at the Unit Price by amounts up to 20 percent of the listed estimated quantities. For Unit Price Work, the Contractor must promptly inform the Professional in writing if actual quantities differ from the estimated quantities for any item. For quantities over 120% or below 80% of the estimated quantity, the Owner may negotiate a Unit Price with the Contractor, or direct a unilateral change, or bid that Work under separate contract. Any adjusted Unit Price agreed upon by the Owner will only apply to the actual quantities above 120% or below 80% of the estimated quantity. No adjustment due to quantity variations must be allowed (a) unless the Contractor met the notice requirements, or (b)

if any Unit Price increase results in whole or in part from any act or omission within the control of the Contractor (errors in the Contractor's Bid, unbalanced Unit Prices, etc.). If a dispute arises between the Owner and the Contractor on the adjusted Unit Price, the Contractor must carry on the Work with due diligence during the disputes/disagreements.

6.7 Cash Allowances; Provisionary Allowances: The Contractor must obtain the Professional's and Project Director's written acceptance before providing materials, equipment, or other items covered by Cash Allowance. Work authorized under any Provisionary Allowance may consist of (a) changes required by actual conditions, as determined by the **Professional**, and (b) any other Work authorized and completed under the pertinent provisions of the Contract Documents.

6.8 Changes in Contract Price:

- 6.8.1 The Contractor's proposals or claims for Work Involved must detail all affected items of Work, whether increased, revised, added, or deleted, and must be fully documented and itemized as to (a) individual adds and deducts in Work quantities and labor man-hours; (b) corresponding itemized cost of Work Involved; (c) materials and equipment cost including transportation, storage, and suppliers' field services; and (d) Fee.
- 6.8.1.1 No proposal or claim by the Contractor on account of any asserted change not issued as a Bulletin by the PSC or Owner, shall be allowed unless initiated by written notice of such proposal or claim to the Professional and Owner within 21 days after the occurrence of the event giving rise to the proposal or claim. A full and detailed breakdown of cost and time requested, with supporting documentation, if not provided with the initial notice shall be delivered to the Professional and Owner within 15 days of the notice, unless otherwise agreed in writing, by the Owner prior to expiration of such time.
- 6.8.2 For Contractor's proposals or claims for adjustments in Contract Price arising from Delays, the Contractor's estimates must be as comprehensive and detailed as may be appropriate to support the proposal or claim. Examples of related information include labor manpower levels, production data and Progress Schedule revision.
- 6.8.3 If the Contract Documents use lump sum or Unit Prices for the Work Involved, those prices must be used in estimating the price change. Otherwise, the Owner may direct the Contractor to proceed (a) on a negotiated lump sum; or (b) on an actual cost basis with or without a guaranteed maximum; or (c) through a unilateral Change Order on a lump sum basis or a not-to-exceed basis, based on the Professional's estimate of the anticipated Cost of the Work Involved and a fee. Items making-up the Cost of the Work Involved must be allowable to the extent (a) consistent with those prevailing in the Project locality, (b) necessary, reasonable, and clearly allocable to the Work Involved, and (c) limited to labor costs, subcontract costs, material and equipment costs, construction equipment costs and general conditions costs.
- 6.8.4 In estimating any additional cost by the Contractor or its Subcontractor, the rates for the craft labor man-hour used in estimating changes in Contract Price must not exceed the rates in Means Cost Data (Means) or other cost guide acceptable to the Owner. If the rates exceed the acceptable cost guides, the Contractor must provide proper justifications acceptable to the Professional and the Owner. The payroll costs may be used to quote a Bulletin. However, the payroll costs must include wages, labor burdens and a factor for field supplies and purchase costs (less market values if not consumed) of tools not owned by the workers. Labor burdens must be certified by an authorized financial representative of the Contractor and may include social security, unemployment, taxes, workers' compensation, health and retirement benefits, vacation, and holiday pay. The factor for field supplies and tools (individually valued at less than \$1,000.00) must not exceed 4% of the wages without burdens, unless detailed data, which supports higher costs, is provided. Rates for owned, rented, or leased construction equipment must be in accordance with the contract price rates. Otherwise, the appropriate hourly, daily, weekly, or monthly rates listed in Means must be used. However, if the total rental or lease cost of an item to the Project exceeds the reasonable purchase price of the rented or leased item, the Owner reserves the right to pay only the purchase price of the item and take title to the item. Operating cost must not exceed the hourly operating rate in Means and for multiple shifts, rates must not exceed the shift work adjustments recommended in the cost guide.
- 6.8.5 The cost of any Work Involved may include necessary general conditions costs to the extent those costs increase or decrease on account of, or are directly attributable to, the performance of the furnishing and/or performance of the additional Work Involved or are required due to an extension in Contract Times or Delays. Such costs may include payroll costs of personnel, temporary facilities at the site, liability insurance and bond premiums, Subcontractors, royalty payments and fees for permits and licenses and taxes on the Work Involved.
- 6.8.6 A contractor or subcontractor who performs the Work may charge a fee of up to 15% of the cost of Work involved for overhead and profit. Contractor may charge a mark-up fee of up to 5% of its Subcontractor's cost excluding fees if the Work is performed by the Subcontractor. If Work is to be performed by lower tier subcontractor(s), intermediate subcontractors and the Contractor must share a fee of up to 5% of the lowest tier subcontractor's cost excluding fees. The total mark-up fees for the Work must not exceed 20% of the lowest tier subcontractor's cost excluding fees. If the adjustment to the Contract Price incorporates a contractor reservation of rights to claim additional adjustments, the fees must be reduced by one-third. Contractor's administrative costs and home office overhead must be non-reimbursable expenses covered by the Fee for the Work.

6.9 Changes in Contract Time:

- 6.9.1 If a justified extension beyond the Contract Time is not reasonably anticipatable under the circumstances, the Owner may approve an extension to the Contract Time through the Bulletin authorization process at no additional cost to the Owner. Examples of events that may justify an extension in the Contract Time include acts of God; acts of the public enemy; fires; floods; and strikes.
- 6.9.2 If, at any time during the life of this Contract, the Contractor finds that for reasons beyond its control, it will be impossible to complete the Work on or before the Contract completion date, a written request for a change to the Contract extending the time

of completion must be submitted. Such a request must set forth in precise detail the reasons believed to justify an extension and must be in such format as the State may require.

- 6.9.3 When submitting a quotation for a Contract change authorization for extra work or change in plans, the Contractor must include as part of the quotation, a statement requesting any extra time necessary to complete the related Work. Lack of such a statement will serve as notification that the extra time will not be required to complete the Contract work and will waive the right to a later claim. The Owner will not pay additional compensation to the Contractor for performing Contract Work during any extension period granted.
- 6.9.4 If the Progress Schedule and the funding allow for an early completion date, the Contractor may submit to the Owner for approval, a request to shorten the Contract Time. If approved by the Owner, the new Contract Time applies to the Project and liquidated damages, if any, will be assessed for any delays after the new completion date.
- 6.10 Price Reduction for Defective Cost or Pricing Data:** Whenever the Contractor signs a proposal for a change in the Contract or claim settlement, the Contractor will be deemed to have certified on behalf of itself, Subcontractors and Suppliers, to its best knowledge and belief that the proposal and its contents (a) were made in good faith and are consistent with the facts and the provisions of the Contract; and (b) are current, complete, and accurate. If the Contract Price/Time is increased by any Change Order, claim or dispute settlement because the Contractor, Subcontractor or Supplier, at any tier, represented or furnished cost or pricing data of any kind that were false, contained math errors or were incomplete, the Contract Price must be correspondingly reduced by Change Order. If there is a good cause to doubt the Contractor's compliance with the Defective cost and pricing data requirements, the Owner must be entitled to make an appropriate withholding from any payment otherwise owed to the Contractor.

7. Payments

- 7.1 **Schedule of Values:** The Schedule of Values must be approved by the Professional and accepted by the Owner and must divide the Work into pay items for significant Sections and areas, facilities, or structures, with subtotals for first tier Subcontractors. As required or as noted in Division 1, the accepted Schedule of Values must be supported by a more detailed breakdown allocating the pay items to the Progress Schedule Activities. It must tabulate labor costs, Subcontract costs and material and equipment costs. Labor costs must include appropriate sums for construction equipment costs, general conditions costs, administrative costs, and profit, unless separate pay items are itemized for those costs. The Schedule of Values must include two percent of the Contract Price for each of the following close-out pay items: (a) fire safety inspection, certificate of occupancy and other code approvals, as specified in the Contract Documents, (b) manufacturer warranties, finalized operating and maintenance documentation, Owner training documentation, and test and balance reports, and (c) finalized as built/Record Documents.
- 7.2 **Requests for Payment:** Not more than once every thirty Calendar Days, the Contractor may submit to the Professional a Request for Payment on the Owner's form signed by the Contractor certifying Work completed and enclosing all supporting documentation. A draft copy of the payment request must be submitted to the Owner Field Representative for review and comments. For projects under \$50,000, the Contractor may not submit more than two requests in addition to the final payment request. Each Request for Payment must certify that all monies owed by the Contractor to Subcontractors and Suppliers for which payment previously has been sought has been paid from payments received and include a sworn statement. No Request for Payment must include amounts for a Subcontractor or Supplier if the Contractor does not intend to use the payments requested, when received, to reduce the Contractor's outstanding obligations on the Work. The Owner will pay the Contractor within thirty Calendar Days after the Owner receives and approves a certified Request for Payment from the Professional. The Contractor will provide a certification in writing that the payment request submittal is true and accurate. If payment is requested based on materials and equipment stored at the site or at another location agreed to in writing, the Request for Payment also must be accompanied by (a) consent of surety, (b) a bill of sale, invoice or other documentation warranting that the Owner has received the materials and equipment free and clear of all liens, and (c) evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect them and the Owner's interests. The Contractor warrants and guarantees that title to all Work, materials and equipment covered by any Request for Payment, whether incorporated in the Work or not, will pass to the Owner free and clear of all liens no later than at the time of payment by the Owner to the Contractor.
- 7.2.1 **Electronic Funds Transfer:** The State will only disburse payments under this Contract through Electronic Funds Transfer (EFT). Contractor must register with the State at <http://www.michigan.gov/SIGMAVSS> to receive electronic fund transfer payments. If Contractor does not register, the State is not liable for failure to provide payment. Without prejudice to any other right or remedy it may have, the State reserves the right to set off at any time any amount then due and owing to it by Contractor against any amount payable by the State to Contractor under this Contract.
- 7.3 **Review of Request for Payment; Intent of Review:** Within ten Calendar Days after receipt of a Request for Payment, the Professional must certify to the Owner the amount the Professional determines to be due or must return the Request for Payment to the Contractor indicating the reasons for withholding certification. The Professional's certification of any Request for Payment constitutes a representation to the Owner that the Work has progressed to the point indicated; that to the best of

the Professional's knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents; and that the Contractor is entitled to payment in the amount certified. In the case of final payment, the Professional's certification of final payment and recommendation that the Work is acceptable must be a further representation that conditions governing final payment to the Contractor have been met.

- 7.4 **Refusal to Make or to Recommend Payment:** The Owner may withhold from any payment an amount based on the (a) Professional's refusal to recommend payment or (b) Owner's estimate of the fair value of items included in the payment request. The Owner will give the Contractor reasonably prompt written notice supporting such action. The Professional may refuse to recommend any part of any payment, or because of subsequently discovered evidence, inspections or tests or the value of the Punch List, nullify all or any portion of any payment previously recommended, as the Professional may consider necessary to protect the Owner from loss because:
- (a) the Work is Defective or completed Work has been damaged requiring correction or replacement,
 - (b) the Contract Price has been reduced by Change Order,
 - (c) it has been necessary that the Owner correct Defective Work or complete Work,
 - (d) reasonable evidence exists that all or a part of the Work will not be completed within the corresponding Contract Time,
 - (e) the Contractor failed to comply with any material requirements of the Contract, including, but not limited to the failure to submit Progress Schedule Submittals or as built/Record Documents when due,
 - (f) stored materials for which payment has been made or is sought has been determined by the Professional or the Owner Field Representative to be damaged or missing, or
 - (g) the Professional reasonably believes or knows of the occurrence of an event justifying termination for cause.
- 7.5 **Request for Final Inspection:** The Contractor must complete the Substantial Completion Punch List within the Contract Time and date. The Contractor must assemble all required documentation before requesting final inspection in writing. The Contractor may request final inspection of the entire Work, or the part of the Work for which final payment is specified in the Contract Documents. Upon this written notice, and if deemed appropriate by the professional, the Professional will make a final completion inspection with the Owner and Contractor and notify the Contractor of all incomplete or Defective Work revealed by the Final Inspection. The Contractor must immediately correct and complete the Work.
- 7.6 **Close-out Documents:** The Contractor must prepare and submit the following documentation before requesting final inspection or final payment: final operating and maintenance documentation (with revisions made after Substantial Completion), warranties, inspection certificates, as built/Record Documents, release of payment claim forms, and all other required documents.
- 7.7 **Request for Final Payment:** The Contractor may request final payment after correcting or completing the Work to the satisfaction of the Professional and delivering close-out documentation (7.6). The Contractor's request for final payment must also enclose:
- (a) evidence of completed operations insurance and an affidavit certifying that the insurance coverage will not be canceled, materially changed, or renewal refused,
 - (b) an affidavit certifying that the surety agrees that final payment does not relieve the surety of any of its obligations under the Performance Bond and Payment Bond,
 - (c) a completed DTMB-0460 Form close out checklist,
 - (d) a list of all pending insurance claims arising out of or resulting from the Work being handled by the Contractor and/or its insurer
 - (e) Contractor's 'Guarantee and Statement' (DTMB-0437) containing a statement of guaranteed indebtedness acceptable to the Owner in the full amount of the Contract Price, or a release of payment claims in the form of a release of liens, or a Bond or other security acceptable to the Owner to indemnify the Owner against any payment claim.
- 7.8 **Final Payment and Acceptance:** If the Professional is satisfied that the entire Work, or the part of the Work for which final payment is specified in the Contract Documents, is complete and the Contractor's other obligations under the Contract Documents has been fulfilled, the Professional will furnish to the Owner and Contractor the Professional's certification of final payment and acceptance within thirty Calendar Days after receipt of the final payment request. If the Professional is not satisfied, the Professional will return the request to the Contractor indicating in writing the reasons for not certifying final payment. If the final payment request is returned, the Contractor must correct the deficiencies and re-request final payment. If the Owner concurs with the Professional's certification of final payment the Owner will, within thirty Calendar Days after receipt of the Professional's certification of final payment, pay the balance of the Contract Price subject to those provisions governing final payment specified in the Contract Documents. If the Owner does not concur with the Professional's determination, the Owner will return the request for final payment to the Contractor with written reasons for refusing final payment and acceptance.
- 7.9 **Contractor's Continuing Obligation:** The following does not constitute acceptance of the Work in the event the Work or any Work is not in accordance with the Contract Documents, and therefore does not release the Contractor from its obligation to perform and furnish the Work in accordance with the Contract Documents:

- (a) a certification by the Professional of any Request for Payment or final payment.
- (b) the issuance of a Substantial Completion certificate.
- (c) any payment by the Owner to the Contractor.
- (d) any Partial Use.
- (e) any act of acceptance by the Owner or any failure to do so.
- (f) any review and approval of a Shop Drawing, sample, test procedure or other Submittal.
- (g) any review of a Progress Schedule.
- (h) any On-Site Inspection.
- (i) any inspection, test, or approval.
- (j) any issuance of a notice of acceptability by the Professional; or
- (k) any correction of Defective Work or any completion of Work by the Owner.

7.10 Waiver of Claims: The making of final payment does not constitute a waiver by the Owner of any rights as to the Contractor's continuing obligations under the Contract Documents, nor will it constitute a waiver of any claims by the Owner against the Contractor still unsettled, or arising from unsettled payment claims, Defective Work appearing after final inspection or failure by the Contractor to comply with the Contract Documents or the terms of any special warranties provided by the Contract Documents or by Law. The acceptance of final payment will constitute a waiver of all claims by the Contractor against the Owner, other than those claims previously made in writing, on a timely basis.

8. Other Work: During the Contract Time, the Owner may self-perform or Contract for other work at the site. By doing so, the Owner or its representative will coordinate the operations of the Contractor and the other work. Whenever the other work interfaces with the Contractor's Work on site, the Contractor must coordinate its activities with the interfacing work, inspect the other work and promptly report to the Professional in writing if the other work is unavailable or unsuitable. The Contractor's failure to do so will constitute an acceptance of such other work as fit and proper for integration with the Work except for latent or non-apparent defects and deficiencies in the other work. The Contractor must provide proper and safe access to the site for handling, unloading and storage of their materials and equipment and for the execution of the other work. The Contractor must do all cutting, fitting, patching, and interfacing of the Work that may be required to make any part of the Work come together properly and integrate with other work. If the Contractor becomes party to a dispute or claim due to damages caused to its Work/property or other work/their property, the Contractor must promptly attempt, without involving the Owner or the Professional or their agents, to settle with the other party by agreement or otherwise resolve the claim. If the Owner determines that the other work resulted in a delay to the Work to be performed by the Contractor and such delay justifies a Change Order, the Owner will authorize the necessary adjustment in Contract Price and/or Time.

9. Stop Work Orders and Suspension of Work: The Owner may order the Contractor in writing to defer, stop, suspend, or interrupt all or part of the Work, in the event any of the following situations:

- (a) any Work is Defective,
- (b) any Work, when completed, will not conform to the Contract Documents,
- (c) any materials or equipment are unsuitable,
- (d) any workers are insufficiently skilled,
- (e) failure of the Contractor to implement appropriate measures for the SESC, or
- (f) as the Owner may determine appropriate for its convenience. The Contractor is responsible for the Delays and any additional costs if at fault. Any justified increase in Contract Price/Time due to suspension of Work must be submitted within twenty-one Calendar Days of knowing the extent of Delays and before submitting the final payment.

10. Termination:

10.1 Termination for Breach: The Owner may elect to terminate all or any part of the Work if:

- (a) the Contractor fails to complete the Work, or a specified part of the Work, within the corresponding Contract Time; fails or refuses to supply sufficient management, supervision, workers, materials, or equipment; or otherwise fails to prosecute the Work, or any specified part of the Work, with the diligence required to comply with the Contract Time(s).
- (b) the Contractor persistently disregards the authority of the Professional or violates or disregards a provision of the Contract Documents or the Laws of any Political Subdivision with jurisdiction.
- (c) the Contractor admits in writing, or the Owner otherwise establishes, the Contractor's inability or refusal to pay the Contractor's debts generally as they become due.
- (d) in response to the Owner's demand, the Contractor fails to provide adequate, written assurance that the Contractor has the financial resources necessary to complete the Work within the Contract Time.
- (e) the Contractor fails to comply with the Michigan Residency requirements (1984 PA 431, as amended, MCL 18.1241a); or is found to be in violation of Section 4 of 1980 PA 278 concerning unfair labor practices, or any nondiscrimination requirements imposed by Law.

- (f) at any time, the Contractor, Subcontractor or Supplier is in violation of unfair labor practices prohibited by Section 8 of Chapter 327 of the National Labor Relations Act, 29 U.S.C. 158; or
- (g) the Contractor violates or breaches any material provision of the Contract Documents, which provides contractually for cause termination or rescission of the Contract or of the Contractor's right to complete the Work.

Within seven Calendar Days after the Contractor receives a notice requiring assurance of due performance for any of the above occurring non-conformances, the Contractor must meet with the Owner and present the Contractor's plan to correct the problems. If the Owner determines that the Contractor's plan provides adequate assurance of correction, that determination does not waive the Owner's right to subsequently default the Contractor or affect any rights or remedies of the Owner against the Contractor and/or surety then existing or that may accrue in the future. The Owner, after giving the Contractor and surety seven Calendar Days' written notice of intent to default, may declare the Contractor in default and terminate the services of the Contractor for cause. Unless otherwise agreed between the Owner and Contractor, at the expiration of the Seven-Calendar Day (intent to default) period, the Contractor must immediately stop all Work and proceed in accordance with the Owner's instructions. Following the expiration of the Seven-Calendar Day (intent to default) notice, the Contractor will be sent a default letter – notice of termination for cause. The Owner will issue a Contract Change Order to revise the name of the contract party to the name of the surety company. The surety company must undertake to perform and complete the Work, in accordance with the Contract Documents, in place of the Contractor, either through the surety's agents or by executing agreements with qualified contractors (excluding the Contractor and any of the Contractor's affiliates), or both.

The Owner may issue a fifteen-Calendar Day notice of intent to default the surety company if they fail to execute in a timely manner the completion of the Contract Work. Without an adequate plan of correction, the Owner may issue a notice of termination for cause letter to the surety. If a termination of the contract with the surety occurs, the Owner reserves the right to complete the Work.

If the Owner has terminated the Contractor, any such termination will not affect any rights or remedies of the Owner against the Contractor or surety, or both, then existing or that may accrue after termination. All provisions of the Contract Documents that, by their nature, survive final acceptance of the Work must remain in full force and effect after a termination for cause of the Contractor or default of the surety, or both. The Owner may, in its sole discretion, permit the Contractor to continue to perform Work when the Contractor is in default or has been defaulted. Such decision by the Owner in no way operates as a waiver of any of the Owner's rights under the Contract Documents or Performance Bond, nor in the event of a subsequent default, entitle the Contractor or surety to continue to perform or prosecute the Work to completion.

- 10.2 Termination on Non-Bonded Project:** For non-bonded projects, the Owner will follow the termination protocol in Paragraph 10.1 without involving a surety.
- 10.3 Termination for Convenience of the Owner:** Upon fifteen Calendar Days' written notice to the Contractor and surety, or sooner if reasonable under the circumstances, the Owner may, without cause and without prejudice to any other right or remedy it may have, elect to terminate any part of the Work, or the Contract in whole or in part, as the Owner may deem appropriate for its convenience. Upon receipt of any such termination notice, the Contractor must immediately proceed in accordance with any specific instructions, protect and maintain the Work, and make reasonable and diligent efforts to mitigate costs associated with the termination. In such termination, the Contractor must be paid in accordance with the terms of this Contract for only services rendered before the effective date of termination. Upon termination for convenience, the Contractor must be released from any obligation to provide further services and the Owner must have full power and authority to take possession of the Work, assume any agreements with Subcontractors and Suppliers that the Owner selects, and prosecute the Work to completion by Contract or as the Owner may deem expedient.
- 10.4 Termination for Lack of Funding:** If expected or actual funding is withdrawn, reduced, or limited in any way before the completion date set forth in this Contract or in any amendment, the State may, upon written notice to the Contractor, terminate this Contract in whole or in part in accordance with Paragraph 10.3.
- 11. Disputes:** All claims, counterclaims, disputes, and other matters in question between the Owner and Contractor arising out of or relating to the Contract Documents must be submitted in writing to the Professional and otherwise processed and resolved as provided in this Article. *Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker (Professional/PSC). Claims by either party must be initiated within 21 days after the occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognized the condition giving rise to the claim. Provided such timely notice is delivered, a full and detailed breakdown of cost and time requested, with supporting documentation, if not provided with initial notice shall be delivered to Professional and Owner within 15 days of the notice, unless otherwise agreed in writing, by the Owner prior to expiration of such time.* The Contractor must carry on the Work with due diligence during all disputes or disagreements. Work must not be delayed or postponed pending resolution of any disputes or disagreements. The Contractor must exercise reasonable precautions, efforts, and measures to avoid situations that would cause delay.
- 11.1 Notice of Claim:** Except for Owner claims for liquidated damages, no claim is valid unless it is based upon written notice delivered by the claimant to the other party and the Professional/PSC within 21 days of the event giving rise to the claim. The

notice must state the nature of the dispute, the amount involved, if any, and the remedy sought. The claim submittal with all supporting data must be delivered within thirty (30) Calendar Days after the initial notice unless the Professional allows an extension by written approval. A claim by the Contractor must be submitted to the Professional and Project Director for a recommendation or decision from the Professional. A claim by the Owner must be submitted to the Contractor and the Professional for a written recommendation or decision by the Professional. The Owner reserves the right to audit any Contractor claim (or claim package) that the Contractor values at more than \$50,000.00. Pending final resolution of any claim under this Article, the Contractor must proceed diligently with the Work and comply with any decision of the Owner and/or Professional. For all Contractor claims seeking an increase in Contract Price or Contract Time, the Contractor must submit an affidavit, certifying that the amount claimed accurately reflects any Delay and all costs that the Contractor is entitled from the occurrence of the claimed event and that supporting cost and pricing data are current, accurate, complete and represent the Contractor's best knowledge and belief. The affidavit must be signed in the same manner as required in Item 6 of Section 00100.

- 11.2 Recommendations or Decisions from the Professional:** For claims under \$100,000.00, if requested in writing by the Contractor, the Professional will render a recommendation or decision within thirty Calendar Days after the request and the Owner will issue, if necessary, a determination within thirty Calendar Days after the Professional's recommendation or decision. For claims exceeding \$100,000.00, the Professional will issue its recommendation or decision and the Owner, if necessary, will issue its determination, within sixty Calendar Day.

If the Professional denies a Contractor claim or agrees with an Owner claim, that decision must be final and binding on the Contractor, without any determination by the Owner, unless the Contractor files a request for a presentation with the Director-DCD within thirty Calendar Days. To the extent that any recommendation from the Professional is partly or wholly adverse to a claim from the Owner, that determination must be final and binding on both the Owner and Contractor unless either party files a request for a presentation with the Director-DCD within thirty Calendar Days. If the Professional recommends payment of any Contractor claim which increases the Contract Price, that recommendation is subject to the Owner's written approval. In the event any such determination from the Owner is partly or wholly adverse to the preceding recommendation from the Professional, that determination must be final and binding on the Contractor unless the Contractor files suit in the Michigan Court of Claims within thirty Calendar Days after receipt of such determination. The claim is waived if not made in accordance with these requirements.

If either the Contractor or Owner is not satisfied with any decision of the Professional on a claim, that party must, within thirty Calendar Days of receiving that decision, file a written appeal with complete supporting documentation with the Director-DCD. The Director-DCD has discretion concerning the allowability of evidence submitted and is not bound to any rules of evidence. If the right to a presentation is waived or if a presentation is conducted and the dispute remains unresolved, the Director-DCD, at the Director-DCD's sole option, must specify in which forum the dispute must be conducted by issuing a written determination to the Contractor that the dispute if the Contractor so elects, be submitted in writing to the Michigan Court of Claims. The Director-DCD's determination on the dispute is final and binding on the Contractor unless the Contractor files a lawful action in the Michigan Court of Claims within thirty Calendar Days after receiving the Director-DCD's determination. After settlement or final adjudication of any claim, if payment by the Contractor is not made to the Owner, the Owner may offset the appropriate amounts against (a) payments due to the Contractor under any other Contract between the Owner and the Contractor, or (b) any amounts for which the Owner may be obligated to the Contractor in any capacity. The Director-DCD may designate someone to fulfill the Director-DCD's duties under these terms and conditions.

END OF SECTION 00700

SECTION 00750 SPECIAL WORKING CONDITIONS

1. The Work is for the Department of Labor & Economic Growth and their special working conditions are included in Appendix II. Contractor must comply with all security regulations. Access to and egress from the buildings and State Agency grounds must be via routes specifically designated by the State Agency. Whenever the Contractor has caused an operating security or fire system to go out of service or left unsecured openings in existing facilities or security fences, the Contractor must furnish a security guard or fire watch acceptable to the Owner to maintain security of the facility outside of normal working hours and will be held responsible for any losses from the facility.
2. The Contractor must maintain, at all times, dust control measures to the satisfaction of the Owner.

END OF SECTION 00750

SECTION 00800 SUPPLEMENTARY CONDITIONS

1. The following conditions must supplement the general conditions:

Allowance shall be a provisional allowance as defined in the specifications.

Prime bidder shall be responsible for managing the project onsite and responsible for attending meetings and answering questions.

Daily reports are required each day.

Contractors will be allowed to work Monday – Friday 6:00am to 4:00pm.

Weekend work is allowed with prior approval.

No work on state holidays, or longer days without prior approval.

Tools and materials can be stored onsite within the area of work.

Dumpsters up to 40'-0" long are approved onsite.

Any onsite dumpster location should be coordinated with the facility.

The contractor may use the restrooms onsite.

Coordinate with facility location and barricade types prior to installing barricades.

The facility will remove all items/furniture prior to the start of construction.

END OF SECTION 00800

SECTION 00850 FEDERALLY FUNDED PROJECT REQUIREMENTS

If a project is funded in whole or in part by federal dollars, the Contractor and all Subcontractors must comply with the most recent version of Federal Provisions Addendum and all Laws pertaining to occupational classifications and wage requirements as follows:

1. FEDERAL PROVISIONS ADDENDUM

- a. The most current version of Federal Provisions Addendum shall apply to this contract and is included in Appendix V.

2. DAVIS BACON ACT WAGE AND CLASSIFICATIONS

- a. If applicable, the Contractor (and its Subcontractors) for prime construction contracts in excess of \$2,000 must comply with the Davis-Bacon Act ([40 USC 3141-3148](#)) as supplemented by Department of Labor regulations ([29 CFR Part 5](#), "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction").
- b. The Contractor (and its Subcontractors) shall pay all mechanics and laborers employed directly on the site of the work, unconditionally and at least once a week, and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment, computed at wage rates not less than those stated in the advertised specifications, regardless of any contractual relationship which may be alleged to exist between the Contractor or subcontractor and the laborers and mechanics.
- c. The Contractor will post the scale of wages to be paid in a prominent and easily accessible place at the site of the work.
- d. There may be withheld from the Contractor so much of accrued payments as the contracting officer considers necessary to pay to laborers and mechanics employed by the Contractor or any Subcontractor on the work the difference between the rates of wages required by the Contract to be paid laborers and mechanics on the work and the rates of wages received by the laborers and mechanics and not refunded to the Contractor or Subcontractors or their agents.

- e. The Contractor shall maintain payrolls and basic records relating thereto for a period of three (3) years after the project; contractor shall submit Certified Payroll Reports using US Department of Labor Wage and Hour Division Form WH-347 for each weekly payroll to support and document compliance with the Davis Bacon Wage rates.
- f. Davis Bacon wage and classification schedules applicable for this project/location are included in Appendix V.

END OF SECTION 00850

SECTION 00900 ADDENDA

- 1. Each Bid submittal must include acknowledgement of receipt and review of all Addenda issued during the Bidding period.

END OF SECTION 00900

DIVISION 01

GENERAL REQUIREMENTS

SECTION 01010 SUMMARY OF WORK

1. General

1.1 General information covering the "Scope of Work" is specified on the Invitation to Bid. Additional information is as follows:

- (a) The Unemployment Insurance Agency lobby redesign consists of demolition of the existing lobby to office wall partition and constructing a new security glass wall partition. This project also consists of expanding the suite, new modular furniture by DBI, electrical in the furniture, and all new finishes throughout.

1.2 The Agency will provide the following Work:

- (a) State Salvage: The State reserves the right to salvage certain items and equipment and those salvaged items will be identified to the Bidder at the time of their inspection of the proposed Work. The State will remove salvaged items before commencement of the Work.
- (b) Moving Furnishings and Equipment: The Contractor must give timely notice to the State Agency representative identified in the pre-construction meeting of all furnishings, window covering and movable equipment that will interfere with the Work or which the Contractor cannot protect with coverings of paper, plastic, drop cloths or clean tarpaulin. The Contractor must furnish, install, maintain, and remove all coverings used to protect furnishings, window coverings and movable equipment.

END OF SECTION 01010

SECTION 01020 ALLOWANCES

1. Allowances

1.1 Cash Allowances:

- (a) Bidders must include in their Base Proposal Sum an allowance of \$N/A to cover N/A specified in Section N/A. The base bid shall include bonds and insurance on the value of the allowance.
- (b) Monies in the allowance will be used only if directed in writing by the Project Director and Professional.
- (c) Payments under a Cash Allowance must be on actual cost and exclude cost for supervision, handling, unloading, storage, installation, testing, fee, premiums for bond and insurance, etc.
- (c) Unused allowances will be deducted from the contract amount through contract change order.

1.2 Provisional/Contingency Allowances:

- (a) Bidders must include in their Base Proposal Sum a contingency allowance of \$20,000. The base bid shall include bonds and insurance on the value of the allowance.
- (b) Monies will be used in the contingency allowance only if directed in writing by the Project Director and Professional.
- (c) Payments under a Provisionary Allowance will include not only the purchase/furnished cost of the materials and equipment involved, but also all related labor costs, subcontract costs, construction equipment costs, general conditions costs and Fee, provided they are calculated in accordance with the requirements of the contract documents.
- (c) Unused allowances will be deducted from the contract amount through contract change order.

END OF SECTION 01020

SECTION 01025 MEASUREMENT AND PAYMENT

1. **Schedule of Values:** Unless noted otherwise, before mobilization and start of construction, the Contractor must submit a Schedule of Values to the Professional for review and approval, of the various tasks that must be performed to complete all the Work. The schedule must show each task and the corresponding value of the task, including separate monies allocated for General Condition items and Project close-out. The aggregate total value for all tasks must be equal to the total Contract sum.

END OF SECTION 01025

SECTION 01030 ALTERNATES

1. **Use of Alternates:** Determination of the lowest three Bidders shall be based on the sum of the Base Bid and any additive and deductive Alternates the Owner accepts, in the order in which they are listed only. The Owner will accept an Alternate only if all other previously listed Alternates are also accepted unless acceptance by the Owner of Alternates in a different order does not affect determination of the lowest three bidders in any way.

Alternate No. 1: None

END OF SECTION 01030

SECTION 01040 COORDINATION

1. Project Coordination:

- (a) Before beginning Work the Contractor must coordinate with the State Agency representative to implement the schedule for the Project. Once the Project is started, it must be carried to completion without delay.(b)Any building utility service interruptions or outages including security required by the Contractor in performing the Work must be prearranged with the staff of the State Agency and must occur only during those scheduled times.(c) The Contractor is not responsible for removing room furnishings unless is required by the Contract Documents.

2. Cutting and Patching:

- (a) The Contractor must do all cutting, fitting, or patching of the Work that may be required to make its several parts fit together properly or make new Work join with the existing structure. The Contractor must take proper precautions so as not to endanger any existing Work. The Contractor must not cut or alter existing structural members or foundations unless specifically required by the Contract Documents.
- (b) Holes or openings cut in exterior walls and roofs for installation of materials or equipment must be waterproofed by appropriate, approved materials and methods.
- (c) All adjacent finished surfaces that are damaged by the new Work must be patched with materials matching existing surfaces. Joints between patched and existing material must be straight, smooth, and flush. Workers skilled in its installation must apply all patching material.

END OF SECTION 01040

SECTION 01050 FIELD ENGINEERING

1. When applicable, the Contractor must employ a surveyor who must establish and maintain all lines and levels required for laying out and constructing the Work. The Contractor agrees to assume all responsibility due to inaccuracy of any Work of the surveyor, and including incorrect benchmarks, their loss or disturbance. Upon completion of the Project, the Contractor must submit two copies of site layout Drawings prepared for the Project and certified by the surveyor.

END OF SECTION 01050

SECTION 01060 REGULATORY REQUIREMENTS

1. **Laws:** The Contractor and its Subcontractors/Suppliers must comply with all Federal, State, and local Laws applicable to the Work and site.
2. **Codes:** All Works must be provided in accordance with the State Construction Code Act, 1972 PA 230, as amended, MCL 125.1501 et seq., International Building and Residential Codes and all applicable Michigan construction codes and fire safety including but not limited to: Michigan Building Code, Michigan Residential Code, Michigan Uniform Energy Code, Michigan Electrical Code, Michigan Rehabilitation Code for Existing Buildings, Michigan Mechanical Code, Michigan Elevator Code and Michigan Plumbing Code. If the Contractor observes that any Contract Document conflicts with any Laws or the State Construction Code or any permits in any respect, the Contractor must promptly notify the Professional in writing. If the Contractor provides any Work knowing or having to reason to know of such conflict, the Contractor must be responsible for that performance.
3. **Permits:** All required construction permits must be secured and their fees including inspection costs must be paid by the Contractor. The time incurred by the Contractor in obtaining construction permits must constitute time required to complete the Work and does not justify any increases to the Contract Time or Price, except when revisions to the Drawings and/or Specifications required by the permitting authority cause the Delays. The Contractor must pay all charges of Public Utilities for connections to the Work, unless otherwise provided by Cash Allowances specific to those connections. The following permit fees will be paid by the Owner None
4. **Taxes:** The Contractor must pay all Michigan sales and use taxes and any other similar taxes covering the Work that are currently imposed by legislative enactment and as administered by the Michigan Department of Treasury, Revenue Division. If the Contractor is not required to pay or bear the burden or obtains a refund of any taxes deemed to have been included in the Bid and Contract Price, the Contract Price must be reduced by a like amount and that amount, whether as a refund or otherwise, must ensure solely to the benefit of the State of Michigan.

- 5. Safety and Protection:** The Contractor and its Subcontractors/Suppliers must comply with all applicable Federal, State, and local Laws governing the safety and protection of persons or property, including, but not limited to the Michigan Occupational Safety and Health Act (MIOSHA), 1974 PA 154, as amended, MCL 408.1001 et seq., and all rules promulgated under the Act. The Contractor is responsible for all damages, injury or loss to the Work, materials, equipment, fines, penalties as a result of any violation of such Laws, except when it's due to the fault of the Drawings or Specifications or to the Act, error, or omission of the Owner or Professional. The Contractor is solely responsible for initiating, maintaining, and supervising all safety precautions and programs and such responsibility must continue until such time as the Professional is satisfied that the Work, or Work inspected, is completed and ready for final payment. In doing the Work and/or in the event of using explosives, the Contractor must take all necessary precautions for the safety of, and must erect and maintain all necessary safeguards and provide the necessary protection to prevent damage, injury or loss to: (a) all employees on the Work and other persons who may be affected by the Work, (b) all the Work and materials and equipment to be incorporated into the Work, whether stored on or off the site, and (c) other property at or adjacent to the site, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and Underground Utilities not designated for removal, relocation or replacement. In the event of severe weather, the Contractor must inspect the Work and the site and take all reasonably necessary actions and precautions to protect the Work and ensure that public access and safety are maintained.
- 6. Fire Hazard Conditions:**
- (a) The fire hazard classification of finish materials where used in the specification must be in accordance with the current Michigan Building Code.
 - (b) Classification must be determined by tunnel test in accordance with National Fire Protection Association (NFPA-255), American Society for Testing Materials (ASTM E-84) or Underwriters' Laboratories, Inc. (UL-723).
- 7. Flame/Smoke Resistance Standards:** The Contractor must provide carpeting complying with "Class B" requirements as set forth in Michigan Department of State Police State Fire Safety Board "Health Care Facilities Fire Safety Rules' R29.1243, Rule 243, when tested in accordance with the following procedures:
- (a) Tunnel Test: Test for surface burning characteristics, with ratings for flame spread, fuel contribution, and/or smoke density; ASTM E 84, UL 723, or NFPA No. 255.
 - (b) Pill Test: Test for flammability; ASTM D 2859, or DOC FF-1-70.
 - (c) Floor Radiant Panel Test: Test for burning under varying radiant energy levels; ASTM E 648, with minimum average radiant flux ratings not less than 0.45 watts/sq. cm.
 - (d) Smoke Density Test: Test in radiant heat chamber, with and without flame, for density of smoke generated; ASTM E 662, or NFPA No. 258, also known as NBS Smoke Density Chamber Test.
- 8. Michigan Right-To-Know Law:** The Contractor and its Subcontractors/Suppliers must comply with MIOSHA, Michigan Right-to-Know Law (Public Act 80 of 1986) and the rules promulgated under it. The Act places certain requirements on employers to develop a communication program designed to safeguard the handling of hazardous chemicals through labeling of chemical containers and development and availability of Safety Data Sheets (SDS), and to provide training for employees who work with these chemicals and develop a written hazard communications program. The Act also provides for specific employee rights, including the right to be notified of the location of SDS and to be notified at the site of new or revised SDS within five Business Days after receipt and to request SDS copies from their employers. The Contractor, employer or Subcontractor must post and update these notices at the site.
- 9. Environmental Requirements:** The Contractor and its Subcontractors/Suppliers must comply with all applicable Federal, State and local environmental Laws, standards, orders or requirements including but not limited to the National Environmental Policy Act of 1969, as amended, Michigan Natural Resources and Environmental Protection Act, P.A. 451 of 1994, as amended, the Clean Air Act, as amended, the Clean Water Act, as amended, the Safe Drinking Water Act, as amended, Pollution Prevention Act, as amended, Resource Conservation and Recovery Act, as amended, National Historic Preservation Act, as amended and Energy Policy and Conservation Act and Energy Standards for Buildings Except Low-Rise Residential Buildings, ANSI/ASHRAE/IESNA Standard 90.1.
- 10. Nondiscrimination:** For all State Contracts for goods or services in amount of \$5,000 or more, or for Contracts entered into with parties employing three or more employees; in connection with the performance of Work under this Contract, the Contractor and its Subcontractors and Suppliers must comply with the following requirements:
- 10.1 Not to discriminate against any employee or applicant for employment because of race, color, religion, national origin, age, sex (as defined in *Executive Directive 2019-09*), height, weight or marital status and take affirmative action to ensure that applicants are employed, and the employees are not subject to such discrimination. Such action must include, but is not limited to, the following: employment, upgrading, demotion or transfer; recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training.

- 10.2 To state in all solicitations or advertisements for employees that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, age, sex, height, weight, or marital status.
- 10.3 To send, or have its collective bargaining representative send, each labor union or representative of workers with which there is a collective bargaining agreement or other contract or understanding, a notice advising the labor unions or workers' representative of the commitments under this provision.
- 10.4 To comply with the Elliot-Larsen Civil Rights Act, 1976 PA 453, as amended , MCL 37.2201 et seq.; the Michigan Persons with Disability Civil Rights Act, 1976 PA 220, as amended, MCL 37.1101 et Seq.; *Executive Directive 2019-09*; and all published rules, regulations, directives, and orders of the Michigan Civil Rights Commission (MCRC) which may be in effect on or before the date of Bid opening.
- 10.5 The Contractor must furnish and file compliance reports within the times, and using the forms prescribed by the MCRC. Compliance report forms may also elicit information as to the practices, policies, programs, and employment statistics of the Contractor and Subcontractors. The Contractor must permit access to Records by the MCRC and its agent for purposes of ascertaining compliance with the Contract and with rules, regulations, and orders of the MCRC.
- 10.6 If, after a hearing held under its rules, the MCRC finds that the Contractor has not complied with the Elliott-Larson requirements of the Contract Documents, MCRC may, as part of its order, certify its findings to the Administrative Board of the State of Michigan, which may order the cancellation of the Contract and/or declare the Contractor ineligible for future contracts with the State until the Contractor complies with the MCRC's order.
11. **Michigan Residency for Employees:** Fifty percent of the persons employed on the Work by the Contractor must have been residents of the State of Michigan for not less than one year before beginning employment on the Work. This residency requirement may be reduced or waived to the extent that Michigan residents are not available or to the extent necessary to comply with the federal funds used for the Project. This requirement does not apply to employers who are signatories to collective bargaining agreements that allow for the portability of employees on an interstate basis.

END OF SECTION 01060

SECTION 01090 REFERENCES

1. References will be made in an abbreviated alpha numeric form to specific standard specifications, reference publications and building codes of federal or state agencies, manufacturers, associations, or trade organizations. Such references will be identified by the alphabetic abbreviation which identifies the government agency, the association or organization followed by the rule, section or detail number that are to form a part of these specifications, the same as if fully set forth herein, and must be of latest issued date in effect three months before the Bid opening date shown on the Proposal and Contract. The abbreviations used are referred to as follows:

<u>Abbreviation</u>	<u>Agency, Association or Organization</u>
ACI	American Concrete Institute
AISC	American Institute of Steel Construction, Inc.
AMCA	Air Moving and Conditioning Association
ANSI	American National Standards Institute, Inc.
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASSE	American Society of Sanitary Engineering
ASTM	American Society of Testing and Materials
AWS	American Welding Society
AWWA	American Water Works Association
BOCA	Building Officials and Code
CDA	Copper Development Assn., Inc.
CLFMI	Chain Link Fence Manufacturer's Institute
CISPI	Cast Iron Soil Pipe Institute
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standard
F/M	Factory Mutual Research Corporation
FS	Federal Specifications
HEW	United States Department of Health Education and Welfare
MDOT	Michigan Department of Transportation
NFPA	National Fire Protection Association
NSF	National Sanitation Foundation Testing Laboratory, Inc
NSWMA	National Solid Waste Management Association

PCA	Portland Cement Association
PDI	Plumbing and Drainage Institute
SMACNA	Sheet Metal & Air Conditioning Contractors
UL	Underwriters Laboratories, Inc.
USBM	United States Bureau of Mines
USDC	United States Department of Commerce

END OF SECTION 01090

SECTION 01100 PROJECT PROCEDURES

1. **Signage and Safety:** The Contractor must post appropriate construction signs to advise the occupants and visitors of occupied facilities of the limits of construction work areas, hardhat areas, excavations, construction parking and staging areas, etc. Advertising signage by contractors, subcontractors, or suppliers is not allowed. The Contractor must maintain safe and adequate pedestrian and vehicular access to fire hydrants, commercial and industrial establishments, churches, schools, parking lots, hospitals, fire, and police stations and like establishments. The Contractor must obtain written approval from the Owner ten Calendar Days before connecting to existing facilities or interrupting the services on site.
2. **Required Project Sign:** For projects costing in excess of \$500,000, the Contractor must provide and install a project sign conforming to the requirements shown in Appendix IV. The Project Director will designate the wording for the sign.
3. **Barrier and Enclosures:**
 - (a) The Contractor must furnish, install, and maintain as long as necessary and remove when no longer required adequate barriers, warning signs or lights at all dangerous points throughout the Work for protection of property, workers, and the public. The Contractor must hold the State of Michigan harmless from damage or claims arising out of any injury or damage that may be sustained by any person or persons as a result of the Work under the Contract.
 - (b) **Temporary Fence:** The Contractor must entirely enclose the Contract area by means of woven wire or snow fence having minimum height of four feet. Gates must be provided at all points of access. Gates must be closed and secured in place at all times when Work under the Contract is not in progress. The fence must be removed, and grounds restored to original condition upon completion of the Work.
 - (c). **Street Barricades:** The Contractor must erect and maintain all street barricades, signal lights and lane change markers during the periods that a traffic lane is closed for their operations. There must be full compliance with rules and ordinances respecting such street barricading and devices must be removed when hazard is no longer present.
4. **Construction Aids:**
 - (a) The Contractor must furnish, install, and maintain as long as necessary and remove when no longer required, safe and adequate scaffolding, ladders, staging, platforms, chutes, railings, hoisting equipment, etc., as required for proper execution of the Work. All construction aids must conform to Federal, State, and local codes or Laws for protection of workers and the public.
 - (b) **Debris Chute:** The Contractor must use a chute to lower debris resulting from their Work. The chute must be the enclosed type with its discharge directly into the truck or approved container.
 - (c) **Pumping and Drainage:** The Contractor must provide all pumping necessary to keep excavations and trenches free from water the entire period of Work on the Contract. The Contractor must construct and maintain any necessary surface drainage systems on the Work site so as to prevent water entering existing structures or to flow onto public or private property adjacent to the Agency's land, except for existing drainage courses or into existing drainage systems. The Contractor must prevent erosion of soils and blockage of any existing drainage system.

END OF SECTION 01100

SECTION 01200 PROJECT MEETINGS

1. **Pre-Construction Conferences:** The Project Director will schedule a pre-construction conference to be attended by the Professional, State Agency staff, and the Contractors. A project procedure as outlined in Form DTMB-0460, will be established for the Work during the pre-construction meeting. When no organizational meeting is called, the Contractor, before beginning any Work, must meet with the staff of the Agency and arrange a Work schedule for the Project. Once the Project has been started, the Contractor must carry it to completion without delay.

2. **Progress Meetings:** The Professional will schedule progress meetings to be held on the job site whenever needed to supply information necessary to prevent job interruptions, to observe the Work or to inspect completed Work. The Contractor must be represented at each progress meeting by persons with full authority to act for the Contractor in regard to all portions of the Work.

END OF SECTION 01200

SECTION 01300 SUBMITTALS

1. Shop Drawings, Samples and Technical Submittals:

1.1 Contractor's Review:

Before each submission, the Contractor must:

- determine and verify all field measurements, quantities, dimensions, instructions for installation and handling of equipment and systems, installation requirements (including location, dimensions, access, fit, completeness, etc.), materials, color, catalog numbers and other similar data as to correctness and completeness, and
- have reviewed and coordinated that technical Submittal with other technical submittals and the requirements of the Contract Documents.

1.2 Notice of Variation:

The Contractor must give the Professional specific written notice of any variation from the requirements of the Contract Documents.

1.3 Contractor's Approval:

The Contractor shall not submit unapproved submittals. Each submittal shall be stamped/certified to indicate that the submittal satisfies the requirements of the Contract Documents before submission to the Professional.

1.4 Responsibility and Authority:

Neither the Owner's authority to review any of the Submittals by the Contractor, nor the Owner's decision to raise or not to raise any objections about the Submittals, creates or imposes any duty or responsibility on the Owner to exercise any such authority or decision for the benefit of the Contractor/Subcontractor/Supplier, any surety to any of them or any other third party. The Contractor is not relieved of responsibility for errors or omissions in shop drawings, product data, samples, or similar submittals just because the Professional approved them for general design intent.

1.5 Final As-Built/Record Documents and Submittals:

The approved Submittals are a part of the final As-Built/Record Documents required for processing final payment to the Contractor.

1.6 Submissions:

Contractor must submit to the Professional:

- Organized and indexed .pdf electronic file(s) of the drawing(s) and one bond copy of all Shop Drawings.
- A 3-inch wide by 2-inch-high clear space for State approval stamp must be provided on the Title Sheet of the shop drawings.
- all required samples; and
- all other technical submittals (test, results, test and safety procedures, O&M manuals, etc.) that are required by the Contract Documents

1.7 Professional's Review and Return:

Professional's Review and Return: Submittals will be returned to the Contractor within fifteen Calendar Days. The Contractor is responsible for any time Delay and any cost incurred by the Professional, Contractor or Subcontractors/Suppliers as a result of resubmissions and re-reviews of a particular Submittal. The Contractor shall revise, and correct submittals returned for revision and resubmittal until approval by the Professional is achieved. All time consumed by the resubmissions and rereviews of a particular Submittal shall constitute time required to furnish that Submittal or shall represent Delays not justifying any increase in Contract Time or Contract Price, or both.

2. Progress Schedule:

2.1 SUMMARY

A. The **Contractor** will submit CPM Progress Schedules to the **Owner** depicting its approach to prosecution of the Work. This includes but is not limited to the **Contractor's** approach to recovering schedule and managing the effect of changes, substitutions, and Delays on Work sequencing.

B. The Progress Schedule will include the Rev. 0 Submittal (par. 2.14), Update Submittals (par. 2.15) and Revision Submittals (par. 2.16). Each Submittal will be assigned a unique number. For a resubmission, the initial number will be modified by the letter A, B, C, etc., as appropriate.

C. Through the Progress Schedule, the **Owner** will seek to stay current on progress, updated Activity and Milestone Dates, and the **Contractor's** approach to Work remaining.

D. References to the Critical Path Method (CPM) are to CPM construction industry standards that are consistent with the requirements of this Section.

2.2 RELATED SECTIONS

A. Section 00700 General Conditions; and Section 00800 Supplementary Conditions.

2.3 GLOSSARY OF TERMS

A. Capitalized terms not already defined in any Division 0 Specification have the following intent and meanings:

- Milestone—A key point of progress, designating interim targets toward the Contract Times. They may pinpoint critical path foundations, key deliveries, building framing, start of MEP rough-in, building enclosure, partitions, interior finishes, conditioned space, commissioning stages, Substantial Completion, and other events of like import.
- Official Schedule—The most recent Revision Submittal returned to the **Contractor** as Resubmittal Not Required. The Rev. 0 Official Schedule is the *As-Planned* Schedule.
- Revision 0 Submittal—Progress Schedule submitted by the **Contractor** depicting the entire Work as awarded.

4. Update Submittal—A monthly Progress Schedule update reflecting progress and minor adjustments on the Activities, sequencing and restraints for Work remaining.

2.4 QUALITY ASSURANCE

A. The **Contractor** will obtain a written interpretation from the **Professional**, if the **Contractor** believes the selection of Activities, logic ties or restraints requires an interpretation of the Contract Documents. With each submission, the **Contractor** will point out by specific, written notation, any Progress Schedule feature that may reflect variations from any requirements of the Contract Documents.

B. The **Contractor** is responsible to obtain information from each Subcontractor and Supplier when scoping their respective Activities, Values, logic ties and restraints

C. No review of any Progress Schedule by or on behalf of the **Owner** will relieve the **Contractor** from complying with the Contract Times and any required sequence of Work or from completing Work omitted from the Progress Schedule. No review will imply approval of any variation from or interpretation of the Contract Documents, unless approved by the **Professional** through a written interpretation or by means of a separate, written notation.

2.5 ALLOWANCES

A. Work covered by Cash Allowances will be completed within the Contract Times. To the extent reasonable and consistent with the **Contractor's** plan, Work authorized by provisionary contingency allowances will be completed within the Contract Times. The Progress Schedule will incorporate the **Contractor's** best estimate of the Activities, logic and restraints required, using the information in the Contract Documents, or as indicated by the **Professional** in writing.

2.6 "OR EQUALS" AND SUBSTITUTIONS

A. Activities in the Rev. 0 Progress Schedule will be based on materials and equipment required by the Contract Documents and will not reflect any "or equal" or substitute materials or equipment, even if the **Contractor** intends to pursue "or equal" and substitution proposals. This limitation also applies to any Means and Methods indicated in or required by the Contract Documents.

2.7 MEASUREMENT AND PAYMENT

A. The Schedule of Values will include a Progress Schedule *pay item*. Fifteen percent (15%) of this *pay item* will be eligible for payment upon delivery of the *complete* Rev. 0 Submittal. The balance of this *pay item* will be eligible for payment, on a prorated basis, with each Request for Payment attaching an Update Submittal.

2.8 PROGRESS SCHEDULE SUBMITTALS

A. Each Progress Schedule Submittal will consist of an electronic copy the **Contractor's file**, a narrative and a PDF file of the project schedule report and plots, each file appropriately titled for the schedule version and date of publishing.

B. The CPM scheduling software will be Primavera Project Planner®, SureTrak® or Microsoft Project®.

C. In addition to the monthly update schedule submittal, **Contractor** shall provide prior to each Progress Meeting, a 2-week look ahead schedule extracted from the current overall schedule and providing sufficient additional activity detail to appropriately define the expected activity during the upcoming 2-week period.

2.9 PRINTOUTS

A. Schedule Reports will include Activity (ID) code and description, duration, calendar, Early Dates, Late Dates and Total Float, all of which will comport with the requirements of paragraph 8.3.4 of Section 00700 General Conditions.

1. Late Finish Date for an Activity pinpointing a Contract Time will equal that Contract Time. Early Start Date for an Activity designating a Contract restraint will equal the proper Notice to Proceed date. Schedule Reports may or may not append CPM Plots (time-scaled Activity/logic).

2. For Precedence Diagram Method, separate Schedule Reports will tabulate, for each Activity, all preceding and succeeding logic types and lead times, whether CPM Plots displaying vertical logic ties are appended or not.

B. CPM Schedule Plots will be plotted on a suitable time scale and identify the Contract Times, Critical Paths, and sub-Critical Paths. Activities will be shown on the Early Dates with Total Floats noted by Late Date flags.

c. Line of Balance Plots will reflect industry practice for repetitive construction and will segregate the production lines for all trades within the hammock Activities.

2.10 NARRATIVE REQUIREMENTS

A. In general, a narrative will describe the **Contractor's** approach to prosecution of the Work, subject to the requirements of the Contract Documents. Further, each narrative will list the Critical Path Activities and compare Early and Late Dates with Contract Times and Milestone Dates. The basis for restraint dates will be explained.

B. For each Update Submittal, the narrative will compare current Dates to the respective Milestone Dates, describe changes in crewing and construction equipment and identify new Delays. For each Revision Submittal, the narrative also will itemize changes in Activities, logic ties and restraint dates made necessary by each change, Delay, schedule recovery, substitution and **Contractor**-initiated revision occurring since the previous Submittal.

2.12 ACTIVITY REQUIREMENTS

A. The Progress Schedule will detail Work sequencing only to the extent necessary to allow the **Owner** to correlate percent complete, compare actual dates with Milestones and Contract Times and the data in Requests for Payment.

B. Separate Activities will designate permits, construction, Submittal preparation/review (and resubmission and re-review, for same); MEP coordination drawings; deliveries; commissioning; and Punch List. Separate Activities will designate **Owner**-furnished items, interface with other work and the **Owner** and **Professional's** responsibilities.

C. Activities will be detailed only to the extent required to show the transition of trade Work. Activities will detail the progression through site/excavation, foundations, building framing, start/completion of interior partitions, MEP rough-in, building enclosure, interior finishes, conditioned space, and commissioning.

1. Submittal Activities will segregate long-lead items, any item requiring structural access and other procurements that, in the **Contractor's** judgment, may bear on the rate of progress. Separate MEP coordination drawing Activities will be used for each

floor. Beyond these requirements, it is not necessary to burden the Progress Schedule with Activities for less significant Submittals and deliveries.

2. For multiunit Work (e.g., rough-in overhead MEP for each floor, etc.), detailed Activities will be shown for a typical (often, the first) unit). Other or follow-on units may be replicated, as appropriate, or modeled with a hammock Activity combining the sum total of the typical detailed Activities. Separate Activities, as may be suitable to the Divisions of Work involved, will be identified for single-unit Work. This requirement applies to such scope as Work in mechanical rooms, building framing, commissioning, etc.

3. Activities will not combine separate or non-concurrent items of Unit Price or lump sum Work, Work in separate structures and Work in distinct areas, locations or floors within an area or structure; or rough-in and finish Work.

D. Activity durations will equal the Business Days required to sufficiently complete the Work designated by the Activity (i.e., when finish-to-start successors may start, even if the Activity is not quite 100% complete). Installation Activities will last from twenty (20) to forty (40) Days.

E. Activities will be assigned consistent descriptions and identification codes. Sort codes will group Activities by building or structure, floor or area, Change Order and Change Authorization and other meaningful schemes.

2.13 FLOAT TOLERANCES

A. Any Progress Schedule with Early Dates after a Contract Time will yield negative Total and Contract Floats, whether shown/calculated or not. Any Revision Submittal with less than negative twenty (20) Days of Float will be returned as "Revise and Resubmit," unless a time extension is requested, or the **Owner** withholds liquidated damages or asserts intent to do so in the event schedule is not recovered.

B. Floats calculated from the definitions given in Section 00020 Glossary supersede any conflicting Float values calculated within any early completion Progress Schedule.

2.14 REVISION 0 (Rev. 0) SUBMITTAL

A. The complete Revision 0 Submittal will be due with the first Request for Payment. The Rev. 0 Submittal will show the Work as awarded, without Delays, "or equal" or substitutions, Change Orders or Change Authorizations.

1. The Rev. 0 narrative will detail the **Contractor's** management of the site (lay down, parking, etc.). Further, the Rev. 0 narrative will identify shifts, weekend Work, Activity calendars, Delays since award and all pending and anticipated "or equal" and substitution proposals.

B. Once endorsed by the **Owner** and returned as "Resubmittal Not Required," the Rev. 0 Progress Schedule (or Rev. 0A, etc.) will be the As-Planned Schedule and the basis for Update Submittals until the Rev. 1 Official Schedule is established. Once the As-Planned Schedule is established, the **Owner** will select Milestones and note Milestone Early and Late Dates. As the Official Schedule evolves, Milestone Dates will be revised accordingly.

D. If the **Owner** refuses to endorse the Rev. 0 Submittal (or Rev. 0A, for a resubmission) as "Resubmittal Not Required," the As-Planned Schedule will not be established. In that event, the **Contractor** will continue to submit Update and Revision Submittals reflecting progress and the **Contractor's** approach to remaining Work. The **Owner** will rely on the available Update and Revision Submittals, subject to whatever adjustments it determines appropriate.

2.15 UPDATE SUBMITTALS

A. Update Submittals with progress up to the closing date and updated Early and Late Dates for progress and remaining Activities will be due with each Request for Payment. As-built data will consist of actual start dates, percent complete, actual finish dates, changes, Delays, and other significant events occurring before the closing date.

2.16 REVISION SUBMITTALS

A. Progress Schedule Revisions will be submitted with the third Request for Payment and every two (2) months after that, or more often, if necessary due to schedule recovery or other Progress Schedule revisions. Revisions will revise the Update Submittal attached to the prior Request for Payment.

B. Progress Schedule revisions will detail all impacts on pre-existing Activity scope, logic ties and restraint dates and reflect the Contractor's current approach to Work remaining. Revisions may be required because of changes in the Work, substitutions, schedule recovery and Delays.

C. Once endorsed by the **Owner** and returned as "Resubmittal Not Required," a Revision Submittal becomes the Rev. 1, Rev. 2, etc. Official Schedule and the basis for subsequent Update Submittals until a more current Official Schedule is established. If the **Owner** refuses to endorse a Revision Submittal as "Resubmittal Not Required," the **Contractor** will continue to submit Update and Revision Submittals when and as required in this Section.

2.17 RETROSPECTIVE DELAY ANALYSIS

A. If the **Owner** refuses to endorse any Revision Submittal as "Resubmittal Not Required," the **Contractor** and **Owner** will use the latest Official Schedule when evaluating the effect of Delays on Contract Time and/or Contract Price. The procedure will consist of progressively revising the latest Official Schedule at key Revision Submittal closing dates. For each Progress Schedule iteration, slippage between actual Milestone Dates and Rev. 0 Milestone Dates will be correlated to Delays occurring solely in that iteration. Revisions affecting Work after any iteration will be included only to the extent consented by the **Owner** at that time and/or if confirmed by as-built progress.

2. **Shop Drawings:** The Contractor shall deliver shop drawings of products, materials, assemblies, or equipment to the Professional.

Item of Work

Ballistic Resistant Doors
 Door Frames, and Hardware
 Bullet Resistant Windows
 Millwork
 Lighting
 Electrical Equipment
 Mechanical Equipment
 Piping
 Bullet Resistant Windows
 Gypsum Board and Studs
 Carpet Tile
 Luxury Vinyl Tile (LVT)
 Vinyl Base
 Paint
 Acoustical Ceiling Tile

- 4. Samples:** The Contractor must deliver all samples of material or equipment to the job site for examination by the State Agency and the Professional. Samples will be examined by the Professional for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The Contractor must furnish all Work in accordance with approved samples. The following general classifications of material and equipment require submission of samples. Samples of other items may be requested by the Professional at any time.

<u>Item of Work</u>	<u>Type of Sample</u>	<u>Section Number</u>
RFA Board Insulation	Sample Units	07220
Porcelain Tile	Sample Panel	09310
Acoustical Ceilings	Sample Units	09510
Resilient Flooring	Sample Units	09650
Carpeting	Sample Units	09680
Painting	Color Samples	09900

END OF SECTION 01300

SECTION 01400 QUALITY CONTROL

- 1. Testing Laboratory Services:** All tests required by the Owner must fulfill ASTM, ANSI, Commercial and other Standards for testing. The Contractor must submit a minimum of three copies of each test report to the Professional for evaluation and subsequent distribution. The following general classifications of Work require submission of test reports and/or certificates of inspection. Additional submissions may be requested by the Professional at any time.

<u>Item of Work</u>	<u>Test Type</u>	<u>Section Number</u>
None.		

- 2. Tests:**
- (a) Paid by Owner: NA
 - (b) Paid by Contractor: NA
- 3. Concrete/Asphalt Materials:** Before placement of any concrete, the Contractor must submit for the Professional's approval complete data on the trial concrete mix formulation and a testing laboratory report for ASTM C94, twenty-eight-day standard cylinder test for compressive strength of a sample of the concrete mix. For asphalt paving, the Contractor must submit the data and testing reports for ASTM D946, AC-5. The mix must have 4.5 to 6 percent of asphalt cement by weight for binder course and 5 to 7 percent of asphalt cement by weight for surface course in accordance with Asphalt Institute Manual MS-4, MS-13, and the current Michigan Department of Transportation (MDOT) Standard Specifications for Construction.
- (a) The Contractor must furnish to the Professional tickets showing mix formulation, Contractor's name, Project name, mix identification for each load of concrete/asphalt delivered and installed. If the technical specifications allow added water to the concrete mix after leaving the batch plant, the delivery ticket must reflect the added water. The Owner Field Representative must receive a copy of each delivery ticket for transmittal to the Professional for evaluation.

- (b) The Professional may require the Contractor to core drill questionable cast-in-place concrete/asphalt for laboratory testing. Should the laboratory analysis indicate the concrete/asphalt fails to meet specification requirements, the Contractor must pay all costs for core drilling and testing in the laboratory and replace the concrete/asphalt found to fail meeting the specification requirements. Should the laboratory analysis confirm that the concrete/asphalt meets specification requirements, the Owner will pay the Contractor for their costs for core drilling, concrete/asphalt patching and the laboratory fee for testing of the concrete/asphalt core samples.

END OF SECTION 01400

SECTION 01500 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

1. The Contractor must furnish and install all temporary facilities and controls required by the Work, must remove them from State property upon completion of the Work, and the grounds and existing facilities must be restored to their original condition.
2. If water or electricity is available in the area where Work will be performed, the Contractor will not be charged for reasonable use of these services for construction operation. The Contractor must pay costs for installation and removal of any temporary connections including necessary safety devices and controls. Use of services must not disrupt or interfere with operations of the State Agency.
3. **Temporary Sanitary Facilities:**
 - (a) **State Toilets:** If available, the State Agency will designate a permanent toilet facility on the premises for use by personnel employed in the Work. The Contractor must repair any damage to the toilet facility caused by their employees and maintain it in a clean and sanitary condition.
4. **Field Office:**
 - (a) On site trailers are not allowed.
5. **Temporary Heating:** Until the new heating system is ready to provide heat, the Contractor must provide adequate temporary heaters to maintain the temperature in those areas of the building where Work is being conducted between 55 degrees F. and 70 degrees F. during working hours.

END OF SECTION 01500

SECTION 01600 MATERIAL AND EQUIPMENT

1. The Contractor must furnish and be responsible for all materials, equipment, facilities, tools, supplies and utilities necessary for completing the Work. All materials and equipment must be provided as described in the Contract Documents and of good quality, free of defect and new and must be applied, installed, connected, erected, used, cleaned and conditioned following the manufacturer's and Suppliers' instructions.
2. **Delivery, Storage, and Handling:** All materials and equipment delivered to and used in the Work must be suitably stored and protected from the elements. The areas used for storage must only be those approved by the State Agency. The Owner assumes no responsibility for stored material. The ownership and title to materials will not be vested in the Owner before materials are incorporated in the Work unless payment is made by the Owner for stored materials and equipment. After delivery, before and after installation, the Contractor must protect materials and equipment against theft, injury, or damage from all causes. For all materials and equipment, the Contractor must provide complete information on installation, operation, and preventive maintenance.
 - (a) The Contractor must cover and protect bulk materials while in storage which are subject to deterioration because of dampness, the weather or contamination. The Contractor must keep materials in their original sealed containers, unopened, with labels plainly indicating manufacturer's name, brand, type, and grade of material and must immediately remove from the Work site containers which are broken, opened, watermarked and/or contain caked, lumpy, or otherwise damaged materials.
 - (b) The Contractor must keep equipment stored outdoors from contact with the ground, away from areas subject to flooding and covered with weatherproof plastic sheeting or tarpaulins.
 - (b) The Contractor must certify that any materials stored off-site are:
 - a) Stored on property owned or leased by the Contractor or owned by the agency.

- b) Insured against loss by fire, theft, flood, or other hazards.
- c) Properly stored and protected against loss or damage.
- d) In compliance with the plans and specifications.
- e) Specifically allotted, identified, and reserved for the project.
- f) Itemized for tracking and payment.
- g) Subject to these conditions until the items are delivered to the project site.

END OF SECTION 01600

SECTION 01650 FACILITY START-UP

1. **Tests:** The complete installation consisting of the several parts of equipment and systems installed according to the requirements of the Contract Documents must be ready in all respects for use by the State Agency and must be subjected to a test at full operating conditions and pressures for normal conditions of use.
2. **Adjustments:** Contractor must adjust and replace the Work which is necessary to fulfill the requirements of the Contract Documents and to comply with the directions and recommendations of the manufacturer of the several parts of equipment, and to comply with all provisions of architectural and/or engineering drawings/specifications and all codes and regulations which may apply to the entire installation.
3. **Demonstration:** Contractor must provide an on-site demonstration and training of all systems operations to the Owner when it is substantially completed.

END OF SECTION 01650

SECTION 01700 CONTRACT CLOSE-OUT

1. **Substantial Completion:** The Contractor must notify the Professional, the Project Director and the Agency when the Work will be substantially complete. If the Professional, Owner, and Agency agree that the project is Substantially Complete, the Professional and Project Director will inspect the Work. The Professional, upon determining that the Work, or a portion of the Work inspected, is substantially complete, will prepare a Punch List and will attach it to the respective Certificate of Substantial Completion. The Contractor must be represented on the job site at the time this inspection is made and thereafter must complete all Work by the date set for final acceptance by the Owner.
2. **Cleaning:**
 - (a) **Regular Cleaning:** The Contractor must remove all scrap or removed material, debris, or rubbish from the Project work site at the end of each working day and more frequently whenever the Owner Field Representative deems such material to be a hazard. The Contractor cannot discard materials on the grounds of the State Agency without the express permission of the Project Director. No salvage or surplus material may be sold on the premises of the State Agency. No burning of debris or rubbish is allowed. Any recyclable materials must be recycled, and the Contractor will be required to provide recycling plan.
 - (b) **Final Cleaning:** Before final acceptance by the State, the Contractor must clean all Work and existing surfaces, building elements and contents that were soiled by their operations and make repairs for any damage or blemish that was caused by the Work.

END OF SECTION 01700

SECTION 01800 MAINTENANCE

1. The Contractor is responsible for maintaining the following parts of Work in good order and proper working conditions and must take all necessary actions for their protection until they are placed for use by the Owner: Fire alarm and fire suppression systems.

END OF SECTION 01800

APPENDIX I
GLOSSARY

GLOSSARY

Activity– An element in the Progress Schedule establishing a requisite step, or the time and resources required, for completing the part of the Work associated with that Activity.

Addenda– Written instruments that are used by the Owner and/or Professional to incorporate interpretations or clarifications, modifications, and other information into the Bidding Documents. An Addendum issued after Bid opening to those Bidders who submitted a Bid, for the purpose of re-bidding the Work without re-advertising, is referred to as a **post-Bid** Addendum.

Agency– Any unit, section, division, department, or other instrumentality of the State that benefits from the Work.

Alternate– Refers to work specified in the Bidding Documents for which the Bidder must bid a Bid Price.

Apparent Low Bidders: Those Bidders whose Base Bid, when added to those specific Alternates the Owner intends to accept, yields the three lowest sums of Bid and Alternates. Additional Bidders may be considered Apparent Low Bidders if their Bid, when added to those specific Alternates the Owner intends to accept, yields a sum within 10% of the lowest of the Apparent Low Bidder's sum. If a qualified disabled veteran meets the requirements of the contract solicitation, provides acceptable responses to both Part One and Part Two of the Best Value Construction Bidder Evaluation to achieve a Best Value recommendation and with the veteran's preference is the lowest responsive, responsible, best value Bidder it is considered the Apparent Low Bidder.

Archaeological Feature– Any prehistoric or historic deposit of archaeological value, as determined by a representative of a State Agency that is duly authorized to evaluate such findings and render such judgments. An Archaeological Feature deposit may include, but is not limited to Indian habitations, ceremonial sites, abandoned settlements, treasure trove, artifacts, or other objects with intrinsic archaeological value and that relate to the history and culture of the State of Michigan. The Archaeological Features are listed under Section 00800 Supplementary Conditions.

Authorized Technical Data– Information and data contained in a report of exploration and tests of subsurface conditions. Also, any physical data (dimension, location, conditions, etc.) contained in those Drawings of physical conditions of existing surface and subsurface facilities.

Best Value– The bids will be evaluated for best value based on price and qualitative components that may include but are not limited to technical design, technical approach, quality of proposed personnel, and management plans, per PA 430 of 2012.

Bid– Written offer by a Bidder for the Work, as specified, which designates the Bidder's Base Bid and Bid Prices for all Alternates. The term *Bid* includes a *re-bid*.

Bidder– The Person acting directly, or through an authorized representative, who submits a Bid directly to the **Owner**.

Bidding Documents– The proposed Contract Documents as advertised, and all Addenda issued before execution of the Contract.

Bid Price– The Bidder's price for a lump sum item of work, or the product of the Bidder's unit price for an item of Unit Price Work times the quantity given on the Bid Form for that item.

Bid Security– A security serving as a guarantee that the Bidder will conform to all conditions.

Bidding Requirements–The Advertisement, Instructions to Bidders, Supplementary Instructions, Information for Bidders, Bid Form, Bid Form Attachments, and qualification submittals, as advertised and as modified by Addenda, and any other Section included within Division 0 of the Bidding Documents for the purpose of governing bidding and award of the Contract.

Board– The Administrative Board of the State of Michigan.

Bond– Security furnished by the **Contractor**, as required by the Contract Documents.

Business Day– Any Day except Saturdays, Sundays and holidays observed by the **Owner**.

Bulletin– A request used by the **Owner** to describe a change in the Work under consideration by the **Owner** and to request the **Contractor** to submit a proposal for the corresponding adjustment in Contract Price and/or Contract Time, if any.

Calendar Day– Every day shown on the calendar, Saturdays, Sundays, and holidays included.

Cash Allowance– An **Owner**-specified sum included within the Contract Price to reimburse the **Contractor** for the actual purchase/furnished cost of materials and/or equipment or other designated items, as specifically provided in the Contract Documents. Although the scope (e.g., the required quantity) of any Work covered by a Cash Allowance is sufficiently detailed in the Contract Documents for the purposes of bidding the required labor costs, Subcontract costs, construction equipment costs and general conditions costs and Fee, it is understood that the required materials, equipment or other designated items are of uncertain purchase cost at the time of Bid or are yet to be specified in more detail by the **Professional** as to quality, appearance, durability, finish and such other necessary features affecting purchase price.

Change Order– A written order issued and signed by the **Owner**, which amends the Contract Documents for changes in the Work or an adjustment in Contract Price and/or Contract Time, or both.

Construction Mechanic– A skilled or unskilled mechanic, laborer, worker, helper, assistant, or apprentice working on a state project but shall not include executive, administrative, professional, office, or custodial employees.

Contract Award– The official action of the **Board**, the **Director-SFA** or the **Director-DCD** awarding the Contract to the **Contractor**.

Contract Documents– Written and graphic documents that form the legal agreement between the **Owner** and the **Contractor**, consisting of this document, completed Bid and Contract forms, terms and conditions of the contract, specifications, drawings, addenda, Notice of Award, Notice-to-Proceed and contract change orders.

Contract Price– The total compensation, including authorized adjustments, payable by the **Owner** to the **Contractor** (subject to provisions for Unit Price Work).

Contract Times–The Contract Times for the entire Work are the periods allowed, including authorized adjustments, for Substantial Completion and final completion of the Work. The Contract Times for a designated portion of the Work are the periods allowed for Substantial Completion and final completion of any such portion of the Work, as specified in the Contract Documents.

Contractor– Business enterprise with which the **Owner** has entered into the Contract.

Correction Period– A period during which the **Contractor** must, in accordance with the Contract Documents, (a) correct or, if rejected, remove, and replace Defective Work, and (b) maintain warranties for materials and equipment in full force and effect.

Cost of the Work Involved– The sum of all costs that would be, or were, necessarily incurred by the **Contractor** in providing any Work Involved with the related change, less the costs that would be, or would have been, incurred by the **Contractor** to provide such Work without the related change.

Defective– As determined by the Professional, an adjective which when referring to or when applied to the term “Work” refers to (a) Work not conforming to the Contract Documents or not meeting the requirements of an inspection, test, or approval, or (b) Work itemized in a Punch List which the **Contractor** fails to complete or correct within a reasonable time after issuance of the Punch List by the **Professional**.

Delay– Any act or omission or other event that in any manner adversely affects or alters the schedule, progress or completion of all or any part of the Work. Delay is a generic term intended to include deferral, stoppage, slow down, interruption and extended performance, and all related hindrance, rescheduling, disruption, interference, inefficiency and productivity and production losses.

Department (DTMB)– Department of Technology, Management and Budget of the State of Michigan.

Director- The Director of the **Department**.

Director-SFA- The Director of **DTMB** State Facilities Administration.

Director-DCD- The Director of **DTMB** State Facilities Administration, Design and Construction Division.

Division– Each of the numbered, distinct parts (starting with Division 0) into which the Specifications are divided.

Drawings– Part of the Contract Documents showing the Work. Drawings must neither serve nor be used as Shop Drawings.

Emergency– A condition affecting the safety or protection of persons, or the Work, or property at or adjacent to the site.

State Facilities Administration (SFA)-Entity in the **Department** responsible for design, construction, and operations and maintenance of facilities.

Fee for the Work Involved (Fee)– An established, percentage mark-up on the Cost of the Work Involved which is allowed to the **Contractor** for (a) reasonable administrative costs, and (b) negotiated, reasonable profit on the Cost of the Work Involved.

Hazardous Material– Asbestos containing materials (ACMs), Polychlorinated biphenyls (PCBs), petroleum products, such as paint thinners, solvents, gasoline, oil, etc., and any other like material the manufacture, use, treatment, storage, transportation, or disposal of which is regulated by federal, state, or local Laws governing the protection of public health, natural resources, or the environment.

Invitation To Bid (ITB) - The solicitation document presenting the terms and conditions that will become part of the Contract when the Bid is accepted.

Law(s)– Means federal, state, and local statutes, ordinances, orders, rules and/or regulations.

MCL– The Michigan Compiled Laws of the State of Michigan.

Means and Methods– Includes means, methods, techniques, sequences and/or procedures applicable to the Work.

Notice of Award– Written notice accepting the Bid to the lowest responsive, responsible Bidder and designating the Contract Price (and establishing the Alternates accepted by the **Owner**).

Notice-to-Proceed– Written notice issued by the Project Director directing the Contractor to commence the construction activities and establishing the start date of the Contract Time.

On-Site Inspection– The **Professional's** on-site examination of the **Contractor's** completed or in progress Work to determine and verify to the Project Director that the quantity and quality of all Work complies with the requirements of the Contract Documents.

Owner– The State of Michigan, with whom the **Contractor** has entered into the Contract and for whom the Work is to be provided.

Owner Field Representative– A State employee or consultant, acting collaboratively with the Project Director, providing on-site, periodic observation and documentation of the Work for compliance with the Contract Documents.

Partial Use– The use, by the **Owner**, of a designated portion of the Work before accomplishing Substantial Completion of the entire Work. Partial Use does not mean Substantial Completion of the portion of the Work placed in use by the **Owner**.

Person–Individuals, partnerships, corporations, receivers, trustees, joint ventures or any other legal entity and any combinations of any of them.

Political Subdivision– Any county, city, village, or other local unit of the State, including any agency, department, or instrumentality of any such county, city, village, or other local unit.

Post-Bid Submittal– A Qualification Submittal required of the Bidder selected under Section 00100 - 22 before Contract Award, and which is used by the Owner in the evaluation of the Bid of the selected Bidder.

Professional Services Contractor (PSC or Professional)– The individual or business entity who has the authority to practice the design disciplines required by the Contract Documents. An Agency with appropriate licensing may replace the PSC in their role if a consultant is not used.

Project– The total construction, which includes the Work and possibly other work completed by others, as indicated in the Contract Documents.

Project Director- Designated State employee(s) (a) Responsible for directing and supervising the **Professional's** services during the period allowed for completion of the Work; and/or (b) Acting as representative for the **Owner** and for the enforcement of the Contract Documents, approving payment to the **Contractor** and coordinating the activities of the State, **Owner**, **Professional** and **Contractor**.

Project Schedule– Work Schedule that shows the **Contractor's** approach to planning, scheduling, and execution of the Work and that accurately portrays completed Work as to sequencing and timing, as provided in the Contract Documents.

Project Specifications– The Contract Documents organized into Divisions. "Technical Specifications" means Divisions of the Specifications consisting of technical descriptions of materials, equipment, construction systems, standards, and workmanship.

Provisionary Allowance– An amount included within the Contract Price to reimburse the **Contractor** for the cost to furnish and perform Work that is uncertain because, for example, it is indeterminate in scope and may not be shown or detailed in the Contract Documents.

Punch List– A list of minor items to be completed or corrected by the **Contractor**, any one of which do not materially impair the use of the Work for its intended purpose.

Qualified Disabled Veteran (QDV)- QDV as defined by Public Act 22 of 2010, MCL 18.1241.3 and supported by a DD214 Proof of Service and Discharge, a Veterans Administration rating decision letter, proof of disability (if the disability is not indicated on the DD214), and appropriate legal documents setting forth the 51% natural persons QDV ownership.

Record Documents– Drawings, Specifications, Addenda, Change Orders, Change Authorizations, Bulletins, inspection, test and approval reports, photographs, written clarifications and interpretations and all other documents recording, or annotated to show, all revisions and deviations between the as-built installation and the Contract Documents, all approved Submittals and all clarifications and interpretations.

Records– Books, reports, documents, electronic data, and other evidence relating to the bidding, award and furnishing and performance of the Work.

Recycled Material– Recycled paper products, structural materials made from recycled plastics, re-refined lubricating oils, reclaimed solvents, recycled asphalt and concrete, recycled glass products, re-treaded tires, ferrous metals containing recycled scrap metals and all other materials that contain (a) waste materials generated by a business or consumer, (b) materials that have served their intended purpose, and/or (c) materials that have been separated from solid waste for collection, recycling and disposition in the percentage determined by the State as provided by Law.

Request for Payment– The form provided by the **Owner** (Payment Request DTMB-0440) to be used by the **Contractor** in requesting payment for Work completed, which must enclose all supporting information required by the Contract Documents.

Schedule of Values– A schedule of pay items, which subdivides the Work into its various parts and which details, for each itemized part, cost and pricing information required for making payments for Work performed. The sum of all pay item costs in the Schedule of Values must equal the Contract Price for the Work.

Shop Drawings– Includes drawings, diagrams, illustrations, standard schedules, performance charts, instructions and other data prepared by or for the **Contractor** to illustrate some part of the Work, or by a Supplier and submitted by the **Contractor** to illustrate items of material or equipment.

Soil Erosion and Sedimentation Control– The planning, design and installation of appropriate Best Management Practices designed and engineered specifically to reduce or eliminate the off-site migration of soils via water runoff, wind, vehicle tracking, etc. Soil erosion and sedimentation control in the State of Michigan is regulated under The Natural Resources Environmental Protection Act; Soil Erosion and Sedimentation Control, 1994 PA 451, Part 91, as amended, MCL 324.9101 et seq. Soil erosion and sedimentation control associated with this Contract is monitored and enforced by the DTMB-SFA.

State– The State of Michigan in its governmental capacity, including its departments, divisions, agencies, boards, offices, commissions, officers, employees, and agents. Non-capitalized references to a state refer to a state other than the State of Michigan.

State Construction Code– The Michigan State Construction Code Act, 1972 PA 230, as amended, MCL 125.1501 et seq.

Subcontractor– A Person having an agreement with the Contractor to provide labor at the site and furnishing materials and/or equipment for incorporation into the Work.

Submittals– Includes technical Submittals, Progress Schedules and those other documents required for submission by the Contract Documents. The term "technical Submittal" includes Shop Drawings, brochures, samples, Operation and Maintenance (O&M) Manuals, test procedures and any other Submittal the Contract Documents require the **Contractor** to submit to demonstrate how the items covered, after installation or incorporation into the Work, will conform to the information given in the Contract Documents and be compatible with the design of the completed Work as a functioning whole as indicated in the Contract Documents.

Substantial Completion– The Work, or a portion of the Work designated in the Contract Documents as eligible for separate Substantial Completion, has been completed in accordance with the Contract Documents as determined by the PSC, to the extent that the **Owner** can use or occupy the entire Work, or the designated portion of the Work, for the use intended without any outstanding, concurrent Work at the site, except as may be required to complete or correct Punch List items.

Supplier– A manufacturer or fabricator, or a distributor, material man or vendor representing a manufacturer or fabricator, who has an agreement with the Contractor to furnish materials and/or equipment.

Underground Utilities–Pipelines, piping, conduit, duct, cables, wells, tanks, tunnels and appurtenances, or other similar facilities, installed underground to convey or support conveyance of potable water, sprinkler or irrigation water, fire protection systems, electricity, gases, steam, petroleum products, sewerage and drainage removal, telephone, communications, cable TV, traffic, or control systems.

Unit Price Work– The work involving specified quantities (i.e., related Work quantities) which, when performed, is measured by the **Professional** and paid using the measured quantities and unit prices contained in the Contract Documents. Performance of Unit Price Work for undefined quantities is contingent upon conditions encountered at the site, as determined, and authorized by the **Professional**.

Unit Price Work, Specific– Work of specified and defined quantities (i.e., quantities are detailed in, and can be taken-off from, the Contract Documents) that when performed is measured by the **Professional** and paid based on the measured quantities and unit prices contained in the Contract Documents.

Work- (as in “*the Work*,” “*the entire Work*”)– The entire *completed Construction* required by the Contract Documents. The Work results from furnishing and performing all services, obligations, responsibilities, management, supervision, labor, materials, equipment, construction equipment, general conditions, permits, taxes, patent fees and royalties, testing, inspection and approval responsibilities, warranties, temporary facilities, small tools, field supplies, Bonds, insurance, mobilization, close-out, overhead and all connections, devices and incidental items of any kind or nature required and/or made necessary by the Contract Documents.

Work Involved, any Work Involved– Existing or prospective Work (a) reflected in any notice, proposal, or claim, or (b) reflected in changes ordered or in process, or (c) affected by Delay.

APPENDIX II
SPECIAL WORKING CONDITIONS

DTMB State Facilities Administration Security Clearance Request

Contractor Instructions

The purpose of this document is to establish security and supervision requirements for contract personnel requiring access to Department of Technology, Management and Budget (DTMB) facilities.

A *DTMB Security Clearance form* must be completed before an individual is granted access to a facility. Access approval will be in effect for one year from date of DTMB Facility Services approval or until estimated project completion date (whichever occurs first).

Contract personnel agree to adhere to all DTMB rules and regulations which in DTMB facilities. Access will only be granted for normal business hours. (Monday-Friday, 8:00 a.m.-5:00 p.m. except State holidays). DTMB State Facilities Administration, Facility Services section must clear any exception in advance.

Contract personnel will be required to submit the following to DTMB Facility Services Manager or Regional Manager before entering a DTMB facility:

Procedure for submitting form electronically (preferred and recommended)

1. Complete a *DTMB Security Clearance form* (using Microsoft Excel) and include the following:
 - Company name
 - Company Contact name and phone number
 - Complete name (**last name first**) and date of birth for all employees requiring access.
2. Email completed form to DTMB Facility Manager for an individual building or DTMB Regional Facility Manager for multiple building requests.

Procedure for submitted in person or mail delivery

1. Complete a *DTMB Security Clearance form* (using Microsoft Excel) and include the following:
 - Company name
 - Company Contact name and phone number
 - Complete name (**last name first**) and date of birth for all employees requiring access.
2. Return completed form to DTMB Facility Manager for an individual building or DTMB Regional Facility Manager for multiple building requests.

Note: This request must be received a minimum of 48 hours before entering a DTMB Facility.

DTMB Facility Access Criteria:

1. Present pictured ID.
2. Name must appear on the clearance list.
3. Sign-in and wear a dated visitor's pass (*must be visibly displayed at all times*).
4. Return visitor pass to security desk at days end.

Note: Individuals whose name does not appear on the clearance list are required to be signed in by a member of the DTMB Facility Services staff.

Failure to comply with the above procedure will result in the individual(s) being delayed and may be cause for denying access to DTMB facilities.

APPENDIX III
SPECIAL PROJECT PROCEDURES

SOIL EROSION AND SEDIMENTATION CONTROL PROJECT PROCEDURES FOR CONTRACTORS ON DTMB OWNED AND MANAGED PROPERTIES

1. Comply with Part 91, Soil Erosion and Sedimentation Control of the Natural Resources and Environmental Protection Act 1994 PA 451, as amended.
2. Contact the DTMB, SFA, Design and Construction Division to discuss the implementation of soil erosion and sedimentation control (SESC) on the Project with DTMB SESC Officer. Phone **(517) 388-3045** or Email DTMB-SESC@michigan.gov.
3. Following the award of a contract, the Contractor will be required to prepare and issue for approval an SESC Implementation Plan, which indicates the Contractor's intended implementation of SESC on the project including a schedule and sequence. The Environmental Health and Safety Section, upon approval of the implementation plan, will issue to the Contractor an "Authorization to Proceed with Earth Change" document, which is to be posted at the job site. This document is issued in lieu of a permit from the county. Earthwork shall not begin prior to the issuance of this Authorization. Upon receipt of the Authorization document, the Contractor may begin earth change activities.
4. See below the "Checklist for Contractor's SESC Implementation Plan" for details of the required information necessary for the Contractor to create the SESC Implementation Plan. The intent of this plan is to ensure that the Contractor has reviewed and understands the SESC provisions within the plans and specifications.
5. **CHECKLIST FOR CONTRACTOR'S SOIL EROSION AND SEDIMENTATION CONTROL IMPLEMENTATION PLAN** (For projects that include earth changes or disturb existing vegetation):

DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
STATE FACILITIES ADMINISTRATION, DESIGN AND CONSTRUCTION DIVISION
SOIL EROSION AND SEDIMENTATION CONTROL PROGRAM
P.O. Box 30026, Lansing, Michigan 48909

PROJECT TITLE:
PROJECT LOCATION:
PROJECT FILE NUMBER:
INDEX NUMBER:

Prior to the start of earthwork, the Contractor must submit a Soil Erosion and Sedimentation Control (SESC) Implementation Plan to the Michigan Department of Technology, Management and Budget, Soil Erosion and Sedimentation Control Program. The intent of this plan is to ensure that the Contractor has reviewed and understands the SESC provisions within the plans and specifications. The following checklist will provide Contractors with assistance in creating the SESC Implementation Plan.

The SESC Implementation Plan must include:

1. A written plan or letter demonstrating:
 - The Contractor's means and methods for the implementation of SESC provisions included within the plans and specifications and compliance with the provisions of Part 91 of PA 451 of 1994, as amended.
 - The Contractor's plan for dust control.
 - The Contractor's plan for inspection and maintenance of temporary SESC's.
2. A map, location plan, drawing, or amended copy of the Project SESC or grading plan showing:
 - The locations of any stockpiles of soil associated with the Project
 - The temporary SESC controls associated with stockpiles of soil
 - The Contractor's suggested or proposed additions or relocations of any temporary or permanent SESC's associated with the Project plans and specifications (subject to approval by Engineer and DTMB)
 - Location of site entrances, exits and vehicle routes
 - Location of site superintendent's/project manager's site trailer or office (for SESC Inspector check-in)
3. A schedule for the installation and removal of temporary controls and the installation of permanent soil erosion and sedimentation controls in relation to the overall construction schedule.

Submit the above items to the above address.

Upon approval of the Contractor's plan, an "Authorization to Proceed with Earth Change" will be issued by DTMB, Design and Construction Division.

DEMOLITION/REMODELING PROJECT PROCEDURES

Furnish all equipment, materials, labor, and services necessary to complete all building demolition required in connection with the existing building, in order to permit the installation of new Work. The goal of the Owner is to generate the least amount of waste or debris possible. However, inevitable waste and debris that are generated shall be reused, salvaged, or recycled, and disposal in landfills shall be minimized to the extent economically feasible. The Contractor will be required to prepare waste management plan for the collection, handling, storage, transportation, and disposal of the waste generated at the construction site for the Owner's review and approval. The Contractor will be required to produce waste management progress reports.

1. Locations: Notations are made in various places on the Drawings to call attention to building demolition which is required; however, these Drawings are not intended to show every item to be removed. The Contractor and the Subcontractors for the various trades must remove the materials related to their respective trades as required to permit the construction of the new Work as shown.
2. Permits: The Contractor must secure from the appropriate agencies all required permits necessary for proper execution of the work before starting work on the project site. All fees for securing the permits must be paid by the Contractor, including all inspection costs which may be legally assessed by the Bureau of Construction Codes in accordance with the authority granted under the Public Act 1980 PA 371, as amended.
3. Enclosures: Where it is necessary to make alterations to walls, floors or roof of the existing building, the Contractor must provide and maintain dustproof partitions to separate the parts where Work is being done from the adjoining parts occupied by the State Agency. Where any parts are opened and exposed to the elements, the Contractor must provide weather tight enclosures to fully protect the structure and its contents.
4. Waste Management Plan: The management plan must address waste source identification and separation, returns, reuse and salvage, recycling, landfill options, alternatives to landfilling, materials handling procedures and transportation.
5. Preparation: Protect all existing Work that is to remain and restore in an approved manner any such Work that becomes damaged.
 - 5.1 Rubbish and debris resulting from the Work must be removed immediately from the site by the Contractor. However, any recyclable materials must be recycled; the Contractor will be required to use alternatives to landfills for waste disposal such as reuse or recycle of asphalt, bricks, concrete, masonry, plastics, paint, glass, carpet, metals, wood, drywall, insulation, and any other waste materials to the extent practical.
 - 5.2 Unless otherwise specified, the Agency will remove existing furniture, drapery tracks, draperies, window blinds, and other equipment items, which might interfere with the new construction.
6. Coordination: Demolition work, in connection with any new unit of Work, must not be commenced until all new materials required for completion of that new item of Work are at hand.
7. Waste Management Plan Progress Reports: Submit an updated report with the payment requests. The progress reports shall include:
 - a. The amount of waste sent to a landfill, tipping fees paid and the total disposal cost. Include supporting documents such as manifests, weight tickets, receipts and/or invoices.
 - b. Records for each material recycled/reused/salvaged from the project including the amount, date removed from the job site, destination, transportation cost, recycled materials, and the net cost/ savings.
 - c. Breakdown of waste by type generated to date.
 - d. Recycling/salvage/landfill rates.
 - e. Percent of waste recycled/salvaged to date.

HAZARDOUS MATERIALS PROJECT PROCEDURES

1. The Contractor must use, handle, store, dispose of, process, transport and transfer any material considered a Hazardous Material in accordance with all federal, state, and local Laws. If the Contractor encounters material reasonably believed to be a Hazardous Material and which may present a substantial danger, the Contractor must immediately stop all affected work, give written notice to the Owner of the conditions encountered, and take appropriate health and safety precautions.
2. This project has been identified by the DTMB-SFA as having a possibility of containing Hazardous Waste materials to be legally removed from the Project job site to complete the Work as described in the Proposal and Contract. If removal of friable asbestos material is required, the Contractor must contact the Air Quality Division, Department of Environment, Great Lakes, and Energy, at **(517) 284-6773**, for a permit and furnish all training, labor, materials, services, insurance, and equipment necessary to carry out the removal operations of all Hazardous Materials from the Project job site, as identified by the Scope of Work, or encountered on the Project job site, in accordance with State and Federal Hazardous Waste Codes. A Contract Change Order will be written to modify the existing Contract to pay for the additional cost.
3. Environmental Hazards (air, water, land and liquid industrial) are handled by the Waste and Hazardous Materials Division, Michigan Department of Environment, Great Lakes, and Energy (EGLE) in carrying out the requirements of the Federal Environmental Protection Agency (EPA). For general information and/or a copy of the latest regulations and publications call (517) 335-2690.
4. The Michigan Occupational Safety and Health Administration (MIOSHA) provides protection and regulations for the safety and health of workers. The Department of Licensing and Regulatory Affairs provides for the safety of workers. The Department of Community Health provides for the health of workers (517/373-3740) (TDD 517/373-3573).
 - 4.1 Contractor must post any applicable State and/or Federal government regulations at the job site in a prominent location.
 - 4.2 Contractor must be responsible for training their workers in safe work practices and in proper removal methods when encountering hazardous chemicals.
5. Applicable Regulations:
 - 5.1 Natural Resources and Environmental Protection Act – PA 451 of 1994, as amended, including Part 111 – Hazardous Waste Management, Part 121 – Liquid Industrial Waste and Part 147 – PCB compounds.
 - 5.2 RCRA, 1976 - Resource Conservation and Recovery Act: This federal statute regulates generation, transportation, treatment, storage, or disposal of hazardous wastes nationally.
 - 5.3 TSCA, 1979 – Toxic Substances Control Act: This statute regulates the generation, transportation, storage, and disposal of industrial chemicals such as PCBs.
6. Definitions: Hazardous substances are ignitable, corrosive, reactive, and/or toxic, based on their chemical characteristics.
 - 6.1 Under Federal and Michigan Law, a Small Quantity Generator of hazardous waste provides from 220 to less than 2,000 lbs./month or never accumulates 2,200 lbs. or more.
 - 6.2 A Generator size provider of hazardous waste provides 2,200 lbs. or more/month or accumulates above 2,200 lbs.
7. Disposals: To use an off-site hazardous waste disposal facility, the Contractor must use the Uniform Hazardous Waste Manifest (shipping paper). Small quantities of hazardous waste may not be disposed of in sanitary landfills used for solid waste.
8. Federal, state, and local Laws and regulations may apply to the storage, handling and disposal of Hazardous Materials and wastes at each State Agency. Contact the **Environmental Assistance Center** of the Michigan Department of Environment, Great Lakes, and Energy (EGLE) at **1-800-662-9278**, Fax to: 517-241-0673 or e-mail

to: DEQ-EAD-env-assist@michigan.gov for general EGLE information including direct and referral assistance on air, water and wetlands permits; contaminated site clean-ups; underground storage tank removals and remediation; hazardous and solid waste disposal; pollution prevention and recycling; and compliance-related assistance. The Center provides businesses, municipalities, and the public with a single point of access to EGLE's environmental programs.

ASBESTOS ABATEMENT PROJECT PROCEDURES

Should this Work require the renovation or demolition of a building or structure initially constructed on or prior to 1980, the Contractor will use the attached copy of a Comprehensive Asbestos Building Survey for those portions of the building or structure being impacted and must plan his or her work to minimize disturbance of any known or assumed asbestos containing materials (ACM). In addition, if this building or structure was constructed on or prior to 1980, the Contractor's On-Site Superintendent and all Subcontractor On-Site Superintendents for trades that could potentially disturb known or assumed ACM, must, as a minimum, have and provide documentation of current Asbestos Awareness Training.

If the Comprehensive Asbestos Building Survey identifies known or assumed ACM that will potentially be disturbed as a part of the Contractor's renovation or demolition activities, the Contractor must remove, transport, and dispose of these materials at no additional cost to the Owner and prior to any other work taking place within the immediate vicinity of said material. If required, the Contractor must provide the Owner a minimum of 10 working day notification prior to the start of any asbestos abatement activities with abatement in occupied buildings being completed even if they will be conducted during off hours (nights, weekends, and state holidays).

If the Contractor encounters a suspected ACM that was not previously identified within the Comprehensive Asbestos Building Survey, the Contractor must immediately stop all affected work, give written notice to the Owner of the conditions encountered, and take appropriate health and safety precautions. If, after providing Owner notification, the Contractor is directed to sample and/or remove the suspected ACM in question, a Contract Change Order will be written to modify the existing Contract to pay for the additional cost. Any abatement shall be completed in accordance with the requirements of this Section.

If removal of ACM is required, removal must be completed by a contractor currently licensed to remove asbestos by the State of Michigan, Department of Licensing and Regulatory Affairs (DLARA) Asbestos Program and abatement must be performed in accordance with all federal, state, and local Laws and Regulations. Prior to commencing any asbestos abatement activities, the licensed abatement contractor must submit, as required by Federal, State and Local Laws and Regulations, a "Notification of Intent to Renovate/Demolish" to both the State of Michigan, Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division and to the DLARA, Asbestos Program, to comply with National Emission Standards for Hazardous Air Pollutants (NESHAP), and the Clean Air Act (CAA). All regulated ACM must be disposed of at an approved Type II (general refuse) landfill and must be in leak-tight wrapping or containers. ACM that is non friable and is not in poor condition or will not become regulated ACM at any time can be disposed of in a Type III (construction debris) landfill.

At the completion of each abatement activity, the Contractor must perform clearance testing in accordance with National Institute for Occupational Safety and Health (NIOSH) 582 "Sampling and Evaluating Airborne Asbestos Dust". All air samples shall indicate concentrations of less than 0.01 fibers/cc for clearance to be met. Clearance testing shall be performed by a third-party Asbestos Consultant. The Asbestos Consultant selected by the Contractor shall be experienced and knowledgeable about the methods for asbestos air sampling and be able to select representative numbers and locations of samples. It is mandatory that the Asbestos Consultant's on-site hygienist performing sampling and analysis have certification that he/she has passed a NIOSH 582 or equivalent course.

The NESHAP asbestos regulations, notification form, guidelines and fact sheets are available on EGLE's web site www.michigan.gov/egle under heading Air; then click on Compliance; then click on Asbestos NESHAP Program. For guidelines on submitting notifications pursuant to the Asbestos Contractors Licensing Act, contact the DLARA, Occupational Health Division, Asbestos Program at (517) 322-1320 or visit DLARA's web site www.michigan.gov/asbestos.

LEAD ABATEMENT PROJECT PROCEDURES

Should this Work require the renovation or demolition of a building or structure, the workers are assumed to be exposed to lead or materials containing lead above acceptable levels until proven otherwise through personal air sampling and analysis. The Contractor shall take all steps necessary to assure that his/her employees, are not exposed to lead at concentrations greater than the Permissible Exposure Limit as per the State of Michigan Department of Licensing and Regulatory Affairs Occupational Health Standards Part 603 "Lead Exposure in Construction". In addition, the Contractor shall convey this same requirement to all subcontractors that may be under his/her control.

The employer shall comply with the Michigan Lead Abatement Act, as amended, and the Lead Hazard Control rules and must communicate information concerning lead hazards according to the requirements of Michigan Occupational Safety and Health Administration (MIOSHA) Part 603 and the Occupational Safety and Health Administration's (OSHA's) Hazard Communication Standard for the construction industry, 29 CFR 1926.59, including but not limited to safety equipment (e.g. personal fit-tested and approved respirators and protective clothing), worker rotation (on a short-cycle and regular basis), working practices (e.g. sanding, cutting, grinding, abraded, burning and heat-gun stripping of lead based paint are not allowed), the requirements concerning warning signs and labels, Safety Data Sheets (SDS), and employee information and training. Employers shall comply with the requirements of 29 CFR 1926.62(l) - Employee Information and Training.

If lead or materials containing lead will be disturbed as a part of the work to be performed, the Contractor must remove, transport, and dispose of these materials at no additional cost to the Owner and prior to any other work taking place within the immediate vicinity of said material. The Contractor must provide the Owner a minimum 10 working day notification prior to the start of any lead abatement activities with abatement in occupied buildings being completed even if they will be conducted during off hours (nights, weekends, and state holidays). Abatement is defined as an activity specifically designed to permanently remove lead paint, lead-contaminated dust or other lead containing materials, the installation of a permanent enclosure or encapsulation of lead paint or other lead containing materials, the replacement of lead-painted surfaces or fixtures, the removal or covering of lead-contaminated soil, and any preparation, cleanup, disposal, and post-abatement clearance testing associated with these activities. Renovation, remodeling, landscaping, or other activity, that is not designed to permanently eliminate lead paint hazards, but is instead designed to repair, restore, or remodel a structure, or housing unit even though the activity may incidentally result in a reduction or elimination of a lead paint hazard is not considered abatement.

If abatement of lead or materials containing lead is required, abatement must be completed by a qualified Lead Abatement Contractor. In addition, Specifications for the Lead Abatement should be based upon a Lead Inspection/Risk Assessment report. The Lead Inspection/Risk Assessment report and clearance testing upon completion should be performed by a Certified Inspector or Risk Assessor. Lead abatement including clearance testing shall be performed in accordance with the State of Michigan, Lead Abatement Act, Part 54A Lead Abatement and with all other federal, state, and local Laws and Regulations that may apply.

For additional information about certifications, guidance, and regulations for lead hazard control activities, visit www.michigan.gov/lead.

APPENDIX IV
HAZARDOUS MATERIALS REPORT

**ASBESTOS ABATEMENT
SPECIFICATIONS**

FOR

**DS ARCHITECTS INC.
7300 Dixie Hwy. Suite 600
Clarkston, MI 48346**

AT

**CADILLAC PLACE – UIA LOBBY REDESIGN
3044 W Grand Blvd.
Detroit, MI 48202**

November 19, 2024

Prepared By:
Atlas Technical Consultants LLC.
46555 Humboldt Drive, Suite 100
Novi, MI 48377

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I. INITIAL REQUIREMENTS

1. General Terms

- 1.1 By submittal of a price quote and agreeing to perform abatement activities at a given Site, the Contractor acknowledges that they have investigated and satisfied themselves as to:
 - 1.1.1 The conditions affecting the work, including but not limited to the physical conditions of the site which may bear upon site access, handling and storage of tools and materials, access to water, electricity or other utilities that otherwise may affect performance of required activities.
 - 1.1.2 The character and quantity of all surface and sub-surface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including exploratory work done by the Building Owner or a designated Consultant, as well as information presented in site drawings and job specific specifications. Any failure by the Contractor to acquaint himself with available information will not relieve him of the responsibility of determining properly the difficulty, safety concerns or cost of successfully performing the work. The Building Owner, it's Architect, and/or the Owner's Consultant are **NOT** responsible for any conclusions or interpretations made by the Contractor on the basis of the information made available by the Building Owner and/or the Owner's Consultant.
 - 1.1.3 The methods and procedures detailed within the technical specifications of this document are merely illustrative of the procedures to be utilized on the asbestos abatement projects for the Owner. Other procedures, which are the equivalent of those described, are encouraged at the option of the Contractor but are always subject to the Owner and/or the Owner's Consultant approval.
- 1.2 The Contractor shall furnish all labor, materials, services, insurance, and equipment necessary to perform the asbestos abatement activities contemplated by this specification.
- 1.3 The Contractor shall defend, indemnify, hold harmless and exempt the Owner, its officers, agents, servants and employees from and against any and all suits, actions, legal proceedings, claims, demands, damages, costs, expenses, and attorney fees incident to any work done in the performance of this contract; provided, however, the Contractor shall not be liable for any claims, demands, damages, cost, expenses, and attorneys fees arising out of an act or omission of the Owner, its officers, agents, servants, and employees.
- 1.4 Additional work in the form of change orders, written or verbal agreements must also be completed in accordance within this Technical Specifications for Asbestos Abatement Activities.
- 1.5 This project is not tax exempt from State Sales Tax and/or Use Tax. All material and supplies incorporated and used in construction and becoming a permanent part of this project will not be exempt form State Sales Tax and/or Use Tax.
- 1.6 **Workers Rights-** The Contractor shall comply with the Michigan Civil Rights Act which states that Contractors shall not discriminate in hiring or in its terms and conditions of employment on the basis of race, religion, creed, national origin, color, sex, marital status, age, height or weight, nor on bona fide job requirements. Neither shall a Contractor discriminate in the sales of products or the rendering of services pursuant to this contract on the basis of any of those categories.

2. Contractor Responsibility

- 2.1 The Contractor shall exercise proper precaution at all times for the protection of persons and property and shall be responsible for all the damages to persons or property either on or off the site, which occur as a result of its fault or negligence in connection with the prosecution of work. The safety provisions of applicable laws and OSHA standards shall be observed and the Contractor shall take or have cause to be taken such additional safety and health measures as the Owner, Owner's Architect or the Owner's Representative may determine to be reasonably necessary.
- 2.2 Neither the final certificate nor final payments, nor any provision in the contract documents shall relieve the Contractor of responsibility for defects in workmanship or faulty work or materials. The Contractor shall correct any defects due to faulty work or materials and pay for the damage to other work resulting therefrom, which shall appear within a period of one year from the date of completion unless otherwise stated in this document. The Owner shall notify the Contractor of observed defects with reasonable promptness.
- 2.3 The Contractor shall furnish the Owner with a written guarantee to remedy any defects due to faulty materials or workmanship which appear in the work within one year from the date of final acceptance by the Owner.
- 2.4 It is the intent of the Owner to award the contract to Contractors fully capable, both financially and with regards to experience, to perform and complete the work in a satisfactory manner.
- 2.5 The Contractor shall have a representative available for all meetings, presentations and public relation appearances deemed necessary by the Owner. The Contractor will be made available for such activities for one year following the signed contract.
- 2.6 **Photograph Identification Requirements-** The Contractor shall provide to all their on-site employees photograph identification badges stating the company's name and employee's name. This badge shall be visible and worn at all times the worker is present at each site.

3. Pre-Start Meeting

- 3.1 Prior to commencement of work, the Contractor shall meet with the Owner, Architect and the Owner's Consultant to present and review the items listed below. At that time, the Contractor shall designate at least one "competent" (as described by OSHA 1926.1101{o}) individual who shall be on-site throughout the project with full authority to act on the Contractor's behalf and this person shall attend the pre-start job meeting. This meeting is arranged to discuss and set procedures to be followed throughout the performance of the contract. At this meeting **and to be included in the logbook**, the Contractor shall provide:
 - 3.1.1 Proof of Contractor licensing to conduct asbestos abatement activities in the State of Michigan in accordance with Act 135 P.A. 1986, as amended, (Asbestos Abatement Licensing Act) and any subsequent State of Michigan Acts.
 - 3.1.2 A list of all employees who will participate in the project, including delineation of experience and assigned responsibilities (including subcontractor's employees who may enter the work area).
 - 3.1.3 Proof that the "competent person" to be responsible for the execution of this project has had training in accordance with 29 CFR, 1926.1101 and the Michigan

Department of Labor & Regulatory Affairs. THIS PERSON SHALL BE ON SITE AT ALL TIMES.

- 3.1.4 Proof that those employees who will work on this project have had a minimum of twenty-four (24) hours of training in accordance with 40 CFR, Part 763, Subpart E.
- 3.1.5 Proof that employees who work on this project have had proper medical screening as required by OSHA 29 CFR, Part 1926.1101 (M) (1) (2) (3) (4) and (N) (3) and 29 CFR 1910.20.
- 3.1.6 Proof that all employees who work on this project have had proper respirator fit testing in accordance with federal and NIOSH standards.
- 3.1.7 Copies of all Contractor workers' Michigan State Accreditation "Cards" must be provided to the Owner's Consultant prior to being allowed within the project area. For any employee(s) who has approval but does not yet have cards in their possession; the Contractor must provide a signed statement (on company letterhead) stating that state approval has been given to that/those employee(s). This statement must include the name of the state employee who granted verbal approval. In addition to this letter, the Contractor must provide a copy of the employee's training certificate, appropriate fit test(s) and doctor's written opinion.
- 3.1.8 Signed "Acknowledgement and Agreement to Conform to Technical Specifications for Asbestos Abatement Activities" form provided by Atlas Technical Consultants at the end of this specification.
- 3.1.9 Emergency Planning Procedures (see Section 8.0 of these specifications).
- 3.1.10 Name and address of the landfill to be used.
- 3.1.11 Copy of all State Notification(s). Most recent shall be posted on the Job Site.
- 3.1.12 A sequence of work and performance schedule including start and end dates of project.
- 3.2 At this pre-start meeting the Contractor, Architect, Owner and Owner's Representative shall agree on the existing conditions of the work area and the areas immediately surrounding this area. Also, final Scope of Work and Schedule will be finalized.
- 3.3 A proposed work schedule shall be submitted by the Contractor and subject to approval by the Owner, Architect and/or the Owner's Representative. A 48-hour advance notice of any schedule changes is required by the Contractor. Phasing work activities will be scheduled as needed. Dates are subject to change by the Owner.
- 3.4 All projects will be considered complete for schedule purposes when the project site has passed clearance testing, the Contractor has completed removal of all supplies and equipment, and the Contractor has returned the work areas to the Owner in a condition that satisfies the Owner, Architect and Owner's Representative.

4. Logbook/ On-Site Required Documentation

- 4.1 The Contractor shall have the following items in view at the job site at all times. These items must be kept in a logbook (three (3) ring binder) as described in the "Pre-Start Meeting" section and include all items stated above in 1.1.
 - 4.1.1 Contractor's License, Competent Person and Asbestos Worker training certification, state card, fit test and physical exam copies.
 - 4.1.2 A complete set of this Technical Specification detailing Asbestos Abatement Procedures to be followed on the Job Site.
 - 4.1.3 Project Specific Scope of Work approved by Owner, Architect and Owner's Consultant.

- 4.1.4 Emergency Planning Procedures and Emergency Phone Numbers (these also need to be posted in view near the decontamination chamber entrance).
 - 4.1.5 Most current State Notification(s) copies.
 - 4.1.6 Daily Contractor Sign-In Sheets of all employees in containment and/or on the Job Site (current day's sign-in sheet should be posted at containment entrance).
 - 4.1.7 OSHA Regulation 29 CFR, Part 1926.1101.
 - 4.1.8 Environmental Protection Agency 40 CFR, Part 61 Subpart M: (National Emission Standard for Hazardous Air Pollutants).
 - 4.1.9 Environmental Protection Agency 40 CFR, Part 763.
 - 4.1.10 Appropriate Material Safety Data Sheets (MSDSs) for any products brought onto Owner's premises. Materials should be approved by Owner and/or Owner's Representative's prior to start of job.
- 4.2 Whenever during the course of this contract the Contractor, his subcontractor or his employees encounter asbestos, the Contractor shall handle, remove, and dispose of the asbestos strictly in accordance with the rules, guidelines, and regulations specified by EPA, OSHA, the Michigan Department of Licensing and Regulatory Affairs, the Michigan Department of Environment, Great Lakes, and Energy (EGLE), and all other applicable regulatory agencies. The most recent edition or revision of any relevant regulation, standard and/or document code shall be controlling. Where conflict among the requirements or with these specifications exists, the most stringent requirements shall be utilized.

5. Submittals to Owner's Representative/Consultant

- 5.1 The following (See Item 2.1.1) shall be submitted for all employees who will participate in the project, to the Owner's Representative before project begins:
- 5.1.1 Copy of Contractors' State Asbestos License (past 5 years)
 - 5.1.2 Copy of Employee Training Certificates
 - 5.1.3 Copy of State Accreditation Cards
 - 5.1.4 Copy of dated respirator fit test
 - 5.1.5 Copy of doctors' written opinion

6. Notification Procedures

- 6.1 The Contractor will make ALL necessary notifications to the appropriate federal, state and local agencies including but not limited to MDLARA, LEO, and EGLE as described below:
- 6.1.1 Contractors performing friable asbestos removal or encapsulation work in Michigan must provide project notifications indicating the starting/ending dates and other job-related information to the MDLARA Asbestos Program within a specified time frame. The MDLARA Asbestos Program Section 220(1)(c) of Act 135 of the Public Acts of 1986, as amended, requires project notification ten (10) *calendar* days prior to any non-emergency asbestos abatement project exceeding 10 linear feet or 15 square feet, or both, of friable asbestos-containing materials. A one-percent (1%) project notification fee must also be included. Emergency asbestos abatement projects require notification by phone, fax, or mail prior to starting the projects. Please call MDLARA for approval and instructions on what can be considered emergency situations.
 - 6.1.2 Also, The National Emission Standards for Hazardous Air Pollutants (NESHAP), Asbestos Regulation 40 CFR 61, Subpart M, requires that in a facility being

renovated, if the combined amount of regulated asbestos-containing materials (RACM) being removed is at least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components, or is at least 1 cubic meter (35 cubic feet) off of facility components where the length or area could not be measured previously, a ten (10) *working* day notification must be submitted to the Michigan Department of Environmental Quality (MDEQ) Asbestos NESHAP Program.

- 6.1.3 All other agency notifications must be made on a timely basis as deemed necessary by those agencies.
- 6.2 Payments of all applicable regulatory required fees and/or charges are the sole responsibility of the Contractor.
- 6.3 The requirements of a complete notification(s) include but are not limited to the following:
 - 6.3.1 An indication of whether notice is an original or a revised notification.
 - 6.3.2 Name, address, and telephone number of the facility Owner and Operator and the Owner or Operator of the asbestos removal firm.
 - 6.3.3 Type of operation: demolition or renovation.
 - 6.3.4 Facility description including at least the following:
 - 6.3.4.1 Size (square meters or square feet) and number of floors.
 - 6.3.4.2 Year Built (Age).
 - 6.3.4.3 Present and prior uses.
 - 6.3.4.4 Procedure, including analytical methods, employed to detect the presence of asbestos-containing materials.
 - 6.3.4.5 Estimate of the approximate amount of regulated asbestos-containing material (RACM) using the approximate units, either linear meters or linear feet for pipes, square meters or square feet for other facility components, or cubic meters (cubic feet), if the asbestos-containing material will be stripped from the facility components without being measured.
 - 6.3.4.6 Estimate of the amount of Category I and Category II non-friable asbestos-containing materials in the affected part of the facility that will not be removed prior to demolition.
 - 6.3.4.7 Location and address, including building number or name and floor or room number, if appropriate, street address, city, county, and state of the facility being demolished or renovated.
 - 6.3.4.8 Scheduled starting and completion dates of asbestos removal work (or any other activity, such as site preparation that would break up, dislodge, or similarly disturb asbestos-containing material) in demolition (with the exception of government ordered demolitions) or renovation, and scheduled starting and completion dates of the demolition or renovation.
 - 6.3.5 The beginning and ending dates of the report period for planned renovation operations involving individual non-scheduled operations.
 - 6.3.6 Description of planned demolition or renovation work including the demolition and renovation techniques to be used and description of the affected facility components.
 - 6.3.7 Description of work practices and engineering controls to be used to comply with the requirements of this standard.
 - 6.3.8 Name and location of the waste disposal site where the asbestos-containing waste material will be deposited.

- 6.3.9 Certification that only persons trained as required in paragraph (C) (8) will supervise the stripping and removal of asbestos-containing material (effective one (1) year after promulgation).
- 6.3.10 Description of procedures for handling the finding of unexpected regulated asbestos containing material (RACM) or Category II non-friable asbestos-containing material that has been crumbled, pulverized, or reduced to powder.
- 6.3.11 For government ordered demolitions, include the name, title, and authority of the government representative ordering the demolition, the date the order was issued, and the date the demolition was ordered to begin by the State or local government representative. Attach a copy of the order to the notification.
- 6.3.12 For emergency renovations, include the date and hour the emergency occurred, a description of the event and an explanation of how the event has caused unsafe conditions or would cause equipment damage or unreasonable financial burden.
- 6.3.13 Name, address, and telephone number of the waste transporter.

II. ASBESTOS ABATEMENT REQUIREMENTS

This section details the removal requirements that the awarded Contractor must follow during the course of all asbestos abatement projects performed involving Atlas Technical Consultants, Inc. **The Contractor is responsible for returning the work area to the Owner in a condition that satisfies the Owner, Architect and Owner's Representative(s).**

The Contractor shall tour the work area(s) and familiarize themselves with the work contemplated in the contract. All figures and/or diagrams referencing sizes, or amounts, or materials are estimates. The Contractor is solely responsible for its' own measurements.

7. Worker's Dress and Safety Equipment

- 7.1 The Contractor as required by current OSHA regulations shall provide worker's clothing. Rips and tears in the coveralls shall be repaired, or else the coveralls shall be replaced.
- 7.2 The Contractor shall provide protective clothing for the Owner's Consultant, and inspection personnel.
- 7.3 Worker's clothing shall consist of disposable full body coveralls (coveralls should be of Tyvek material – disposable paper), underwear, head covers, gloves, and boots. The Contractor shall supply whatever safety gear is necessary to protect those people authorized to enter the work site, including, if necessary, hard hats and eye protection. OSHA approved footwear is mandatory while at the project site (inside and outside of the enclosure). No street clothing shall be worn under coveralls.
- 7.4 The Contractor shall have an appropriately rated fire extinguisher in the dirty room and clean room of each enclosure.
- 7.5 The Contractor shall adhere to all OSHA and other regulatory agency requirements regarding the safety of the employees, including but not limited to:
 - 7.5.1 Fire Safety
 - 7.5.2 Ladders
 - 7.5.3 Scaffolding
 - 7.5.4 Confined Spaces
 - 7.5.5 Lock-Out/Tag-Out
 - 7.5.6 Electrical Safety

8. Respiratory Protection

- 8.1 The Contractor as required by current OSHA regulations shall provide respirator protection for workers.
- 8.2 Respiratory protection consisting of powered air-purifying respirators (P.A.P.R.) with full-face piece and HEPA filters will be provided and used by ALL asbestos abatement workers on ALL projects involving removal of friable surfacing materials or at the discretion of the Owner's representative on other projects. Half-face cartridge respirators may be used with the approval and/or at the discretion of the Owner's representative.
- 8.3 Workers will always wear a respirator when inside the work area. While wearing the respirator, workers will not pull the respirator away from his/her face to talk, smoke, eat, or drink.
- 8.4 No workers will be permitted to wear a half-face respirator unless clean-shaven. A qualitative fit test for each employee engaged in this work must be completed. These fit tests must be completed in accordance with OSHA regulations.
- 8.5 Combination cartridges (Asbestos and Organic vapor) are required during the removal of mastic materials.
- 8.6 An adequate supply of cartridges and respirators must be on-site and available for workers (regardless of respirator type).

9. Emergency Planning

- 9.1 Emergency planning shall be developed prior to abatement initiation and agreed to by the Contractor and the Owner or Owner's Representative. All plans must be detailed in writing and posted at the job site (in view near the decontamination chamber entrance).
- 9.2 Emergency planning shall include written procedures for the following emergencies:
 - 9.2.1 The Contractor must explain his contingency plan for the possibility of the negative air filtration devices blowing a fuse, tripping a circuit breaker, or losing power.
 - 9.2.2 The Contractor must explain his contingency plan for the possibility that disposal bag(s) may break or leak.
 - 9.2.3 The Contractor must explain his contingency plan for the possibility of an injury.
 - 9.2.4 For non-life threatening situations, employees injured or otherwise incapacitated shall decontaminate following normal procedures with assistance from fellow workers if necessary, before exiting the work place to obtain proper medical treatment.
 - 9.2.5 For life-threatening injury or illness, worker decontamination shall take least priority after measures to stabilize the injured worker, remove him/her from the work place and secure proper medical treatment.
- 9.3 The Contractor shall take all necessary precautions and actions to protect his employees, subcontractors, Owner's Representatives, Owner's Consultants, government inspectors, general public, and the building and structure from exposure to asbestos.

10. Methods of Asbestos Abatement

- 10.1 **NOTE:** The use of supplies, equipment, tools, etc., owned, rented or otherwise in the possession of the Building Owner is strictly prohibited.
- 10.2 The asbestos material will be sprayed with either removal encapsulant or "amended water" (which contains an additive to enhance penetration). A fine spray of either

solution will be applied to prevent fiber disturbance preceding the removal of the asbestos material. The asbestos will be sufficiently saturated to prevent emission of airborne fibers in excess of the exposure limits prescribed in the OSHA standards referenced in these specifications.

- 10.3 The Contractor shall not, however, allow excessive water to accumulate in the work area.
- 10.4 If removal encapsulant is not used, surrounding areas will be periodically sprayed and kept wet to facilitate removal with minimum fiber release.
- 10.5 A high humidity will be maintained in the work area to assist in fiber settling.
- 10.6 If at any time the Owner's Consultant determines the material is not kept adequately wet, misters and/or sprinklers will be mandatory.
- 10.7 Removal of asbestos material will be done in manageable sections with two-person teams (if needed). Material will be removed as intact sections or components whenever possible and carefully lowered to the floor.
- 10.8 The waste material will be packed in labeled 6-mil polyethylene bags (held within 55 gallon drums with the required EPA & OSHA labels where appropriate) prior to starting the next section to prevent the material from drying. Double bagging will always be used. Bags shall not be over-filled and will be securely taped or sealed at the top to prevent accidental opening or leakage during removal, storage and transport. All bags and/or drums shall have all appropriate warnings and labels attached to them.
- 10.9 Large components removed intact will be wrapped in two layers of 6-mil polyethylene sheeting secured with tape properly labeled for transport to the landfill. Such packaging shall have all appropriate warnings and labels attached to them.
- 10.10 When removal of building materials (electrical, lighting, duct work, etc.) is necessary, the Contractor shall develop drawings indicating existing materials and their exact locations.
- 10.11 Personnel knowledgeable and experienced in electrical work must be used when installing or making connections to any electrical components within the facility, as well as when removing and/or replacing lights.
- 10.12 All ceiling demolition, including but not limited to wires, hangers, steel bands, nails, screws, metals lath, tin sheeting, and other objects may be required to be treated as asbestos waste. These materials have sharp edged components that will tear the polyethylene bags and sheeting, thus, this waste must be placed into fiberglass or fiberboard drums for disposal and labeled appropriately.
- 10.13 No bags shall be thrown or dropped at any time.
- 10.14 All containerized asbestos waste that is stored on-site (if allowed) shall be properly labeled and placed in a locked or secured location until ready for final disposal. Labels shall be of sufficient size and contrast to be readily visible and legible. The sign shall read:
 - “Danger Contains Asbestos Fibers
 - May Cause Cancer
 - Causes Damage To Lungs
 - Do Not Breathe Dust Avoid Creating Dust”
- 10.15 All asbestos abatement projects conducted inside a facility will be completed with the use of HEPA air filtration devices.
 - 10.15.1 Each unit must have three filters, including a HEPA filter capable of removing minute asbestos fibers.
 - 10.15.2 Each unit has ducts that must be exhausted to the outside air.
 - 10.15.3 Inlet and outlet ports of the air filtration devices must be covered with tape and 4-mil polyethylene sheeting when not in use.

- 10.15.4 HEPA air filtration devices will be set up so that the air in the enclosure is drawn away from the abatement worker.
- 10.15.5 Removal and cleaning operations will always move towards the air filtration devices.
- 10.15.6 HEPA air filtration devices will be run until the completion of the project.
- 10.16 The Contractor will provide and maintain a pressure differential strip gauge. It will be activated prior to removal of any building material and continue operating until the final clearance results have been determined. Placement of the differential strip gauge is subject to the approval of the Owner's Consultant. The Owner's Consultant may, at their discretion, utilize additional pressure differential strip gauges or other devices to measure the pressure differential.
 - 10.16.1 A minimum reading of -0.020 inches of water on a differential pressure gauge shall be maintained at all parts of the enclosure.
 - 10.16.2 Sufficient negative pressure will be maintained in the enclosure to evacuate the air once every 15 minutes (minimum).
 - 10.16.3 Smoke tubes shall be used daily by the Contractor to test for leaks and breeches in the containment.
- 10.17 All air filtration devices must be ducted to the outside of the building from a position that is securable. Flexible duct will be used and placed at a location approved by the Owner's Representative.
- 10.18 All gross amounts of asbestos debris shall be cleaned up, bagged, and sealed at the end of each working day.
- 10.19 The Contractor shall transport materials to the ground via leak-tight chutes or other such containers if the material is being removed or stripped more than 50 feet above ground level and not removed as units or in sections.
- 10.20 A thick encapsulant such as "VIAC" shall be applied to any exposed pipe insulation ends leading away from the enclosure area, regardless of material make-up.
- 10.21 Only vacuums and air filtration devices (AFDs) with "HEPA" filters will be allowed. No "shop-vacs", homemade hybrid vacuums or air filtration devices will be allowed on site.

11. Preparation of Regulated Area for Asbestos Abatement

- 11.1 The Owner shall attempt to furnish utility services for the Contractor's use, including electrical outlets (25 ampere) and water taps in or adjacent to the work area in sufficient quantities and located such that the Contractor can use them for equipment and abatement/decontamination practices. However, should such utility access not be available, the Contractor is solely responsible for the provision of the same. In the event of a power failure (regardless of fault), the Contractor is responsible for continuing work using adequate generator power.
- 11.2 The Contractor shall provide lighting if necessary.
- 11.3 Danger signs will be posted at a distance sufficiently far enough from the asbestos abatement work area to permit an employee to read the sign and take necessary protective measures to avoid exposure. Signs shall be in accordance with EPA and OSHA regulations. All possible entrances to the work area shall be posted. Additional signs will be placed at areas designated by the Owner's Consultant.
- 11.4 The building personnel shall attempt to shut down and lock out all heating, cooling, and air conditioning system components that are in, supply, or pass through the work areas. Should building personnel be unavailable or unable to do so, it is the sole responsibility of the Contractor to do so. The Contractor will seal all intake vents and exhaust vents in

- the work area with tape and 6-mil polyethylene, as well as any seams in system components that pass through the work area. All affected heating, ventilation and air conditioning system filters will be removed and placed in 6-mil polyethylene bags for disposal as asbestos waste.
- 11.5 The Contractor may be required to pre-clean all movable objects within the work area using a HEPA filtered vacuum and/or wet cleaning methods. Pre-cleaning will be conducted by the Contractor as deemed necessary by the Owner or the Owner's Consultant. After cleaning, these objects shall be removed from the work area by the Contractor and carefully stored in an uncontaminated location as designated by the Owner's Consultant. Carpeting, drapes, clothing, furniture, and other fabric items contaminated with asbestos may be required to be disposed of as asbestos contaminated waste.
 - 11.6 The Contractor may be required to pre-clean all fixed objects in the work area using HEPA filtered vacuums and/or wet-cleaning methods. Pre-cleaning will be conducted by the Contractor as deemed necessary by the Owner or Owner's Consultant. The extent of the Pre-cleaning will be determined by, but not limited to the following factors: the particulate application of the asbestos-containing material, its present condition, friability, asbestos content, visible debris and the type of surface to which the material is applied.
 - 11.7 Where doors or other such building fixtures are removed by the Contractor prior to abatement activities, the Contractor is responsible for replacing doors and/or fixtures upon completion of the abatement. Each door and/or fixture shall be sufficiently marked or otherwise identified by the Contractor to insure replacement in the proper location.
 - 11.8 The Contractor shall seal all windows, doorways, elevator openings, corridor entrances, drains, ducts, grills, grates, diffusers, skylights and all other openings between the work area and the areas outside the work area with, at minimum, 4-mil polyethylene sheeting.
 - 11.9 Walls will be covered with at least one layer of 4-mil polyethylene sheeting. Walls that are non-porous and will not be damaged by water, surfactant, or encapsulation do not necessarily need protection. They can be decontaminated using HEPA vacuums and wet cleaning techniques. The Owner or the Owner's Consultant will advise the method deemed most appropriate and the Contractor shall comply with the method chosen.
 - 11.10 Floors shall be covered with at least three layers of 6-mil polyethylene sheeting. Porous flooring, such as carpeting, remaining in place during asbestos removal shall be covered with plywood and/or rubber leak proof mats then covered with at least three layers of 6-mil polyethylene sheeting. The Owner or the Owner's Consultant will advise the method deemed most appropriate and the Contractor shall comply with the method chosen.
 - 11.11 Non-waterproof tape may NOT be used for attaching polyethylene sheeting or for sealing polyethylene leaks. High quality duct tape or its equivalent shall be used for this purpose.
 - 11.12 The Owner or the Owner's Consultant must approve the decontamination chamber location, Contractor parking, dumpster location and entrances that the Contractor will use for the movement of supplies and personnel.
 - 11.13 No open top dumpsters shall be allowed on the work site. Six (6) sided, locked and properly labeled dumpsters only shall be used.
 - 11.14 The dumpster(s) shall be removed within two (2) days from completion date.
 - 11.15 Equipment storage, bathroom usage designation, foreman's office and designated break areas (if available) will be determined by the Owner or the Owner's Consultant. Only projects areas and designated areas are to be used.
 - 11.16 No asbestos abatement shall begin until the Owner's Consultant has inspected and approved the enclosure built around the work area.

12. Friable Asbestos-Containing Materials

- 12.1 Materials that are either friable or will become friable are to be removed in negative pressure containments in accordance with all local, state and federal regulations.
- 12.2 The Contractor will be required to construct enclosures that satisfy all the requirements of Appendix F of OSHA 1926.1101 “Work Practices and Engineering Controls for Major Asbestos Removal, Renovation and Demolition Operations.”
- 12.3 The Owner and the Owner’s Consultant must approve the decontamination chamber location(s), bag-out location(s), Air Filtration Devices (AFDs) placement and dumpster(s) location. Complete decontamination chamber(s) with shower shall be constructed (see 3-Stage Decontamination and Waste Load-Out Chambers section in this technical specification outlining requirements).
- 12.4 During friable removal, the Contractor shall supply a manometer and will be required to maintain a minimum negative pressure of 0.02 inches of water equivalent. In addition, the Contractor must smoke test the enclosure daily at minimum.
- 12.5 Glovebag removal of pipe insulation is acceptable where appropriate. Owner and the Owner’s Consultant shall determine when the glove bag technique to be used is acceptable.
- 12.6 Friable Asbestos-Containing Mastic Removal:
 - 12.6.1 Removal of asbestos-containing floor mastic by mechanical means shall be abated in a full negative pressure enclosure with a three stage decontamination chamber. Walls (2 layers) and ceilings (1 layer) shall be constructed of 4 mil polyethylene and shall be utilized during abatement.
 - 12.6.2 Mastic shall be removed using mechanical means. Residual mastic along walls and in corners shall be removed to a thin film of no more than ¼” width from wall/corner using hand tools and/or grinders.

13. 3-Stage Decontamination and Waste Load-Out Chambers

- 13.1 The Contractor will construct decontamination facilities in a pre-designated area which will house the clean room, shower room, dirty room, and, when feasible, an equipment room. This facility will be, at minimum, a three-chambered system with shower facilities in its central chamber.
 - 13.1.1 The dimensions of these chambers will be adequate for the number of men needed for the project.
 - 13.1.2 At least two layers of 6-mil polyethylene will be placed on the floor of the entire decontamination chamber, to prevent leakage of water from the showers.
 - 13.1.3 The walls, floor, and ceiling covering all of the airlock construction will be seamed to each other in a fashion making them air and watertight.
 - 13.1.4 One end of this construction will exit to the clean area outside the containment barrier walls.
 - 13.1.5 All three chambers will be partitioned from each other with air and watertight flaps made of 6-mil polyethylene. Four (4) flapped doors will be constructed with two (2) layers of 6-mil polyethylene. One door will be at the entrance of the clean room, one door at the entrance to the shower, one door at the entrance to the dirty room, and the last door at the entrance to the side of the door which faces toward the work area. The first layer of polyethylene will be attached at

the top, bottom, and sides of the door opening. It will be slit down the middle. The second layer of the polyethylene will be attached only at the top of the door on the dirty side of the door opening. It will be wider than the slit made in the first layer and will hang like a flap. When air is drawn from the clean side of the airlock into the work area it will cause the door flaps to lift. If air attempts to move from the work area end of the airlock toward the clean end or outside of the enclosure, it will force the flaps shut, closing the slit in the first polyethylene layer and thus stopping the air flow. All four (4) door openings or flaps will be constructed to allow clean air into the enclosure but stopping air from exiting the enclosure.

- 13.1.6 The central chamber will contain shower(s). Each shower stall will sit in a pan with at least six-inch sides. Suitable hoses will be used to supply hot and cold water to the showers.
- 13.1.7 A sump pump or other suitable and safe device will be used to filter and dispose of the shower wastewater through a special HEPA filter. No water may leave the work area without undergoing HEPA filtration or being treated as asbestos waste.
- 13.1.8 Black polyethylene sheeting may be used for privacy on the decontamination facility.
- 13.2 The contractor may construct a two-chambered decontamination airlock to serve as a debris port. All asbestos waste will be moved out through this port or through the decontamination unit.
 - 13.2.1 The chamber will be constructed in the same manner as the main decontamination airlock but excluding the shower facility.
 - 13.2.2 As each bag is filled, it will be set into the first room for temporary storage.
 - 13.2.3 Three workers will be needed to complete the waste decontamination process. A worker in the first room will wash and hand the bag to a worker in the second room where he/she will then double bag the material. The second worker will then hand the double-bagged material to a third worker who loads the material on the transport vehicle. Airlocks must exist between each room, as in the main decontamination facility.
 - 13.2.4 If a debris port is not possible, all precautions should be taken when hauling waste through the main decontamination facility, where all bags will go through the decontamination process.
 - 13.2.5 If a separate decontamination facility is constructed it shall be sealed while not in use.
- 13.3 All workers, without exception, will change out of street clothes in designated areas (clean room) prior to the start of each day's work. Lockers or acceptable substitutes will be provided by the Contractor for the street and work clothes. After workers are properly dressed in protective gear, they will walk through the shower and dirty room into the work area.
- 13.4 At the end of the work shift, and anytime the worker leaves the work area, he/she will decontaminate by removing all contaminated work clothes in the dirty room but leaving his/her respirator on. He/she will then proceed to the showers and properly wash. Respirators will be worn while showering and remain on until the respirator is clean of asbestos. The cartridges will then be removed and disposed of as asbestos waste and the respirator stored in the clean room. Workers will shower before breaks, lunch and at the end of each day's work. The Contractor shall provide hot water, towels, soap and hygienic conditions.

- 13.5 Adequate toilet facilities may be located outside of the work area and decontamination for this purpose will be employed. Where such facilities do not exist, the Contractor will provide portable services.
- 13.6 No smoking, eating or drinking is to take place in the work area. Prior to smoking, eating, drinking or using toilet facilities, workers will fully decontaminate by showering. A new coverall will then be used to re-enter the work area.
- 13.7 Procedures developed for evacuation of injured workers (see Emergency Planning section) will be used. Aid for a seriously injured worker will not be delayed for reason of decontamination.
- 13.8 Worker's footwear will remain inside the regulated area until the completion of the job.
- 13.9 All wastewater must be passed through a HEPA filter or collected in an air tight container and disposed of as asbestos waste.
- 13.10 Contractor's tools and supplies, including large items such as ladders and scaffolding must be properly decontaminated when removing them from the regulated area.
- 13.11 A remote 3-stage decontamination chamber with shower shall be constructed as close to the work area as feasible when glovebags are utilized for removal of greater than or equal to 25 linear feet or 25 square feet of asbestos-containing materials.

14. Glove Bag Technique

- 14.1 When feasible asbestos-containing Thermal Systems Insulation (TSI) and in some cases other ACMs should be removed utilizing glovebag methods. The circumstances that will allow such removal will be determined by and at the sole discretion of the Owner and/or the Owner's Representative. The following procedures for removal of friable asbestos-containing materials by glovebag method shall be strictly adhered to:
 - 14.1.1 A solution of amended water shall be prepared (according to manufacturer's instructions) for the airless sprayer.
 - 14.1.2 The glove bag should be fitted to the size of the pipe by cutting the top and the top sides of the glove bag. A polyethylene drop cloth shall be placed under the glove bag work area.
 - 14.1.3 The following tools and supplies at a minimum shall be placed inside the glove bag in the tool pouch: utility knife, wire brush, rags, container with thick encapsulate (such as Childer's VIAC). Additional items or tools shall be placed inside dependent on the particular job.
 - 14.1.4 The glove bag is then attached to the pipe by folding the open edges together (making a top seam above the pipe) and securely sealing them with duct tape, as well as sealing both cut sides around the pipe.
 - 14.1.5 The bottom seam of the glove bag should be sealed with duct tape to prevent any leakage from a defective bag.
 - 14.1.6 Insert the wand of the airless sprayer through the glove bag by making a small hole in a location that allows the wand to move freely in the bag and tape the polyethylene tightly. There may be a prefabricated hole, especially for the sprayer.
 - 14.1.7 Insert the nozzle of the HEPA vacuum through the appropriate opening (prefabricated hole) and tape the polyethylene tightly around the nozzle. The vacuum (turned on), in association with a flap, will be used throughout the duration of the glove bag removal project in order to establish proper negative pressure within the glove bag.
 - 14.1.8 Place arms into the glove bag appendages and thoroughly wet the pipe insulation.

- 14.1.9 Using the knife, cut through the asbestos at each end of the section to be removed. The section to be removed is then slit from end to end (keeping material wet while cutting).
- 14.1.10 The insulation is then lifted off the pipe and lowered carefully to the bottom of the glove bag.
- 14.1.11 Using the wire brush, towels and water, the pipe shall be thoroughly cleaned.
- 14.1.12 Wet the entire inside of the bag with specific attention to the polyethylene around the pipe and the arms and sockets.
- 14.1.13 Following a visual by the Owner's Consultant, the exposed end of the insulation remaining on the pipe shall be encapsulated, as well as the bare pipe.
- 14.1.14 Put all tools and supplies into wet cleaned arm socket by pulling socket inside out.
- 14.1.15 Tape the flap and collapse the bag by sucking all of the air out of the bag using the HEPA vacuum.
- 14.1.16 Tape the arm close to the tools (tape it in two locations with a one-inch space between the taped spots). Cut between the taped spots and put the enclosed tools into a bucket of water.
- 14.1.17 Remove the sprayer wand and seal the opening.
- 14.1.18 Remove the vacuum nozzle and seal the opening.
- 14.1.19 The glove bag should be squeezed tightly (as close to the top as possible) twisted and sealed with duct tape.
- 14.1.20 Cut the bag off the pipe above the taped area and put the glove bag and drop cloth into an asbestos disposal bag, as well as the remaining portion of the bag on the pipe.
- 14.1.21 Clean the tools in the bucket of water and dispose of the water and glove bag remains in the asbestos disposal bag. The clean tools should be placed inside a polyethylene bag for future use.
- 14.1.22 Glove bags shall NOT be slid down the length of the pipe. Only insulation within the dimensions of the glove bag may be removed.
- 14.1.23 A remote 3-stage decontamination chamber with shower shall be constructed as close to the work area as feasible when glovebags are utilized for removal of greater than or equal to 25 linear feet or 25 square feet of asbestos-containing materials.
- 14.1.24 If unacceptable glovebag techniques are observed by the Owner or Owner's Consultant it will result in the immediate issuance of a stop work order and the removal of said employee of the Contractor.
- 14.1.25 The Owner's Consultant shall determine when the glove bag technique to be used is acceptable.

15. Non-Friable Asbestos-Containing Materials

- 15.1 Under certain circumstances, asbestos-containing materials in good condition may be removed intact and in a non-friable manner. The circumstances that will allow such removal will be determined by and at the sole discretion of the Owner and/or the Owner's Representative.
- 15.2 The following procedures for removal of non-friable asbestos-containing materials located inside a facility (such as but not limited to floor tile, mastic, adhesive on chalkboards, and glue pods on ceiling tiles) shall be strictly adhered to:

- 15.2.1 A Regulated Area with critical barriers will be established with a minimum of one (1) layer of 4 mil polyethylene sheeting over all vents, doors or other openings between the work area and other areas of the facility.
- 15.2.2 The removal will be conducted with the use of HEPA air filtration devices (AFDs). Each unit must have three filters including a HEPA filter. Each unit shall be exhausted to the outside air. Inlet and outlet ducts of the air filtration devices must be covered with tape and at least 4-mil polyethylene when not in use. The HEPA air filtration devices will be activated prior to any removal operations being commenced and will remain running 24 hours per day until the completion of the project.
- 15.2.3 All air filtration devices (AFDs) must be ducted to the outside of the building. The area where the duct leaves the building must be made so as to be secure and protected from vandalism and the elements. Flexible ductwork will be used and shall be placed at locations approved by the Owner and/or the Owner's Representative.
- 15.2.4 The Contractor is responsible for the provision of charged and suitably rated fire extinguishers within the work area(s). The number necessary shall be determined in part by the size of the work area. The Owner and/or the Owner's Representatives may require additional extinguishers at their sole discretion.
- 15.2.5 Materials will be carefully removed utilizing hand tools, wet methods, HEPA vacuums and other such methods as necessary. Special care should be taken so as to be sure that the material is removed in whole pieces. The material must remain in an intact, non-friable state at all times.
- 15.2.6 Non-friable mastic removal includes the use of a low odor chemical mastic remover. Mechanical means renders the removal friable and requires state notifications and removal inside containment.
- 15.2.7 Materials will be properly containerized and/or double-bagged, sealed and labeled prior to removal from the regulated area.
- 15.2.8 Each waste bag and/or barrel shall be sealed, labeled and disposed of in strict compliance with all applicable federal, state and local requirements and as set forth in these Technical Specifications.
- 15.3 Non-friable asbestos-containing materials located on the exterior of a facility (such as but not limited to transite, window caulk/glazing and fire doors) may be removed at times utilizing, at a minimum, the following procedures. The circumstances under which such removal will be allowed shall be determined by and at the sole discretion of the Owner and/or the Owner's Representative. The following procedures for removal of non-friable asbestos-containing materials located outside a facility shall be strictly adhered to:
 - 15.3.1 The material must remain in a non-friable state throughout the removal process. Special care must be utilized when removing the material from either the underlying substrate or from whatever type of frame is holding the material.
 - 15.3.2 The material should be wetted thoroughly. Special care should be taken with the edges and/or other protrusions through the material (i.e. screw holes, nail holes, etc.) as soon as they are exposed. The wetting process needs to be repeated as necessary to maintain the wetted condition and to prevent fibers from being released.
 - 15.3.3 The Contractor shall establish a regulated area utilizing asbestos banner tape and asbestos warning signs. Polyethylene drop cloths must be utilized to enable material to be more easily cleaned.

- 15.3.4 Should the removal of the material be conducted on the interior a facility, critical barriers may have to be established over all vents, doors or other openings between the work area and other areas of the facility.
- 15.3.5 Other items removed from the material shall be disposed of as asbestos waste. Such items would include but not limited to screws, nails and other such fasteners.
- 15.3.6 Materials will be carefully removed utilizing hand tools, wet methods, HEPA vacuums and other such methods as necessary. Special care should be taken so as to be sure that the material is removed in whole pieces. The material must remain in an intact, non-friable state at all times.
- 15.3.7 Contractor shall hand scrape any excess caulking or glazing material from remaining surfaces.
- 15.3.8 The material shall be wrapped in 6-mil plastic and securely sealed with waterproofed duct tape. This wrapped "package" shall then be wrapped again and securely sealed.
- 15.3.9 Certain materials may be more economically wrapped by utilizing 6-mil polyethylene asbestos disposal bags. In such instances, the material shall be double bagged with each bag being sealed individually with high quality duct tape.
- 15.3.10 Any polyethylene drop cloths or other plastic shall be wrapped and sealed as asbestos contaminated waste as indicated in these Technical Specifications.
- 15.3.11 The Contractor shall ensure that its employees strictly comply with these Technical Specifications regarding worker protection, respiratory protection, and emergency planning. Should additional steps need to be taken so as to prevent the exposure to asbestos fibers for the facility, facility occupants or other workers at the site, the Contractor shall promptly comply with the requests of the Owner and/or the Owner's Representative.
- 15.3.12 Materials will be properly containerized and/or double-bagged, sealed and labeled prior to removal from the regulated area.
- 15.3.13 Each waste bag and/or barrel shall be sealed, labeled and disposed of in strict compliance with all applicable federal, state and local requirements and as set forth in these Technical Specifications.
- 15.3.14 Any exterior openings created with exposure between the outside and inside of the facility shall be sealed by plywood and wood framing or such other material so as to secure the building from both the elements and vandalism. The Contractor shall be responsible for the security of the area where the work was performed or is being performed.

16. Post Abatement Clean-Up

- 16.1 After completion of all removal and stripping, all surfaces within the work area will be wire-brushed and/or wet-wiped to remove all visible residues.
- 16.2 All visible accumulations of asbestos-containing materials and asbestos-contaminated debris will be removed and containerized. Durable plastic shovels must be used in place of metal shovels in order to minimize damage to floor sheeting.
- 16.3 Tools will be decontaminated by removing any gross amounts of asbestos from them in the work area. Following this, they will be wiped off in the dirty room and then sprayed down with water in the shower area. All hand tools will then be sealed in plastic bags. Workers will wear protective equipment throughout this process. Where space allows, a separate equipment room will be built inside the enclosure. This will eliminate the

- accumulation of gross asbestos on tools and equipment and will facilitate decontamination of these items. No tools or equipment will be allowed to leave the work area without being decontaminated.
- 16.4 Following the clean up of visible accumulations, the polyethylene sheeting will be removed from the walls and ceiling, and the interior layer will be removed from floors. At this point any asbestos that has fallen behind the polyethylene will be cleaned up. However, all barriers to doors, windows, and other critical barriers to clean areas will be left in place until final air checks are completed.
 - 16.5 Following the clean up of visible accumulations of asbestos waste, the entire area will be wet-wiped. During settling/drying periods no entry, activity, or ventilation into the work area will be allowed. However, the HEPA air filtration devices will continue to operate.
 - 16.6 All removed polyethylene, tape, cleaning material, and contaminated clothing will be placed in 6-mil polyethylene bags or polyethylene lined drums, sealed and labeled as described above for disposal as asbestos waste material.
 - 16.7 Only clear drying encapsulants and amended solutions may be used.
 - 16.8 Prior to final clearance sampling, all items will be removed from the dirty room.

17. Acceptance Criteria for Area Re-Occupancy

- 17.1 The Contractor will clean all work area surfaces in a proper manner with appropriate equipment in accordance with these technical specifications.
- 17.2 No tape residue shall remain on any surface. The Contractor shall ensure all surfaces are washed and cleaned before demobilizing off site.
- 17.3 After completion of the cleaning operations, the following activities shall be performed:
 - 17.3.1 A complete visual inspection to insure dust free conditions. The Owner's Consultant(s) and/or Third Party Air Monitoring Personnel and the Contractor shall tour and inspect the entire work area, including but not limited to: ventilation openings, doorways, windows, and other openings; he/she shall look for debris from any sources, residue on surfaces, or any other matter. If any debris or residue is found, repeat the final cleaning until visual inspection is passed. It shall be the right of the Owner's Consultant(s) to accompany the Contractor during the inspection and determine if additional cleaning is necessary.
 - 17.3.2 A clear drying encapsulant will be used to seal all surfaces of the work area. Non-clear drying encapsulants can only be used upon approval by the Owner and/or Owner's Consultant.
 - 17.3.3 Air samples will be collected following completion of all cleaning operations, encapsulation and after the work area is completely dry as specified in these technical specifications.
- 17.4 Post-Abatement air samples collected shall be analyzed using Phase Contrast Microscopy (PCM).
 - 17.4.1 Phase Contrast Microscopy (PCM) Clearance:

When the work site has become completely dry, the Owner's Consultant and/or Third Party Air Monitoring Personnel shall collect post-abatement air samples according to federal and state regulations (including but not limited to State of Michigan Public Act 135 of 1986) and analyzed utilizing the NIOSH 7400 Method. These samples shall be taken inside the abatement work area. A minimum of 1,200 liters per air sample shall be collected using aggressive sampling techniques. If the post-abatement test reveals fiber levels in excess of

0.05 fibers per cubic centimeter (f/cc) then cleaning and measurement operations specified in these specifications will be repeated until the area is in compliance.

- 17.5 After the work area is found to be in compliance, all entrances and exits are unsealed, and the polyethylene sheeting, tape and any other trash and debris shall be double-bagged and sealed in polyethylene bags (6-mil minimum) or barrels lined with one polyethylene bag (6-mil minimum), and properly labeled and disposed of in accordance with all federal, state and local regulations.

18. Disposal of Asbestos-Containing Material and Related Debris

- 18.1 All asbestos-containing materials and miscellaneous debris in properly labeled polyethylene bags (double-bagged) or other containers will be transported to the pre-designated disposal site in accordance with the guidelines of the U.S. Environmental Protection Agency and the Department of Environmental Quality. Asbestos disposal forms will be completed to document proper disposal of asbestos waste. The final waste manifest signed by the landfill must be submitted to the Owner's Representative before final payment will be made.
- 18.2 All asbestos-containing containers, waste bags or wrapped materials shall be labeled with the name and address at which the waste was generated, prior to materials being transported off the facility site.
- 18.3 Workers unloading the polyethylene bags and machinery operators will wear respirators when handling material at the disposal site.
- 18.4 All pertinent DOT rules and regulations will be followed when transporting asbestos.
- 18.5 All containers or wrapped materials shall be posted with Class 9 hazardous waste signs.
- 18.6 All asbestos-containing materials shall be transported in covered vehicles.
- 18.7 All dumpsters, trucks or other containers used to transport asbestos-containing materials shall be properly labeled during the loading and unloading of waste.

19. Submittals Prior To Contractor Release & Final Payment

- 19.1 Damages: The Contractor shall promptly repair any and all damages caused to facilities at no cost to the Owner.
- 19.2 The following must be submitted prior to final payment:
- 19.2.1 Copies of Disposal receipts including final waste manifest signed by the landfill of all asbestos contaminated material, plus copies of all transport manifests, trip tickets, or other disposal documentation.
- 19.2.2 All documentation requested in Submittals to Owner's Representative found in Section II of this Technical Specification.

III. WORK/CONDUCT REQUIREMENTS

20. Supervision, Personnel and Misconduct

- 20.1 A "competent person" as defined in 29 CFR 1926.1101 must be on-site at all times throughout the duration of the project(s). This competent person, as designated prior to the start of said project(s) must remain the same throughout the duration of the project(s).
- 20.2 The Owner's Consultant IS NOT THE CONTRACTOR'S OUT-MAN. The Contractor must provide one out-man for each enclosure (unless the decontamination chambers are

- within “talking” distance of each other). The Contractor out-man must always remain within talking distance of the enclosure they are assigned to.
- 20.3 A Foreman with competent-person training must remain within the enclosure at all times during the project.
 - 20.4 Contractor’s employees are subject to immediate dismissal from the job Site if any of the following occurs including, but not limited to:
 - 20.4.1 Failure to follow proper abatement procedures, including but not limited to respiratory protection and the throwing of asbestos disposal bags outside of the enclosure.
 - 20.4.2 Physical threats and violence to the Owner’s Consultant or any other person.
 - 20.4.3 Property damage or theft.
 - 20.4.4 Reckless driving on Owner’s Property
 - 20.4.5 Discourteous and ill-mannered statements made to the Owner, Owner’s employees or Owner’s Consultant.
 - 20.4.6 Consumption of alcohol on Owner’s premises.
 - 20.4.7 Any conduct or act deemed inappropriate or unprofessional at the sole discretion of the Owner or Owner’s Consultant.

21. Site Security/Site Cleanliness

- 21.1 The work area is restricted to only authorized, trained and protected personnel. These personnel may include the Contractor’s employees, employees of subcontractors, Owner’s employees and Representatives, state and local inspectors, and any other designated individuals. The list of employees who will participate in the project as defined in these specifications will be the only employees allowed to enter the work area. Additional employees assigned to this project must be cleared through the Owner or the Owner’s Consultant. Documentation of all training, medical, and other pertinent requirements are needed before the employee’s participation.
- 21.2 An employee shall not remain on the Owner’s premises if he/she is prohibited from participating in the project as a result of insufficient paperwork or if the Owner’s Consultant determines the employee, in any manner, is detrimental to the safe completion of the project.
- 21.3 The Contractor shall record the names and social security numbers of all people on a sign-in sheet who enter the worksite and maintain this record for thirty years.
- 21.4 Entry into the work area by unauthorized individuals shall be strictly prohibited.
- 21.5 Access to the work area shall be through a single worker decontamination system. All other means of access (doors, windows, hallways, etc.) shall be blocked or locked so as to prevent entry to or exit from the work area. The only exceptions for this rule are the waste pass-out airlock which shall be sealed except during the removal of containerized asbestos waste from the work area, and emergency exits in case of fire or accident. Emergency exits shall not be locked from the inside; instead, they shall be sealed with polyethylene sheeting tape until needed.
- 21.6 The Contractor shall designate one worker to remain outside each enclosure throughout the duration of the project in order to regulate ingress and egress to the work areas as well as to provide needed supplies and equipment. The worker outside the enclosure will be within hearing range at all times. At least one person, at all times, inside the enclosure must have had “competent person” training.

- 21.7 All areas occupied or used in any way by the Contractor (all employees), outside the enclosure(s) but within the building shall be kept in an acceptable condition and thoroughly cleaned at the end of each day, to the satisfaction of the Owner's Consultant. If at any time, food containers or debris is found not properly disposed of, eating on premises shall be terminated.
- 21.8 The Contractor is responsible for maintaining areas outside the building in a condition acceptable to the Owner or the Owner's Consultant. This includes but is not limited to: sanitation, supplies and equipment, and employee driving and substance abuse.

22. Stop Work Orders

- 22.1 If at any time, the Owner or the Owner's Consultant decide that work practices are in violation of the contract specifications or endangering workers, he/she or they will immediately notify the Contractor's on-site Representative of such, and operations are to cease until corrective action is taken.
- 22.2 The Contractor shall cooperate fully with the Owner and Owner's Consultant.

IV. AIR MONITORING

23. Sampling Requirements

- 23.1 The Owner's Consultant and/or Third-Party Air Monitoring Personnel shall conduct all air sampling for the Owner throughout all phases of the contract.
- 23.2 All air samples shall be analyzed using the NIOSH 7400 Method.

24. Sampling Types

- 24.1 Throughout the abatement and cleaning operations, air sampling will be conducted to ensure that the Contractor is complying with all codes, regulations and ordinances. The following are representative sampling which shall take place at the discretion of the Owner and the Owner's Consultant by the Third-Party Air Monitoring Personnel.
- 24.1.1 Baseline-Collected in various locations prior to abatement to determine ambient interior fiber levels.
- 24.1.2 Outside Work Area-Collected in various locations outside of the work area in order to detect elevated fiber levels during abatement activities.
- 24.1.3 Inside Work Area-Collected in various locations inside the work area to insure compliance with proper procedures and specifications.
- 24.1.4 Personal-Collected in the breathing zone of the asbestos abatement personnel according to 1926.1101, Appendix A, as amended, of the OSHA regulations. These samples will be placed on employees who are exposed to representative concentrations of airborne asbestos fibers. Personal sampling will ensure that the workmen performing the asbestos abatement activities are not exposed to asbestos contamination exceeding STEL (short term excursion limit) requirements and levels which exceed their respirator protection or otherwise endanger their health. Personal air samples will be collected on individuals as designated by the Owner's Consultant.
- 24.1.5 Post Abatement/Clearance-Collected inside and/or outside the work area after the project is completed and the area has been cleaned and dried. This will determine if the job has been done correctly and whether the cleanup process must be repeated. Quantities are determined by all applicable regulations.

- 24.1.6 Field Banks-Fields blanks are collected to ensure that contamination of cassettes has not occurred. Each set of samples collected will include ten percent (10%) blanks or a minimum of two blanks.
- 24.2 **Post Abatement PCM Clearance Testing:**
Post Abatement PCM Clearance Samples will be collected, analyzed and results verbally expressed to the Owner and to the Contractor within twenty-four (24) hours, with the time period beginning at the completion of lock down activities.
- 24.2.1 PCM Clearance level criteria shall be 0.05 f/cc (fibers per cubic centimeter).
- 24.2.2 It will be in the judgment of the Owner's Representative and/or Third-Party Air Monitoring Personnel as to when Post Abatement PCM Clearance Samples will be collected.
- 24.2.3 All Post Abatement PCM Clearance Samples will be analyzed on-site.
- 24.2.4 PCM Clearance Samples may not be collected on the same day as visual inspection and lockdown.
- 24.3 **Failure of Air Clearance Samples:** Should results from analysis of final clearance air samples not meet the specified criteria the Contractor shall be responsible for the payment of all costs, including consultant's time for subsequent air sampling.

Abatement Contractor's Acknowledgement Form
Appendix A

**ABATEMENT CONTRACTOR'S ACKNOWLEDGEMENT FORM
APPENDIX A**

CONTRACTOR'S AGREEMENT AND CERTIFICATION

The undersigned, having familiarized themselves with the local conditions to be encountered affecting the cost of the work and examined the technical Asbestos Abatement & Hazardous Materials Removal Specifications for DS ARCHITECTS INC's CADILLAC PLACE – UIA LOBBY REDESIGN provided by and project designed by Atlas Technical Consultants along with all other attached information, does hereby propose to complete everything required to be performed and to furnish all of the labor, materials, tools, equipment, and services necessary to conduct the **Asbestos Abatement Services** required in connection with the above referenced project.

All bidders must attend the Pre-Bid Examination, and all bidders must tour the buildings, and familiarize themselves with the work contemplated in the contract. The submission of a bid for this/these projects(s) shall be deemed conclusive evidence that the bidder has thoroughly examined all documents constituting this specification, has familiarized himself with the work and requirements contemplated by this contract and shall constitute a waiver by each of all claims of error in bid, withdrawal of bid, or payment of extras, or combination thereof, under the executed Contract, or any revision thereof. All figures set forth in the above bid(s) referencing sizes, amounts, or materials are estimates only and are provided for the convenience of the bidder. ***The bidder is solely and completely responsible for his/her own measurements and his/her own determination regarding the scope of the project(s).***

These specifications have attempted to detail and address all aspects of the project(s) being performed for the Owner. Nonetheless, the successful completion of the project(s) in a safe manner and in compliance with all applicable regulations remains as the foremost concern of the Owner. To insure that this goal is met, it is expressly agreed by and between the parties to the contract, hereinafter to be signed between the Owner and the Contractor, that the Owner and/or it's Representative has complete control over the manner in which the project(s) shall proceed and may in their sole discretion waive provisions of these specifications or require and enforce more stringent or different provision should they, in their discretion, determine that such changes will or may more fully protect the Owner, the Contractor, their subcontractors, agents, servants or others under their control or direction or the general public from any risks and/or situations associated with said projects(s). This provision in no way constitutes a waiver by the Contractor of his/her responsibilities to conduct said project(s) in accordance with all applicable regulations and in accordance with these specifications. This provision is set forth and is intended to provide the Owner and/or it's Representative with the power to require additional steps to be taken to ensure that this project proceeds in a manner to fully, to the utmost extent possible, protect the Owner and/or it's Representative as well as the general public from risks and liability associated with such project(s).

Accepted by:

Abatement Contractor (Name of Company)

Abatement Contractor Authorized Signature

Authorized Name (Typed or Printed)

Title

Date

Asbestos Abatement Bid Pricing
Appendix B

**ASBESTOS ABATEMENT BID PRICING
APPENDIX B**

Price

Bidder agrees to perform the work described in this asbestos abatement specification for the following price:

BASE BID – Asbestos Abatement for UIA Lobby Redesign Project as described in attached Scope of Work in Appendix C of this document.

\$ _____ \$ _____
(Total Bid Price in Words)

The bidder proposes the above stated cost to include all charge for all wages, overtime, mobilization, materials, supplies, equipment, sampling costs, disposal costs, disposal documentation, close-out reports, general conditions, supervision, taxes, insurance, overhead, profit and incidental expenses.

Unit Pricing

The following unit pricing shall apply to additions or deductions to the scope of work and quantities of materials uncovered during destructive investigations and/or demolition activities. Each unit pricing shall be all-inclusive for set-up, removal and disposal of each material. **Any additions or deductions to the scope of work will require verification and approval by the Client and/or Client’s Representative prior to commencement of work activities.**

Floor Tile (9”x9” or 12”x12”) (per square foot) \$ _____
(Includes all labor, materials and disposal)

Floor Tile (9”x9” or 12”x12”) & Mastic by Grinding (per square foot) \$ _____
(Includes all labor, materials and disposal)

Mastic by Grinding (Includes all labor, materials and disposal) \$ _____

Fire Door (single doorway,) \$ _____
(Includes all labor, materials and disposal)

Mobilization Fee (each) \$ _____

PRINT COMPANY NAME _____

PRINT NAME _____

TITLE _____

SIGNATURE _____

Asbestos Abatement Scope of Work
Appendix C

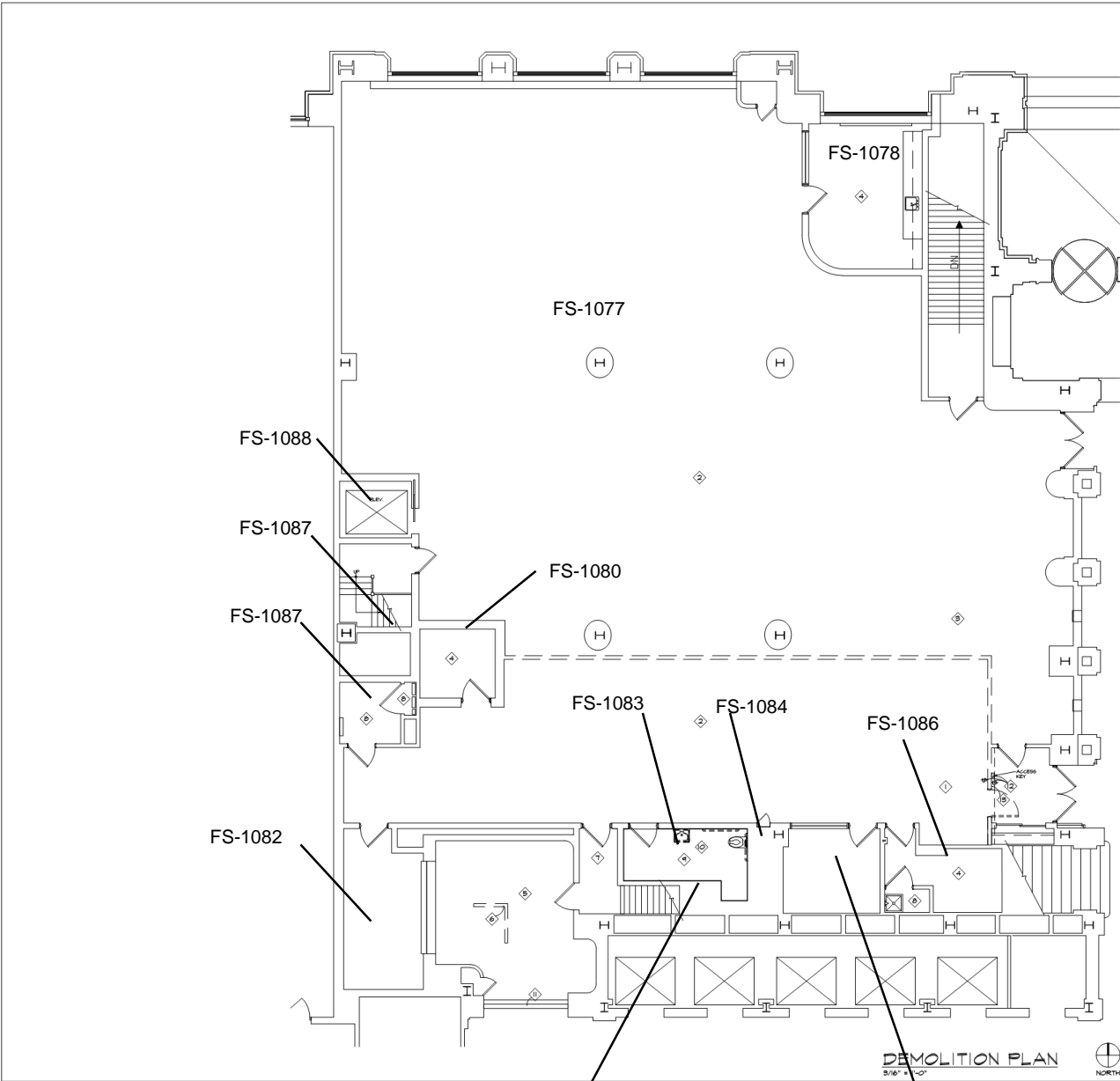
**ASBESTOS ABATEMENT SCOPE OF WORK
APPENDIX C**

Sample ID/HA	Location of Materials	Material	Estimated Quantity	Asbestos Content
13	1077,1083,1087	Fire Door	3	Assumed
7001	1083,1086	12" x 12" Floor Tile, Tan with Light and Dark Splotches	405 SF	2% (Tile Only)
13001	1087,1088	9" x 9" Floor Tile, Light Cream with and Tan Streaks	45 SF	2% (Tile) & 3% (Mastic)
8-CG-A,B,C	1077	Carpet Glue/Mastic (under blue carpet squares)	5,500 SF	4% Chrysotile

Abatement Notes:

- See attached Building Layout in Appendix D
- Contractor shall remove and properly dispose of the following *approximate* quantities of asbestos-containing materials: 450 square feet of floor tile, 5500 (square feet of mastic associated with floor tile and carpet), Asbestos-containing floor tile and mastic shall be removed intact and in a non-friable manner as described in the attached technical asbestos abatement specifications specifically Section 15. Mastic shall be removed utilizing grinders. Mechanical means are to be utilized and it will require state notification and removal within a containment as described in Sections 12 & 13.
- Asbestos-containing fire doors shall be removed intact and in whole pieces without disturbing the inner matrix material as described in the attached technical asbestos abatement specifications specifically Section 15.3.
- Contractor shall adhere to all federal, state and local regulations as well as requirements of this technical specification throughout the abatement activities and disposal process.
- Working Hours – Business hours
- Contractor will coordinate ingress/egress, working hours and dumpster location with Owner, Architect and Owners Representative.

Functional Space Designation Drawing
Appendix D



DEMOLITION NOTES

- ① REMOVE STORE AND PROTECT FOR LATER POSSIBLE RE-USE ALL EXISTING DOORS, FRAMES AND HARDWARE ON ANY WALL TO BE DEMOLISHED (TYPICAL THROUGHOUT). ANY OF THE ABOVE NOT REINSTALLED ARE TO BE RETURNED TO BUILDING SURPLUS LOCATION.
- ② REMOVE AND DISPOSE OF ALL EXISTING CARPET AND RELATED BASE THROUGHOUT ENTIRE SUITE (UNLESS NOTED OTHERWISE). PREPARE FLOOR FOR NEW FINISH.
- ③ REMOVE AND SALVAGE ANY EXISTING INSULATION IN DEMOLISHED WALLS FOR POSSIBLE REUSE.
- ④ REMOVE ALL EXISTING VINYL COMPOSITION TILE AND RELATED BASE THROUGHOUT INDICATED ROOM/AREA. PREPARE FLOOR FOR NEW FINISH.
- ⑤ REMOVE ALL EXISTING QUARRY TILE FLOORING AND RELATED BASE THROUGHOUT INDICATED ROOM/AREA. PREPARE FLOOR FOR NEW FINISH.
- ⑥ REMOVE AND RETURN TO TENANT EXISTING STANCHIONS.
- ⑦ INDICATED ROOM/AREA IS WITHIN TENANT'S LEASE SPACE, HOWEVER INDICATED ROOM IS EXCLUDED FROM THIS PROJECT AND NO WORK IS TAKING PLACE WITHIN INDICATED ROOM/AREA.
- ⑧ REMOVE ALL EXISTING MOSAIC TILE FLOORING AND RELATED BASE THROUGHOUT INDICATED ROOM/AREA. PREPARE FLOOR FOR NEW FINISH.
- ⑨ EXISTING TO REMAIN PORCELAIN TILE FLOORING AND RELATED BASE THROUGHOUT INDICATED ROOM/AREA.
- ⑩ ALL RESTROOM ITEMS ARE TO BE INSTALLED PER ANSI A117.2-2009. REMOVE AND REINSTALL EXISTING WALL HUNG SINK, MIRROR AND GRAB BARS AS REQUIRED. SEE DETAIL NO. 4 ON SHEET A-501.
- ⑪ EXISTING TO REMAIN CEILING RECESSED ROLL UP DOOR.
- ⑫ INDICATED LIGHT SWITCHES AND ACCESS CARD READER TO BE REMOVED, SALVAGED AND REINSTALLED IN NEW WALL PARTITION AS REQUIRED.
- ⑬ EXISTING AUDIO HEADSET JACK (NOT SHOWN) BE REMOVED AND DISPOSED OF.

Abatement Notes

- 1 Contractor to coordinate ingress/egress and dumpster location with Owner/Owner's Rep.
- 2 Contractor to coordinate electrical and water hook-up with Owner/Owner's Rep.
- 3 Remove mastic using mechanical means (Grinding), use of solvents is prohibited.
- 4 Perform all work in accordance with all applicable State and Federal Regulations.

ARCHITECTS
ARCHITECTS
2200 WOODLAWN AVE
ANN ARBOR MI 48106
TEL: 734.769.1100
WWW.AARCHITECTS.COM

ENGINEERS
MATRIX
CONSULTING ENGINEERS, INC.
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WWW.MATRIXCONSULTING.COM

STATE OF MICHIGAN
DEPARTMENT OF TREASURY AND BUDGET
STATE FACILITIES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION
ADAM P. LACH, BA, NCARB, DIRECTOR

PROJECT NO. 18602271.MWG
INDEX
PICA
DRAWN BY
REVISIONS BY
DATE

PHASE 500 100%
PHASE 500 100%
PHASE 500 100%
PHASE 500 100%
DATE

PROJECT DESCRIPTION:
**CADILLAC PLACE - UIA LOBBY
REDESIGN**

DEMOLITION PLAN

PROJECT NO. 18602271.MWG
INDEX
PICA
DRAWN BY
REVISIONS BY
DATE

A-101.0



Functional Space Designations
Cadillac Place –UIA Lobby Redesign
3024 W Grand Blvd, Detroit, MI 48202

MKG	11/15/24
46555 Humboldt Drive, Suite 100 Novi, Michigan 48377 Ph: (248) 669-5140 - Fax: (248) 669-5147	

Supplemental Asbestos Survey Report (Atlas)
Appendix E



46555 Humboldt Dr. Ste. 100
Novi, MI 48377
(248) 669-5140 | oneatlas.com

September 18, 2024

Derek Slupka, AIA LEED AP
President
DS Architects INC
7300 Dixie Hwy. Suite 600
Clarkston, MI 48346

**SUBJECT: Limited Asbestos Sampling Report
UIA Office Renovation
Cadillac Place
Detroit, Michigan**

Dear Mr. Slupka,

Atlas Technical Consultants (Atlas) is pleased to provide this bulk sampling report to supplement the Materials Testing Consultants (MTC) asbestos survey report date March 26, 2013. Atlas surveyed the UIA Office area located on the 1st floor of Cadillac Place. The purpose of this survey was to identify and collect samples of suspect asbestos containing building materials (ACBM's) not previously sampled by MTC, and/or to collect additional samples of specific materials that were previously sampled by MTC to verify the results in the UIA Office area.

Background

DS Architects Inc. provided Atlas with demolition drawings for the planned renovation, and a partial copy of the MTC Asbestos Survey report dated March 26, 2013. Atlas reviewed the demolition drawing, existing asbestos survey (prepared by MTC) and conducted a site visit of the renovation area at the Cadillac Place to assess if additional suspect materials not previously identified or sampled were present.

The limited asbestos sampling was conducted August 28th through August 30th, 2024, by Atlas Asbestos Inspector, Mr. Robert Hinojosa, a State of Michigan certified asbestos inspector. The sampling was conducted in accordance with sampling criteria specified in the Occupational Safety and Health Administration's (OSHA) Asbestos Construction Industry Standard (29 CFR 1926.1101), and the Asbestos Hazard and Emergency Response Act of 1987 (AHERA).

SUMMARY OF ACM SURVEY ACTIVITIES AND SURVEY FINDINGS

Atlas arrived at the UIA office within Cadillac Place to sample suspect asbestos not previously sampled by MTC or to verify previous results. A total of 50 bulk samples were collected and submitted for analysis by Polarized Light Microscopy (PLM). Of the 50 samples submitted, 77 sample layers were analyzed for asbestos content. The description, location and type of material sampled can be found in Table 1 along with the results of analysis. A Sample Location Map is provided in Attachment A, a Photo Log of suspect materials is provided in Attachment B, and analytical data sheets and chain-of-custody information for the collected samples are provided in Attachment C.

LIMITATIONS

This report is prepared for the express use and benefit of the DS Architects Inc, its agents and employees. The information in this report or portions thereof may be required to be included in notifications to employees, contractors or other visitors to the buildings. This report is not intended to be used by the owner or its agents as a specification or work plan for any of the work suggested or recommended in the report. This report is based upon conditions observed at the property and information made available to the surveyor on the above-mentioned date. This report does not intend to identify all hazards, nor to indicate that other hazards do not exist at the premises. Atlas made their best effort to determine the location of inaccessible ACBM's. Atlas shall not be responsible for identifying all ACBM's located behind walls and/or columns, beneath flooring, above solid ceilings, underground or any other inaccessible areas. If material is found during the course of renovations that is not listed in this asbestos report the material should be assumed as asbestos containing until it can be sampled by a licensed building inspector and analyzed at a laboratory.

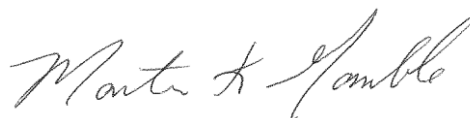
Atlas is pleased to be of service to the DS Architects Inc. and we look forward to continuing working with you in the future. If you have any questions or comments regarding the information in this report, please contact us at 249-669-5140.

Sincerely,

Atlas Technical Consultants



Robert Hinjosa
Asbestos Inspector



Martin Gamble
Senior Project Manager

Attachments:

Table 1
 UIA Office
 Cadillac Place
 Detroit, Michigan
 September 6, 2024

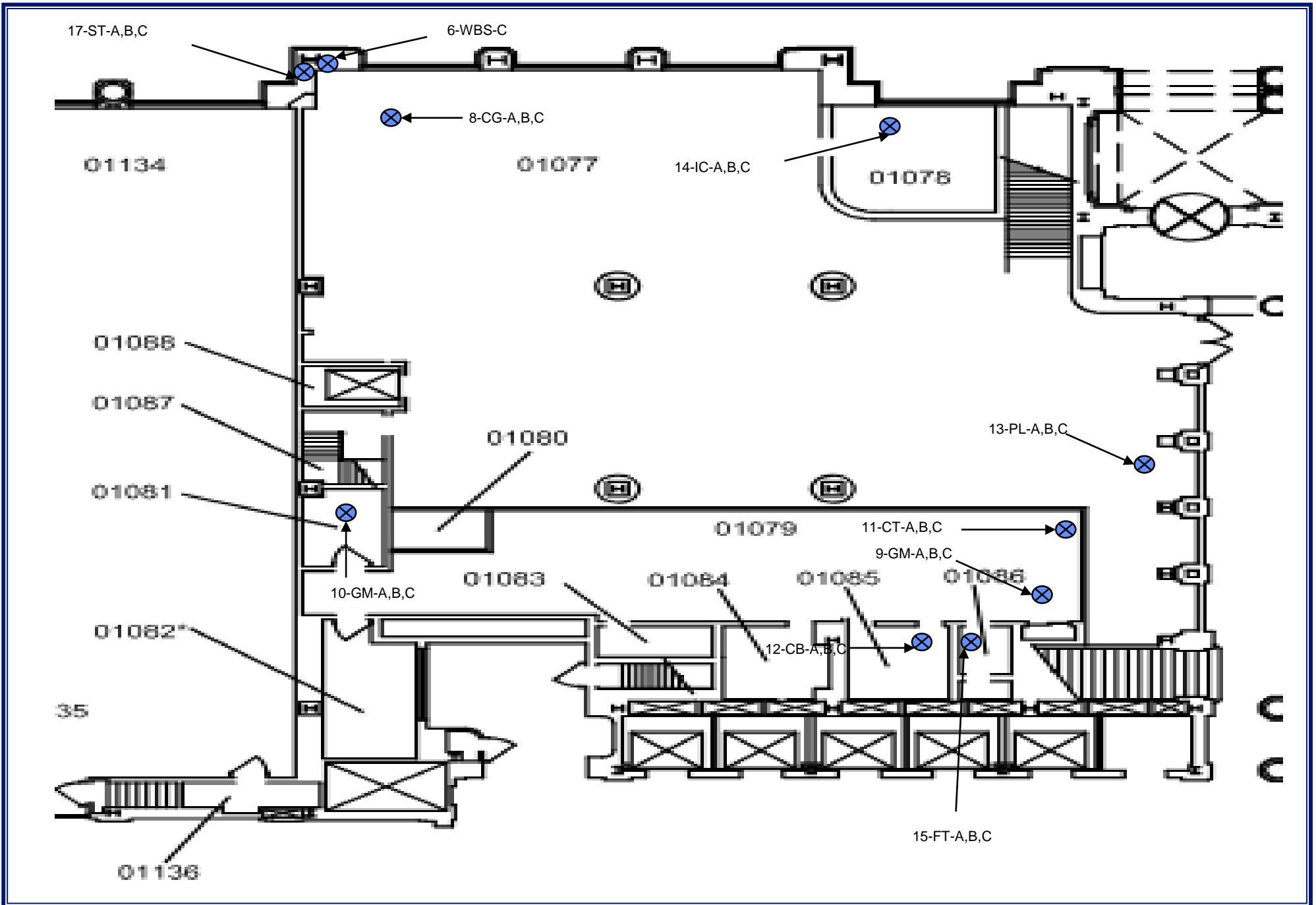
Sample ID	Material Description	Functional Space	% Asbestos Content	Quantity
1-PL-A,B,C,D,E,F,G	Plaster	1086	ND	NA
2-GP-A,B,C	Glue Pods	1084	ND	NA
3-FT-A,B,C	Floor Tile (9x9 light brown with grout pattern-Kitchen area)	1086	ND	NA
4-GM-A,B,C	Grout Mortar (walls and floors of men's and women's bathroom)	1086	ND	NA
5-DS-A,B,C	Duct Sealant (Gray)	1079	ND	NA
6-WBS-A,B,C	Wall Board System	1077,1078,1079,1080,1081,1084,1085,1086	ND	NA
7-IC-A,B,C	Interior Caulk (red fire stop)	1086	ND	NA
8-CG-A,B,C	Carpet glue (under blue carpet squares)	1077	4% Chrysotile	5500 SF
9-GM-A,B,C	Grout Mortar (mosiac tile under carpet squares)	1079 1086 1085 1084 1083	ND	NA
10-GM-A,B,C	Grout Mortar (inside of switch room)	1081	ND	NA
11-CT-A,B,C	Ceiling Tile (non-directional pinholes, 2x4 square design)	1077,1078,1079,1080,1084,1085	ND	NA
12-CB-A,B,C	Cove Base (gray)	1077,1078,1079,1080,1083,1085,1086	ND	NA
13-PL-A	Plaster (decorative)	1077, 1078	ND	NA
14-IC-A,B,C	Interior Caulk (gray; around window frames)	1078 1077	ND	NA
15-FT-A,B,C	Floor Tile (12x12; blue with light and dark blue splotches)	1078, 1080, 1083, 1086	ND	NA
16-FP-A,B,C	Spray on Fire Proofing	M1073	3% Chrysotile	8000 SF
17-ST-A,B,C	Vinyl Stair tread (tan with brown)	1083, 1087	ND	NA

Table 1 Key:
 PL=Plaster
 CP=Ceiling Panel
 FT= Floor Tile

ND=No Asbestos Detected
 NA=Not Applicable
 CT=Ceiling Tile

SF=Square Feet
 LF=Linear Feet
 DI=Duct Insulation

Attachment A
Sample Location Map



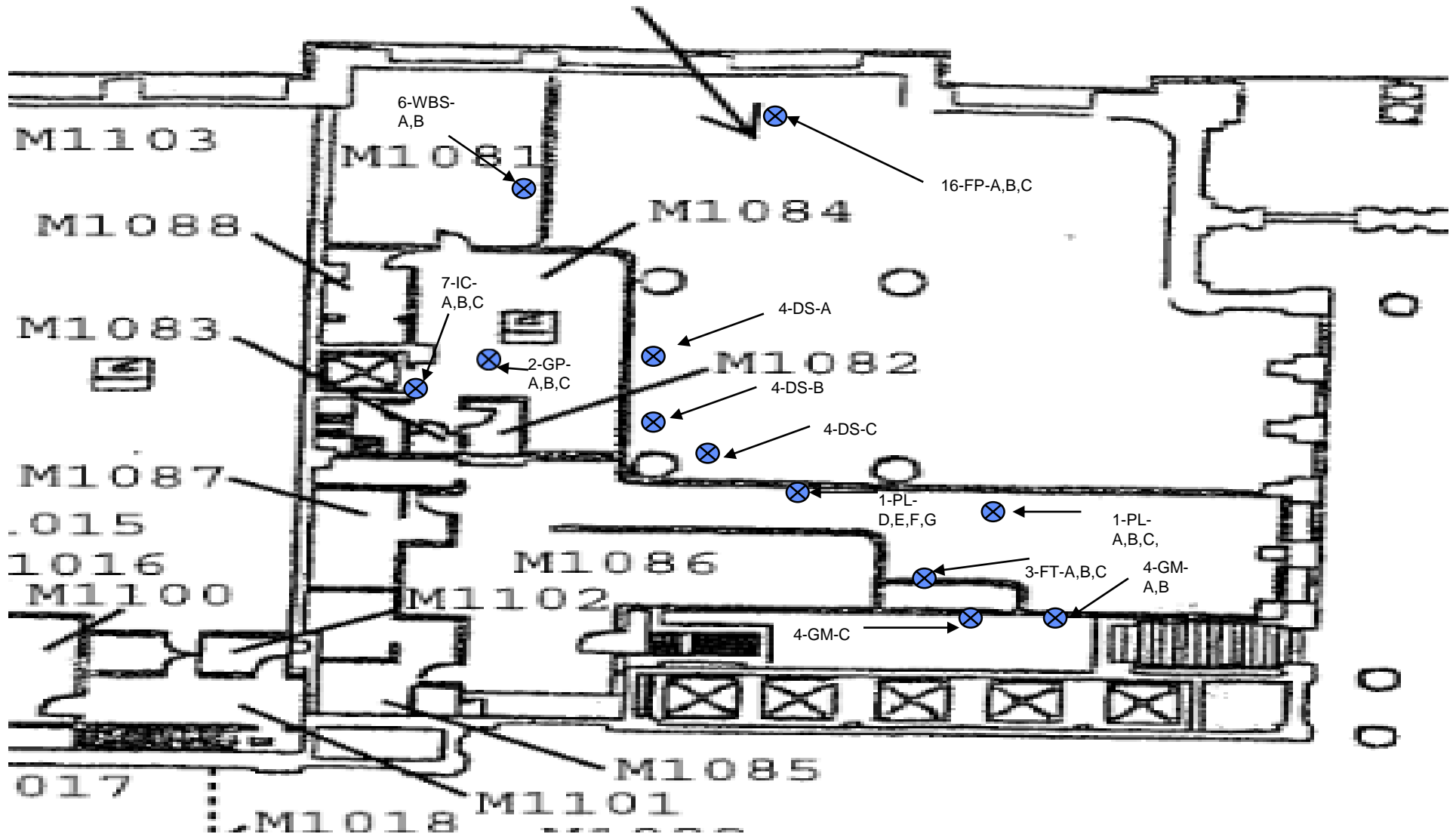
Cadillac Place UIA Suite 1st floor

Sample Locations

PROJECT NUMBER:	FIGURE: 1
Date:	
46555 Humboldt Drive, Suite 100 Novi, Michigan 48377 Ph: (248) 669-5140 ~ Fax: (248) 669-5147	

M1073 (Crawlspace Above)
Above)

M:



Cadillac Place UIA Suite Mezzanine level

Sample Locations

PROJECT NUMBER:	FIGURE: 1
Date: 8/31/24	
46555 Humboldt Drive, Suite 100 Novi, Michigan 48377 Ph: (248) 669-5140 ~ Fax: (248) 669-5147	

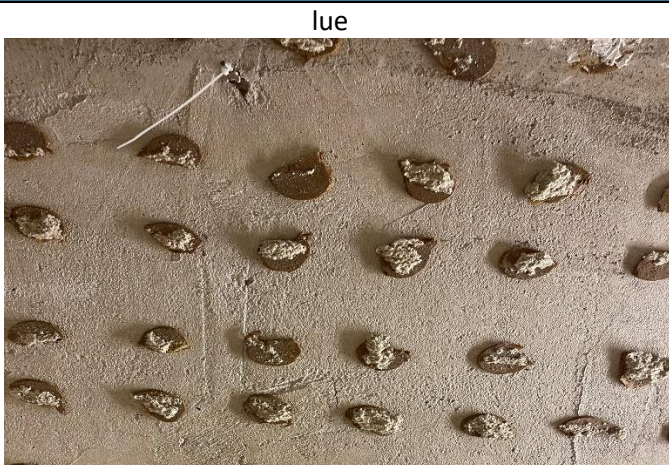
Attachment B
Photo Log

Photograph #1



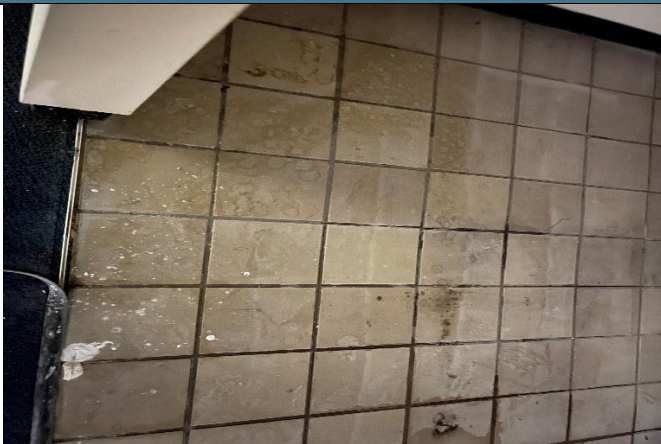
Homogenous Material Description
HA-1: Plaster
Asbestos Present (Yes/No/Assumed)
Total Quantity Present
6500 SF
Additional Notes

Photograph #2



Homogenous Material Description
HA-2: Glue Pods
Asbestos Present (Yes/No/Assumed)
Total Quantity Present
325 SF
Additional Notes

Photograph #3



Homogenous Material Description
HA-3: Floor Tile
Asbestos Present (Yes/No/Assumed)
Total Quantity Present
100 SF
Additional Notes

Photograph #4



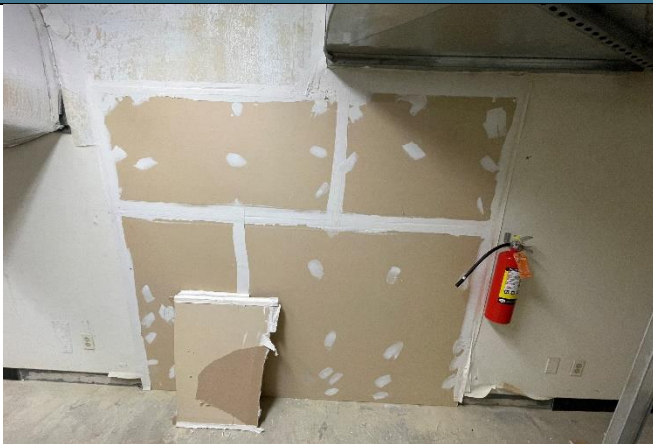
Homogenous Material Description
HA-4: Grout Mortar
Asbestos Present (Yes/No/Assumed)
Total Quantity Present
350 SF
Additional Notes

Photograph #5



Homogenous Material Description
HA-5: Duct Caulk
Asbestos Present (Yes/No/Assumed)
Total Quantity Present
2000 LF
Additional Notes

Photograph #6



Homogenous Material Description
HA-6: Dry Wall
Asbestos Present (Yes/No/Assumed)
Total Quantity Present
8000 SF
Additional Notes

Photograph #7

No Photo was taken	Homogenous Material Description
	HA-7: Interior Caulk (red fire stop)
	Asbestos Present (Yes/No/Assumed)
	Total Quantity Present
	20 LF
	Additional Notes

Photograph #8

No Photo was taken	Homogenous Material Description
	HA-8: Carpet Glue under blue carpet squares
	Asbestos Present (Yes/No/Assumed)
	Total Quantity Present
	5500 SF
	Additional Notes

Photograph #9

	Homogenous Material Description
	HA-9: Grout Mortar
	Asbestos Present (Yes/No/Assumed)
	Total Quantity Present
	2175 SF
	Additional Notes

Photograph #10



Homogenous Material Description

HA-10: Grout Mortar

Asbestos Present (Yes/No/Assumed)

Total Quantity Present

75 SF

Additional Notes

Photograph #11



Homogenous Material Description

HA-11: Ceiling Tiles

Asbestos Present (Yes/No/Assumed)

Total Quantity Present

7500 SF

Additional Notes

Photograph #12



Homogenous Material Description

HA-12: Cove Base

Asbestos Present (Yes/No/Assumed)

Total Quantity Present

2500 SF

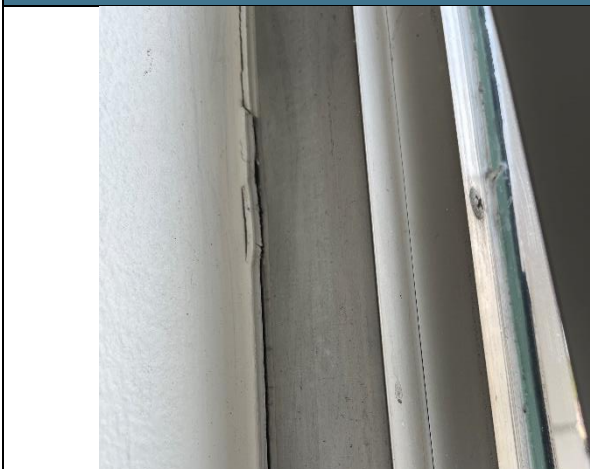
Additional Notes

Photograph #13



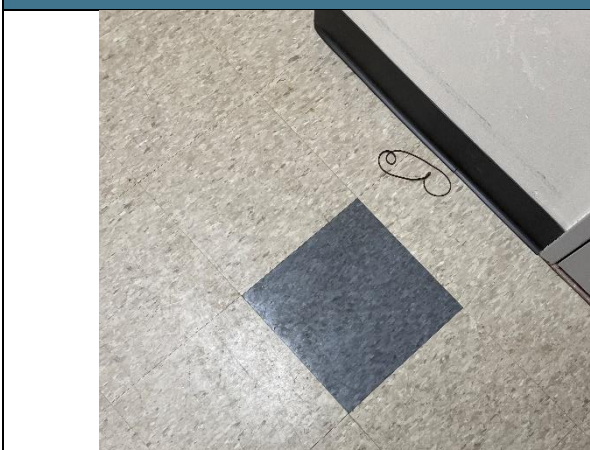
Homogenous Material Description
HA-13: Plaster (decorative)
Asbestos Present (Yes/No/Assumed)
Total Quantity Present
5000 SF
Additional Notes

Photograph #14



Homogenous Material Description
HA-14: Interior Caulk
Asbestos Present (Yes/No/Assumed)
Total Quantity Present
200 LF
Additional Notes

Photograph #15



Homogenous Material Description
HA-15: Floor Tile
Asbestos Present (Yes/No/Assumed)
Total Quantity Present
100 SF
Additional Notes

Photograph #16



Homogenous Material Description
HA-16: Spray On fire proofing
Asbestos Present (Yes/No/Assumed)
Total Quantity Present
Additional Notes

Photograph #17



Homogenous Material Description
HA-17: Vinyl Stair Tread
Asbestos Present (Yes/No/Assumed)
Total Quantity Present
Additional Notes

Attachment C
Chain of Custody Forms and Analytical Data Sheets



REVISED REPORT

To: Atlas - Novi
46555 Humboldt Dr. Suite 100
Novi, Michigan 48377


ETL Job: 272086
Client Project: N/A

Attention: Robert Smith
Project Location: Cadillac Place
UIA

Lab Sample Number	Client Sample Number	Sample Type	Completed
1699689	1-PL-A	Asbestos	09/04/2024
1699690	1-PL-B	Asbestos	09/04/2024
1699691	1-PL-C	Asbestos	09/04/2024
1699692	1-PL-D	Asbestos	09/04/2024
1699693	1-PL-E	Asbestos	09/04/2024
1699694	1-PL-F	Asbestos	09/04/2024
1699695	1-PL-G	Asbestos	09/04/2024
1699696	2-GP-A	Asbestos	09/04/2024
1699697	2-GP-B	Asbestos	09/04/2024
1699698	2-GP-C	Asbestos	09/04/2024
1699699	3-FT-A	Asbestos	09/04/2024
1699700	3-FT-B	Asbestos	09/04/2024
1699701	3-FT-C	Asbestos	09/04/2024
1699702	4-GM-A	Asbestos	09/04/2024
1699703	4-GM-B	Asbestos	09/04/2024
1699704	4-GM-C	Asbestos	09/04/2024

Lab Sample Number	Client Sample Number	Sample Type	Completed
1699705	5-DS-A	Asbestos	09/04/2024
1699706	5-DS-B	Asbestos	09/04/2024
1699707	5-DS-C	Asbestos	09/04/2024
1699708	6-WBS-A	Asbestos	09/04/2024
1699709	6-WBS-B	Asbestos	09/04/2024
1699710	6-WBS-C	Asbestos	09/04/2024
1699711	7-IC-A	Asbestos	09/04/2024
1699712	7-IC-B	Asbestos	09/04/2024
1699713	7-IC-C	Asbestos	09/04/2024
1699714	8-CG-A	Asbestos	09/04/2024
1699715	8-CG-B	Asbestos	09/04/2024
1699716	8-CG-C	Asbestos	09/04/2024
1699717	9-GM-A	Asbestos	09/04/2024
1699718	9-GM-B	Asbestos	09/04/2024
1699719	9-GM-C	Asbestos	09/04/2024
1699720	10-GM-A	Asbestos	09/04/2024
1699721	10-GM-B	Asbestos	09/04/2024
1699722	10-GM-C	Asbestos	09/04/2024
1699723	11-CT-A	Asbestos	09/04/2024
1699724	11-CT-B	Asbestos	09/04/2024
1699725	11-CT-C	Asbestos	09/04/2024
1699726	12-CB-A	Asbestos	09/04/2024
1699727	12-CB-B	Asbestos	09/04/2024
1699728	12-CB-C	Asbestos	09/04/2024
1699729	13-PL-A	Asbestos	09/04/2024
1699730	13-PL-B	Asbestos	09/04/2024

Lab Sample Number	Client Sample Number	Sample Type	Completed
1699731	13-PL-C	Asbestos	09/04/2024
1699732	14-IC-A	Asbestos	09/04/2024
1699733	14-IC-B	Asbestos	09/04/2024
1699734	14-IC-C	Asbestos	09/04/2024
1699735	15-FT-A	Asbestos	09/04/2024
1699736	15-FT-B	Asbestos	09/04/2024
1699737	15-FT-C	Asbestos	09/04/2024
1699738	16-FP-A	Asbestos	09/06/2024
1699739	16-FP-B	Asbestos	09/06/2024
1699740	16-FP-C	Asbestos	09/06/2024
1699741	17-ST-A	Asbestos	09/04/2024
1699742	17-ST-B	Asbestos	09/04/2024
1699743	17-ST-C	Asbestos	09/04/2024

Reviewed by: 
Emily Schroeder

Summary

Method	Sample	Layer	Mastic
PLM	69	8	
Point Count	1		

Revision History

Revised Date	Revised By	Revision Comment
09/06/2024	Bella Rossi	Revisions Made Per Client Request

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Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
 46555 Humboldt Dr. Suite 100
 Novi, Michigan 48377

Location : Cadillac Place
 UIA

ETL Job : 272086
Client Project : N/A
Date Collected : 08/28/2024
Date Received : 09/03/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1699689 1-PL-A	Plaster	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699690 1-PL-B	Plaster	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699691 1-PL-C	Plaster	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699692 1-PL-D	Plaster	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699693 1-PL-E	Plaster	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699693 1-PL-E	Skim Coat	White Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					

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Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
 46555 Humboldt Dr. Suite 100
 Novi, Michigan 48377

Location : Cadillac Place
 UIA

ETL Job : 272086
Client Project : N/A
Date Collected : 08/28/2024
Date Received : 09/03/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1699694 1-PL-F	Plaster	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699695 1-PL-G	Plaster	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699696 2-GP-A	Glue Pod	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699697 2-GP-B	Glue Pod	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699698 2-GP-C	Glue Pod	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					

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Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
 46555 Humboldt Dr. Suite 100
 Novi, Michigan 48377

ETL Job : 272086
Client Project : N/A
Date Collected : 08/28/2024
Date Received : 09/03/2024

Location : Cadillac Place
 UIA

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1699699 3-FT-A	Floor Tile	Light Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699699 3-FT-A	Floor Tile	Dark Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699699 3-FT-A	Mastic	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-3 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699700 3-FT-B	Floor Tile	Light Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699700 3-FT-B	Floor Tile	Dark Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699700 3-FT-B	Mastic	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-3 Analyst: Tia Ray Date Analyzed : 09/04/2024					

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Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
 46555 Humboldt Dr. Suite 100
 Novi, Michigan 48377

ETL Job : 272086
Client Project : N/A
Date Collected : 08/28/2024
Date Received : 09/03/2024

Location : Cadillac Place
 UIA

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1699701 3-FT-C	Floor Tile	Light Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699701 3-FT-C	Floor Tile	Dark Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699701 3-FT-C	Mastic	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-3 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699702 4-GM-A	Grout	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699702 4-GM-A	Mortar	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699702 4-GM-A	Ceramic Tile	Beige Non-Fibrous Homogenous		PLM 90% Ceramic PLM 10% Other	PLM None Detected
Layer-3 Analyst: Tia Ray Date Analyzed : 09/04/2024					

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Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
 46555 Humboldt Dr. Suite 100
 Novi, Michigan 48377

ETL Job : 272086
Client Project : N/A
Date Collected : 08/28/2024
Date Received : 09/03/2024

Location : Cadillac Place
 UIA

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1699703 4-GM-B	Grout	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699703 4-GM-B	Mortar	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699703 4-GM-B	Ceramic Tile	Beige Non-Fibrous Homogenous		PLM 90% Ceramic PLM 10% Other	PLM None Detected
Layer-3 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699704 4-GM-C	Grout	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699704 4-GM-C	Mortar	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699704 4-GM-C	Ceramic Tile	Beige Non-Fibrous Homogenous		PLM 90% Ceramic PLM 10% Other	PLM None Detected
Layer-3 Analyst: Tia Ray Date Analyzed : 09/04/2024					

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Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
 46555 Humboldt Dr. Suite 100
 Novi, Michigan 48377

Location : Cadillac Place
 UIA

ETL Job : 272086
Client Project : N/A
Date Collected : 08/28/2024
Date Received : 09/03/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1699705 5-DS-A	Duct Sealant	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699706 5-DS-B	Duct Sealant	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699707 5-DS-C	Duct Sealant	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699708 6-WBS-A	Drywall	White Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699708 6-WBS-A	Tape	White Fibrous Homogenous	PLM 80% Cellulose	PLM 20% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					

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Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
 46555 Humboldt Dr. Suite 100
 Novi, Michigan 48377

Location : Cadillac Place
 UIA

ETL Job : 272086
Client Project : N/A
Date Collected : 08/28/2024
Date Received : 09/03/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1699709 6-WBS-B	Drywall	White Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699709 6-WBS-B	Tape	White Fibrous Homogenous	PLM 80% Cellulose	PLM 20% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699710 6-WBS-C	Drywall	White Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699710 6-WBS-C	Tape	White Fibrous Homogenous	PLM 80% Cellulose	PLM 20% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699711 7-IC-A	Interior Caulk	Red Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699711 7-IC-A	Brittle Material	White Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					

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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

ETL Job : 272086
Client Project : N/A
Date Collected : 08/28/2024
Date Received : 09/03/2024

Location : Cadillac Place
UIA

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1699712 7-IC-B	Interior Caulk	Red Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699712 7-IC-B		Layer Missing			
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024 Layer Not Analyzed					
1699713 7-IC-C	Interior Caulk	Red Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699713 7-IC-C		Layer Missing			
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024 Layer Not Analyzed					
1699714 8-CG-A	Carpet Glue	Brown Non-Fibrous Homogenous		PLM 96% Other	PLM 4% Chrysotile
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699715 8-CG-B		Positive Stop			
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024 Layer Not Analyzed					

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Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
 46555 Humboldt Dr. Suite 100
 Novi, Michigan 48377

Location : Cadillac Place
 UIA

ETL Job : 272086
Client Project : N/A
Date Collected : 08/28/2024
Date Received : 09/03/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1699716 8-CG-C		Positive Stop			
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024 Layer Not Analyzed					
1699717 9-GM-A	Grout Mortar	White Fibrous Non-Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024 With Tacky Material					
1699718 9-GM-B	Grout Mortar	White Fibrous Non-Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024 With Tacky Material					
1699719 9-GM-C	Grout Mortar	White Fibrous Non-Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024 With Tacky Material					
1699720 10-GM-A	Grout Mortar	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699720 10-GM-A	Ceramic Tile	White Non-Fibrous Homogenous		PLM 90% Ceramic PLM 10% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					

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 46555 Humboldt Dr. Suite 100
 Novi, Michigan 48377

Location : Cadillac Place
 UIA

ETL Job : 272086
Client Project : N/A
Date Collected : 08/28/2024
Date Received : 09/03/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1699721 10-GM-B	Grout Mortar	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699721 10-GM-B	Ceramic Tile	White Non-Fibrous Homogenous		PLM 90% Ceramic PLM 10% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699722 10-GM-C	Grout Mortar	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699722 10-GM-C	Ceramic Tile	White Non-Fibrous Homogenous		PLM 90% Ceramic PLM 10% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699723 11-CT-A	Ceiling Tile	White Fibrous Homogenous	PLM 30% Cellulose PLM 30% Fiberglass	PLM 40% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699724 11-CT-B	Ceiling Tile	White Fibrous Homogenous	PLM 30% Cellulose PLM 30% Fiberglass	PLM 40% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					

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Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
 46555 Humboldt Dr. Suite 100
 Novi, Michigan 48377

Location : Cadillac Place
 UIA

ETL Job : 272086
Client Project : N/A
Date Collected : 08/28/2024
Date Received : 09/03/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1699725 11-CT-C	Ceiling Tile	White Fibrous Homogenous	PLM 30% Cellulose PLM 30% Fiberglass	PLM 40% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699726 12-CB-A	Cove Base	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699726 12-CB-A	Adhesive	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699727 12-CB-B	Cove Base	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699727 12-CB-B	Adhesive	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					

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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 : Cadillac Place
UIA

ETL Job : 272086
Client Project : N/A
Date Collected : 08/28/2024
Date Received : 09/03/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1699728 12-CB-C	Cove Base	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699728 12-CB-C	Adhesive	Brown Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699729 13-PL-A	Plaster	White Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699730 13-PL-B	Plaster	White Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699731 13-PL-C	Plaster	White Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699732 14-IC-A	Interior Caulk	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					

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Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
 46555 Humboldt Dr. Suite 100
 Novi, Michigan 48377

Location : Cadillac Place
 UIA

ETL Job : 272086

Client Project : N/A

Date Collected : 08/28/2024

Date Received : 09/03/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1699733 14-IC-B	Interior Caulk	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699734 14-IC-C	Interior Caulk	Gray Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699735 15-FT-A	Floor Tile	Blue Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699736 15-FT-B	Floor Tile	Blue Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699737 15-FT-C	Floor Tile	Blue Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699738 16-FP-A	Spray on Fire Proofing	Brown Fibrous Homogenous		PC 97% Other	PC 3% Chrysotile
Layer-1 Analyst: Chris Canilao Date Analyzed : 09/06/2024					

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Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
 46555 Humboldt Dr. Suite 100
 Novi, Michigan 48377

Location : Cadillac Place
 UIA

ETL Job : 272086
Client Project : N/A
Date Collected : 08/28/2024
Date Received : 09/03/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1699739 16-FP-B	Spray on Fire Proofing	Brown Fibrous Homogenous		PLM 97% Other	PLM 3% Chrysotile
Layer-1 Analyst: Chris Canilao Date Analyzed : 09/06/2024					
1699740 16-FP-C	Spray on Fire Proofing	Brown Fibrous Homogenous		PLM 97% Other	PLM 3% Chrysotile
Layer-1 Analyst: Chris Canilao Date Analyzed : 09/06/2024					
1699741 17-ST-A	Vinyl Stair Tread	Tan Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699741 17-ST-A	Adhesive	Yellow Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699742 17-ST-B	Vinyl Stair Tread	Tan Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699742 17-ST-B		Layer Missing			
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024 Layer Not Analyzed					

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Polarized Light Microscopy Asbestos Analysis Report

To : Atlas - Novi
 46555 Humboldt Dr. Suite 100
 Novi, Michigan 48377

Location : Cadillac Place
 UIA

ETL Job : 272086
Client Project : N/A
Date Collected : 08/28/2024
Date Received : 09/03/2024

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Asbestos
1699743 17-ST-C	Vinyl Stair Tread	Tan Non-Fibrous Homogenous	PLM 1% Cellulose	PLM 99% Other	PLM None Detected
Layer-1 Analyst: Tia Ray Date Analyzed : 09/04/2024					
1699743 17-ST-C		Layer Missing			
Layer-2 Analyst: Tia Ray Date Analyzed : 09/04/2024 Layer Not Analyzed					


 Lab Supervisor/Other Signatory

Analyst:



Chris Canilao



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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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 #: 272086

Client: Atlas Technical Consultants	Contact: Rob Smith	Project Location/name: Cadillac Place LIA
Address: 46555 Humboldt Dr. Ste. 100 Novi, MI 48377	Phone: 248-669-5140 Fax: 248-669-5147 E-mail:	Client Project #:
Please Provide Results: <input checked="" type="checkbox"/> Email <input type="checkbox"/> Fax <input type="checkbox"/> Verbal <input type="checkbox"/> Other _____		Date Sampled: 8/28/24 - 8/30/24

Turnaround Time (TAT): RUSH Same Day 24 hr 48 hr Standard (3-5 days) Other 72 hours

PLM Instructions
 (Check all that apply)

<input checked="" type="checkbox"/> PLM EPA600/R-93/116, 1993 (Standard method)	<input checked="" type="checkbox"/> Stop at 1st Positive - Clearly mark Homogenous Group
Point Counting: <input type="checkbox"/> 400 Points* <input type="checkbox"/> NYSDOH ELAP 198.1, 2002*	
<input type="checkbox"/> Gravimetric Reduction* <input type="checkbox"/> NYSDOH ELAP 198.6, 2010*	
<input type="checkbox"/> PLM Non-Building Material (Dust, Wipe, Tape)	<input type="checkbox"/> Soil or Vermiculite Analysis*

* Additional charge and turnaround may be required

1699

Lab ID	Sample ID	Material Description	Sample Location	Quantity
689	1-PL-A	Plaster	1086	
690	1-PL-B	Plaster	1086	
691	1-PL-C	Plaster	1086	
692	1-PL-D	Plaster	1086	
693	1-PL-E	Plaster	1086	
694	1-PL-F	Plaster	1086	
695	1-PL-G	Plaster	1086	
696	2-GP-A	Glue Pod (brown)	1084	
697	2-GP-B	Glue Pod (brown)	1084	
698	2-GP-C	Glue Pod (brown)	1084	
699	3-FT-A	Floor Tile (9x9 light brown with grout pattern-Kitchen area)	1086	
700	3-FT-B	Floor Tile (9x9 light brown with grout pattern-Kitchen area)	1086	

	Date	Time
Relinquished (Name/Organization):	9-3-24	12:53 am/pm
Received (Name/ETL):	9/3/24	12:53 am/pm
Sample Login (Name/ETL):	9/3/24	5:15 am/pm
Stereoscopic/Sample Analysis (Name/ETL):	9/4/24	1:25 am/pm
Results (Name/ETL):	9/4/24	1:25 am/pm
QA/QC Review (Name/ETL):	9/5/24	11:24 am/pm

Special Instructions: <ul style="list-style-type: none"> • 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
--	---------

****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.2etil.com

**Bulk Asbestos
 Chain of Custody**

ETL Project #: 272080

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
701	3-FT-C	Floor Tile (9x9 light brown with grout pattern-Kitchen area)	1086	
702	4-GM-A	Grout Mortar (walls and floors of mens and womens bathroom)	1086	
703	4-GM-B	Grout Mortar (walls and floors of mens and womens bathroom)	1086	
704	4-GM-C	Grout Mortar (walls and floors of mens and womens bathroom)	1086	
705	5-DS-A	Duct Sealant (Gray)	1079	
706	5-DS-B	Duct Sealant (Gray)	1079	
707	5-DS-C	Duct Sealant (gray)	1079	
708	6-WBS-A	Dry Wall	1077,1078,1079,1080, 1081,1084,1085,1086	
709	6-WBS-B	Dry Wall	1077,1078,1079,1080, 1081,1084,1085,1086	
710	6-WBS-C	Dry Wall	1077,1078,1079,1080, 1081,1084,1085,1086	
711	7-IC-A	Interior Caulk (red fire stop)	1086	
712	7-IC-B	Interior Caulk (red fire stop)	1086	
713	7-IC-C	Interior Caulk (red fire stop)	1086	
714	8-CG-A	Carpet glue (under blue carpet squares)	1077	
715	8-CG-B	Carpet glue (under blue carpet squares)	1077	
716	8-CG-C	Carpet glue (under blue carpet squares)	1077	
717	9-GM-A	Grout Mortar (mosiac tile under carpet squares)	1079 1086 1085 1084 1083	
718	9-GM-B	Grout Mortar (mosiac tile under carpet squares)	1079 1086 1085 1084 1083	
719	9-GM-C	Grout Mortar (mosiac tile under carpet squares)	1079 1086 1085 1084 1083	
720	10-GM-A	Grout Mortar (inside of switch room)	1081	
721	10-GM-B	Grout Mortar (inside of switch room)	1081	
722	10-GM-C	Grout Mortar (inside of switch room)	1081	
723	11-CT-A	Ceiling Tile (non-directional pinholes, 2x4 square design)	1077,1078,1079,1080, 1084,1085	
724	11-CT-B	Ceiling Tile (non-directional pinholes, 2x4 square design)	1077,1078,1079,1080, 1084,1085	
725	11-CT-C	Ceiling Tile (non-directional pinholes, 2x4 square design)	1077,1078,1079,1080, 1084,1085	
726	12-CB-A	Cove Base (gray)	1077,1078,1079,1080, 1083,1085,1086	
727	12-CB-B	Cove Base (gray)	1077,1078,1079,1080, 1083,1085,1086	

MTC Asbestos Survey Report (Volume 1&2)
Appendix F



Materials
Testing
Consultants, INC.

MATERIALS Engineers, Independent TESTING Laboratories, Geotechnical & Environmental CONSULTANTS — Since 1968

Corporate Office

693 Plymouth Ave. NE • Grand Rapids, MI 49505 • (616) 456-5469 • FAX (616) 456-5784

Southeast Michigan

4721 Runway Blvd. • Ann Arbor, MI 48108 • (800) 968-8378 • (734) 619-6868

www.mtc-test.com

File No. 071/07115.JNS, Index No. 43000

REPORT OF
ASBESTOS BUILDING MATERIALS SURVEY
For

Cadillac Place State Office Building
3026 West Grand Boulevard
Detroit, Michigan 48202

Prepared For:

Mr. Judson N. Sorensen, P.E.

State of Michigan
Department of Technology, Management and Budget
Facilities and Business Services Administration
First Floor, Stevens T. Mason Building
P.O. Box 30026
Lansing, MI 48909

MTC Project No. 121268

March 28, 2013

Prepared By:

Materials Testing Consultants, Inc.
693 Plymouth, NE
Grand Rapids, Michigan 49505
Phone: (616) 456-5469
Fax: (616) 456-5784

Volume 2 of 4



REPORT OF ASBESTOS BUILDING MATERIALS SURVEY

Cadillac Place State Office Building
3026 West Grand Boulevard
Detroit, Michigan 48202

VOL 1 OF 4

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SECTION 2.0 FACILITY DESCRIPTION

SECTION 3.0INSPECTION PROCEDURES

SECTION 4.0 BULK SAMPLING AND ANALYSIS

Section 4.1 Sampling Procedures

Section 4.2 Sample Locations Summary

Section 4.3 Lab Procedures / Accreditation Information

Section 4.4 Analysis Results

SECTION 5.0 HOMOGENEOUS MATERIALS

Section 5.1 Homogeneous Materials Report

Section 5.2 Homogeneous Materials Photos

SECTION 6.0 ASSESSMENTS AND RECOMMENDATIONS

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Section 7.1 Function Areas

Section 7.2 Building Survey Summary

VOL 3 OF 4

SECTION 7.0 BUILDING SURVEY – 5th Floor thru 10th Floor

Section 7.1 Function Areas

Section 7.2 Building Survey Summary

VOL 4 OF 4

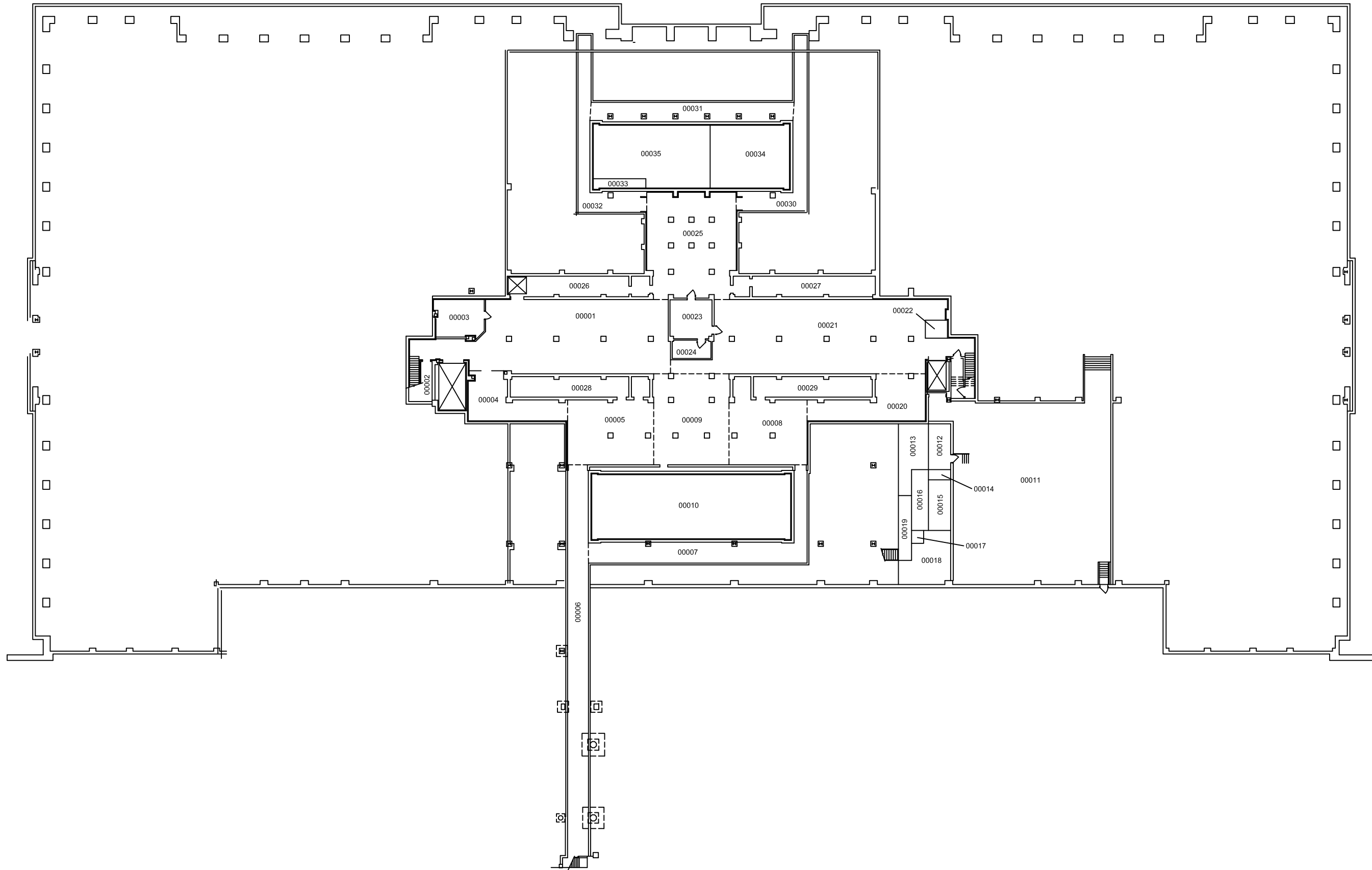
SECTION 7.0 BUILDING SURVEY – 11th Floor thru 17th Floor

Section 7.1 Function Areas

Section 7.2 Building Survey Summary

SECTION 7.0 - BUILDING SURVEY
Sub-basement thru 4th Floor

SECTION 7.1 – FUNCTION AREA MAPS



ENGINEER:

 Materials Testing Consultants, Inc.
 693 Plymouth NE
 Grand Rapids, MI 49505
 (616) 562-5499 Fax (616) 456-5764

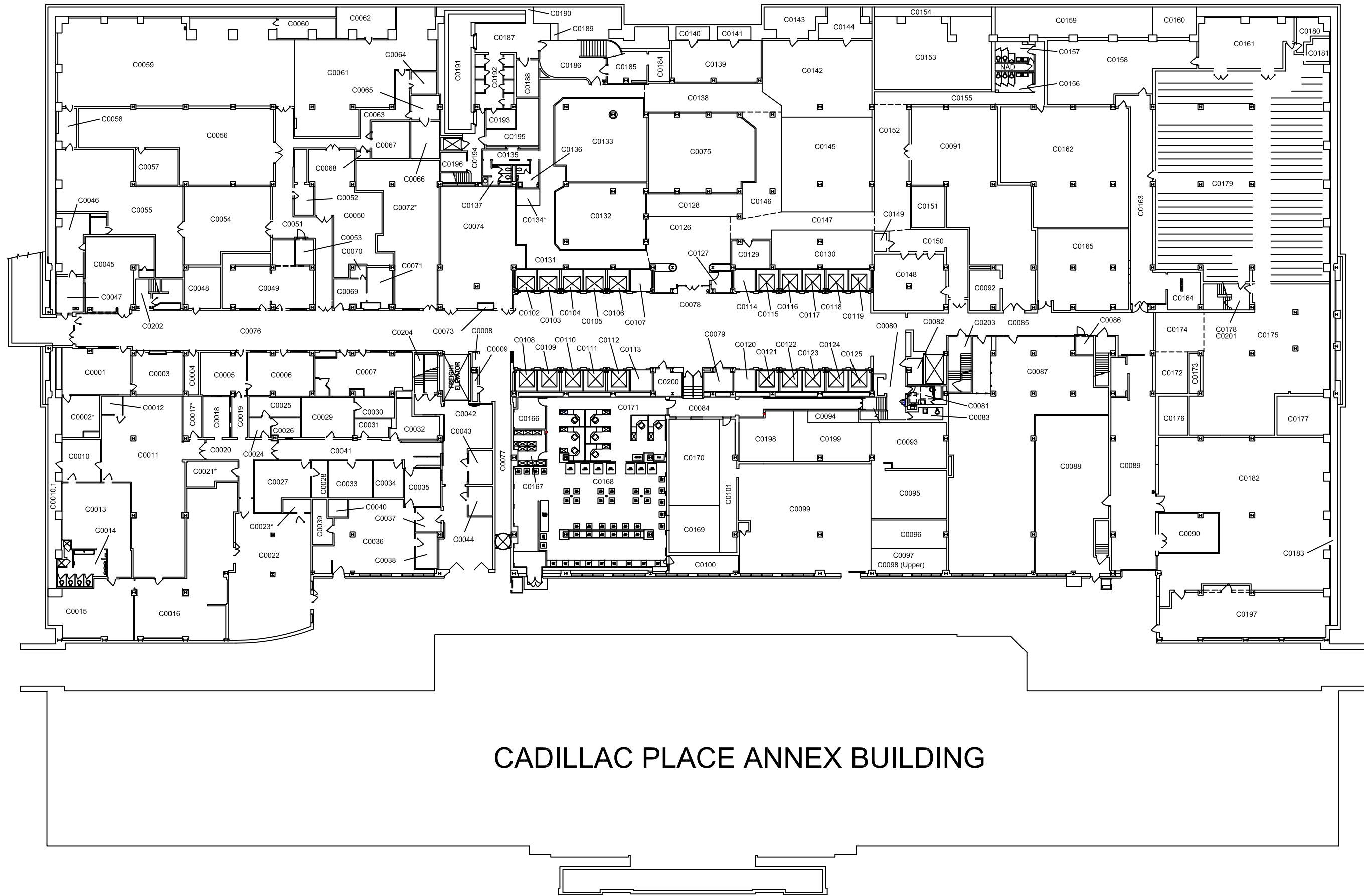
CADILLAC PLACE MAIN BUILDING
 ASBESTOS SURVEY
 DETROIT, MI
 BASEMENT LEVEL FUNCTION AREA MAP

DESIGNED: RV
 DETAILED: RV
 CHECKED: CK
 APPROVED: CK
 DATE: 04-02-13

PROJECT NO.
 121268
 CADILLAC PLACE

NOTE: FUNCTION AREAS DESIGNATED WITH A * ARE AREAS IN WHICH ACCESS COULD NOT BE OBTAINED





CADILLAC PLACE ANNEX BUILDING

ENGINEER: **materials testing consultants, inc.**
 693 Plymouth NE
 Grand Rapids, MI 49505
 (616) 562-5499 Fax: (616) 456-5764

CADILLAC PLACE MAIN BUILDING
 ASBESTOS SURVEY
 DETROIT, MI

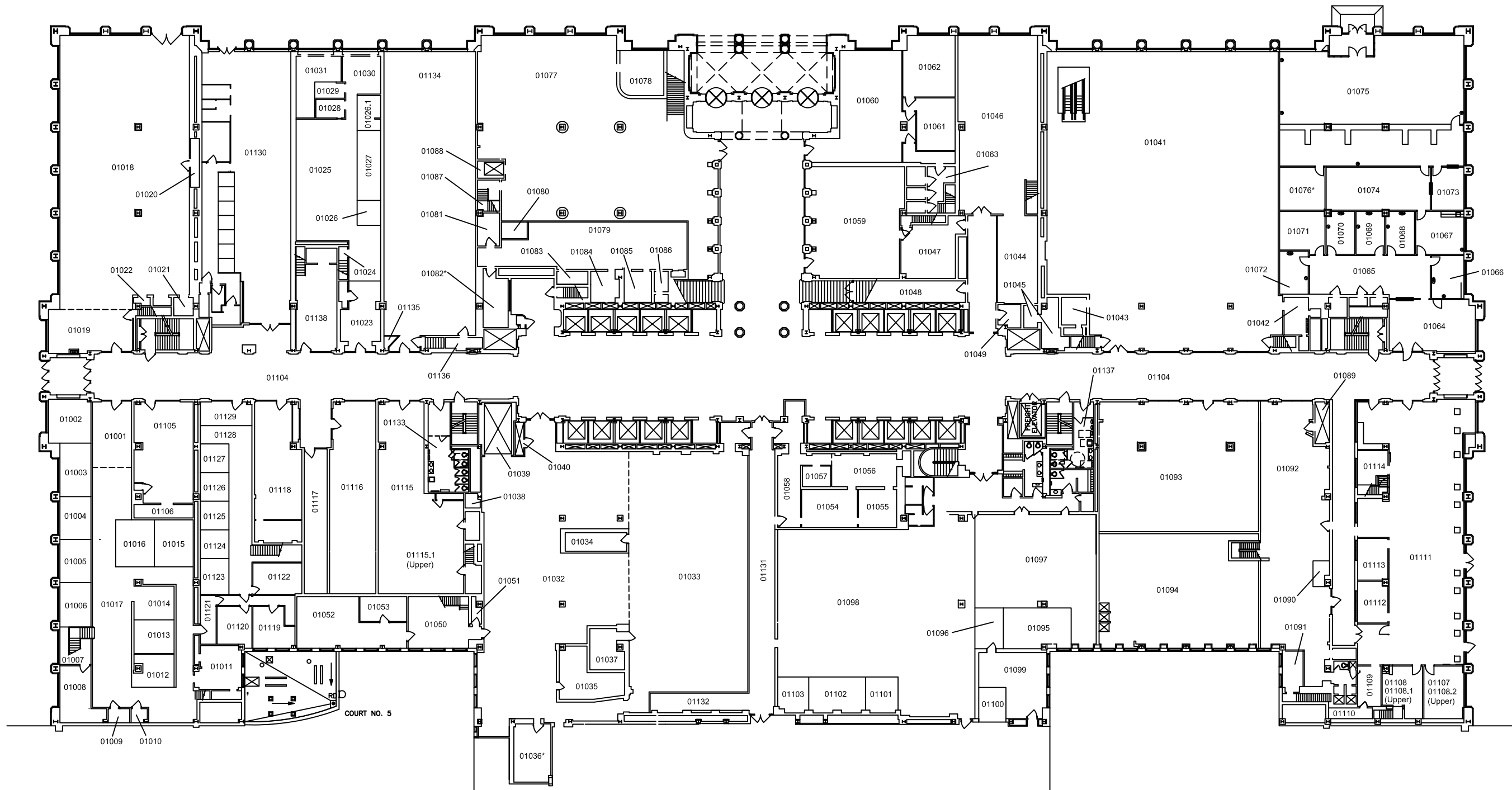
CONOURSE LEVEL FUNCTION AREA MAP

DESIGNED: RV
 DETAILED: RV
 CHECKED: CK
 APPROVED: CK
 DATE: 04-02-13

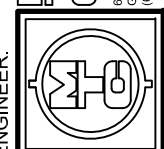
PROJECT NO.
 121268
 CADILLAC PLACE



NOTE: FUNCTION AREAS DESIGNATED WITH A * ARE AREAS IN WHICH ACCESS COULD NOT BE OBTAINED



CADILLAC PLACE ANNEX BUILDING

ENGINEER:

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 693 Plymouth NE
 Grand Rapids, MI 49505
 (616) 562-3499 Fax: (616) 456-5764

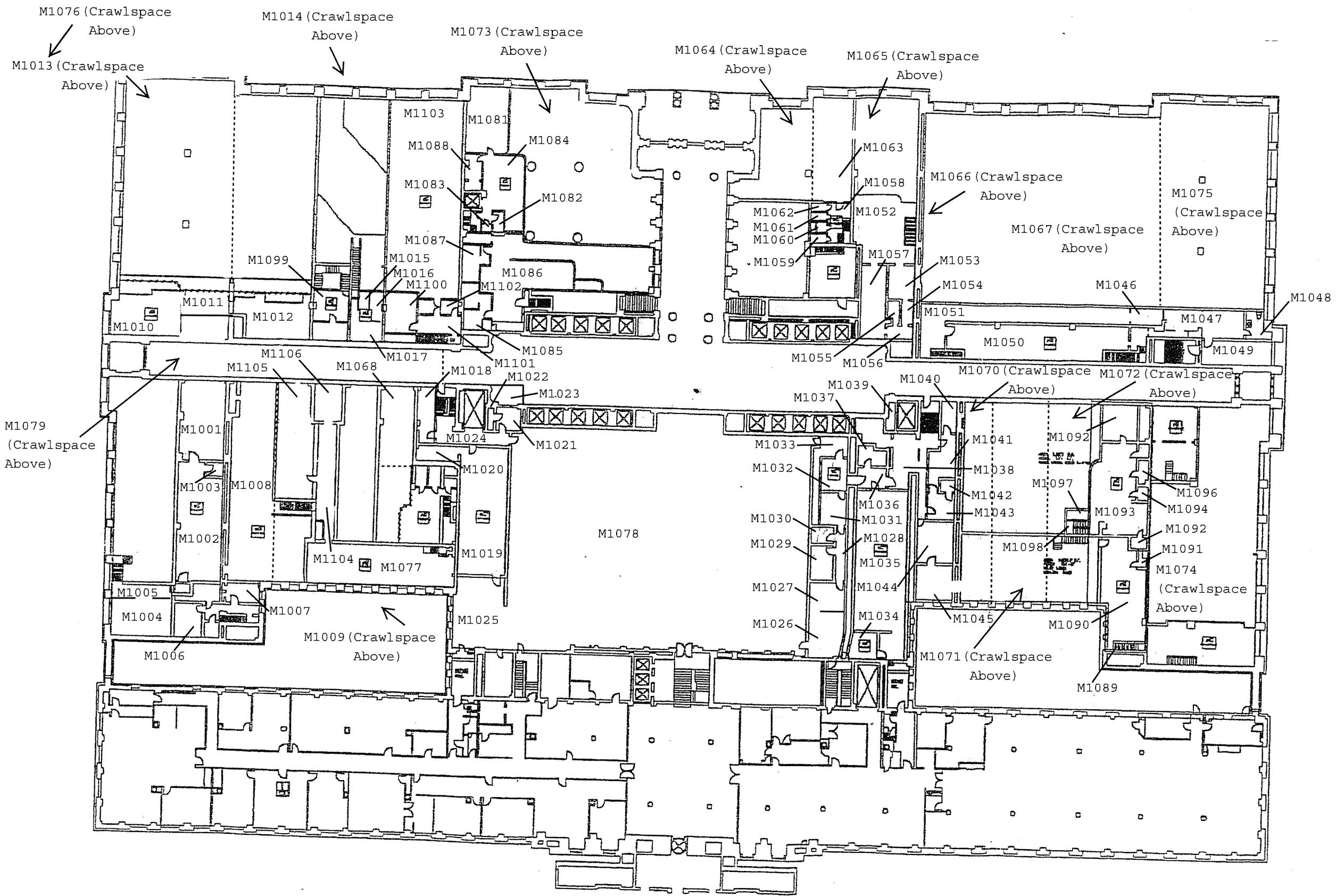
CADILLAC PLACE MAIN BUILDING
 ASBESTOS SURVEY
 DETROIT, MI
 FIRST FLOOR FUNCTION AREA MAP

DESIGNED: RV
 DETAILED: RV
 CHECKED: CK
 APPROVED: CK
 DATE: 04-02-13

PROJECT NO.
 121268
 CADILLAC PLACE

NOTE: FUNCTION AREAS DESIGNATED WITH A * ARE AREAS IN WHICH ACCESS COULD NOT BE OBTAINED





ENGINEER: **MFO** materials testing consultants, inc.
 693 Plymouth NE
 Grand Rapids, MI 49505
 (616)456.5403 / Fax (616)456.5714

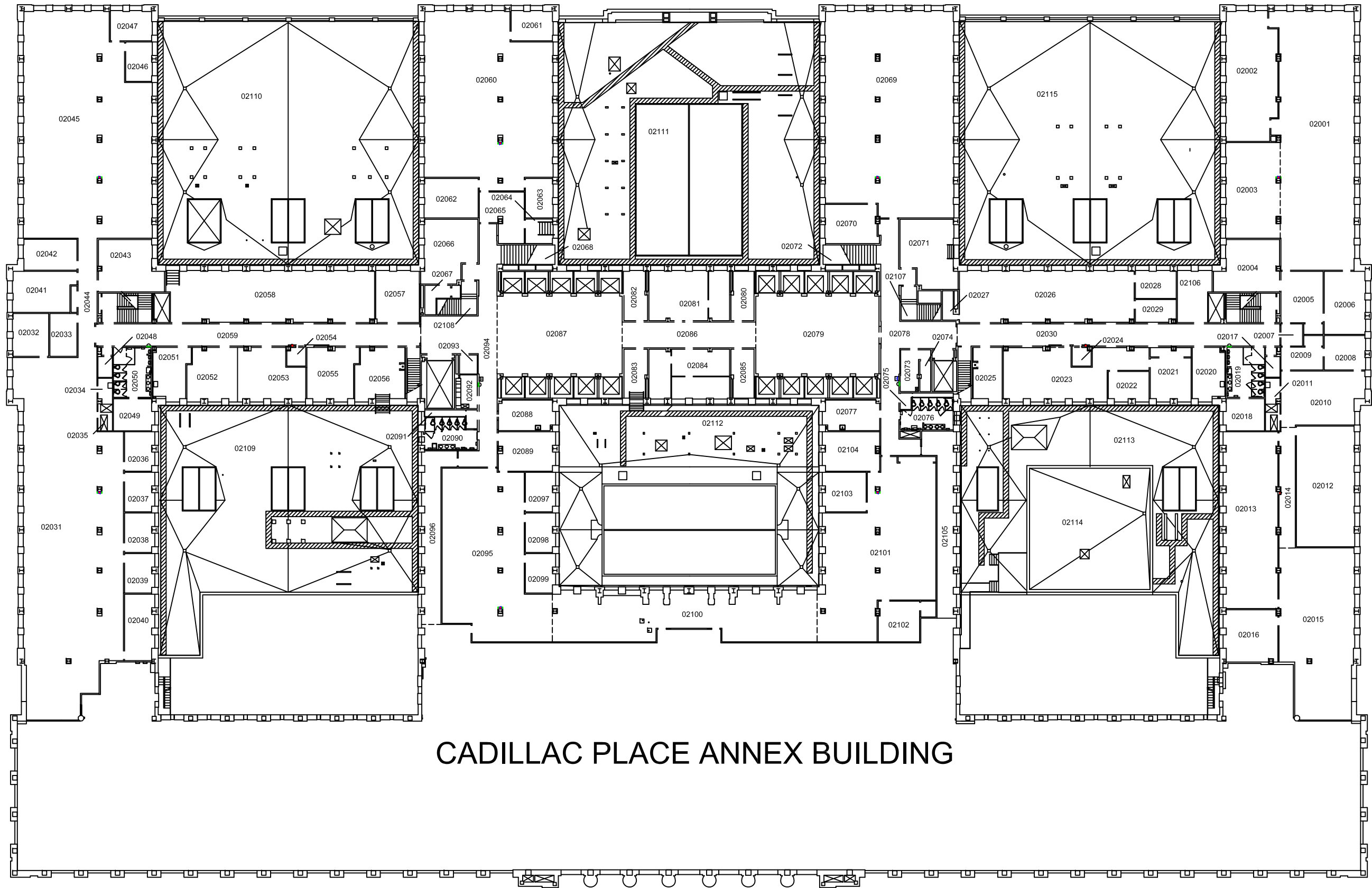
CADILLAC PLACE MAIN BUILDING
 ASBESTOS SURVEY
 DETROIT, MI
 MEZZANINE LEVEL FUNCTION AREA MAP

DESIGNED: RV
 DETAILED: RV
 CHECKED: CK
 APPROVED: CK
 DATE: 04-02-13


PROJECT NO.
 121268
 CADILLAC PLACE



NOTE: FUNCTION AREAS DESIGNATED WITH A * ARE AREAS IN WHICH ACCESS COULD NOT BE OBTAINED



CADILLAC PLACE ANNEX BUILDING

ENGINEER:

 Materials Testing Consultants, Inc.
 693 Plymouth NE
 Grand Rapids, MI 49505
 (616) 562-3499 Fax: (616) 456-5764

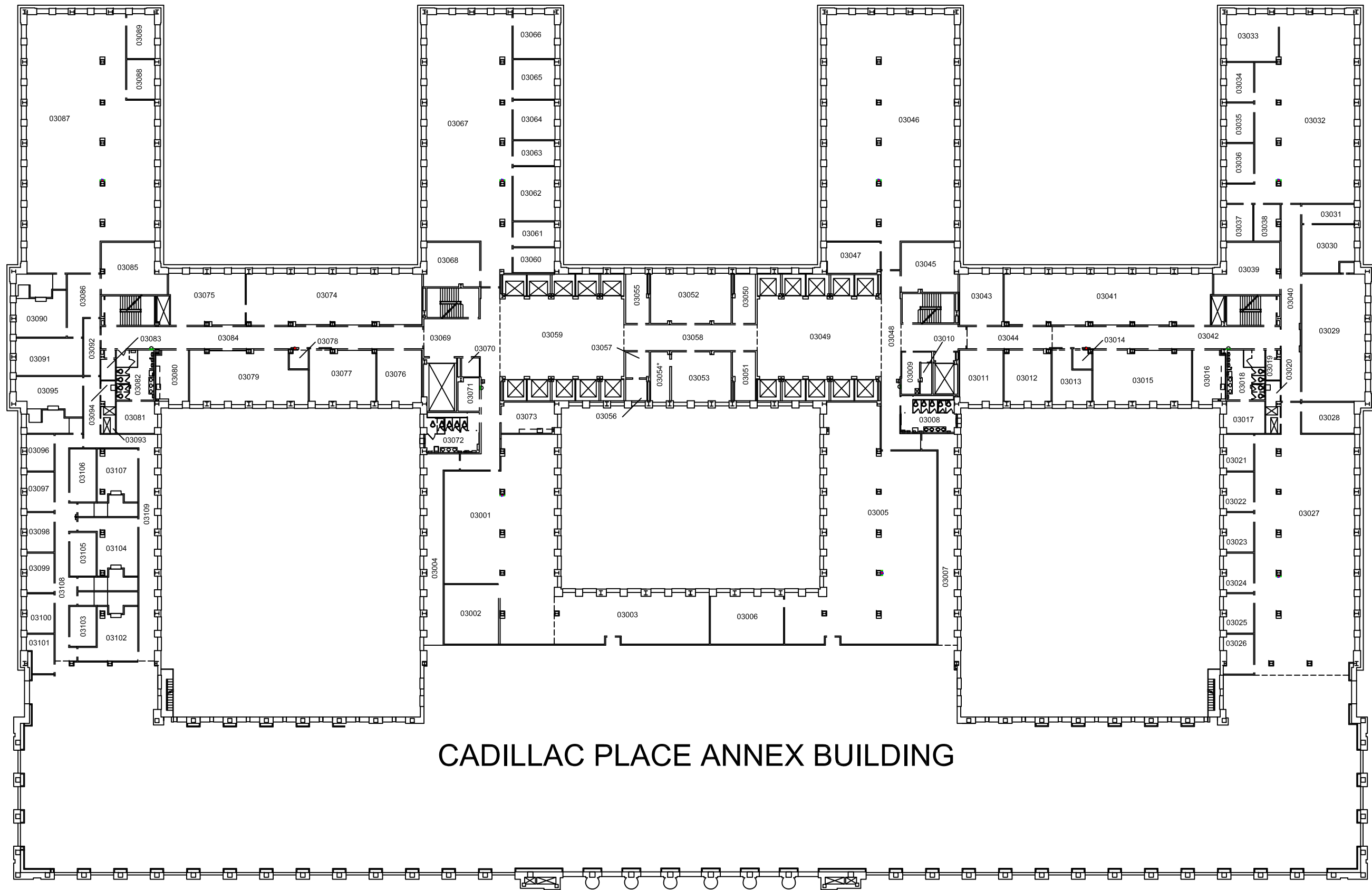
CADILLAC PLACE MAIN BUILDING
 ASBESTOS SURVEY
 DETROIT, MI
 SECOND FLOOR FUNCTION AREA MAP

DESIGNED: RV
 DETAILED: RV
 CHECKED: CK
 APPROVED: CK
 DATE: 04-02-13

PROJECT NO.
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NOTE: FUNCTION AREAS DESIGNATED WITH A * ARE AREAS IN WHICH ACCESS COULD NOT BE OBTAINED





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CADILLAC PLACE MAIN BUILDING
 ASBESTOS SURVEY
 DETROIT, MI

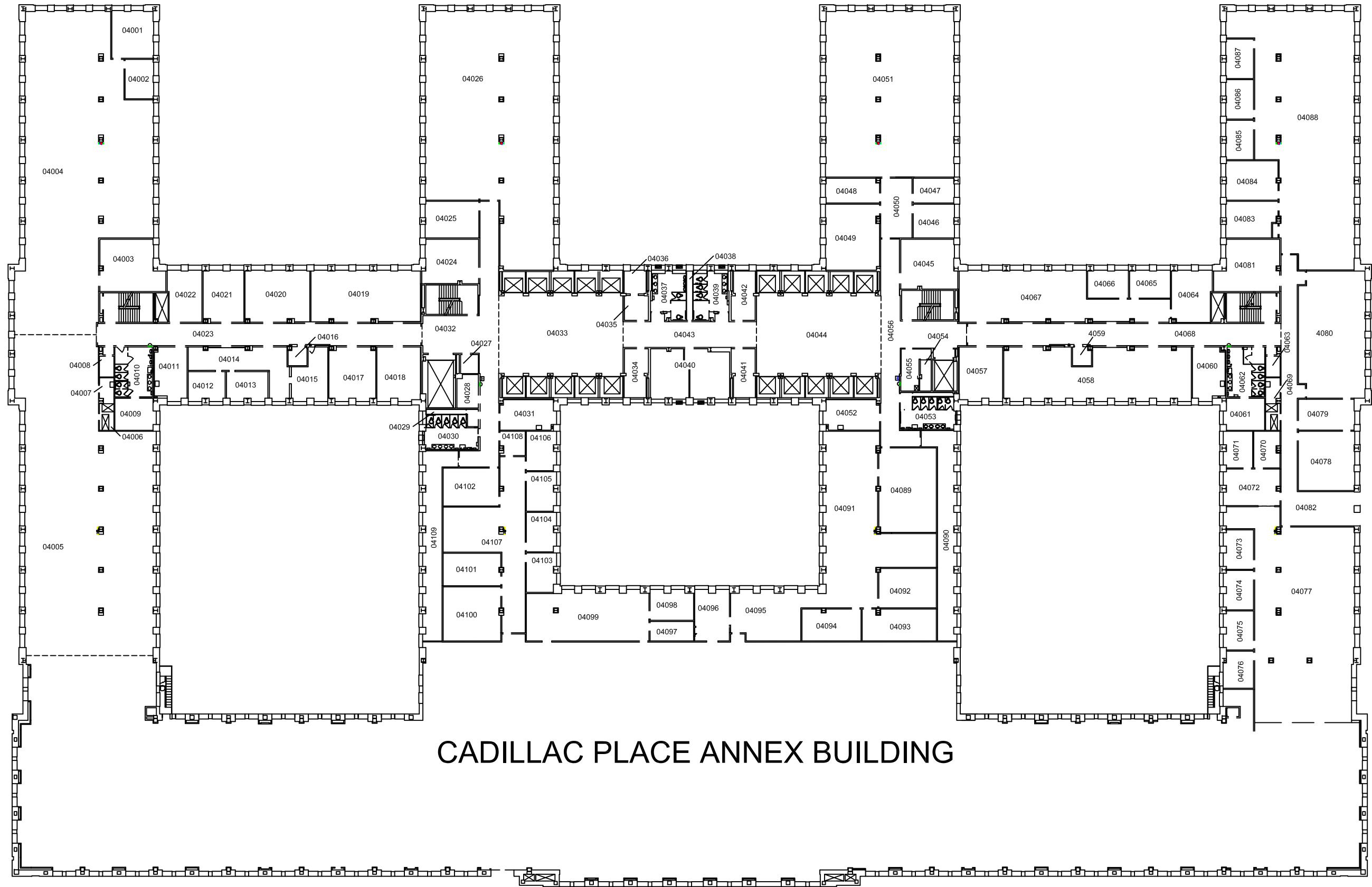
THIRD FLOOR FUNCTION AREA MAP

DESIGNED: RV
 DETAILED: RV
 CHECKED: CK
 APPROVED: CK
 DATE: 04-02-13

PROJECT NO.
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NOTE: FUNCTION AREAS DESIGNATED WITH A * ARE AREAS IN WHICH ACCESS COULD NOT BE OBTAINED





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FOURTH FLOOR FUNCTION AREA MAP

DESIGNED: RV
 DETAILED: RV
 CHECKED: CK
 APPROVED: CK
 DATE: 04-02-13

PROJECT NO.
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NOTE: FUNCTION AREAS DESIGNATED WITH A * ARE AREAS IN WHICH ACCESS COULD NOT BE OBTAINED



SECTION 7.2 - BUILDING SURVEY SUMMARY



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Job No.: 121268

Building No.: 1

Facility: Asbestos Building Survey
Cadillac Place State Office Building
3026 West Grand Boulevard
Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
00001	10/16/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Mechanical Area - Terrazzo Floor, Concrete Floor, Brick Wall, Plaster Wall, Plaster Ceiling, Concrete Deck	
00001	10/16/2012	2	6" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		13 Lin. Ft.		
00001	10/16/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		8 Ea.		
00002	10/16/2012	0	No Asbestos Detected	--	---	--	--	--	--		--	Storage Room - Concrete Floor, Brick Wall, Concrete Deck	
00003	10/16/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Storage Room - Concrete Floor, Brick Wall, Plaster Ceiling, Concrete Deck	
00003	10/16/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		18 Lin. Ft.		
00003	10/16/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		16 Ea.		
00004	10/16/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Pipe way - Concrete Floor, Brick Wall, Plaster Ceiling, Concrete Deck	
00004	10/16/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND		166 Lin. Ft.		
00004	10/16/2012	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		148 Lin. Ft.		



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Date: 26-Mar-13

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									0-1 ND	1-10 D(G)	1-25 D(L)		
00004	10/16/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND	103	Ea.		
00005	10/16/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	South of West Elevators - Terrazzo Floor, Concrete Floor, Brick Wall, Plaster Ceiling, Concrete Deck	
00005	10/16/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	60	Lin. Ft.		
00005	10/16/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	29	Ea.		
00005	10/16/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND	226	Lin. Ft.		
00005	10/16/2012	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	38	Lin. Ft.		
00005	10/16/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND	52	Ea.		
00005	10/16/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	40	Lin. Ft.		
00005	10/16/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	42	Lin. Ft.		
00006	10/16/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	71	Lin. Ft.		



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Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

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									0-1 ND	1-10 D(G)	1-25 D(L)		
00006	10/16/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	8	Ea.		
00006	10/16/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND	272	Lin. Ft.		
00006	10/16/2012	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	272	Lin. Ft.		
00006	10/16/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND	13	Ea.		
00006	10/16/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	125	Lin. Ft.	Tunnel - Concrete Floors, Walls, Ceilings	
00006	10/16/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	13	Ea.		
00006	10/16/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	183	Lin. Ft.		
00007	10/17/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	304	Lin. Ft.		
00007	10/17/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	152	Lin. Ft.	Tunnel - Concrete Floor, Walls and Ceiling	
00007	10/17/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	52	Ea.		



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Building: Cadillac Place State Office Building

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Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-fri-able	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
00008	10/17/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
00008	10/17/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		6 Ea.		
00008	10/17/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND		72 Lin. Ft.		
00008	10/17/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND		16 Ea.		
00008	10/17/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		52 Lin. Ft.		
00008	10/17/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		60 Lin. Ft.		Behind East Elevator Pit - Terrazzo Floor, Concrete and Brick Walls, Plaster and Concrete Ceiling
00008	10/17/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		17 Ea.		
00008	10/17/2012	13	Fire Door	Assumed	---	NF	M	G	ND		2 Ea.		
00009	10/17/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Area Between Elevator Pits - Terrazzo Floor, Brick Walls, Plaster and Concrete Ceiling
00009	10/17/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		28 Ea.		



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Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-fri-able	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
00009	10/17/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	42	Lin. Ft.		
00009	10/17/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	12	Ea.		
00009	10/17/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND	102	Lin. Ft.		
00009	10/17/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND	21	Ea.		
00009	10/17/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	116	Lin. Ft.		
00009	10/17/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	28	Lin. Ft.		
00009	10/17/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	16	Ea.		
00009	10/17/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	17	Lin. Ft.		
00009	10/17/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	16	Lin. Ft.		
00010	10/17/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	2	Ea.		



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Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
00010	10/17/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	
00010	10/17/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		4	Lin. Ft.	
00010	10/17/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		6	Lin. Ft.	
00010	10/17/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Maintenance Room - Concrete Floor, Concrete and Drywall Walls, Concrete Ceiling
00011	10/17/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		46	Lin. Ft.	
00011	10/17/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		104	Lin. Ft.	Environmental Specialty Services Left ACM Equipment and Disposal Bags in FA-0011
00011	10/17/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		64	Ea.	
00011	10/17/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		6	Lin. Ft.	
00011	10/17/2012	16	12" x 12" Floor Tile, Off White with Tan Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND		3675	Sq. Ft.	Storage Room - Concrete Floor Under Floor Tile, Concrete Walls, Concrete Ceiling
00011	10/17/2012	17	Vibration Dampening Cloth, Olive Green	None Detected	---	NF	M	G	ND		16	Lin. Ft.	



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Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-fri-able	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
00012	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	13	Ea.		
00012	10/17/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	53	Lin. Ft.	Restroom - Concrete Floor,	
00012	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	53	Lin. Ft.	Restroom - Concrete Floor, TOCE, MSW Plaster Walls, Concrete Ceiling	
00012	10/18/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	16	Lin. Ft.		
00012	10/18/2012	19	12" x 12" Floor Tile, Gray with White Streaks	None Detected	---	NF	M	G	ND	144	Sq. Ft.		
00013	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	99	Ea.		
00013	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	9	Lin. Ft.		
00013	10/18/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	72	Lin. Ft.	Locker Room - Floor Tile Over Concrete Floor, Brick Walls, Concrete Ceiling	
00013	10/18/2012	19	12" x 12" Floor Tile, Gray with White Streaks	None Detected	---	NF	M	G	ND	850	Sq. Ft.		
00013	12/6/2012	20	9" x 9" Floor Tile, Green with White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	850	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
00014	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	3	Ea.		
00014	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	6	Lin. Ft.	Chase Way - Concrete Floor, Brick Walls, Concrete Ceiling	
00015	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	27	Ea.		
00015	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	72	Lin. Ft.		
00015	10/18/2012	19	12" x 12" Floor Tile, Gray with White Streaks	None Detected	---	NF	M	G	ND	108	Sq. Ft.	Restroom - Concrete Floor, TOCE, Brick Walls, Block Walls, Concrete Ceiling	
00016	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	5	Ea.		
00016	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	95	Lin. Ft.		
00016	10/18/2012	19	12" x 12" Floor Tile, Gray with White Streaks	None Detected	---	NF	M	G	ND	182	Sq. Ft.	Locker Room - Concrete Floor, Brick Walls Concrete Ceiling	
00017	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	1	Ea.		
00017	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	3	Lin. Ft.	Closet - Concrete Floor, TOCE,, Brick Walls, Concrete Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
00017	10/18/2012	20	9" x 9" Floor Tile, Green with White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	12	Sq. Ft.		
00018	10/18/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	7	Ea.		
00018	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	35	Ea.		
00018	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	55	Lin. Ft.		
00018	10/18/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	53	Lin. Ft.		
00018	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	24	Ea.		
00018	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	66	Lin. Ft.	Storage - Concrete Floor, Concrete Walls, Brick Walls, Block Walls, Concrete Ceiling - Case Not Quantified - Do Not Enter	
00019	10/18/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	50	Lin. Ft.		
00019	10/18/2012	19	12" x 12" Floor Tile, Gray with White Streaks	None Detected	---	NF	M	G	ND	150	Sq. Ft.	Hallway - Concrete Under Tile, Brick Wall, Block Wall, Concrete Ceiling	
00020	10/18/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	24	Lin. Ft.		



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									0-1 ND	1-10 D(G)	1-25 D(L)		
00020	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	59	Ea.		
00020	10/18/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND	88	Lin. Ft.		
00020	10/18/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND	8	Ea.		
00020	10/18/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	77	Lin. Ft.	Pipe Way - Terrazzo Floor, Brick Wall, Concrete Ceiling	
00020	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	31	Ea.		
00020	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	148	Lin. Ft.		
00021	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Mechanical Room - Terrazzo Floor, Brick Walls, Block Walls, Plaster Ceiling, Concrete Ceiling	
00021	10/18/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	10	Ea.		
00021	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	22	Ea.		
00021	10/18/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND	183	Lin. Ft.		



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Building No.: 1

Facility: Asbestos Building Survey
Cadillac Place State Office Building
3026 West Grand Boulevard
Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
00021	10/18/2012	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	127	Lin. Ft.		
00021	10/18/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND	40	Ea.		
00021	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	266	Lin. Ft.		
00021	10/18/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	131	Lin. Ft.		
00021	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	38	Ea.		
00021	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	21	Ea.		
00021	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	581	Lin. Ft.		
00021	10/18/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		
00021	10/18/2012	21	Tank Wrap	Chrysotile	60%	F	T	G	D	150	Sq. Ft.		
00022	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	5	Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
00022	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	4	Lin. Ft.		
00022	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	2	Ea.		
00022	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	8	Lin. Ft.	Restroom - Concrete Floor, Concrete Walls, Drop Ceiling, Concrete Deck	
00022	10/18/2012	22	2' x 4' Ceiling Tile - White with Random Holes and Pin Holes	None Detected	---	F	M	G	ND	88	Sq. Ft.		
00023	10/18/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	51	Lin. Ft.		
00023	10/18/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND	225	Sq. Ft.	Control Room - Concrete Floor, TOCE, Brick Walls, Drywalls, Drop Ceiling, Concrete Deck	
00023	10/18/2012	24	2' x 2' Ceiling Tile, White with Random Pencil Holes and Pin Holes	None Detected	---	F	M	G	ND	20	Sq. Ft.		
00023	10/18/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND	197	Sq. Ft.		
00023	10/18/2012	26	2' x 2' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	8	Sq. Ft.		
00024	10/18/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	46	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
00024	10/18/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND	120	Sq. Ft.	Office - Concrete Floor, TOCE, Brick Walls, Drywalls, Drop Ceiling, Concrete Deck	
00024	10/18/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND	120	Sq. Ft.		
00025	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Maintenance - Concrete Floor, Concrete Walls, Brick Walls, Plaster Ceiling	
00025	10/18/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	4	Ea.		
00025	10/18/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	6	Lin. Ft.		
00026	10/18/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.	NW Elevator Pit	
00027	10/18/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.	NE Elevator Pit	
00028	10/18/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.	SW Elevator Pit	
00029	10/18/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.	SE Elevator Pit	
00030	10/18/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND	96	Lin. Ft.	Tunnel - Concrete Floor, Concrete Walls, Concrete Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
00030	10/18/2012	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	92	Lin. Ft.		
00030	10/18/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND	10	Ea.		
00030	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	30	Lin. Ft.		
00030	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	2	Ea.		
00031	10/18/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND	86	Lin. Ft.	Tunnel - Concrete Floor, Concrete Walls, Concrete Ceiling	
00031	10/18/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND	9	Ea.		
00032	10/18/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	112	Lin. Ft.		
00032	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	22	Ea.		
00032	10/18/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND	87	Lin. Ft.		
00032	10/18/2012	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	112	Lin. Ft.	Tunnel - Concrete Floor, Concrete Walls, Concrete Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
00032	10/18/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND	15	Ea.		
00032	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	87	Lin. Ft.		
00033	10/18/2012	0	No Asbestos Detected	--	---	--	--	--	--	--		Audit Tape Room - Concrete Floor, Concrete Walls, Block Walls, Concrete Ceiling	
00034	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Storage - Concrete Under Tile, Concrete Walls, Drop Ceiling, Plaster Deck	
00034	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	30	Lin. Ft.		
00034	10/18/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		
00034	10/18/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	24	Lin. Ft.		
00034	10/18/2012	24	2' x 2' Ceiling Tile, White with Random Pencil Holes and Pin Holes	None Detected	---	F	M	G	ND	720	Sq. Ft.		
00034	10/18/2012	27	12" x 12" Floor Tile, Brown with Brown, Gray and White Splotches.	None Detected	---	NF	M	G	ND	720	Sq. Ft.		
00035	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Storage - Concrete Floor, Concrete Walls, Drywall Walls, Plaster Ceiling, Concrete Deck	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
00035	10/18/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	1	Ea.		
00035	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	34	Lin. Ft.		
00035	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	1	Ea.		
00035	10/18/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	4	Lin. Ft.		
00035	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0001	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0001	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		4 Ea.		
C0001	10/18/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND		69 Lin. Ft.		
C0001	10/18/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND		22 Ea.		
C0001	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		90 Lin. Ft.		
C0001	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		15 Ea.		
C0001	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		18 Lin. Ft.		
C0001	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0001	10/18/2012	28	2' x 2' Ceiling Tile, White Recessed with Random Pinholes and Knife Punctures	None Detected	---	F	M	G	ND		594 Sq. Ft.		Conference Room - Carpet over Floor Tile Over Concrete, Drywall Wall, Plaster Wall, Drop Ceiling, Plaster Ceiling, Concrete Deck
C0001	10/18/2012	29	5" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		84 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0001	10/18/2012	30	9" x 9" Floor Tile, Gray with Black and Tan Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND		594	Sq. Ft.	
C0001	10/18/2012	31	12" x 12" Ceiling Tile, Glued On, White with Lateral Groves	None Detected	---	F	M	G	ND		144	Sq. Ft.	
C0002	10/18/2012	200	No Access	--	---	--	--	---	---		--		No Access
C0003	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
C0003	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
C0003	10/18/2012	26	2' x 2' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		32	Sq. Ft.	
C0003	10/18/2012	28	2' x 2' Ceiling Tile, White Recessed with Random Pinholes and Knife Punctures	None Detected	---	F	M	G	ND		224	Sq. Ft.	Conference Room - Carpet over Floor Tile Over Concrete, Drywall Wall, Plaster Wall, Drop Ceiling, Plaster Ceiling, Concrete Deck
C0003	10/18/2012	29	5" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		60	Lin. Ft.	
C0003	10/18/2012	30	9" x 9" Floor Tile, Gray with Black and Tan Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND		224	Sq. Ft.	
C0003	10/18/2012	31	12" x 12" Ceiling Tile, Glued On, White with Lateral Groves	None Detected	---	F	M	G	ND		42	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0004	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	5	Ea.		
C0004	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	46	Lin. Ft.		
C0004	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	15	Ea.		
C0004	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Fire Equipment - Concrete Floor, Concrete Wall, Concrete Deck, Metal Deck	
C0005	10/18/2012	32	2' x 4' Ceiling Tile, White with Random Divots and Pin Holes	None Detected	---	F	M	G	ND	342	Sq. Ft.	Lobby - Carpet over Concrete, Drywall Walls, Drop Ceiling, Concrete Deck	
C0006	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Conference Room - Carpet over Floor Tile over Concrete, Drywall Walls, Plaster Walls, Drop Ceiling, Plaster Ceiling	
C0006	10/18/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND	18	Lin. Ft.		
C0006	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	54	Lin. Ft.		
C0006	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	6	Ea.		
C0006	10/18/2012	30	9" x 9" Floor Tile, Gray with Black and Tan Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND	450	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0006	10/18/2012	32	2' x 4' Ceiling Tile, White with Random Divots and Pin Holes	None Detected	---	F	M	G	ND		450	Sq. Ft.	
C0007	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Conference Room - Carpet over Floor Tile over Concrete, Drywall Walls, Plaster Walls, Drop Ceiling, Plaster Ceiling
C0007	10/18/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		1	Ea.	
C0007	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		5	Lin. Ft.	
C0007	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		1	Ea.	
C0007	10/18/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		110	Lin. Ft.	
C0007	10/18/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		624	Sq. Ft.	
C0007	10/18/2012	27	12" x 12" Floor Tile, Brown with Brown, Gray and White Splotches.	None Detected	---	NF	M	G	ND		624	Sq. Ft.	
C0008	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		8	Lin. Ft.	Fire Equipment - Concrete Floor, Concrete Wall - Assumed in Wall
C0009	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		2	Ea.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0009	10/18/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND	26	Lin. Ft.	Pipe Chase	
C0009	10/18/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND	3	Ea.		
C0009	10/18/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	14	Lin. Ft.		
C0009	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	14	Lin. Ft.		
C0010	10/18/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	64	Lin. Ft.		
C0010	10/18/2012	33	9" x 9" Floor Tile, Dark Beige with Tan Splotches	Chrysotile	3% (Tile Only)	NF	M	G	ND	255	Sq. Ft.	Break Room - Carpet Over Floor Tile Over Concrete, Drywall Panels, Wood Walls, Concrete Walls, Drop Ceiling, Concrete Deck	
C0010	10/18/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	255	Sq. Ft.		
C0010	10/18/2012	35	Drywall Panels	None Detected	---	NF	M	G	ND		NQ		
C0010.1	2/13/2013	119	Exterior Water Proofing, Black	None Detected	---	NF	M	G	ND		NQ	Exterior Building Below Sidewalk - Concrete Floor, Concrete Wall, Concrete Ceiling	
C0011	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Maintenance Command Center - Concrete Floors, Concrete Walls, Drywall Panels, Plaster Ceiling	



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Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
C0011	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	16	Ea.		
C0011	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	82	Lin. Ft.		
C0011	10/18/2012	35	Drywall Panels	None Detected	---	NF	M	G	ND		NQ		
C0011	10/18/2012	36	2' x 4' Ceiling Tile, White with Random Worm Tracks and Pin Holes	None Detected	---	F	M	G	ND	120	Sq. Ft.		
C0012	10/18/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	8	Lin. Ft.	Storage - Floor Tile over Concrete, Drywall Wall, Concrete Wall, Drop Ceiling	
C0012	10/18/2012	32	2' x 4' Ceiling Tile, White with Random Divots and Pin Holes	None Detected	---	F	M	G	ND	16	Sq. Ft.		
C0012	10/18/2012	33	9" x 9" Floor Tile, Dark Beige with Tan Splotches	Chrysotile	3% (Tile Only)	NF	M	G	ND	56	Sq. Ft.		
C0012	10/18/2012	37	2' x 4' Ceiling Tile, White with Large Divots	None Detected	---	F	M	G	ND	8	Sq. Ft.		
C0013	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Men's Locker Room - Floor Tile over Concrete, Wood Walls, Concrete Walls, Plaster Walls, Drop Ceiling, Plaster Ceiling, Concrete	
C0013	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	L	SD	145	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0013	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	17	Ea.		
C0013	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	164	Lin. Ft.		
C0013	10/18/2012	33	9" x 9" Floor Tile, Dark Beige with Tan Splotches	Chrysotile	3% (Tile Only)	NF	M	G	ND	999	Sq. Ft.		
C0013	10/18/2012	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	999	Sq. Ft.		
C0014	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Restroom - Tile Floor, Tile Wall, Drywall Wall, Plaster Wall, Drop Ceiling	
C0014	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	53	Lin. Ft.		
C0014	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	1	Ea.		
C0014	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	15	Lin. Ft.		
C0014	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND	NQ			
C0014	10/18/2012	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	285	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0015	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Locksmith Shop - Concrete Floor, Concrete Wall, Drywall Wall, Concrete Deck	
C0016	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Maintenance Shop - Concrete Floor, Concrete Wall, Drywall wall, Block Wall, Plaster Ceiling, Metal Deck	
C0016	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0017	10/17/2012	200	No Access	--	---	--	--	---	---		--	No Access	
C0018	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		73 Lin. Ft.		
C0018	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Office - Floor Tile over Concrete, Drywall Walls, Drop Ceiling	
C0018	10/18/2012	32	2' x 4' Ceiling Tile, White with Random Divots and Pin Holes	None Detected	---	F	M	G	ND		260 Sq. Ft.		
C0018	10/18/2012	39	12" x 12" Floor Tile, Dark Beige with Red, Blue, Brown, and Tan Splotches	None Detected	---	NF	M	G	ND		260 Sq. Ft.		
C0018	10/18/2012	40	4" Vinyl Cove Base, Beige	None Detected	---	NF	M	G	ND		66 Lin. Ft.		
C0019	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		4 Lin. Ft.		



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									0-1 ND	1-10 D(G)	1-25 D(L)		
									>10 SD(G)	>25 SD(L)			
C0019	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Hallway - Floor Tile over Concrete, Drywall Walls, Drop Ceiling	
C0019	10/18/2012	32	2' x 4' Ceiling Tile, White with Random Divots and Pin Holes	None Detected	---	F	M	G	ND		60 Sq. Ft.		
C0019	10/18/2012	39	12" x 12" Floor Tile, Dark Beige with Red, Blue, Brown, and Tan Splotches	None Detected	---	NF	M	G	ND		60 Sq. Ft.		
C0019	10/18/2012	40	4" Vinyl Cove Base, Beige	None Detected	---	NF	M	G	ND		38 Lin. Ft.		
C0020	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Hallway - Floor Tile over Concrete, Drywall Walls, Drop Ceiling	
C0020	10/18/2012	39	12" x 12" Floor Tile, Dark Beige with Red, Blue, Brown, and Tan Splotches	None Detected	---	NF	M	G	ND		314 Sq. Ft.		
C0020	10/18/2012	40	4" Vinyl Cove Base, Beige	None Detected	---	NF	M	G	ND		114 Lin. Ft.		
C0020	10/18/2012	41	2' x 2' Ceiling Tile, White with Random Divots and Pin Holes	None Detected	---	NF	M	G	ND		314 Sq. Ft.		
C0021	10/17/2012	200	No Access	--	---	--	--	---	---		--	No Access	
C0022	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Maintenance Shop - Concrete Floor, Concrete Wall, Drywall wall, Block Wall, Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0022	10/18/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	3	Ea.		
C0022	10/18/2012	13	Fire Door	Assumed	---	NF	M	G	ND	2	Ea.		
C0022	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0022	10/18/2012	42	Spray on Fire Proofing, Gray	None Detected	---	F	S	G	ND	200	Sq. Ft.		
C0022	10/18/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND	56	Lin. Ft.		
C0023	10/17/2012	200	No Access	--	---	--	--	---	---	--		No Access	
C0024	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Office - Tile over Concrete, Drywall Wall, Drop Ceiling, Concrete Deck	
C0024	10/18/2012	32	2' x 4' Ceiling Tile, White with Random Divots and Pin Holes	None Detected	---	F	M	G	ND	64	Sq. Ft.		
C0024	10/18/2012	39	12" x 12" Floor Tile, Dark Beige with Red, Blue, Brown, and Tan Splotches	None Detected	---	NF	M	G	ND	64	Sq. Ft.		
C0024	10/18/2012	40	4" Vinyl Cove Base, Beige	None Detected	---	NF	M	G	ND	32	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0025	10/18/2012	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		8	Lin. Ft.	
C0025	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Office - Tile over Concrete, Drywall Wall, Drop Ceiling, Concrete Deck
C0025	10/18/2012	32	2' x 4' Ceiling Tile, White with Random Divots and Pin Holes	None Detected	---	F	M	G	ND		64	Sq. Ft.	
C0025	10/18/2012	39	12" x 12" Floor Tile, Dark Beige with Red, Blue, Brown, and Tan Splotches	None Detected	---	NF	M	G	ND		64	Sq. Ft.	
C0025	10/18/2012	40	4" Vinyl Cove Base, Beige	None Detected	---	NF	M	G	ND		32	Lin. Ft.	
C0026	10/18/2012	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		8	Lin. Ft.	
C0026	10/18/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND		1	Ea.	
C0026	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Office - Tile over Concrete, Drywall Wall, Drop Ceiling, Concrete Deck
C0026	10/18/2012	32	2' x 4' Ceiling Tile, White with Random Divots and Pin Holes	None Detected	---	F	M	G	ND		64	Sq. Ft.	
C0026	10/18/2012	39	12" x 12" Floor Tile, Dark Beige with Red, Blue, Brown, and Tan Splotches	None Detected	---	NF	M	G	ND		64	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0026	10/18/2012	40	4" Vinyl Cove Base, Beige	None Detected	---	NF	M	G	ND		32	Lin. Ft.	
C0027	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
C0027	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		20	Lin. Ft.	
C0027	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Break Room - Tile over Concrete, Drywall Walls, Drop Ceiling, Plaster Ceiling
C0027	10/18/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		84	Lin. Ft.	
C0027	10/18/2012	26	2' x 2' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		440	Sq. Ft.	
C0027	10/18/2012	27	12" x 12" Floor Tile, Brown with Brown, Gray and White Splotches.	None Detected	---	NF	M	G	ND		440	Sq. Ft.	
C0028	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Storage - Carpet over Floor Tile, Drywall Wall, Drop Ceiling, Plaster Ceiling
C0028	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
C0028	10/18/2012	40	4" Vinyl Cove Base, Beige	None Detected	---	NF	M	G	ND		50	Lin. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0028	10/18/2012	41	2' x 2' Ceiling Tile, White with Random Divots and Pin Holes	None Detected	---	NF	M	G	ND		150	Sq. Ft.	
C0028r	10/18/2012	39	12" x 12" Floor Tile, Dark Beige with Red, Blue, Brown, and Tan Splotches	None Detected	---	NF	M	G	ND		150	Sq. Ft.	
C0029	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		6	Ea.	
C0029	10/18/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	SD		6	Lin. Ft.	
C0029	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		25	Lin. Ft.	
C0029	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		4	Ea.	
C0029	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		57	Lin. Ft.	Metro Clock Room - Concrete Floor, Concrete Wall, Concrete Deck
C0030	12/3/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		3	Ea.	
C0030	12/3/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		25	Lin. Ft.	
C0030	12/3/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		2	Ea.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0030	12/3/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	30	Lin. Ft.	Custodial Storage - Concrete Floor, Concrete Wall, Wood Wall, Concrete Ceiling	
C0031	12/3/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0031	12/3/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	20	Lin. Ft.		
C0031	12/3/2012	100	12" x 12" Ceiling Tile, White, Uniform Pencil Holes, Glued On with Brown Glue Pods	None Detected	---	F	M	G	ND	105	Sq. Ft.		
C0031	12/3/2012	106	Vinyl Sheet Flooring, Purple	None Detected	---	NF	M	G	ND	105	Sq. Ft.	Custodial Storage - Carpet Over Vinyl Sheet Flooring Over Concrete Floor, Concrete Wall, Drywall Wall, Glued On Ceiling Tile Over Drywall	
C0032	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	1	Ea.		
C0032	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	10	Lin. Ft.	Storage - Carpet over Concrete, Partition Walls, Drywall Walls, Drop Ceiling, Concrete Deck	
C0032	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0032	10/18/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND	328	Sq. Ft.		
C0032	10/18/2012	45	Cellulose Wall Panel, Light Texture	None Detected	---	F	M	G	ND	621	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0033	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0033	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Office - Carpet over Concrete, Drywall Walls, Drop Ceiling, Plaster Ceiling	
C0033	10/18/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		52 Lin. Ft.		
C0033	10/18/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		168 Sq. Ft.		
C0033	10/18/2012	45	Cellulose Wall Panel, Light Texture	None Detected	---	F	M	G	ND		494 Sq. Ft.		
C0033	10/18/2012	46	Cellulose Wall Panel, Heavy Texture	None Detected	---	F	M	G	ND		494 Sq. Ft.		
C0034	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Storage - Floor Tile over Floor Tile over Concrete, Drywall Wall, Drop Ceiling, Plaster Ceiling	
C0034	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		15 Lin. Ft.		
C0034	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0034	10/18/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		180 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0034	10/18/2012	30	9" x 9" Floor Tile, Gray with Black and Tan Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND		180	Sq. Ft.	
C0034	10/18/2012	44	12" x 12" Floor Tile, Gray with Dark Gray, White, and Tan Splotches	None Detected	---	NF	M	G	ND		180	Sq. Ft.	
C0034	10/18/2012	45	Cellulose Wall Panel, Light Texture	None Detected	---	F	M	G	ND		513	Sq. Ft.	
C0034	10/18/2012	46	Cellulose Wall Panel, Heavy Texture	None Detected	---	F	M	G	ND		513	Sq. Ft.	
C0035	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		File Room - Carpet over Floor Tile over Floor Tile over Concrete, Drywall Wall, Drop Ceiling, Plaster Ceiling
C0035	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0035	10/18/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		210	Sq. Ft.	
C0035	10/18/2012	30	9" x 9" Floor Tile, Gray with Black and Tan Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND		210	Sq. Ft.	
C0035	10/18/2012	44	12" x 12" Floor Tile, Gray with Dark Gray, White, and Tan Splotches	None Detected	---	NF	M	G	ND		210	Sq. Ft.	
C0035	10/18/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		58	Lin. Ft.	



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Building No.: 1

Facility: Asbestos Building Survey
Cadillac Place State Office Building
3026 West Grand Boulevard
Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
C0036	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Storage - Floor Tile over Floor Tile over Concrete, Drywall Wall, Block Wall, Drop Ceiling, Plaster Ceiling	
C0036	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		108 Lin. Ft.		
C0036	10/18/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		57 Lin. Ft.		
C0036	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		22 Ea.		
C0036	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0036	10/18/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		4 Lin. Ft.		
C0036	10/18/2012	32	2' x 4' Ceiling Tile, White with Random Divots and Pin Holes	None Detected	---	F	M	G	ND		1260 Sq. Ft.		
C0036	10/18/2012	44	12" x 12" Floor Tile, Gray with Dark Gray, White, and Tan Splotches	None Detected	---	NF	M	G	ND		1260 Sq. Ft.		
C0036	10/18/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		12 Ea.		
C0036	10/18/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		144 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0037	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Entryway - Floor Tile over Floor Tile over Concrete, Drywall Wall, Block Wall, Drop Ceiling, Plaster Ceiling	
C0037	10/18/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		15 Lin. Ft.		
C0037	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		3 Ea.		
C0037	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		9 Lin. Ft.		
C0037	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0037	10/18/2012	30	9" x 9" Floor Tile, Gray with Black and Tan Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND		81 Sq. Ft.		
C0037	10/18/2012	32	2' x 4' Ceiling Tile, White with Random Divots and Pin Holes	None Detected	---	F	M	G	ND		81 Sq. Ft.		
C0037	10/18/2012	44	12" x 12" Floor Tile, Gray with Dark Gray, White, and Tan Splotches	None Detected	---	NF	M	G	ND		81 Sq. Ft.		
C0037	10/18/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		36 Lin. Ft.		
C0038	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		70 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0038	10/18/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	12	Lin. Ft.		
C0038	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	15	Ea.		
C0038	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	16	Lin. Ft.		
C0038	10/18/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	10	Lin. Ft.		
C0038	10/18/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND	10	Ea.	Mechanical Room - Concrete Floor, Concrete Wall, Drywall Wall, Plaster Ceiling, Concrete Ceiling	
C0039	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Office - Floor Tile over Floor Tile over Concrete, Drywall Wall, Block Wall, Metal Pan Ceiling, Plaster Ceiling	
C0039	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	6	Ea.		
C0039	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	26	Lin. Ft.		
C0039	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0039	10/18/2012	44	12" x 12" Floor Tile, Gray with Dark Gray, White, and Tan Splotches	None Detected	---	NF	M	G	ND	144	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0040	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	2	Ea.		
C0040	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	8	Lin. Ft.		
C0040	10/18/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	24	Lin. Ft.		
C0040	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Storage - Floor Tile over Floor Tile over Concrete, Drywall Wall, Block Wall, Concrete Deck	
C0040	10/18/2012	44	12" x 12" Floor Tile, Gray with Dark Gray, White, and Tan Splotches	None Detected	---	NF	M	G	ND	128	Sq. Ft.		
C0041	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Hallway - Floor Tile over Floor Tile over Concrete, Drywall Wall, Concrete Wall, Brick Wall, Plaster Wall, Drop Ceiling, Concrete Deck	
C0041	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	46	Lin. Ft.		
C0041	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	14	Ea.		
C0041	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0041	10/18/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	144	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0041	10/18/2012	26	2' x 2' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		512	Sq. Ft.	
C0041	10/18/2012	30	9" x 9" Floor Tile, Gray with Black and Tan Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND		512	Sq. Ft.	
C0041	10/18/2012	44	12" x 12" Floor Tile, Gray with Dark Gray, White, and Tan Splotches	None Detected	---	NF	M	G	ND		512	Sq. Ft.	
C0042	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Loading Dock - Concrete Floor, Drywall Wall, Plaster Wall, Concrete Wall, Block Wall, Plaster Ceiling
C0042	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		4	Ea.	
C0042	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		63	Lin. Ft.	
C0042	10/18/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		32	Lin. Ft.	
C0042	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		6	Ea.	
C0042	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		21	Lin. Ft.	
C0042	10/18/2012	13	Fire Door	Assumed	---	NF	M	G	ND		2	Ea.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0042	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0043	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Mechanical Room - Concrete Floor, Concrete Wall, Block Wall, Drywall Wall, Concrete Ceiling	
C0043	10/18/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		4 Lin. Ft.		
C0044	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Storage - Concrete Floor, Concrete Wall, Block Wall, Drywall Wall, Drop Ceiling, Concrete Ceiling	
C0044	10/18/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		45 Lin. Ft.		
C0044	10/18/2012	26	2' x 2' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		70 Sq. Ft.		
C0044	10/18/2012	32	2' x 4' Ceiling Tile, White with Random Divots and Pin Holes	None Detected	---	F	M	G	ND		70 Sq. Ft.		
C0045	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Mechanical Room - Concrete Floor, Drywall Wall, Plaster Ceiling	
C0045	10/18/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		2 Ea.		
C0045	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		27 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0045	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0045	10/18/2012	36	2' x 4' Ceiling Tile, White with Random Worm Tracks and Pin Holes	None Detected	---	F	M	G	ND		36	Sq. Ft.	
C0045	10/18/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	
C0046	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Mechanical Room - Concrete Floor, Concrete Wall, Plaster Wall, Plaster Ceiling
C0046	10/18/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		10	Ea.	
C0046	10/18/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND		19	Lin. Ft.	
C0046	10/18/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND		3	Ea.	
C0046	10/18/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		12	Lin. Ft.	
C0046	10/18/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		4	Lin. Ft.	
C0046	10/18/2012	36	2' x 4' Ceiling Tile, White with Random Worm Tracks and Pin Holes	None Detected	---	F	M	G	ND		42	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0047	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Mechanical Room - Concrete Floor, Concrete Wall, Plaster Wall, Plaster Ceiling	
C0047	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	L	SD		25 Lin. Ft.		
C0047	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		14 Ea.		
C0047	10/18/2012	13	Fire Door	Assumed	---	NF	M	G	ND		2 Ea.		
C0047	10/18/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		14 Lin. Ft.		
C0048	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Air Handling Room - Concrete Floor, Concrete Wall, Plaster Wall, Plaster Ceiling	
C0048	10/18/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		4 Ea.		
C0048	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		18 Ea.		
C0048	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		60 Lin. Ft.		
C0048	10/18/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		6 Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0048	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	74	Lin. Ft.		
C0048	10/18/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	2	Lin. Ft.		
C0048	10/18/2012	50	Vibration Dampening Cloth, Gray Coarse Weave	None Detected	---	NF	M	G	ND	18	Lin. Ft.		
C0049	10/18/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Commercial Space - Carpet over Floor Tile over Floor Tile over Concrete, Drywall Wall, Plaster Wall, Plaster Ceiling	
C0049	10/18/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	1	Ea.		
C0049	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	3	Ea.		
C0049	10/18/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	72	Lin. Ft.	Assumed Above Ceiling	
C0049	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	8	Lin. Ft.		
C0049	10/18/2012	15	Drywall	None Detected	---	NF	M	G	ND	NQ			
C0049	10/18/2012	51	9" x 9" Floor Tile, Black with Red and White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	414	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0049	10/18/2012	52	9" x 9" Floor Tile, White	None Detected	---	NF	M	G	ND		414	Sq. Ft.	
C0049	10/18/2012	53	9" x 9" Floor Tile, Burgundy with White and Red Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		207	Sq. Ft.	
C0049	10/18/2012	54	9" x 9" Floor Tile, Brown with White Flecks	Chrysotile	4% (Tile Only)	NF	M	G	ND		25	Sq. Ft.	
C0050	10/22/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		61	Ea.	
C0050	10/22/2012	13	Fire Door	Assumed	---	NF	M	G	ND		2	Ea.	Transformer Room #2 - Concrete Floor, Concrete Wall, Brick Wall, Concrete Ceiling
C0051	10/22/2012	13	Fire Door	Assumed	---	NF	M	G	ND		6	Ea.	2 Assumed
C0051	10/22/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Hallway - Floor Tile Over Concrete, Concrete Wall, Drywall Wall, Drop Ceiling, Concrete Ceiling
C0051	10/22/2012	16	12" x 12" Floor Tile, Off White with Tan Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND		102	Sq. Ft.	
C0051	10/22/2012	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		16	Sq. Ft.	
C0051	10/22/2012	55	2' x 4' Ceiling Tile, White, Random Grooves and Pin Holes	None Detected	---	F	M	G	ND		791	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0051	10/22/2012	56	6" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		138	Lin. Ft.	
C0051	10/22/2012	57	12" x 12" Floor Tile, Tan with Brown and White Streaks	Chrysotile	3% (Tile) 2% (Mastic)	NF	M	G	ND		653	Sq. Ft.	
C0052	10/22/2012	2	6" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		34	Lin. Ft.	
C0052	10/22/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Storage Floor Tile over Concrete, Concrete Wall, Block Wall, Drywall Wall, Concrete Ceiling
C0052	10/22/2012	58	9" x 9" Floor Tile, Brown with White and Brown Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		104	Sq. Ft.	
C0053	10/22/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Telecom Room - Floor Tile Over Concrete, Wood Wall, Drywall Wall, Concrete Ceiling
C0053	10/22/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		1	Ea.	
C0053	10/22/2012	53	9" x 9" Floor Tile, Burgundy with White and Red Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		70	Sq. Ft.	
C0053	10/22/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0054	10/22/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0054	10/22/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		52	Lin. Ft.	
C0054	10/22/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		6	Ea.	
C0054	10/22/2012	13	Fire Door	Assumed	---	NF	M	G	ND		2	Ea.	
C0054	10/22/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
C0054	10/22/2012	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		544	Sq. Ft.	
C0054	10/22/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
C0054	10/22/2012	61	12" x 12" Floor Tile, Gray with White and Brown Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND		1088	Sq. Ft.	Storage-Floor Tile over Concrete Floor, Concrete Wall, Brick Wall, Drywall Wall, Drop Ceiling, Plaster Ceiling
C0054	10/22/2012	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		120	Lin. Ft.	
C0054	10/22/2012	63	2' x 4' Ceiling Tile, White with Lateral Grooves and Pin Holes	None Detected	---	F	M	G	ND		544	Sq. Ft.	
C0055	10/22/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		24	Lin. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0055	10/22/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	52	Lin. Ft.		
C0055	10/22/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	8	Ea.		
C0055	10/22/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	1	Lin. Ft.		
C0055	10/22/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	8	Lin. Ft.		
C0055	10/22/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0055	10/22/2012	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	1250	Sq. Ft.		
C0055	10/22/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0055	10/22/2012	61	12" x 12" Floor Tile, Gray with White and Brown Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND	2500	Sq. Ft.	Storage-Floor Tile over Concrete Floor, Concrete Wall, Drywall Wall, Drop Ceiling, Plaster Ceiling	
C0055	10/22/2012	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND	188	Lin. Ft.		
C0055	10/22/2012	63	2' x 4' Ceiling Tile, White with Lateral Grooves and Pin Holes	None Detected	---	F	M	G	ND	1250	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0056	10/22/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	6	Ea.	Electrical Room - Concrete Floor, Concrete Wall, Brick Wall, Concrete Ceiling	
C0057	10/22/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.	Storage - Carpet over Concrete Floor, Block Wall, Concrete Wall, Concrete Ceiling	
C0058	10/22/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	8	Lin. Ft.		
C0058	10/22/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	6	Ea.		
C0058	10/22/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	L	D	32	Lin. Ft.		
C0058	10/22/2012	13	Fire Door	Assumed	---	NF	M	G	ND	2	Ea.	Air Handling Room - Concrete Floor, Block Wall, Concrete Wall, Plaster Ceiling	
C0058	10/22/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	18	Lin. Ft.		
C0059	12/3/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	1	Ea.		
C0059	12/3/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	L	D	222	Lin. Ft.		
C0059	12/3/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	85	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0059	12/3/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	24	Ea.		
C0059	12/3/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	12	Lin. Ft.		
C0059	12/3/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	250	Lin. Ft.	File Storage Room - Floor Tile Over Concrete Floor, Concrete Wall, Block Wall, Drop Ceiling Over Concrete Ceiling	
C0059	12/3/2012	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	1674	Sq. Ft.		
C0059	12/3/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND	8	Ea.		
C0059	12/3/2012	55	2' x 4' Ceiling Tile, White, Random Grooves and Pin Holes	None Detected	---	F	M	G	ND	1674	Sq. Ft.		
C0059	12/3/2012	57	12" x 12" Floor Tile, Tan with Brown and White Streaks	Chrysotile	3% (Tile) 2% (Mastic)	NF	M	G	ND	3348	Sq. Ft.		
C0059	12/3/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0060	12/3/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	1	Ea.		
C0060	12/3/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	16	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0060	12/3/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	48	Lin. Ft.		
C0060	12/3/2012	36	2' x 4' Ceiling Tile, White with Random Worm Tracks and Pin Holes	None Detected	---	F	M	G	ND	32	Sq. Ft.		
C0060	12/3/2012	57	12" x 12" Floor Tile, Tan with Brown and White Streaks	Chrysotile	3% (Tile) 2% (Mastic)	NF	M	G	ND	168	Sq. Ft.	Duct Room - Floor Tile Over Concrete Floor, Concrete Wall, Block Wall, Concrete Ceiling	
C0061	10/22/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	L	D	12	Ea.		
C0061	10/22/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	L	D	112	Lin. Ft.		
C0061	10/22/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	L	D	66	Lin. Ft.		
C0061	10/22/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	L	D	16	Ea.		
C0061	10/22/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	L	D	186	Lin. Ft.		
C0061	10/22/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND	140	Sq. Ft.	Storage - Floor Tile Over Concrete Floor, Block Wall, Concrete Wall, Drop Ceiling, Plaster Ceiling	
C0061	10/22/2012	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	1064	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0061	10/22/2012	55	2' x 4' Ceiling Tile, White, Random Grooves and Pin Holes	None Detected	---	F	M	G	ND		1064	Sq. Ft.	
C0061	10/22/2012	57	12" x 12" Floor Tile, Tan with Brown and White Streaks	Chrysotile	3% (Tile) 2% (Mastic)	NF	M	G	ND		204	Sq. Ft.	
C0061	10/22/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
C0061	10/22/2012	61	12" x 12" Floor Tile, Gray with White and Brown Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND		1784	Sq. Ft.	
C0061	10/22/2012	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		124	Lin. Ft.	
C0062	10/22/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		5	Ea.	Pump Room - Concrete Floor, Concrete Wall, Concrete Ceiling
C0063	10/22/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		4	Lin. Ft.	
C0063	10/22/2012	13	Fire Door	Assumed	---	NF	M	G	ND		1	Ea.	
C0063	10/22/2012	16	12" x 12" Floor Tile, Off White with Tan Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND		360	Sq. Ft.	
C0063	10/22/2012	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		123	Lin. Ft.	Hallway - Floor Tile over Concrete Floor, Block Wall, Concrete Ceiling



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0064	10/22/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.	Storage-Floor Tile Over Concrete Floor, Block Wall, Concrete Wall, Concrete Ceiling	
C0064	10/22/2012	16	12" x 12" Floor Tile, Off White with Tan Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND	85	Sq. Ft.		
C0065	10/22/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0065	10/22/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		
C0065	10/22/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	3	Lin. Ft.		
C0065	10/22/2012	51	9" x 9" Floor Tile, Black with Red and White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	22	Sq. Ft.	Storage-Floor Tile Over Concrete Floor, Block Wall, Concrete Wall, Plaster Ceiling	
C0065	10/22/2012	53	9" x 9" Floor Tile, Burgundy with White and Red Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	22	Sq. Ft.		
C0066	10/22/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Mechanical Room-Floor Tile over Concrete Floor, Block Wall, Concrete Wall, Plaster Ceiling	
C0066	10/22/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	3	Ea.		
C0066	10/22/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND	10	Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0066	10/22/2012	51	9" x 9" Floor Tile, Black with Red and White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		68	Sq. Ft.	
C0066	10/22/2012	53	9" x 9" Floor Tile, Burgundy with White and Red Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		68	Sq. Ft.	
C0067	10/22/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Bell Room - Floor Tile Under Concrete Floor, Block Wall, Plaster Ceiling
C0067	10/22/2012	51	9" x 9" Floor Tile, Black with Red and White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		128	Sq. Ft.	
C0067	10/22/2012	53	9" x 9" Floor Tile, Burgundy with White and Red Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		128	Sq. Ft.	
C0068	10/22/2012	51	9" x 9" Floor Tile, Black with Red and White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		9	Sq. Ft.	Closet- Floor Tile Under Concrete Floor, Block Wall, Wood Ceiling
C0068	10/22/2012	53	9" x 9" Floor Tile, Burgundy with White and Red Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		9	Sq. Ft.	
C0069	10/22/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		4	Lin. Ft.	
C0069	10/22/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Office-Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling, Concrete Ceiling
C0069	10/22/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		32	Lin. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0069	10/22/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		132	Sq. Ft.	
C0070	10/22/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
C0070	10/22/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		18	Lin. Ft.	
C0070	10/22/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		30	Sq. Ft.	Closet - Concrete Floor, Drywall Wall, Drop Ceiling, Concrete Ceiling
C0071	10/22/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Office-Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling, Concrete Ceiling
C0071	10/22/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND			Lin. Ft.	
C0071	10/22/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		48	Lin. Ft.	
C0071	10/22/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		160	Sq. Ft.	
C0072	10/22/2012	200	No Access	--	---	--	--	---	---		--		No Access
C0073	10/22/2012	64	Transite Panels, Black	Chrysotile	15%	NF	M	G	ND		11	Sq. Ft.	Old Electrical Closet - Metal and Transite Panels



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0074	10/22/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	26	Ea.		
C0074	10/22/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND	38	Lin. Ft.		
C0074	10/22/2012	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	10	Lin. Ft.		
C0074	10/22/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND	7	Ea.		
C0074	10/22/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.		
C0074	10/22/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	2	Ea.		
C0074	10/22/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	26	Lin. Ft.		
C0074	10/22/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND	146	Ea.	HVAC Room - Concrete Floor, Brick Wall, Clay Tile Wall, Concrete Ceiling	
C0075	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0075	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Computer Room #3 - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0075	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		864	Sq. Ft.	
C0075	1/10/2013	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		16	Ea.	
C0075	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
C0075	1/10/2013	71	4" Vinyl Cove Base, Off White	None Detected	---	NF	M	G	ND		122	Lin. Ft.	
C0076	12/6/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Hallway - Marble Floor, Marble Wall, Drywall Wall, Plaster Ceiling, Plaster Deck
C0076	12/6/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND		186	Lin. Ft.	
C0076	12/6/2012	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		79	Lin. Ft.	
C0076	12/6/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND		8	Ea.	
C0076	12/6/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		219	Lin. Ft.	
C0076	12/6/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		11	Ea.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0076	12/6/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		48	Lin. Ft.	
C0076	12/6/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
C0077	12/6/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
C0077	12/6/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND		90	Lin. Ft.	
C0077	12/6/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND		7	Ea.	
C0077	12/6/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
C0077	12/6/2012	26	2' x 2' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		228	Sq. Ft.	Hallway - Marble Floor, Marble Wall, Drywall Wall, Plaster Ceiling, Partial Drop Ceiling, Plaster Ceiling
C0078	12/6/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Elevator Lobby - Marble Floor, Marble Wall, Drywall Wall, Plaster Ceiling, Drop Ceiling Over Plaster Ceiling
C0078	12/6/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
C0078	12/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		4650	Sq. Ft.	



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Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0078	12/6/2012	98	2 x 4' Ceiling Tile, White, Random Pin Holes	None Detected	---	F	M	G	ND		10	Sq. Ft.	
C0079	12/6/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
C0079	12/6/2012	29	5" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		6	Lin. Ft.	
C0079	12/6/2012	36	2' x 4' Ceiling Tile, White with Random Worm Tracks and Pin Holes	None Detected	---	F	M	G	ND		110	Sq. Ft.	
C0079	12/6/2012	120	9" x 9" Floor Tile, Red with Cream Flecks	Chrysotile	5% (Tile) 2% (Mastic)	NF	M	G	ND		110	Sq. Ft.	Fire Alarm Room - Carpet Over Tile Floor, Concrete Wall, Drop Ceiling Over Glued On Ceiling Tile Over Plaster Ceiling
C0080	12/6/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Stairwell To Main Floor - Marble Floor, Partial Floor Tile, Marble Wall, Drywall Wall, Plaster Ceiling
C0080	12/6/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
C0080	12/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		28	Lin. Ft.	
C0080	12/6/2012	70	12" x 12" Floor Tile, Tan with Light and Dark Splotches	Chrysotile	2% (Tile Only)	NF	M	G	ND		50	Sq. Ft.	
C0081	12/6/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drywall Wall, Drop Ceiling Over Concrete Ceiling



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0081	12/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		64	Sq. Ft.	
C0082	11/14/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		6	Ea.	
C0082	11/14/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND		18	Lin. Ft.	
C0082	11/14/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		36	Lin. Ft.	
C0082	11/14/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		12	Lin. Ft.	
C0082	11/14/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		6	Ea.	
C0082	11/14/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		46	Lin. Ft.	Pipe Chase, No Access - Concrete Floor, Concrete Wall, Metal Ceiling
C0083	12/6/2012	55	2' x 4' Ceiling Tile, White, Random Grooves and Pin Holes	None Detected	---	F	M	G	ND		75	Sq. Ft.	Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drywall, Drop Ceiling Over Concrete Ceiling
C0084	12/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0084	12/6/2012	13	Fire Door	Assumed	---	NF	M	G	ND		1	Ea.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0084	12/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Hallway to Gaming Laboratory - Carpet Over Floor Tile Over Concrete Floor, Ceramic Tile Wall, Drywall Wall, Wood Wall, Drop	
C0084	12/6/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		60 Lin. Ft.		
C0084	12/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		195 Sq. Ft.		
C0084	12/6/2012	100	12" x 12" Ceiling Tile, White, Uniform Pencil Holes, Glued On with Brown Glue Pods	None Detected	---	F	M	G	ND		185 Sq. Ft.		
C0084	12/6/2012	121	9" x 9" Floor Tile, Yellow with White Flecks	None Detected	---	NF	M	G	ND		195 Sq. Ft.		
C0085	12/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0085	12/6/2012	28	2' x 2' Ceiling Tile, White Recessed with Random Pinholes and Knife Punctures	None Detected	---	F	M	G	ND		1261 Sq. Ft.		
C0085	12/6/2012	122	12" x 12" Floor Tile, Light Brown with Brown Specks	None Detected	---	NF	M	G	ND		1261 Sq. Ft.	Floor Tile Over Concrete Floor, Marble Wall, Drop Ceiling Over Plaster Ceiling	
C0086	12/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Telecom Room - Concrete Floor, Drywall Wall, Wood Wall, Concrete Ceiling	
C0086	12/6/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0086	12/6/2012	75	Cork Insulated Piping	None Detected	---	NF	M	G	ND		7	Lin. Ft.	
C0087	1/8/2013	13	Fire Door	Assumed	---	NF	M	G	ND		1	Ea.	
C0087	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
C0087	1/8/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		3690	Sq. Ft.	Mail Room - Carpet Over Concrete Floor, Drywall Wall, Block Wall, Concrete Wall, Drop Ceiling Over Concrete Ceiling
C0087	1/8/2013	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		41	Lin. Ft.	
C0087	1/8/2013	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		300	Lin. Ft.	
C0088	1/8/2013	13	Fire Door	Assumed	---	NF	M	G	ND		2	Ea.	
C0088	1/8/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1830	Sq. Ft.	Mail Room Storage - Concrete Floor, Concrete Wall, Drop Ceiling Over Metal Deck
C0088	1/8/2013	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		40	Lin. Ft.	
C0089	1/8/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Loading Dock - Concrete Floor, Concrete Wall, Plaster Ceiling



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0089	1/8/2013	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		16 Lin. Ft.		
C0089	1/8/2013	93	Duct Caulk, Beige	None Detected	---	NF	M	G	ND		NQ		
C0090	1/8/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0090	1/8/2013	13	Fire Door	Assumed	---	NF	M	G	ND		2 Ea.		
C0090	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Storage - Concrete Floor, Drywall Wall, Concrete Wall, Plaster Ceiling	
C0091	1/8/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Transformer Room - Concrete Floor, Tile Floor, Concrete Wall, Block Wall, Brick Wall, Plaster Ceiling	
C0091	1/8/2013	3	Electrical Box	Assumed	---	NF	M	G	ND		47 Ea.		
C0091	1/8/2013	88	9" x 9" Floor Tile, Red with White Streaks	Chrysotile	2% (Tile Only)	NF	M	S	LD		588 Sq. Ft.		
C0092	1/8/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Transformer Room - Concrete Floor, Concrete Wall, Block Wall, Brick Wall, Plaster Ceiling	
C0092	1/8/2013	3	Electrical Box	Assumed	---	NF	M	G	ND		22 Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0093	1/8/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0093	1/8/2013	3	Electrical Box	Assumed	---	NF	M	G	ND		1 Ea.		
C0093	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0093	1/8/2013	75	Cork Insulated Piping	None Detected	---	NF	M	G	ND		115 Lin. Ft.		
C0093	1/8/2013	76	Mud Compound Insulation on Cork Insulated Lines	None Detected	---	F	M	G	ND		8 Ea.		
C0093	1/8/2013	124	12" x 12" Floor Tile, Gray with Light and Dark Splotches	None Detected	---	NF	M	G	ND		490 Sq. Ft.		Storage - Floor Tile Over Concrete Floor, Concrete Wall, Ceramic Tile Wall, Drywall Wall, Plaster Ceiling Over Concrete Ceiling
C0094	1/8/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0094	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Pipe Chase - Concrete Floor, Floor Tile, Drywall Wall, Ceramic Tile Wall, Tile Ceiling, Plaster Ceiling
C0094	1/8/2013	100	12" x 12" Ceiling Tile, White, Uniform Pencil Holes, Glued On with Brown Glue Pods	None Detected	---	F	M	G	ND		20 Sq. Ft.		
C0094	1/8/2013	124	12" x 12" Floor Tile, Gray with Light and Dark Splotches	None Detected	---	NF	M	G	ND		20 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0095	1/8/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0095	1/8/2013	3	Electrical Box	Assumed	---	NF	M	G	ND		4 Ea.	Storage - Ceramic Tile Floor, Ceramic Tile Wall, Block Wall, Concrete Wall, Plaster Ceiling	
C0096	1/8/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0096	1/8/2013	3	Electrical Box	Assumed	---	NF	M	G	ND		1 Ea.	Storage - Mastic Over Concrete Floor, Concrete Wall, Ceramic Tile Wall, Block Wall, Concrete Wall, Plaster Ceiling	
C0096	1/8/2013	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND		25 Lin. Ft.		
C0096	1/8/2013	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND		2 Ea.		
C0096	1/8/2013	125	Old Kitchen Mastic	None Detected	---	NF	M	G	ND		360 Sq. Ft.		
C0097	1/8/2013	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		6 Ea.	Storage - Ceramic Tile Floor, Ceramic Tile Wall, Block Wall, Concrete Ceiling	
C0097	1/8/2013	126	5" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		11 Lin. Ft.		
C0098	1/8/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Storage - Concrete Floor, Block Wall, Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0098	1/8/2013	3	Electrical Box	Assumed	---	NF	M	G	ND	1	Ea.		
C0098	1/8/2013	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	2	Ea.		
C0098	1/8/2013	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	60	Lin. Ft.		
C0099	1/8/2013	13	Fire Door	Assumed	---	NF	M	G	ND	6	Ea.	Boiler Room - Concrete Floor, Drywall Wall, Concrete Ceiling	
C0099	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0100	1/8/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0100	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Storage - Ceramic Tile Floor, Ceramic Tile Wall, Drywall Wall, Concrete Wall, Plaster Ceiling	
C0100	1/8/2013	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND	30	Lin. Ft.		
C0101	1/8/2013	13	Fire Door	Assumed	---	NF	M	G	ND	2	Ea.		
C0101	1/8/2013	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	8	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0101	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Storage - Ceramic Tile Floor, Drywall Wall, Tile Ceiling	
C0101	1/8/2013	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
C0101	1/8/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0101	1/8/2013	100	12" x 12" Ceiling Tile, White, Uniform Pencil Holes, Glued On with Brown Glue Pods	None Detected	---	F	M	G	ND		324 Sq. Ft.		
C0102	1/8/2013	0	No Asbestos Detected	--	---	--	--	--	--		--	Service Elevator 24 - Metal Floor, Wood Wall, Metal Wall, Metal Ceiling	
C0103	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND		22 Sq. Ft.	Elevator 23 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	
C0103	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND		21 Sq. Ft.		
C0104	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND		22 Sq. Ft.	Elevator 22 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	
C0104	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND		21 Sq. Ft.		
C0105	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND		22 Sq. Ft.	Elevator 21 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0105	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND	21	Sq. Ft.		
C0106	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND	22	Sq. Ft.	Elevator 20 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	
C0106	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND	21	Sq. Ft.		
C0107	1/8/2013	200	No Access	--	---	--	--	---	---	--		No Access - Storage	
C0108	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND	22	Sq. Ft.	Elevator 18 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	
C0108	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND	21	Sq. Ft.		
C0109	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND	22	Sq. Ft.	Elevator 17 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	
C0109	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND	21	Sq. Ft.		
C0110	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND	22	Sq. Ft.	Elevator 16 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	
C0110	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND	21	Sq. Ft.		



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Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(L)		
C0111	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND	22	Sq. Ft.	Elevator 15 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	
C0111	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND	21	Sq. Ft.		
C0112	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND	22	Sq. Ft.	Elevator 14 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	
C0112	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND	21	Sq. Ft.		
C0113	1/8/2013	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	4	Lin. Ft.	Storage - Steel Floor, Block Wall, Steel Ceiling	
C0113	1/8/2013	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
C0114	1/8/2013	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.	Storage - Concrete Floor, Block Wall, Steel Ceiling	
C0115	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND	22	Sq. Ft.	Elevator 11 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	
C0115	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND	21	Sq. Ft.		
C0116	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND	22	Sq. Ft.	Elevator 10 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0116	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND	21	Sq. Ft.		
C0117	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND	22	Sq. Ft.	Elevator 9 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	
C0117	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND	21	Sq. Ft.		
C0118	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND	22	Sq. Ft.	Elevator 8 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	
C0118	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND	21	Sq. Ft.		
C0119	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND	22	Sq. Ft.	Elevator 7 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	
C0119	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND	21	Sq. Ft.		
C0120	1/8/2013	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.	Storage - Concrete Floor, Block Wall, Steel Ceiling	
C0121	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND	22	Sq. Ft.	Elevator 5 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	
C0121	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND	21	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0122	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND	22	Sq. Ft.	Elevator 4 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	
C0122	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND	21	Sq. Ft.		
C0123	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND	22	Sq. Ft.	Elevator 3 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	
C0123	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND	21	Sq. Ft.		
C0124	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND	22	Sq. Ft.	Elevator 2 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	
C0124	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND	21	Sq. Ft.		
C0125	1/8/2013	127	12" x 12" Floor Tile, Red with Red, White, and Black Flecks	None Detected	---	NF	M	G	ND	22	Sq. Ft.	Elevator 1 - Ceramic Tile Floor, Wood Wall, Metal Ceiling	
C0125	1/8/2013	128	12" x 12" Floor Tile, Tan with Off White, White, and Tan Flecks	None Detected	---	NF	M	G	ND	21	Sq. Ft.		
C0126	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0126	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Waiting Area - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0126	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	905	Sq. Ft.		
C0126	1/10/2013	132	4" Vinyl Cove Base, Green	None Detected	---	NF	M	G	ND	120	Lin. Ft.		
C0127	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0127	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	68	Sq. Ft.	Coat Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Concrete Ceiling	
C0127	1/10/2013	71	4" Vinyl Cove Base, Off White	None Detected	---	NF	M	G	ND	30	Lin. Ft.		
C0128	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0128	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Storage - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Ceiling	
C0128	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	323	Sq. Ft.		
C0128	1/10/2013	71	4" Vinyl Cove Base, Off White	None Detected	---	NF	M	G	ND	90	Lin. Ft.		
C0129	1/10/2013	3	Electrical Box	Assumed	---	NF	M	G	ND	1	Ea.	HVAC Room - Concrete Floor, Clay Tile Wall, Block Wall, Concrete Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0129	1/10/2013	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	5	Ea.		
C0129	1/10/2013	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	D	26	Lin. Ft.		
C0129	1/10/2013	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	26	Lin. Ft.		
C0130	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0130	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	546	Sq. Ft.	Break Room - Floor Tile Over Metal Floor, Drywall Wall, Drop Ceiling Over Concrete Ceiling	
C0130	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0130	1/10/2013	132	4" Vinyl Cove Base, Green	None Detected	---	NF	M	G	ND	103	Lin. Ft.		
C0130	1/10/2013	133	12" x 12" Floor Tile, Dark Green with Dark Green Splotches	None Detected	---	NF	M	G	ND	124	Sq. Ft.		
C0130	1/10/2013	134	12" x 12" Floor Tile, Off White with Light Green Splotches	None Detected	---	NF	M	G	ND	422	Sq. Ft.		
C0131	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0131	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Hallway - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Ceiling	
C0131	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1314 Sq. Ft.		
C0131	1/10/2013	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		10 Ea.		
C0131	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0131	1/10/2013	132	4" Vinyl Cove Base, Green	None Detected	---	NF	M	G	ND		310 Lin. Ft.		
C0131	1/10/2013	135	Trasite Panel Covering Duct Work	Chrysotile	20%	NF	M	G	ND		280 Sq. Ft.	Above Drop Ceiling	
C0132	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0132	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Computer Room #1 - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Ceiling	
C0132	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		864 Sq. Ft.		
C0132	1/10/2013	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		16 Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0132	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0132	1/10/2013	71	4" Vinyl Cove Base, Off White	None Detected	---	NF	M	G	ND		122 Lin. Ft.		
C0133	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0133	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Computer Room #2 - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Ceiling
C0133	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1103 Sq. Ft.		
C0133	1/10/2013	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		6 Ea.		
C0133	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0133	1/10/2013	71	4" Vinyl Cove Base, Off White	None Detected	---	NF	M	G	ND		127 Lin. Ft.		
C0134	1/10/2013	200	No Access	--	---	--	--	---	---		--		No Access
C0135	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Hallway - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Ceiling



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0135	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		129	Sq. Ft.	
C0135	1/10/2013	132	4" Vinyl Cove Base, Green	None Detected	---	NF	M	G	ND		36	Lin. Ft.	
C0136	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Men's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Plaster Ceiling,
C0136	1/10/2013	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		13	Ea.	8 Assumed In Wall
C0137	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Women's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Plaster Ceiling,
C0137	1/10/2013	13	Fire Door	Assumed	---	NF	M	G	ND		1	Ea.	
C0137	1/10/2013	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		8	Ea.	8 Assumed In Wall
C0138	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0138	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Hallway - Carpet Over Concrete Floor, Metal Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Ceiling
C0138	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		583	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0138	1/10/2013	132	4" Vinyl Cove Base, Green	None Detected	---	NF	M	G	ND		110	Lin. Ft.	
C0139	1/10/2013	13	Fire Door	Assumed	---	NF	M	G	ND		2	Ea.	
C0139	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Conference Room - Carpet Over Metal Floor, Drywall Wall, Drop Ceiling Over Concrete Ceiling
C0139	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		425	Sq. Ft.	
C0139	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0139	1/10/2013	71	4" Vinyl Cove Base, Off White	None Detected	---	NF	M	G	ND		90	Lin. Ft.	
C0140	1/10/2013	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		2	Ea.	
C0140	1/10/2013	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		14	Lin. Ft.	
C0140	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Storage - Carpet Over Floor Tile Over Metal Floor, Drywall Wall, Drop Ceiling Over Concrete Ceiling
C0140	1/10/2013	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		119	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0140	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		119	Sq. Ft.	
C0140	1/10/2013	71	4" Vinyl Cove Base, Off White	None Detected	---	NF	M	G	ND		42	Lin. Ft.	
C0141	1/10/2013	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		18	Lin. Ft.	
C0141	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Storage - Carpet Over Floor Tile Over Metal Floor, Drywall Wall, Drop Ceiling Over Concrete Ceiling
C0141	1/10/2013	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		119	Sq. Ft.	
C0141	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		119	Sq. Ft.	
C0141	1/10/2013	132	4" Vinyl Cove Base, Green	None Detected	---	NF	M	G	ND		42	Lin. Ft.	
C0142	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0142	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Class Room B - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Ceiling
C0142	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1092	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0142	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
C0142	1/10/2013	71	4" Vinyl Cove Base, Off White	None Detected	---	NF	M	G	ND		124	Lin. Ft.	
C0143	1/10/2013	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		40	Lin. Ft.	
C0143	1/10/2013	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND		6	Lin. Ft.	
C0143	1/10/2013	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		26	Lin. Ft.	
C0143	1/10/2013	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND		2	Ea.	
C0143	1/10/2013	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		28	Lin. Ft.	
C0143	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Mechanical Room - Concrete Floor, Concrete Wall, Drywall Wall, Concrete Ceiling
C0143	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0144	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Electrical Room - Concrete Floor, Concrete Wall, Drywall Wall, Plaster Wall, Concrete Ceiling



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Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
C0144	1/10/2013	3	Electrical Box	Assumed	---	NF	M	G	ND	8	Ea.		
C0144	1/10/2013	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	15	Lin. Ft.		
C0144	1/10/2013	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	4	Ea.		
C0144	1/10/2013	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	15	Lin. Ft.		
C0144	1/10/2013	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	18	Lin. Ft.		
C0144	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0145	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0145	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Class Room A - Carpet Over Metal Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Ceiling	
C0145	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	1260	Sq. Ft.		
C0145	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0145	1/10/2013	71	4" Vinyl Cove Base, Off White	None Detected	---	NF	M	G	ND		136	Lin. Ft.	
C0146	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
C0146	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Hallway - Carpet Over Metal Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Ceiling
C0146	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		429	Sq. Ft.	
C0146	1/10/2013	132	4" Vinyl Cove Base, Green	None Detected	---	NF	M	G	ND		60	Lin. Ft.	
C0147	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
C0147	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Hallway - Carpet Over Metal Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Ceiling
C0147	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		540	Sq. Ft.	
C0147	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
C0147	1/10/2013	132	4" Vinyl Cove Base, Green	None Detected	---	NF	M	G	ND		120	Lin. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0148	1/10/2013	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	SD	66	Lin. Ft.	Debris On Floor	
C0148	1/10/2013	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	SD	57	Lin. Ft.	Mechanical Room - Concrete Floor, Brick Wall, Clay Tile Wall, Concrete Ceiling (Debris On Floor)	
C0148	1/10/2013	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	SD	36	Ea.	Debris On Floor	
C0148	1/10/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	SD	159	Lin. Ft.	Debris On Floor	
C0148	1/10/2013	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	SD	29	Ea.	Debris On Floor	
C0148	1/10/2013	74	Vibration Dampening Cloth, White, Cloth	None Detected	---	NF	M	G	ND	12	Sq. Ft.		
C0149	1/10/2013	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	3	Ea.		
C0149	1/10/2013	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	14	Lin. Ft.	Custodial Closet - Concrete Floor, Concrete Wall, Block Wall, Concrete Ceiling	
C0150	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0150	1/10/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	37	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0150	1/10/2013	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		
C0150	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Hallway - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Ceiling	
C0150	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	350	Sq. Ft.		
C0150	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0150	1/10/2013	132	4" Vinyl Cove Base, Green	None Detected	---	NF	M	G	ND	100	Lin. Ft.		
C0151	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0151	1/10/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	16	Lin. Ft.		
C0151	1/10/2013	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		
C0151	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Office - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Ceiling	
C0151	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	208	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0151	1/10/2013	71	4" Vinyl Cove Base, Off White	None Detected	---	NF	M	G	ND		55	Lin. Ft.	
C0152	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
C0152	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Hallway - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Ceiling
C0152	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		630	Sq. Ft.	
C0152	1/10/2013	132	4" Vinyl Cove Base, Green	None Detected	---	NF	M	G	ND		80	Lin. Ft.	
C0153	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
C0153	1/10/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		52	Lin. Ft.	
C0153	1/10/2013	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		24	Lin. Ft.	
C0153	1/10/2013	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		18	Ea.	
C0153	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Computer Room #4 - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Ceiling



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0153	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	1276	Sq. Ft.		
C0153	1/10/2013	42	Spray on Fire Proofing, Gray	None Detected	---	F	S	G	ND	638	Sq. Ft.		
C0153	1/10/2013	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND	4	Ea.		
C0153	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0153	1/10/2013	71	4" Vinyl Cove Base, Off White	None Detected	---	NF	M	G	ND	140	Lin. Ft.		
C0154	1/10/2013	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	L	SD	32	Lin. Ft.	Debris On Floor	
C0154	1/10/2013	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	L	SD	2	Ea.	Debris On Floor	
C0154	1/10/2013	15	Drywall	None Detected	---	NF	M	L	D		NQ	Pipe Chase - Concrete Floor, Concrete Wall, Drywall Wall, Concrete Ceiling	
C0155	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0155	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Hallway - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0155	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		480	Sq. Ft.	
C0155	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
C0155	1/10/2013	132	4" Vinyl Cove Base, Green	None Detected	---	NF	M	G	ND		180	Lin. Ft.	
C0156	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Women's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drop Ceiling Over Plaster Ceiling
C0156	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		144	Sq. Ft.	
C0156	1/10/2013	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	
C0157	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Men's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drop Ceiling Over Plaster Ceiling
C0157	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		144	Sq. Ft.	
C0157	1/10/2013	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	
C0158	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0158	1/10/2013	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		
C0158	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Computer Room #5 - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Partial Glued On Ceiling Over	
C0158	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	1125	Sq. Ft.		
C0158	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0158	1/10/2013	71	4" Vinyl Cove Base, Off White	None Detected	---	NF	M	G	ND	170	Lin. Ft.		
C0158	1/10/2013	100	12" x 12" Ceiling Tile, White, Uniform Pencil Holes, Glued On with Brown Glue Pods	None Detected	---	F	M	G	ND	375	Sq. Ft.		
C0159	1/10/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	184	Lin. Ft.	Storage - Floor Tile Over Concrete Floor, Concrete Wall, Concrete Ceiling	
C0159	1/10/2013	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	60	Lin. Ft.		
C0159	1/10/2013	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	17	Ea.		
C0159	1/10/2013	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0159	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0159	1/10/2013	132	4" Vinyl Cove Base, Green	None Detected	---	NF	M	G	ND		145 Lin. Ft.		
C0160	1/10/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		36 Lin. Ft.		
C0160	1/10/2013	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		19 Lin. Ft.		
C0160	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		HVAC Room - Concrete Floor, Concrete Wall, Drywall Wall, Concrete Ceiling
C0160	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0161	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Mechanical Room - Concrete Floor, Block Wall, Plaster Ceiling
C0161	1/10/2013	3	Electrical Box	Assumed	---	NF	M	G	ND		3 Ea.		
C0161	1/10/2013	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		7 Ea.		
C0161	1/10/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		40 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0161	1/10/2013	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	45	Lin. Ft.		
C0161	1/10/2013	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	12	Ea.		
C0161	1/10/2013	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	20	Lin. Ft.		
C0161	1/10/2013	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
C0161	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0162	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0162	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Class Room C - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Partial Glued On Ceiling Over	
C0162	1/10/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	2205	Sq. Ft.		
C0162	1/10/2013	71	4" Vinyl Cove Base, Off White	None Detected	---	NF	M	G	ND	182	Lin. Ft.		
C0162	1/10/2013	100	12" x 12" Ceiling Tile, White, Uniform Pencil Holes, Glued On with Brown Glue Pods	None Detected	---	F	M	G	ND	1103	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0163	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0163	1/10/2013	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND		20 Lin. Ft.		
C0163	1/10/2013	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND		5 Ea.		
C0163	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Hallway - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Block Wall, Glued On Ceiling Over Concrete Ceiling
C0163	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0163	1/10/2013	71	4" Vinyl Cove Base, Off White	None Detected	---	NF	M	G	ND		144 Lin. Ft.		
C0163	1/10/2013	100	12" x 12" Ceiling Tile, White, Uniform Pencil Holes, Glued On with Brown Glue Pods	None Detected	---	F	M	G	ND		600 Sq. Ft.		
C0164	1/10/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		15 Lin. Ft.		
C0164	1/10/2013	13	Fire Door	Assumed	---	NF	M	G	ND		1 Ea.		Fire Protection Room - Concrete Floor, Concrete Wall, Metal Ceiling
C0165	1/10/2013	3	Electrical Box	Assumed	---	NF	M	G	ND		1 Ea.		



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Job No.: 121268

Building No.: 1

Facility: Asbestos Building Survey
Cadillac Place State Office Building
3026 West Grand Boulevard
Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
C0165	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	UPS Room - Concrete Floor, Drywall Wall, Concrete Wall, Plaster Ceiling	
C0165	1/10/2013	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
C0166	1/16/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0166	1/16/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	26	Lin. Ft.	8' Assumed in Wall	
C0166	1/16/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0166	1/16/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		Lin. Ft.	Conference Room - Carpet Over Concrete Floor, Wood Panel Wall, Brick Wall, Drywall Wall, Drop Ceiling Over Metal Ceiling	
C0166	1/16/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	144	Sq. Ft.		
C0167	1/16/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Office - Carpet Over Concrete Floor, Wood Panel Wall, Brick Wall, Drywall Wall, Drop Ceiling Over Metal Ceiling	
C0167	1/16/2013	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND	14	Lin. Ft.	Assumed Above Ceiling	
C0167	1/16/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	26	Lin. Ft.	Assumed In Wall and Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0167	1/16/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0167	1/16/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		38 Lin. Ft.		
C0167	1/16/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		168 Sq. Ft.		
C0168	1/16/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Game Room - Carpet Over Concrete Floor, Wood Panel Wall, Brick Wall, Drywall Wall, Drop Ceiling Over Metal Ceiling
C0168	1/16/2013	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND		100 Lin. Ft.		
C0168	1/16/2013	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		60 Lin. Ft.		
C0168	1/16/2013	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND		30 Ea.		
C0168	1/16/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		74 Lin. Ft.		Assumed In Wall and Ceiling
C0168	1/16/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0168	1/16/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		170 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0168	1/16/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		2400	Sq. Ft.	
C0169	1/16/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Storage - Ceramic Tile Floor, Plaster Wall, Glued On Ceiling Tile
C0169	1/16/2013	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND		18	Lin. Ft.	Assumed Above Ceiling
C0169	1/16/2013	100	12" x 12" Ceiling Tile, White, Uniform Pencil Holes, Glued On with Brown Glue Pods	None Detected	---	F	M	G	ND		324	Sq. Ft.	
C0170	1/16/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		File Room - Carpet Over Ceramic Tile Floor, Plaster Wall, Glued On Ceiling Tile
C0170	1/16/2013	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND		18	Lin. Ft.	Assumed Above Ceiling
C0170	1/16/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		18	Lin. Ft.	Assumed Above Ceiling
C0170	1/16/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		105	Lin. Ft.	
C0170	1/16/2013	80	12" x 12" Ceiling Tile, Glued On, White with Random Gouges and Brown Glue Pods	Chrysotile	<1%	NF	M	G	ND		21	Sq. Ft.	
C0170	1/16/2013	100	12" x 12" Ceiling Tile, White, Uniform Pencil Holes, Glued On with Brown Glue Pods	None Detected	---	F	M	G	ND		647	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0171	1/16/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Open Office Space with Cubicles - Carpet Over Concrete Floor, Wood Panel Wall, Brick Wall, Drywall Wall, Drop Ceiling Over Metal	
C0171	1/16/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		48 Lin. Ft.	Assumed Above Ceiling	
C0171	1/16/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		100 Lin. Ft.		
C0171	1/16/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1152 Sq. Ft.		
C0172	1/16/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Mail Room - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Plaster Ceiling	
C0172	1/17/2013	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		1 Ea.		
C0172	1/17/2013	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		11 Lin. Ft.		
C0172	1/17/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0172	1/17/2013	26	2' x 2' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1 Sq. Ft.		
C0172	1/16/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		208 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0172	1/16/2013	40	4" Vinyl Cove Base, Beige	None Detected	---	NF	M	G	ND		42	Lin. Ft.	
C0173	1/17/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		4	Lin. Ft.	Pipe Closet - Concrete Floor, Brick Wall, No Ceiling
C0173	1/17/2013	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		1	Ea.	
C0173	1/17/2013	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		15	Ea.	
C0174	1/16/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Waiting Area - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Plaster Ceiling
C0174	1/17/2013	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		6	Ea.	
C0174	1/17/2013	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		30	Lin. Ft.	
C0174	1/17/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
C0174	1/16/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		288	Sq. Ft.	
C0174	1/16/2013	40	4" Vinyl Cove Base, Beige	None Detected	---	NF	M	G	ND		42	Lin. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0175	1/16/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Open Office Area with Cubicles - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Plaster Ceiling	
C0175	1/17/2013	13	Fire Door	Assumed	---	NF	M	G	ND		1 Ea.		
C0175	1/17/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0175	1/16/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		2820 Sq. Ft.		
C0175	1/16/2013	40	4" Vinyl Cove Base, Beige	None Detected	---	NF	M	G	ND		167 Lin. Ft.		
C0176	1/17/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Break Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Concrete Deck	
C0176	1/17/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0176	1/17/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		160 Sq. Ft.		
C0176	1/17/2013	40	4" Vinyl Cove Base, Beige	None Detected	---	NF	M	G	ND		49 Lin. Ft.		
C0176	1/17/2013	70	12" x 12" Floor Tile, Tan with Light and Dark Splotches	Chrysotile	2% (Tile Only)	NF	M	G	ND		145 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0176	1/17/2013	72	Sink Under Coating, Gray	None Detected	---	NF	M	G	ND	1	Ea.		
C0176	1/17/2013	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND	15	Sq. Ft.		
C0177	1/16/2013	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Media Room - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Plaster Ceiling	
C0177	1/17/2013	15	Drywall	None Detected	---	NF	M	G	ND	NQ			
C0177	1/16/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	323	Sq. Ft.		
C0177	1/16/2013	40	4" Vinyl Cove Base, Beige	None Detected	---	NF	M	G	ND	69	Lin. Ft.		
C0178	1/17/2013	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Stairwell and Hallway - Floor Tile Over Concrete Floor Plaster Wall, Marble Wall, Plaster Ceiling	
C0178	1/17/2013	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		
C0178	1/17/2013	26	2' x 2' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	198	Sq. Ft.		
C0178	1/17/2013	136	12" x 12" Floor Tile, Pink with Brown and Off White Flecks	None Detected	---	NF	M	G	ND	198	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0179	1/17/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	File Room - Carpet Over Wood Platform Over Concrete Floor, Plaster Wall, Block Wall, Drop Ceiling Over Glued Ceiling, Plaster	
C0179	1/17/2013	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		1 Ea.		
C0179	1/17/2013	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		364 Lin. Ft.		
C0179	1/17/2013	26	2' x 2' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		5610 Sq. Ft.		
C0179	1/17/2013	100	12" x 12" Ceiling Tile, White, Uniform Pencil Holes, Glued On with Brown Glue Pods	None Detected	---	F	M	G	ND		5610 Sq. Ft.		
C0180	1/17/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0180	1/17/2013	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		10 Lin. Ft.		
C0180	1/17/2013	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		12 Ea.		
C0180	1/17/2013	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		30 Lin. Ft.	Men's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drop Ceiling Over Plaster Ceiling	
C0180	1/17/2013	137	2' x 4' Ceiling Tile, White, Smooth Finish	None Detected	---	NF	M	G	ND		100 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0181	1/17/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
C0181	1/17/2013	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		Lin. Ft.		
C0181	1/17/2013	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	9	Lin. Ft.	Women's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drop Ceiling Over Plaster Ceiling	
C0181	1/17/2013	137	2' x 4' Ceiling Tile, White, Smooth Finish	None Detected	---	NF	M	G	ND	72	Sq. Ft.		
C0182	1/17/2013	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	3	Lin. Ft.		
C0182	1/17/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	925	Sq. Ft.	Storage - Concrete Floor, Concrete Wall, Concrete Ceiling	
C0182	1/17/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0182	1/17/2013	100	12" x 12" Ceiling Tile, White, Uniform Pencil Holes, Glued On with Brown Glue Pods	None Detected	---	F	M	G	ND	100	Sq. Ft.	Glued To Duct Work	
C0183	1/17/2013	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	4	Ea.	Air Exchange Tunnel - Concrete Floor, Concrete Wall, Concrete Deck	
C0183	1/17/2013	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	SD	10	Lin. Ft.	Debris on Floor	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0184	1/24/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Storage - Floor Tile Over Concrete Floor, Plaster Wall, Plaster Ceiling	
C0184	1/24/2013	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		2 Ea.		
C0184	1/24/2013	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		8 Lin. Ft.		
C0184	1/24/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		33 Lin. Ft.		
C0184	1/24/2013	130	9" x 9" Floor Tile, Light Cream with White and Tan Streaks	Chrysotile	2% (Tile) 3% (Mastic)	NF	M	G	ND		81 Sq. Ft.		
C0185	1/24/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Storage - Floor Tile Over Concrete Floor, Plaster Wall, Plaster Ceiling	
C0185	1/24/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		51 Lin. Ft.		
C0185	1/24/2013	130	9" x 9" Floor Tile, Light Cream with White and Tan Streaks	Chrysotile	2% (Tile) 3% (Mastic)	NF	M	G	ND		176 Sq. Ft.		
C0186	1/24/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Lobby - Partial Ceramic Tile Over Concrete Floor, Plaster Wall, Splined Tile Ceiling Over Metal Ceiling	
C0186	1/24/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		73 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0186	1/24/2013	42	Spray on Fire Proofing, Gray	None Detected	---	F	S	G	ND	5	Sq. Ft.		
C0186	1/24/2013	139	12" x 12" Ceiling Tile, White with Random Fissures and Two Central Rectangular Openings, Splined	None Detected	---	F	M	G	ND	156	Sq. Ft.		
C0186	1/24/2013	140	12" x 12" Ceiling Tile, White with Random Fissures and Five Rectangular Openings, Splined	None Detected	---	F	M	G	ND	156	Sq. Ft.		
C0187	1/24/2013	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Lobby - Concrete Floor, Plaster Wall Splined Tile Ceiling Over Metal Ceiling	
C0187	1/24/2013	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	8	Ea.		
C0187	1/24/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	36	Lin. Ft.		
C0187	1/24/2013	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	15	Lin. Ft.		
C0187	1/24/2013	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	2	Ea.		
C0187	1/24/2013	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	51	Lin. Ft.		
C0187	1/24/2013	42	Spray on Fire Proofing, Gray	None Detected	---	F	S	G	ND	10	Sq. Ft.		



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Building No.: 1

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Cadillac Place State Office Building
3026 West Grand Boulevard
Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-fri-able	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(L)		
C0187	1/24/2013	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND	2	Ea.		
C0187	1/24/2013	139	12" x 12" Ceiling Tile, White with Random Fissures and Two Central Rectangular Openings, Splined	None Detected	---	F	M	G	ND	462	Sq. Ft.		
C0187	1/24/2013	140	12" x 12" Ceiling Tile, White with Random Fissures and Five Rectangular Openings, Splined	None Detected	---	F	M	G	ND	3	Sq. Ft.		
C0188	1/24/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Office - Concrete Floor, Plaster Wall Splined Tile Ceiling Over Metal Ceiling	
C0188	1/24/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	37	Lin. Ft.		
C0188	1/24/2013	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND	6	Ea.		
C0188	1/24/2013	140	12" x 12" Ceiling Tile, White with Random Fissures and Five Rectangular Openings, Splined	None Detected	---	F	M	G	ND	462	Sq. Ft.		
C0189	1/24/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Plaster Ceiling	
C0189	1/24/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	4	Lin. Ft.	Assumed Above Ceiling	
C0190	1/24/2013	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	55	Lin. Ft.	Tunnel - Concrete Floor, Concrete Wall, Concrete Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0190	1/24/2013	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	3	Ea.		
C0191	1/24/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	7.5	Lin. Ft.	Assumed Above Ceiling	
C0191	1/24/2013	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	7.5	Lin. Ft.	Assumed Above Ceiling	
C0191	1/24/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	128	Lin. Ft.	Vault - Wood Platform Floor Over Concrete Floor, Partial Vinyl Floor, Metal Walls, Metal Ceiling	
C0191	1/24/2013	141	Vinyl Sheet Flooring, Dark Terrazzo Pattern	Chrysotile	10%	NF	M	G	ND	45	Sq. Ft.		
C0192	1/24/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Viewing Rooms - Concrete Floor, Plaster Wall Splined Tile Ceiling Over Metal Ceiling	
C0192	1/24/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	54	Lin. Ft.		
C0192	1/24/2013	42	Spray on Fire Proofing, Gray	None Detected	---	F	S	G	ND	20	Sq. Ft.		
C0192	1/24/2013	139	12" x 12" Ceiling Tile, White with Random Fissures and Two Central Rectangular Openings, Splined	None Detected	---	F	M	G	ND	238	Sq. Ft.		
C0192	1/24/2013	140	12" x 12" Ceiling Tile, White with Random Fissures and Five Rectangular Openings, Splined	None Detected	---	F	M	G	ND	2	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0193	1/24/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Office - Concrete Floor, Plaster Wall Splined Tile Ceiling Over Metal Ceiling	
C0193	1/24/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		31 Lin. Ft.		
C0193	1/24/2013	140	12" x 12" Ceiling Tile, White with Random Fissures and Five Rectangular Openings, Splined	None Detected	---	F	M	G	ND		70 Sq. Ft.		
C0194	1/24/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Hallway - Concrete Floor, Plaster Wall Splined Tile Ceiling Over Metal Ceiling	
C0194	1/24/2013	13	Fire Door	Assumed	---	NF	M	G	ND		2 Ea.		
C0194	1/24/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		10 Lin. Ft.		
C0194	1/24/2013	42	Spray on Fire Proofing, Gray	None Detected	---	F	S	G	ND		20 Sq. Ft.		
C0194	1/24/2013	98	2 x 4' Ceiling Tile, White, Random Pin Holes	None Detected	---	F	M	G	ND		140 Sq. Ft.		
C0195	1/24/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Storage - Floor Tile Over Concrete Floor, Plaster Wall, Plaster Ceiling	
C0195	1/24/2013	13	Fire Door	Assumed	---	NF	M	G	ND		1 Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
C0195	1/24/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		71	Lin. Ft.	
C0195	1/24/2013	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		6	Ea.	
C0195	1/24/2013	130	9" x 9" Floor Tile, Light Cream with White and Tan Streaks	Chrysotile	2% (Tile) 3% (Mastic)	NF	M	G	ND		105	Sq. Ft.	
C0195	1/24/2013	142	9" x 9" Floor Tile, Tan with White Streaks	None Detected	---	NF	M	G	ND		105	Sq. Ft.	
C0196	1/24/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Elevator Mechanical Room - Concrete Floor, Plaster Wall, Plaster Ceiling,
C0196	1/24/2013	3	Electrical Box	Assumed	---	NF	M	G	ND		1	Ea.	
C0197	2/11/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		HVAC Room - Concrete Floor, Block Wall, Concrete Wall, Plaster Wall, Plaster Ceiling
C0197	2/11/2013	3	Electrical Box	Assumed	---	NF	M	G	ND		1	Ea.	
C0197	2/11/2013	13	Fire Door	Assumed	---	NF	M	G	ND		2	Ea.	
C0197	2/11/2013	36	2' x 4' Ceiling Tile, White with Random Worm Tracks and Pin Holes	None Detected	---	F	M	G	ND		30	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
C0197	2/11/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0198	2/11/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Men's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drywall Wall, Drywall Ceiling Over Glued On Ceiling	
C0198	2/11/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0198	2/11/2013	36	2' x 4' Ceiling Tile, White with Random Worm Tracks and Pin Holes	None Detected	---	F	M	G	ND	130	Sq. Ft.	Behind Wall	
C0198	2/11/2013	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
C0198	2/11/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
C0198	2/11/2013	100	12" x 12" Ceiling Tile, White, Uniform Pencil Holes, Glued On with Brown Glue Pods	None Detected	---	F	M	G	ND	183	Sq. Ft.		
C0199	2/11/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Men's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drywall Wall, Drywall Ceiling Over Plaster Ceiling	
C0199	2/11/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
C0199	2/11/2013	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		



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									0-1 ND	1-10 D(G)	1-25 D(L)		
C0199	2/11/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
C0200	2/11/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Storage - Floor Tile Over Concrete Floor, Concrete Wall, Drop Ceiling Over Plaster Ceiling
C0200	2/11/2013	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		105	Sq. Ft.	
C0201	2/12/2013	13	Fire Door	Assumed	---	NF	M	G	ND		15	Ea.	Stairwell A - Slate Floor, Concrete Wall, Marble Wall, Concrete Ceiling
C0202	2/12/2013	13	Fire Door	Assumed	---	NF	M	G	ND		13	Ea.	Stairwell D - Slate Floor, Concrete Wall, Marble Wall, Concrete Ceiling
C0203	2/12/2013	13	Fire Door	Assumed	---	NF	M	G	ND		1	Ea.	Stairwell E - Slate Floor, Concrete Wall, Marble Wall, Concrete Ceiling
C0204	2/12/2013	13	Fire Door	Assumed	---	NF	M	G	ND		3	Ea.	Stairwell F - Slate Floor, Concrete Wall, Marble Wall, Concrete Ceiling



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									0-1 ND	1-10 D(G)	>10 SD(L)		
01001	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01001	10/29/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		360	Sq. Ft.	
01001	10/29/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		Lobby - Ceramic Tile Over Concrete, Carpet Over Concrete, Drywall Wall, Drop Ceiling, Decorative Plaster Ceiling
01002	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Conference Room - Ceramic Tile Over Concrete, Carpet Over Concrete, Concrete Wall, Drywall Wall, Drop Ceiling, Decorative
01002	10/29/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		238	Sq. Ft.	
01002	10/29/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		40	Lin. Ft.	
01002	10/29/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01003	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01003	10/29/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		189	Sq. Ft.	
01003	10/29/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		40	Lin. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01003	10/29/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling, Decorative Plaster Ceiling	
01004	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01004	10/29/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		215 Sq. Ft.		
01004	10/29/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		40 Lin. Ft.		
01004	10/29/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling, Decorative Plaster Ceiling	
01005	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01005	10/29/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		182 Sq. Ft.		
01005	10/29/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		40 Lin. Ft.		
01005	10/29/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling, Decorative Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01006	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01006	1/24/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01006	10/29/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		169 Sq. Ft.		
01006	10/29/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		40 Lin. Ft.		
01006	10/29/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling, Decorative Plaster Ceiling
01007	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
01007	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01007	10/29/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		238 Sq. Ft.		
01007	10/29/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		40 Lin. Ft.		
01007	10/29/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling, Plaster Ceiling, Decorative Plaster Ceiling



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01008	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling, Plaster Ceiling	
01008	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01008	10/29/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		204 Sq. Ft.		
01008	10/29/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		40 Lin. Ft.		
01009	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Floor Tile Over Concrete, Concrete Wall, Plaster Ceiling	
01009	10/29/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		23 Sq. Ft.		
01010	10/29/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		6 Lin. Ft.	Custodial Closet - Terrazzo Floor, Concrete Wall, Concrete Ceiling	
01011	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Break Room - Floor Tile Over Concrete Floor, Drywall Wall, Plaster Wall, Concrete Wall, Drop Ceiling, Concrete Ceiling, Plaster	
01011	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
01011	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01011	10/29/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		330	Sq. Ft.	
01011	10/29/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		330	Sq. Ft.	
01011	10/29/2012	40	4" Vinyl Cove Base, Beige	None Detected	---	NF	M	G	ND		70	Lin. Ft.	
01011	10/29/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		35	Lin. Ft.	
01012	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling, Concrete Ceiling
01012	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01012	10/29/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		168	Sq. Ft.	
01013	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
01013	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Concrete Deck
01013	10/29/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		168	Sq. Ft.	



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Cadillac Place State Office Building
3026 West Grand Boulevard
Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
01013	10/29/2012	66	1' x 2' Ceiling Tile, Splined, White with Random Pits and Groves	None Detected	---	F	M	G	ND		126	Sq. Ft.	
01014	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Office - Carpet Over Concrete Floor, Plaster Wall, Drywall Wall, Block Wall, Drop Ceiling Over Concrete Deck
01014	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01014	10/29/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		168	Sq. Ft.	
01014	10/29/2012	66	1' x 2' Ceiling Tile, Splined, White with Random Pits and Groves	None Detected	---	F	M	G	ND		168	Sq. Ft.	
01015	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Office - Carpet Over Concrete Floor, Drywall Wall, Block Wall, Plaster Wall, Drop Ceiling Over Concrete Deck
01015	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01015	10/29/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		140	Sq. Ft.	
01015	10/29/2012	66	1' x 2' Ceiling Tile, Splined, White with Random Pits and Groves	None Detected	---	F	M	G	ND		112	Sq. Ft.	
01016	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Office - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Concrete Deck



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									0-1 ND	1-10 D(G)	>10 SD(L)		
01016	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01016	10/29/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		138	Sq. Ft.	
01016	10/29/2012	66	1' x 2' Ceiling Tile, Splined, White with Random Pits and Groves	None Detected	---	F	M	G	ND		46	Sq. Ft.	
01017	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Hallway - Carpet Over Concrete Floor, Carpet Over Terrazzo, Drywall Wall, Plaster Wall, Block Wall, Drop Ceiling, Plaster Ceiling,
01017	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01017	10/29/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1735	Sq. Ft.	
01017	10/29/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01017	10/29/2012	66	1' x 2' Ceiling Tile, Splined, White with Random Pits and Groves	None Detected	---	F	M	G	ND		160	Sq. Ft.	
01018	10/30/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
01018	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01018	10/29/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		40	Lin. Ft.	
01018	10/29/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		352	Sq. Ft.	Conference Room - Carpet Over Terrazzo Floor, Drywall Wall, Concrete Wall, Wood Wall, Plaster Ceiling
01019	10/30/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
01019	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Conference Room - Carpet Over Concrete Floor, Drywall Wall, Concrete Wall, Wood Wall, Plaster Ceiling
01019	10/30/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		40	Sq. Ft.	
01020	10/30/2012	61	12" x 12" Floor Tile, Gray with White and Brown Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND		12	Sq. Ft.	
01020	10/30/2012	69	18 "x 18" Floor Tile, Beige with Dark Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		39	Sq. Ft.	Storage - Floor Tile Over Concrete, Block Wall, Wood Wall, Wood Ceiling
01021	10/30/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
01021	10/30/2012	69	18 "x 18" Floor Tile, Beige with Dark Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		32	Sq. Ft.	Electrical Closet - Floor Tile Over Concrete, Concrete Wall, Plaster Ceiling
01022	10/30/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Custodial Closet - Terrazzo Floor, Concrete Wall, Wood Wall, Plaster Ceiling



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									0-1 ND	1-10 D(G)	>10 SD(L)		
01022	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Entryway - Ceramic Tile Floor, Concrete Floor, Drywall Wall, Drop Ceiling, Plaster Ceiling	
01023	10/30/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
01023	10/30/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		364 Sq. Ft.		
01023	10/30/2012	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		60 Lin. Ft.		
01024	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Closet - Floor Tile Over Terrazzo, Concrete Wall, Drywall Wall, Drywall Ceiling	
01024	10/30/2012	70	12" x 12" Floor Tile, Tan with Light and Dark Splotches	Chrysotile	2% (Tile Only)	NF	M	G	ND		29 Sq. Ft.		
01024	10/30/2012	71	4" Vinyl Cove Base, Off White	None Detected	---	NF	M	G	ND		22 Lin. Ft.		
01025	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Open Area - Carpet Over Terrazzo Floor, Drywall Wall, Drop Ceiling, Decorative Plaster Ceiling	
01025	10/30/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		1398 Sq. Ft.		
01025	10/30/2012	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		94 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01025	10/30/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01025	10/30/2012	72	Sink Under Coating, Gray	None Detected	---	NF	M	G	ND		1 Ea.		
01026	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Office - Ceramic Tile Floor, Drywall Wall, Drop Ceiling Over Drop Ceiling
01026	10/30/2012	55	2' x 4' Ceiling Tile, White, Random Grooves and Pin Holes	None Detected	---	F	M	G	ND		132 Sq. Ft.		
01026	10/30/2012	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		46 Lin. Ft.		
01026.1	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Office - Ceramic Tile Floor, Drywall Wall, Drop Ceiling Over Drop Ceiling
01026.1	10/30/2012	55	2' x 4' Ceiling Tile, White, Random Grooves and Pin Holes	None Detected	---	F	M	G	ND		228 Sq. Ft.		
01026.1	10/30/2012	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		62 Lin. Ft.		
01027	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Office - Ceramic Tile Floor, Drywall Wall, Drop Ceiling Over Drop Ceiling
01027	10/30/2012	55	2' x 4' Ceiling Tile, White, Random Grooves and Pin Holes	None Detected	---	F	M	G	ND		120 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01027	10/30/2012	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		43	Lin. Ft.	
01028	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Office - Ceramic Tile Floor, Drywall Wall, Drop Ceiling Over Drop Ceiling
01028	10/30/2012	55	2' x 4' Ceiling Tile, White, Random Grooves and Pin Holes	None Detected	---	F	M	G	ND		192	Sq. Ft.	
01028	10/30/2012	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		53	Lin. Ft.	
01029	10/30/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		1	Ea.	
01029	10/30/2012	13	Fire Door	Assumed	---	NF	M	G	ND		1	Ea.	Electrical Closet - Floor Tile Over Concrete, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling
01029	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01029	10/30/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		50	Sq. Ft.	
01029	10/30/2012	44	12" x 12" Floor Tile, Gray with Dark Gray, White, and Tan Splotches	None Detected	---	NF	M	G	ND		50	Sq. Ft.	
01029	10/30/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01030	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Store Front - Carpet Over Terrazzo, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01030	10/30/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		10 Ea.		
01030	10/30/2012	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		25 Lin. Ft.		
01030	10/30/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01031	10/30/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		292 Sq. Ft.	Store Front - Carpet Over Terrazzo Floor, Ceramic Tile Floor, Drywall Wall Drop Ceiling Over Decorative Plaster Ceiling	
01031	10/30/2012	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		65 Lin. Ft.		
01031	10/30/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01032	10/31/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Open Space - Concrete Floor, Concrete Wall, Plaster Ceiling Over Concrete Ceiling	
01032	10/31/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		5 Ea.		
01032	10/31/2012	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		26 Lin. Ft.	Inside Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01032	10/31/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	57	Lin. Ft.		
01032	10/31/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		
01032	12/6/2012	78	Spray On Fireproofing, Green	None Detected	---	F	S	G	ND	510	Sq. Ft.		
01033	10/31/2012	15	Drywall	None Detected	---	NF	M	G	ND	NQ		Open Space - Concrete Floor, Concrete Wall, Drywall Wall, Decorative Plaster Wall, Metal Ceiling	
01033	10/31/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND	NQ			
01034	10/31/2012	2	6" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	34	Lin. Ft.		
01034	10/31/2012	15	Drywall	None Detected	---	NF	M	G	ND	NQ		Women's Restroom - Floor Tile Over Concrete, Ceramic Tile Floor, Ceramic Tile Wall, Concrete Wall, Drywall Ceiling	
01034	10/31/2012	57	12" x 12" Floor Tile, Tan with Brown and White Streaks	Chrysotile	3% (Tile) 2% (Mastic)	NF	M	G	ND	100	Sq. Ft.		
01035	10/31/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	3	Ea.		
01035	10/31/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	30	Lin. Ft.	Mechanical Room - Concrete Floor, Concrete Wall, Block Wall, Concrete Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
01035	10/31/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	D	8	Ea.		
01035	10/31/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	44	Lin. Ft.		
01035	10/31/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	26	Lin. Ft.		
01036	10/31/2012	200	No Access	--	---	--	--	---	---	--		No Access	
01037	10/31/2012	15	Drywall	None Detected	---	NF	M	G	ND	NQ		Men's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drywall Wall, Concrete Wall, Drywall Ceiling	
01038	10/31/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Closet - Concrete Floor, Concrete Wall Plaster Ceiling	
01038	10/31/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	1	Ea.		
01039	10/31/2012	0	No Asbestos Detected	--	---	--	--	--	--	--		Freight Elevator - Concrete Floor, Metal Walls, Metal Ceiling	
01040	12/6/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	L	D	16	Lin. Ft.		
01040	12/6/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	L	D	6	Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01040	12/6/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	L	D			8 Lin. Ft.	
01040	12/6/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	L	D			20 Lin. Ft.	
01040	12/6/2012	75	Cork Insulated Piping	None Detected	---	NF	M	L	SD			13 Lin. Ft.	
01041	10/31/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
01041	10/31/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Exhibit Hall - Carpet Over Concrete Floor, Drywall Wall, Concrete Wall, Wood Wall, Plaster Ceiling
01041	10/31/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND			52 Lin. Ft.	
01041	10/31/2012	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND			82 Lin. Ft.	
01041	10/31/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND			39 Sq. Ft.	
01041	10/31/2012	79	Interior Window Caulk, Black	None Detected	---	NF	M	G	ND			88 Lin. Ft.	
01041	11/1/2012	83	2 'x 2' Ceiling Tile, White, Drywall Like	None Detected	---	F	M	G	ND			800 Sq. Ft.	Under Escalator



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01042	10/31/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
01042	10/31/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
01042	10/31/2012	69	18 "x 18" Floor Tile, Beige with Dark Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		180 Sq. Ft.		Electrical Closet - Floor Tile Over Concrete Floor, Concrete Wall, Plaster Ceiling
01043	10/31/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Storage - Carpet Over Floor Tile Over Concrete, Concrete Wall, Plaster Ceiling
01043	10/31/2012	69	18 "x 18" Floor Tile, Beige with Dark Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		100 Sq. Ft.		
01044	11/1/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Hallway - Ceramic Tile Floor, Wood Wall, Concrete Wall, Glass Wall, Glued On Ceiling Tile, Plaster Ceiling Over Concrete Ceiling
01044	11/1/2012	80	12" x 12" Ceiling Tile, Glued On, White with Random Gouges and Brown Glue Pods	Chrysotile	<1%	NF	M	G	ND		480 Sq. Ft.		
01044	11/1/2012	81	12" x 12" Floor Tile, Off White, Tic Tac Toe Pattern	None Detected	---	NF	M	G	ND		24 Sq. Ft.		
01045	11/1/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Old Electrical Room - Concrete Floor, Ceramic Tile Floor, Concrete Wall, Plaster Ceiling
01045	11/1/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		1 Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01046	11/1/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ	Open Space - Ceramic Tile Over Concrete Floor, Decorative Plaster Wall, Decorative Plaster Ceiling	
01047	11/1/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
01047	11/1/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Break Room - Concrete Floor Under Floor Tile, Drywall Wall, Wood Wall, Drop Ceiling Over Plaster Ceiling	
01047	11/1/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		76 Lin. Ft.		
01047	11/1/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		378 Sq. Ft.		
01047	11/1/2012	83	2 'x 2' Ceiling Tile, White, Drywall Like	None Detected	---	F	M	G	ND		378 Sq. Ft.		
01048	11/1/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Old Kitchen Area - Ceramic Tile Floor, Floor Tile Over Concrete, Drywall Wall, Concrete Wall, Plaster Ceiling	
01048	11/1/2012	2	6" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		78 Lin. Ft.		
01048	11/1/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		1 Ea.		
01048	11/1/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		4 Lin. Ft.		



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Building: Cadillac Place State Office Building

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Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
01048	11/1/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		23	Lin. Ft.	
01048	11/1/2012	57	12" x 12" Floor Tile, Tan with Brown and White Streaks	Chrysotile	3% (Tile) 2% (Mastic)	NF	M	G	ND		56	Sq. Ft.	
01049	11/1/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Storage - Vinyl Sheet Floor Over Concrete, Wood Wall, Concrete Wall, Plaster Ceiling
01050	10/15/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
01050	10/15/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		44	Lin. Ft.	
01050	10/15/2012	20	9" x 9" Floor Tile, Green with White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	D		1	Sq. Ft.	
01050	10/15/2012	22	2' x 4' Ceiling Tile - White with Random Holes and Pin Holes	None Detected	---	F	M	L	D		8	Sq. Ft.	
01050	10/15/2012	35	Drywall Panels	None Detected	---	NF	M	G	ND		NQ		
01050	10/15/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		57	Lin. Ft.	
01050	10/15/2012	51	9" x 9" Floor Tile, Black with Red and White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	D		228	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
01050	10/15/2012	53	9" x 9" Floor Tile, Burgundy with White and Red Streaks	Chrysotile	3% (Tile Only)	NF	M	G	D	14	Sq. Ft.		
01050	10/15/2012	55	2' x 4' Ceiling Tile, White, Random Grooves and Pin Holes	None Detected	---	F	M	L	D	32	Sq. Ft.		
01050	10/15/2012	63	2' x 4' Ceiling Tile, White with Lateral Grooves and Pin Holes	None Detected	---	F	M	L	D	415	Sq. Ft.		
01050	10/15/2012	88	9" x 9" Floor Tile, Red with White Streaks	Chrysotile	2% (Tile Only)	NF	M	G	D	228	Sq. Ft.	Break Room - Concrete Floor, Tile Over Concrete, Plaster Walls, Drywall Panel Walls, Drop Ceiling, Plaster Ceiling, Concrete Deck	
01051	10/15/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Closet - Concrete Floor, Plaster Walls, Concrete Deck	
01051	10/15/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	L	S	18	Lin. Ft.		
01052	10/15/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ			
01052	10/15/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	L	S	42	Lin. Ft.		
01052	10/15/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	L	S	14	Ea.		
01052	10/15/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	6	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01052	10/15/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		84	Lin. Ft.	
01052	10/15/2012	35	Drywall Panels	None Detected	---	NF	M	G	ND			NQ	
01052	10/15/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		95	Lin. Ft.	
01052	10/15/2012	51	9" x 9" Floor Tile, Black with Red and White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	D		250	Sq. Ft.	
01052	10/15/2012	55	2' x 4' Ceiling Tile, White, Random Grooves and Pin Holes	None Detected	---	F	M	L	D		80	Sq. Ft.	
01052	10/15/2012	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		46	Lin. Ft.	
01052	10/15/2012	63	2' x 4' Ceiling Tile, White with Lateral Grooves and Pin Holes	None Detected	---	F	M	L	D		420	Sq. Ft.	
01052	10/15/2012	88	9" x 9" Floor Tile, Red with White Streaks	Chrysotile	2% (Tile Only)	NF	M	G	D		250	Sq. Ft.	Storage Room - Concrete Floor, Tile over Concrete, Plaster Walls, Drywall Panel Walls, Drop Ceiling, Plaster Ceiling, Concrete Deck
01053	10/15/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
01053	10/15/2012	2	6" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		28	Lin. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01053	10/15/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01053	10/15/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		48 Lin. Ft.		
01053	10/15/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		49 Sq. Ft.		
01053	10/15/2012	35	Drywall Panels	None Detected	---	NF	M	G	ND		NQ		
01053	10/15/2012	51	9" x 9" Floor Tile, Black with Red and White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	D		80 Sq. Ft.		
01053	10/15/2012	55	2' x 4' Ceiling Tile, White, Random Grooves and Pin Holes	None Detected	---	F	M	L	D		24 Sq. Ft.		
01053	10/15/2012	63	2' x 4' Ceiling Tile, White with Lateral Grooves and Pin Holes	None Detected	---	F	M	L	D		128 Sq. Ft.		
01053	10/15/2012	88	9" x 9" Floor Tile, Red with White Streaks	Chrysotile	2% (Tile Only)	NF	M	G	D		80 Sq. Ft.		Storage Room - Concrete Floor, Tile over Concrete, Plaster Walls, Drywall Panel Walls, Drop Ceiling, Plaster Ceiling, Concrete Deck
01053	10/15/2012	110	12" x 12" Floor Tile, Tan with Green, Purple and Red Splotches	None Detected	---	NF	M	G	ND		49 Sq. Ft.		CC Entryway - Concrete Floor, Tile over Concrete, Carpet over Tile, Drywall Wall, Drop Ceiling, Metal Pan Ceiling
01054	10/15/2012	2	6" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		70 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01054	10/15/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01054	10/15/2012	32	2' x 4' Ceiling Tile, White with Random Divots and Pin Holes	None Detected	---	F	M	G	ND		280 Sq. Ft.		
01054	10/15/2012	110	12" x 12" Floor Tile, Tan with Green , Purple and Red Splotches	None Detected	---	NF	M	G	ND		280 Sq. Ft.		CC Lobby - Concrete Floor, Tile over Concrete, Carpet over Tile, Drywall Wall, Drop Ceiling, Metal Pan Ceiling
01055	10/15/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01055	10/15/2012	32	2' x 4' Ceiling Tile, White with Random Divots and Pin Holes	None Detected	---	F	M	G	ND		182 Sq. Ft.		
01055	10/15/2012	110	12" x 12" Floor Tile, Tan with Green , Purple and Red Splotches	None Detected	---	NF	M	G	ND		182 Sq. Ft.		Security Director's Office - Concrete Floor, Tile over Concrete, Carpet over Tile, Drywall Wall, Drop Ceiling, Metal Pan Ceiling
01056	10/15/2012	2	6" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		72 Lin. Ft.		
01056	10/15/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01056	10/15/2012	110	12" x 12" Floor Tile, Tan with Green , Purple and Red Splotches	None Detected	---	NF	M	G	ND		288 Sq. Ft.		Security Room - Concrete Floor, Tile over Concrete, Carpet over Tile, Drywall Wall, Concrete Wall, Metal Pan Ceiling
01057	10/15/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01057	10/15/2012	110	12" x 12" Floor Tile, Tan with Green , Purple and Red Splotches	None Detected	---	NF	M	G	ND	76.5	Sq. Ft.	Video Room - Concrete Floor, Tile over Concrete, Drywall Wall, Drop Ceiling, Metal Pan Ceiling	
01057	10/15/2012	118	2' x 2' Ceiling Tile, White, Recessed with Random Holes and Knife Holes	None Detected	---	F	M	G	ND	77	Sq. Ft.		
01058	10/15/2012	2	6" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	98	Lin. Ft.		
01058	10/15/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01058	10/15/2012	110	12" x 12" Floor Tile, Tan with Green , Purple and Red Splotches	None Detected	---	NF	M	G	ND	259	Sq. Ft.	Locker Room - Concrete Floor, Tile over Concrete, Drywall Wall, Drop Ceiling, Metal Pan Ceiling	
01058	10/15/2012	118	2' x 2' Ceiling Tile, White, Recessed with Random Holes and Knife Holes	None Detected	---	F	M	G	ND	259	Sq. Ft.		
01059	10/15/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	0	Lin. Ft.	Conference Room - Tile Floor, Drywall Walls, Drop Ceiling	
01059	10/15/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	70	Lin. Ft.		
01059	10/15/2012	83	2' x 2' Ceiling Tile, White, Drywall Like	None Detected	---	F	M	G	ND	44	Sq. Ft.		
01059	10/15/2012	86	12" x 12" Floor Tile, Black with White Splotches	None Detected	---	NF	M	G	ND	5	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
01059	10/15/2012	112	12" x 12" Floor Tile, Tan With Brown and White Splotches	None Detected	---	NF	M	G	ND	800	Sq. Ft.		
01059	10/15/2012	113	12" x 12" Floor Tile, Light Blue with Gray and White Flecks	None Detected	---	NF	M	G	ND	539	Sq. Ft.		
01059	10/15/2012	114	12" x 12" Floor Tile, Gray with White Flecks	Assumed	---	NF	M	G	ND	6	Sq. Ft.		
01059	10/15/2012	115	12" x 12" Floor Tile, Purple with Light and Dark Flecks	Assumed	---	NF	M	G	ND	5	Sq. Ft.		
01059	10/15/2012	116	12" x 12" Floor Tile, Yellow With White and Dark Flecks	Assumed	---	NF	M	G	ND	5	Sq. Ft.		
01059	10/15/2012	117	2' x 2' Ceiling Tile, White with Light Texture and Pin Holes	None Detected	---	F	M	G	ND	1120	Sq. Ft.		
01060	10/15/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Conference Room - Ceramic Tile Floor, Carpet over Tile, Drywall Walls, Concrete Walls, Plaster Ceiling	
01060	10/15/2012	15	Drywall	None Detected	---	NF	M	G	ND	NQ			
01060	10/15/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND	46	Lin. Ft.		
01060	10/15/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND	NQ			



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01061	10/15/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Office - Ceramic Tile Floor, Carpet over Tile, Drywall Walls, Drop Ceiling	
01061	10/15/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		209 Sq. Ft.		
01061	10/15/2012	111	6" Vinyl Cove Base, Tan	None Detected	---	NF	M	G	ND		60 Lin. Ft.		
01062	10/15/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Office - Ceramic Tile Floor, Carpet over Tile, Drywall Walls, Concrete Walls, Drop Ceiling	
01062	10/15/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		347 Sq. Ft.		
01062	10/15/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		46 Lin. Ft.		
01062	10/15/2012	111	6" Vinyl Cove Base, Tan	None Detected	---	NF	M	G	ND		50 Lin. Ft.		
01063	10/15/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Storage - Ceramic Tile Floor, Carpet over Tile, Drywall Walls, Plaster Walls, Drop Ceiling, Plaster Ceiling	
01063	10/15/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01063	10/15/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		77 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01063	10/15/2012	111	6" Vinyl Cove Base, Tan	None Detected	---	NF	M	G	ND		38	Lin. Ft.	
01064	1/8/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
01064	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Open Space - Carpet Over Concrete Floor, Drywall Wall, Wood Panel Wall Drop Ceiling Over Plaster Ceiling, Decorative Plaster
01064	1/8/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		510	Sq. Ft.	
01064	1/8/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		69	Lin. Ft.	
01064	1/8/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	
01064	1/8/2013	123	Interior Window Caulk, Gray	None Detected	---	NF	M	G	ND		11	Lin. Ft.	
01065	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Reception Area - Carpet Over Ceramic Tile Floor Over Concrete Floor, Drywall Wall, Wood Panel Wall, Drop Ceiling Over Decorative
01065	1/8/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		731	Sq. Ft.	
01065	1/8/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		100	Lin. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01065	1/8/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01066	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01066	1/8/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	194	Sq. Ft.		
01066	1/8/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	53	Lin. Ft.		
01066	1/8/2013	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	12	Sq. Ft.		
01067	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Break Room - Floor Tile Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01067	1/8/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	263	Sq. Ft.		
01067	1/8/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	62	Lin. Ft.		
01067	1/8/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01067	1/8/2013	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	12	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01068	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01068	1/8/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		150 Sq. Ft.		
01068	1/8/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		47 Lin. Ft.		
01068	1/8/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01069	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01069	1/8/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		150 Sq. Ft.		
01069	1/8/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		47 Lin. Ft.		
01069	1/8/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01070	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01070	1/8/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		150 Sq. Ft.		



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Building: Cadillac Place State Office Building

Date: 26-Mar-13

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Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
01070	1/8/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		47	Lin. Ft.	
01070	1/8/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	
01071	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Break Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling
01071	1/8/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		240	Sq. Ft.	
01071	1/8/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		59	Lin. Ft.	
01071	1/8/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	
01072	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling
01072	1/8/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		150	Sq. Ft.	
01072	1/8/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		47	Lin. Ft.	
01072	1/8/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01073	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Open Office Area With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01073	1/8/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		566 Sq. Ft.		
01073	1/8/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		98 Lin. Ft.		
01073	1/8/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
01073	1/8/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01074	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01074	1/8/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		195 Sq. Ft.		
01074	1/8/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		53 Lin. Ft.		
01074	1/8/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01074	1/8/2013	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		12 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01075	1/8/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Waiting Area - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01075	1/8/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		2706 Sq. Ft.		
01075	1/8/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		148 Lin. Ft.		
01075	1/8/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01075	1/8/2013	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		72 Sq. Ft.		
01076	1/8/2013	200	No Access	--	---	--	--	---	---		--	No Access	
01077	1/9/2013	13	Fire Door	Assumed	---	NF	M	G	ND		2 Ea.		
01077	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01077	1/9/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		4452 Sq. Ft.		
01077	1/9/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		20 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
01077	1/9/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ	UIA Waiting Area - Carpet Over Terrazzo Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01077	1/9/2013	123	Interior Window Caulk, Gray	None Detected	---	NF	M	G	ND		68 Lin. Ft.		
01078	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01078	1/9/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		208 Sq. Ft.		
01078	1/9/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		58 Lin. Ft.		
01078	1/9/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ	Break Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01078	1/9/2013	70	12" x 12" Floor Tile, Tan with Light and Dark Splotches	Chrysotile	2% (Tile Only)	NF	M	G	ND		194 Sq. Ft.		
01078	1/9/2013	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND		14 Sq. Ft.		
01078	1/9/2013	123	Interior Window Caulk, Gray	None Detected	---	NF	M	G	ND		44 Lin. Ft.		
01079	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Open Office Area With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Metal Deck	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01079	1/9/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1296	Sq. Ft.	
01079	1/9/2013	42	Spray on Fire Proofing, Gray	None Detected	---	F	S	G	ND		1296	Sq. Ft.	
01079	1/9/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		160	Lin. Ft.	
01079	1/9/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
01080	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Safe Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Metal Deck
01080	1/9/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		68	Sq. Ft.	
01080	1/9/2013	42	Spray on Fire Proofing, Gray	None Detected	---	F	S	G	ND		68	Sq. Ft.	
01080	1/9/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		29	Lin. Ft.	
01080	1/9/2013	70	12" x 12" Floor Tile, Tan with Light and Dark Splotches	Chrysotile	2% (Tile Only)	NF	M	G	ND		64	Sq. Ft.	
01080	1/9/2013	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND		4	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01081	1/9/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
01081	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Electrical Room - Ceramic Tile Floor, Drywall Wall, Plaster Wall, Metal Ceiling	
01081	1/9/2013	42	Spray on Fire Proofing, Gray	None Detected	---	F	S	G	ND		56 Sq. Ft.		
01081	1/9/2013	130	9" x 9" Floor Tile, Light Cream with White and Tan Streaks	Chrysotile	2% (Tile) 3% (Mastic)	NF	M	G	ND		8 Sq. Ft.		
01082	1/9/2013	200	No Access	--	---	--	--	---	---		--	No Access	
01083	1/9/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
01083	1/9/2013	13	Fire Door	Assumed	---	NF	M	G	ND		1 Ea.	Stairwell - Floor Tile Over Concrete Floor, Concrete Wall, Plaster Ceiling	
01083	1/9/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		25 Lin. Ft.		
01083	1/9/2013	70	12" x 12" Floor Tile, Tan with Light and Dark Splotches	Chrysotile	2% (Tile Only)	NF	M	G	ND		38 Sq. Ft.		
01083	1/9/2013	87	12" x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND		2 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
01083	1/9/2013	129	Vinyl Stair Tread, Tan With Brown Streaks	None Detected	---	NF	M	G	ND	63	Sq. Ft.		
01084	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND	NQ		Restroom - Ceramic Tile Floor, Drywall Wall, Drop Ceiling Over Concrete Ceiling	
01084	1/9/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	84	Sq. Ft.		
01084	1/9/2013	42	Spray on Fire Proofing, Gray	None Detected	---	F	S	G	ND	84	Sq. Ft.		
01085	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND	NQ		Break Room - Carpet Over Concrete Floor, Drywall Wall, Concrete Wall, Drop Ceiling Over Metal Ceiling	
01085	1/9/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	110	Sq. Ft.		
01085	1/9/2013	42	Spray on Fire Proofing, Gray	None Detected	---	F	S	G	ND	110	Sq. Ft.		
01085	1/9/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	39	Lin. Ft.		
01086	1/9/2013	1	Plaster	None Detected	---	NF	S	G	ND	NQ			
01086	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND	NQ		Storage Closet - Floor Tile Over Concrete Floor, Ceramic Tile Floor, Concrete Wall, Drywall Wall, Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01086	1/9/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		41 Lin. Ft.		
01086	1/9/2013	70	12" x 12" Floor Tile, Tan with Light and Dark Splotches	Chrysotile	2% (Tile Only)	NF	M	G	ND		109 Sq. Ft.		
01086	1/9/2013	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND		8 Sq. Ft.		
01087	1/9/2013	13	Fire Door	Assumed	---	NF	M	G	ND		1 Ea.		
01087	1/9/2013	56	6" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		6 Lin. Ft.		
01087	1/9/2013	129	Vinyl Stair Tread, Tan With Brown Streaks	None Detected	---	NF	M	G	ND		120 Sq. Ft.	Stairwell - Floor Tile Over Concrete Floor, Concrete Wall, Concrete Ceiling	
01087	1/9/2013	130	9" x 9" Floor Tile, Light Cream with White and Tan Streaks	Chrysotile	2% (Tile) 3% (Mastic)	NF	M	G	ND		12 Sq. Ft.		
01088	1/9/2013	130	9" x 9" Floor Tile, Light Cream with White and Tan Streaks	Chrysotile	2% (Tile) 3% (Mastic)	NF	M	G	ND		22.5 Sq. Ft.	Elevator - Floor Tile Over Wood Floor, Metal Wall, Metal Ceiling	
01089	1/9/2013	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		4 Ea.		
01089	1/9/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		100 Lin. Ft.	Duct Chase - Metal Grate Floor, Clay Tile Wall, Concrete Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01089	1/9/2013	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	6	Ea.		
01089	1/9/2013	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	200	Lin. Ft.		
01089	1/9/2013	75	Cork Insulated Piping	None Detected	---	NF	M	G	ND	200	Lin. Ft.		
01089	1/9/2013	76	Mud Compound Insulation on Cork Insulated Lines	None Detected	---	F	M	G	ND	6	Ea.		
01090	1/9/2013	70	12" x 12" Floor Tile, Tan with Light and Dark Splotches	Chrysotile	2% (Tile Only)	NF	M	G	ND	33	Sq. Ft.	Closet - Floor Tile Over Concrete Floor, Concrete Wall, Concrete Ceiling	
01090	1/9/2013	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND	3	Sq. Ft.		
01091	1/9/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	210	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01091	1/9/2013	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND	20	Lin. Ft.		
01091	1/9/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01092	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01092	1/9/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		2422	Sq. Ft.	Open Office Area With Cubicles - Carpet Over Ceramic Tile Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster
01092	1/9/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	
01093	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
01093	1/9/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		2622	Sq. Ft.	Open Office Area With Cubicles - Carpet Over Ceramic Tile Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster
01093	1/9/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	
01094	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
01094	1/9/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1770	Sq. Ft.	Open Office Area With Cubicles - Carpet Over Ceramic Tile Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster
01094	1/9/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	
01095	1/9/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		459	Sq. Ft.	
01095	1/9/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01095	1/9/2013	70	12" x 12" Floor Tile, Tan with Light and Dark Splotches	Chrysotile	2% (Tile Only)	NF	M	G	ND	437	Sq. Ft.	Break Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster	
01095	1/9/2013	72	Sink Under Coating, Gray	None Detected	---	NF	M	G	ND		Ea.		
01095	1/9/2013	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND	22	Sq. Ft.		
01096	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster	
01096	1/9/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	248	Sq. Ft.		
01096	1/9/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01097	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01097	1/9/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	482	Sq. Ft.	Hallway With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01097	1/9/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01098	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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Building: Cadillac Place State Office Building

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									0-1 ND	1-10 D(G)	>10 SD(L)		
01098	1/9/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		5658	Sq. Ft.	Open Office Area With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster
01098	1/9/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
01098	1/9/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	
01099	1/9/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
01099	1/9/2013	3	Electrical Box	Assumed	---	NF	M	G	ND			Ea.	
01099	1/9/2013	3	Electrical Box	Assumed	---	NF	M	G	ND		24	Ea.	
01099	1/9/2013	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		18	Lin. Ft.	
01099	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Mechanical Room - Concrete Floor, Drywall Wall, Plaster Wall, Concrete Wall, Concrete Ceiling
01099	1/9/2013	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	
01099	1/9/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01100	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Hallway - Floor Tile Over Concrete Floor, Drywall Wall, Concrete Ceiling	
01100	1/9/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		20 Lin. Ft.		
01100	1/9/2013	70	12" x 12" Floor Tile, Tan with Light and Dark Splotches	Chrysotile	2% (Tile Only)	NF	M	G	ND		72 Sq. Ft.		
01101	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Concrete Ceiling	
01101	1/9/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		248 Sq. Ft.		
01102	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Concrete Ceiling	
01102	1/9/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		248 Sq. Ft.		
01103	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Concrete Ceiling	
01103	1/9/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		248 Sq. Ft.		
01104	1/24/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ	Hallway - Marble Floor, Marble Wall, Decorative Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01105	1/24/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
01105	1/24/2013	3	Electrical Box	Assumed	---	NF	M	G	ND		1 Ea.		
01105	1/24/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01105	1/25/2013	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		288 Sq. Ft.		
01105	1/24/2013	66	1' x 2' Ceiling Tile, Splined, White with Random Pits and Groves	None Detected	---	F	M	G	ND		324 Sq. Ft.		
01105	1/24/2013	95	12" x 12" Ceiling Tile, White with Lateral Gouges, Splined.	None Detected	---	F	M	G	ND		324 Sq. Ft.		
01105	1/24/2013	143	12" x 12" Floor Tile, Off White with White, Tan and Brown Marbling	Chrysotile	<1% (Mastic Only)	NF	M	G	ND		648 Sq. Ft.		Barber Shop - Partial Carpet Over Floor Tile Over Concrete Floor, Plaster Wall, Drywall Wall, Drop Ceiling Over Splined Ceiling Over
01105	1/24/2013	144	2' x 4' Ceiling Tile, Off White with Random Pinholes, 1'x1' Pattern	None Detected	---	F	M	G	ND		648 Sq. Ft.		
01106	1/24/2013	66	1' x 2' Ceiling Tile, Splined, White with Random Pits and Groves	None Detected	---	F	M	G	ND		78 Sq. Ft.		Storage - Carpet Over Concrete Floor, Block Wall, Drywall Wall, Plaster Wall, Splined Ceiling Over Metal Ceiling
01106	1/24/2013	95	12" x 12" Ceiling Tile, White with Lateral Gouges, Splined.	None Detected	---	F	M	G	ND		12 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01107	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Conference Room - Carpet Over Ceramic Tile Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Plaster Ceiling	
01107	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01107	1/25/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		266 Sq. Ft.		
01107	1/25/2013	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		24 Lin. Ft.		
01107	1/25/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		63 Lin. Ft.		
01107	1/25/2013	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		12 Sq. Ft.		
01107	1/25/2013	79	Interior Window Caulk, Black	None Detected	---	NF	M	G	ND		8 Lin. Ft.		
01108	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Break Room - Floor Tile Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Plaster Ceiling	
01108	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01108	1/25/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		266 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01108	1/25/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	63	Lin. Ft.		
01108	1/25/2013	72	Sink Under Coating, Gray	None Detected	---	NF	M	G	ND	1	Ea.		
01108	1/25/2013	124	12" x 12" Floor Tile, Gray with Light and Dark Splotches	None Detected	---	NF	M	G	ND	266	Sq. Ft.		
01108.1	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND	NQ		HVAC Room and Stairwell- Concrete Floor, Drywall Wall, Plaster Wall, Decorative Plaster Ceiling	
01108.1	1/25/2013	3	Electrical Box	Assumed	---	NF	M	G	ND	1	Ea.		
01108.1	1/25/2013	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	8	Lin. Ft.		
01108.1	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND	NQ			
01108.1	1/25/2013	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND	Ea.			
01108.1	1/25/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND	NQ			
01108.1	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND	NQ			



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01108.2	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	HVAC Room - Concrete Floor, Drywall Wall, Plaster Wall, Decorative Plaster Ceiling	
01108.2	1/25/2013	3	Electrical Box	Assumed	---	NF	M	G	ND		1 Ea.		
01108.2	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01108.2	1/25/2013	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
01108.2	1/25/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
01108.2	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01109	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Storage - Carpet Over Ceramic Tile Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Plaster Ceiling	
01109	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01109	1/25/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		112 Sq. Ft.		
01109	1/25/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		44 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01110	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Storage - Floor Tile Over Ceramic Tile Floor, Plaster Wall, Plaster Ceiling	
01110	1/25/2013	20	9" x 9" Floor Tile, Green with White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		60 Sq. Ft.		
01111	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Open Office Area with Cubicles - Carpet Over Ceramic Tile Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Decorative Plaster	
01111	1/25/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		2300 Sq. Ft.		
01111	1/25/2013	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		144 Lin. Ft.		
01111	1/25/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		110 Lin. Ft.		
01111	1/25/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
01111	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01111	1/25/2013	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		72 Sq. Ft.		
01111	1/25/2013	79	Interior Window Caulk, Black	None Detected	---	NF	M	G	ND		72 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01112	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Office - Carpet Over Ceramic Tile Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01112	1/25/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		140 Sq. Ft.		
01112	1/25/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		45 Lin. Ft.		
01112	1/25/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
01112	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01113	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Office - Carpet Over Ceramic Tile Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01113	1/25/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		140 Sq. Ft.		
01113	1/25/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		45 Lin. Ft.		
01113	1/25/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
01113	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01114	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Storage - Ceramic Tile Floor, Drywall Wall, Plaster Wall,	
01114	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01114	1/25/2013	42	Spray on Fire Proofing, Gray	None Detected	---	F	S	G	ND		40 Sq. Ft.		
01114	1/25/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		41 Lin. Ft.		
01115	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
01115	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01115	1/25/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		189 Lin. Ft.		
01115	1/25/2013	36	2' x 4' Ceiling Tile, White with Random Worm Tracks and Pin Holes	None Detected	---	F	M	G	ND		28 Sq. Ft.		
01115	1/25/2013	85	12" x 12" Floor Tile, Green with Dark Green and Gray Splotches	None Detected	---	NF	M	G	ND		448 Sq. Ft.		
01115	1/25/2013	99	12" x 12" Floor Tile, Off White with Light Green Tones	Chrysotile	2% (Tile Only)	NF	M	G	ND		448 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01115	1/25/2013	117	2' x 2' Ceiling Tile, White with Light Texture and Pin Holes	None Detected	---	F	M	G	ND	1904	Sq. Ft.	Convenience Store - Floor Tile Over Ceramic Tile Floor, Wood Wall, Plaster Wall, Drop Ceiling Over	
01115	1/25/2013	145	12" x 12" Floor Tile, Black with Gray Flecks	None Detected	---	NF	M	G	ND	100	Sq. Ft.		
01115.1	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Upstairs Storage - Vinyl Sheet Flooring Over Concrete Floor, Terrazzo Floor, Plaster Wall, Decorative Plaster Ceiling	
01115.1	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND	NQ			
01115.1	1/25/2013	146	Vinyl Sheet Flooring, Red Brick Pattern	None Detected	---	NF	M	G	ND	252	Sq. Ft.		
01116	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Café Deville - Ceramic Tile Floor, Plaster Wall, Drywall Wall, Decorative Plaster Ceiling	
01116	1/25/2013	3	Electrical Box	Assumed	---	NF	M	G	ND	1	Ea.		
01116	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND	NQ			
01116	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND	NQ			
01116	1/25/2013	83	2' x 2' Ceiling Tile, White, Drywall Like	None Detected	---	F	M	G	ND	240	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01117	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Storage - Ceramic Tile Floor, Marble Wall, Plaster Wall, Plaster Ceiling	
01118	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Empty Retail Space - Carpet Over Floor Tile, Plaster Wall, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01118	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01118	1/25/2013	20	9" x 9" Floor Tile, Green with White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		672 Sq. Ft.		
01118	1/25/2013	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		672 Sq. Ft.		
01118	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01118	1/25/2013	147	12" x 12" Floor Tile, Black Marble Tile Pattern	Chrysotile	2% (Tile Only)	NF	M	G	ND		12 Sq. Ft.		
01119	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Office - Carpet Over Assumed Ceramic Tile, Plaster Walls, Drywall Walls, Drop Ceiling Over Decorative Plaster Ceiling	
01119	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01119	1/25/2013	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		110 Sq. Ft.		



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Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
01119	1/25/2013	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		20	Lin. Ft.	
01119	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	
01120	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Office - Carpet Over Assumed Ceramic Tile, Plaster Walls, Drywall Walls, Drop Ceiling Over Decorative Plaster Ceiling
01120	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
01120	1/25/2013	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		160	Sq. Ft.	
01120	1/25/2013	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		20	Lin. Ft.	
01120	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	
01121	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Storage - Floor Tile Over Concrete Floor, Plaster Wall, Drywall Wall, Drop Ceiling Over Plaster Ceiling
01121	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
01121	1/25/2013	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		96	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01121	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01121	1/25/2013	92	9" x 9" Floor Tile, Beige with Brown and White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		96 Sq. Ft.		
01122	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Conference Room - Carpet Over Ceramic Tile Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01122	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01122	1/25/2013	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		176 Sq. Ft.		
01122	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01123	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Office - Carpet Over Ceramic Tile Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01123	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01123	1/25/2013	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		96 Sq. Ft.		
01123	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01124	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Office - Carpet Over Ceramic Tile Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01124	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01124	1/25/2013	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		96 Sq. Ft.		
01124	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01125	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Office - Carpet Over Ceramic Tile Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01125	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01125	1/25/2013	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		96 Sq. Ft.		
01125	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01126	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Office - Carpet Over Ceramic Tile Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01126	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01126	1/25/2013	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	96	Sq. Ft.		
01126	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01127	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Office - Carpet Over Ceramic Tile Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01127	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01127	1/25/2013	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	96	Sq. Ft.		
01127	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01128	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Hallway - Carpet Over Ceramic Tile Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01128	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01128	1/25/2013	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	495	Sq. Ft.		
01128	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01129	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Waiting Room - Carpet Over Ceramic Tile Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Decorative Plaster Ceiling	
01129	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01129	1/25/2013	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		150 Sq. Ft.		
01129	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01130	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Chase Bank - Ceramic Tile Floor, Carpet Over Concrete Floor, Wood Laminate Floor, Drywall Wall, Plaster Wall, Partial Drop Ceiling	
01130	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01130	1/25/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		236 Lin. Ft.		
01130	1/25/2013	44	12" x 12" Floor Tile, Gray with Dark Gray, White, and Tan Splotches	None Detected	---	NF	M	G	ND		160 Sq. Ft.		
01130	1/25/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		20 Lin. Ft.		
01130	1/25/2013	149	2' x 2' Ceiling Tile, White, Light Texture, Recessed	None Detected	---	F	M	G	ND		438 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01131	2/6/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Hallway - Marble Floor, Wood Wall, Plaster Wall, Drywall Wall, Drop Ceiling Over Catwalk	
01131	2/6/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01131	2/6/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		918 Sq. Ft.		
01131	2/6/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		204 Lin. Ft.		
01132	2/6/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Handicap Ramp To Annex - Carpet Over Concrete Floor, Drywall Wall, Plaster Wall, Drop Ceiling Over Catwalk	
01132	2/6/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
01132	2/6/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		210 Sq. Ft.		
01132	2/6/2013	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		70 Lin. Ft.		
01133	2/11/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
01133	2/11/2013	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		4 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01133	2/11/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		479	Sq. Ft.	Women's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drop Ceiling Over Plaster Ceiling
01134	2/12/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Credit Union - Ceramic Tile Floor, Partial Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling
01134	2/12/2013	17	Vibration Dampening Cloth, Olive Green	None Detected	---	NF	M	G	ND		24	Lin. Ft.	
01134	2/12/2013	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		12	Ea.	
01134	2/12/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	
01134	2/12/2013	71	4" Vinyl Cove Base, Off White	None Detected	---	NF	M	G	ND		212	Lin. Ft.	
01134	2/12/2013	149	2' x 2' Ceiling Tile, White, Light Texture, Recessed	None Detected	---	F	M	G	ND		2880	Sq. Ft.	
01135	2/12/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	ATM Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling
01135	2/12/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	
01135	2/12/2013	96	12" x 12" Floor Tile, Off White with Dark Specks	None Detected	---	NF	M	G	ND		50	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01135	2/12/2013	149	2' x 2' Ceiling Tile, White, Light Texture, Recessed	None Detected	---	F	M	G	ND		50	Sq. Ft.	
01136	2/12/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Mezz. Access Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling
01136	2/12/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
01136	2/12/2013	96	12" x 12" Floor Tile, Off White with Dark Specks	None Detected	---	NF	M	G	ND		50	Sq. Ft.	
01136	2/12/2013	149	2' x 2' Ceiling Tile, White, Light Texture, Recessed	None Detected	---	F	M	G	ND		50	Sq. Ft.	
01137	2/11/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
01137	2/11/2013	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		4	Lin. Ft.	
01137	2/11/2013	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		479	Sq. Ft.	Women's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drop Ceiling Over Plaster Ceiling
01138	2/13/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
01138	2/13/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
01138	2/13/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		87	Lin. Ft.	
01138	2/13/2013	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		186	Sq. Ft.	
01138	2/13/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		Vogue Noir - Ceramic Tile Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling, Decorative Plaster Ceiling
01138	2/13/2013	117	2' x 2' Ceiling Tile, White with Light Texture and Pin Holes	None Detected	---	F	M	G	ND		295	Sq. Ft.	
01138	2/13/2013	161	12" x 12" Self Adhesive Floor Tile, White	None Detected	---	NF	M	G	ND		60	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1001	10/29/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ	Storage - Concrete Floor, Concrete Wall, Decorative Plaster Wall, Decorative Plaster Ceiling	
M1002	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
M1002	10/29/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		1 Ea.		
M1002	10/29/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		6 Lin. Ft.		
M1002	10/29/2012	58	9" x 9" Floor Tile, Brown with White and Brown Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		600 Sq. Ft.		
M1002	10/29/2012	59	9" x 9" Floor Tile, Beige with White and Red Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		600 Sq. Ft.		
M1002	10/29/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ	Storage - Tile Floor Over Concrete, Decorative Plaster Wall, Plaster Wall, Decorative Plaster Ceiling	
M1002	10/29/2012	67	12" x 12" Floor Tile, Brown	Chrysotile	3% (Tile) 2% (Mastic)	NF	M	G	ND		120 Sq. Ft.		
M1003	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Storage - Tile Floor Over Concrete, Decorative Plaster Wall, Plaster Wall, Decorative Plaster Ceiling	
M1003	10/29/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		2 Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1003	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
M1003	10/29/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		22 Lin. Ft.		
M1003	10/29/2012	58	9" x 9" Floor Tile, Brown with White and Brown Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		49 Sq. Ft.		
M1003	10/29/2012	59	9" x 9" Floor Tile, Beige with White and Red Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		49 Sq. Ft.		
M1003	10/29/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
M1003	10/29/2012	67	12" x 12" Floor Tile, Brown	Chrysotile	3% (Tile) 2% (Mastic)	NF	M	G	ND		20 Sq. Ft.		
M1004	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
M1004	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
M1004	10/29/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		30 Lin. Ft.		
M1004	10/29/2012	51	9" x 9" Floor Tile, Black with Red and White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		163 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1004	10/29/2012	58	9" x 9" Floor Tile, Brown with White and Brown Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		163	Sq. Ft.	
M1004	10/29/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		Office Area - Carpet Over Floor Tile, Drywall Wall, Plaster Wall, Decorative Plaster Wall, Decorative Plaster Ceiling
M1005	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Office Area - Carpet Over Terrazzo Floor, Drywall Wall, Plaster Wall, Decorative Plaster Wall, Drop Ceiling Decorative Plaster Ceiling
M1005	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
M1005	10/29/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		154	Lin. Ft.	
M1005	10/29/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
M1006	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Crawlspace Access Room - Concrete Floor, Plaster Wall, Decorative Plaster Wall, Decorative Plaster Ceiling
M1006	10/29/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
M1007	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Office Area - Carpet Over Concrete Floor, Concrete Wall, Plaster Ceiling
M1008	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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Building: Cadillac Place State Office Building

Date: 26-Mar-13

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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1008	10/29/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
M1008	10/29/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		467 Sq. Ft.	Hallway - Carpet Over Terrazzo Floor, Drywall Wall, Concrete Wall, Drop Ceiling, Deceptive Plaster Ceiling, Plaster Ceiling	
M1008	10/29/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
M1009	10/29/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
M1009	10/29/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		175 Lin. Ft.		
M1009	10/29/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		25 Ea.		
M1009	12/6/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	L	SD		85 Lin. Ft.		
M1009	10/29/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		32 Lin. Ft.	Crawl Space Above JLL and L110,L120 - Plaster Floor, Concrete Wall, Brick Wall, Concrete Ceiling, Metal Deck	
M1009	10/29/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		5 Ea.		
M1009	12/6/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	L	SD		2 Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1009	10/29/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		115	Lin. Ft.	
M1009	10/30/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		12	Lin. Ft.	
M1010	10/30/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		HVAC Room - Concrete Floor, Drywall Wall, Plaster Wall, Decorative Plaster Wall, Decorative Plaster Ceiling
M1010	10/30/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		6	Ea.	
M1010	10/30/2012	13	Fire Door	Assumed	---	NF	M	G	ND		2	Ea.	
M1010	10/15/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		42	Lin. Ft.	
M1010	10/30/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		32	Lin. Ft.	
M1010	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
M1010	10/15/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		83	Ea.	Balcony Mechanical Room
M1010	10/30/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1010	10/30/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
M1010	10/30/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
M1011	10/30/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
M1011	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
M1011	10/30/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ	Stairwell Landing - Concrete Floor, Concrete Wall, Plaster Wall, Drywall Wall, Decorative Plaster Wall, Decorative Plaster Ceiling	
M1012	10/30/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	4	Ea.		
M1012	10/15/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		
M1012	10/30/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		
M1012	10/15/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	26	Lin. Ft.		
M1012	10/30/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	52	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1012	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	HVAC Room - Concrete Floor, Drywall Wall, Plaster Wall, Decorative Plaster Wall, Decorative Plaster Ceiling, Plaster Ceiling	
M1012	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
M1012	10/15/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		4 Ea.	Balcony Mechanical Room - Michigan National Bank Air Handling Unit	
M1012	10/30/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		4 Ea.		
M1012	10/15/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
M1012	10/30/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
M1013	10/30/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		4 Ea.		
M1013	10/30/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		30 Lin. Ft.	Crawl Space Above L150	
M1013	10/30/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		40 Lin. Ft.		
M1014	10/15/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND		30 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1014	10/15/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND	4	Ea.	Crawl Space Above L250,L275,L350,L375	
M1014	10/15/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND	24	Ea.		
M1015	10/30/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	2	Lin. Ft.		
M1015	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Restroom - Floor Tile Over Concrete, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling	
M1015	10/30/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND	27	Sq. Ft.		
M1015	10/30/2012	44	12" x 12" Floor Tile, Gray with Dark Gray, White, and Tan Splotches	None Detected	---	NF	M	G	ND	27	Sq. Ft.		
M1015	10/30/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
M1015	10/30/2012	71	4" Vinyl Cove Base, Off White	None Detected	---	NF	M	G	ND	18	Lin. Ft.		
M1016	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Vanity - Carpet Over Floor Tile Over Concrete, Drywall Wall, Concrete Wall, Drop Ceiling Over Decorative Plaster Ceiling	
M1016	10/30/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND	52	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1016	10/30/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
M1016	10/30/2012	72	Sink Under Coating, Gray	None Detected	---	NF	M	G	ND		1 Ea.		
M1016	10/30/2012	73	12" x 12" Floor Tile, Light Brown	Chrysotile	3% (Tile Only)	NF	M	G	ND		52 Sq. Ft.		
M1017	10/30/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Open Area and Stairwell - Carpet Over Floor Tile Over Concrete, Drywall Wall, Concrete Wall, Decorative Plaster Ceiling
M1017	10/30/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
M1017	10/30/2012	73	12" x 12" Floor Tile, Light Brown	Chrysotile	3% (Tile Only)	NF	M	G	ND		211 Sq. Ft.		
M1018	10/30/2012	20	9" x 9" Floor Tile, Green with White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		96 Sq. Ft.		Storage - Floor Tile Over Concrete, Concrete Wall, Concrete Ceiling
M1018	10/30/2012	51	9" x 9" Floor Tile, Black with Red and White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		96 Sq. Ft.		
M1019	10/30/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		1 Ea.		
M1019	10/30/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		3 Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1019	10/30/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	L	D		80	Lin. Ft.	
M1019	10/30/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		3	Ea.	
M1019	10/30/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		10	Lin. Ft.	
M1019	10/30/2012	13	Fire Door	Assumed	---	NF	M	G	ND		1	Ea.	Locker Room - Floor Tile Over Concrete Floor, Concrete Wall, Concrete Ceiling
M1019	10/30/2012	16	12" x 12" Floor Tile, Off White with Tan Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND		760	Sq. Ft.	
M1020	10/30/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Plaster Ceiling
M1020	10/30/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		20	Lin. Ft.	
M1020	10/30/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		2	Ea.	
M1020	10/30/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		16	Ea.	
M1021	10/30/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		4	Ea.	



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									0-1 ND	1-10 D(G)	1-25 D(L)		
M1021	10/30/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	8	Lin. Ft.		
M1021	10/30/2012	20	9" x 9" Floor Tile, Green with White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	70	Sq. Ft.	Storage - Tile Floor Over Concrete, Concrete Wall, Concrete Ceiling	
M1021	10/30/2012	51	9" x 9" Floor Tile, Black with Red and White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	70	Sq. Ft.		
M1022	10/18/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	2	Ea.		
M1022	10/18/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND	26	Lin. Ft.	Pipe Chase	
M1022	10/18/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND	3	Ea.		
M1022	10/30/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	12	Lin. Ft.		
M1022	10/18/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	14	Lin. Ft.		
M1022	10/18/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	14	Lin. Ft.		
M1023	10/30/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	60	Lin. Ft.	LDP West Mez.	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
M1023	10/30/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	4	Ea.		
M1024	10/30/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	13	Lin. Ft.	Hallway - Terrazzo Floor, Concrete Walls, Concrete Ceiling	
M1024	10/30/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	1	Ea.		
M1024	10/30/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	13	Lin. Ft.		
M1025	10/30/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	7	Ea.	Mechanical Room - Concrete Floor, Concrete Wall, Concrete Ceiling	
M1025	10/30/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	6	Ea.		
M1025	10/30/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND	6	Lin. Ft.		
M1025	10/30/2012	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	40	Lin. Ft.		
M1025	10/30/2012	8	Mud Compound Insulation on Magnesium Silicate Pipe Insulated Lines	Chrysotile	25%	F	T	G	ND	3	Ea.		
M1025	10/30/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	L	ND	253	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1025	10/30/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	45	Ea.		
M1025	10/30/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	50	Lin. Ft.		
M1025	10/30/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	32	Lin. Ft.		
M1025	12/6/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND	10	Ea.		
M1025	10/30/2012	74	Vibration Dampening Cloth, White, Cloth	None Detected	---	NF	M	G	ND	13	Sq. Ft.		
M1026	10/30/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	36	Lin. Ft.	Storage - Concrete Floor, Concrete Wall, Concrete Ceiling	
M1026	10/30/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	14	Lin. Ft.		
M1026	10/30/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	7	Ea.		
M1026	10/30/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	2	Ea.		
M1027	10/30/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	20	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
M1027	10/30/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	8.5	Lin. Ft.	Storage - Concrete Floor, Concrete Wall, Clay Tile Wall, Concrete Ceiling	
M1027	10/30/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	2	Ea.		
M1028	10/30/2012	0	No Asbestos Detected	--	---	--	--	--	--	--		Hallway - Storage - Concrete Floor, Concrete Wall, Concrete Ceiling	
M1029	10/30/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	30	Lin. Ft.	Storage - Concrete Floor, Concrete Wall, Concrete Ceiling	
M1029	10/30/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	15	Lin. Ft.		
M1029	10/30/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	2	Ea.		
M1030	10/30/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	26	Lin. Ft.	Storage - Concrete Floor, Concrete Wall, Concrete Ceiling	
M1030	10/30/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	12	Lin. Ft.		
M1030	10/30/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	11	Ea.		
M1031	10/30/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	1	Ea.	Old Electrical Room - Concrete Floor, Concrete Wall, Concrete Ceiling	



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3026 West Grand Boulevard
Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
M1032	10/30/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	12	Lin. Ft.	Storage - Concrete Floor, Concrete Wall, Concrete Ceiling	
M1033	10/30/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	72	Lin. Ft.		
M1033	10/30/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	48	Lin. Ft.	Storage - Concrete Floor, Concrete Wall, Concrete Ceiling	
M1033	10/30/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	17	Ea.		
M1034	10/31/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.	Storage - Concrete Wall, Block Wall, Concrete Ceiling	
M1035	10/31/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	20	Ea.		
M1035	10/31/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	3	Lin. Ft.		
M1035	10/31/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	17	Ea.		
M1035	10/31/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	174	Lin. Ft.		
M1035	10/31/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
M1035	10/31/2012	57	12" x 12" Floor Tile, Tan with Brown and White Streaks	Chrysotile	3% (Tile) 2% (Mastic)	NF	M	G	ND	408	Sq. Ft.	Storage - Floor Tile Over Concrete, Concrete Wall, Wood Wall, Block Wall, Concrete Ceiling	
M1035	10/31/2012	58	9" x 9" Floor Tile, Brown with White and Brown Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	430	Sq. Ft.		
M1035	10/31/2012	59	9" x 9" Floor Tile, Beige with White and Red Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	430	Sq. Ft.		
M1036	10/31/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	12	Lin. Ft.		
M1036	10/31/2012	57	12" x 12" Floor Tile, Tan with Brown and White Streaks	Chrysotile	3% (Tile) 2% (Mastic)	NF	M	G	ND	83	Sq. Ft.	Hallway - Floor Tile Over Concrete, Concrete Wall, Drywall Wall, Block Wall, Concrete Ceiling	
M1036	10/31/2012	58	9" x 9" Floor Tile, Brown with White and Brown Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	41	Sq. Ft.		
M1036	10/31/2012	59	9" x 9" Floor Tile, Beige with White and Red Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	42	Sq. Ft.		
M1037	10/31/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	12	Ea.	Assumed In Chase	
M1037	10/31/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	20	Lin. Ft.	Assumed In Chase	
M1037	10/31/2012	22	2' x 4' Ceiling Tile - White with Random Holes and Pin Holes	None Detected	---	F	M	G	ND	169	Sq. Ft.	Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drop Ceiling Over Concrete Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1038	10/31/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	8	Lin. Ft.		
M1038	10/31/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	1	Ea.		
M1038	10/31/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	19	Lin. Ft.		
M1038	10/31/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	4	Ea.		
M1038	10/31/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		
M1038	10/31/2012	57	12" x 12" Floor Tile, Tan with Brown and White Streaks	Chrysotile	3% (Tile) 2% (Mastic)	NF	M	G	ND	376	Sq. Ft.		
M1038	10/31/2012	58	9" x 9" Floor Tile, Brown with White and Brown Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	49	Sq. Ft.	Hallway - Floor Tile Over Concrete, Concrete Wall, Block Wall, Concrete Ceiling	
M1038	10/31/2012	59	9" x 9" Floor Tile, Beige with White and Red Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	49	Sq. Ft.		
M1039	10/31/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	1	Ea.		
M1039	10/31/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	35	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1039	10/31/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	8	Ea.		
M1039	10/31/2012	17	Vibration Dampening Cloth, Olive Green	None Detected	---	NF	M	G	ND	4	Lin. Ft.		
M1039	10/31/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND	46	Ea.	Pipe Room - Concrete Floor, Concrete Wall, Concrete Ceiling	
M1039	10/31/2012	75	Cork Insulated Piping	None Detected	---	NF	M	G	ND	30	Lin. Ft.		
M1039	10/31/2012	76	Mud Compound Insulation on Cork Insulated Lines	None Detected	---	F	M	G	ND	12	Ea.		
M1040	10/31/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
M1040	10/31/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	2	Lin. Ft.	In Wall	
M1040	10/31/2012	58	9" x 9" Floor Tile, Brown with White and Brown Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	57	Sq. Ft.		
M1040	10/31/2012	59	9" x 9" Floor Tile, Beige with White and Red Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	57	Sq. Ft.	Tile Floor Over Concrete, Wood Wall, Concrete Wall, Drop Ceiling, Drop Ceiling Over Plaster Ceiling	
M1041	10/31/2012	58	9" x 9" Floor Tile, Brown with White and Brown Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	117	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1041	10/31/2012	59	9" x 9" Floor Tile, Beige with White and Red Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	117	Sq. Ft.	Tile Floor Over Concrete, Wood Wall, Concrete Wall, Drop Ceiling, Drop Ceiling Over Concrete Ceiling	
M1042	10/31/2012	0	No Asbestos Detected	--	---	--	--	--	--	--	--	Restroom - Terrazzo Floor, Concrete Wall, Concrete Ceiling	
M1043	10/31/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	14	Lin. Ft.		
M1043	10/31/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	1	Ea.		
M1043	10/31/2012	53	9" x 9" Floor Tile, Burgundy with White and Red Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	132	Sq. Ft.	Old Office	
M1044	10/31/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Office Area - Carpet Over Terrazzo Floor, Wood Wall, Concrete Wall, Drywall Wall, Drop Ceiling Over Concrete Ceiling	
M1044	10/31/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND	288	Sq. Ft.		
M1044	10/31/2012	77	3" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	18	Lin. Ft.		
M1045	10/31/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Office Area - Carpet Over Terrazzo Floor, Wood Wall, Concrete Wall, Drywall Wall, Drop Ceiling Over Concrete Ceiling	
M1045	10/31/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND	256	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1045	10/31/2012	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		48 Lin. Ft.		
M1046	10/31/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
M1046	10/31/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
M1046	10/31/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		22 Lin. Ft.		
M1046	10/31/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		117 Sq. Ft.		
M1046	10/31/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ	Stairwell and Hallway - Floor Tile Over Concrete Floor, Drywall Wall, Plaster Wall, Concrete Wall, Drop Ceiling Over Decorative Plaster	
M1046	10/31/2012	70	12" x 12" Floor Tile, Tan with Light and Dark Splotches	Chrysotile	2% (Tile Only)	NF	M	G	ND		117 Sq. Ft.		
M1047	10/31/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
M1047	10/31/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
M1047	10/31/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		86 Lin. Ft.	Hallway - Concrete Floor, Drywall Wall, Plaster Wall, Concrete Wall, Wood Wall, Drop Ceiling Over Decorative Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1047	10/31/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		387	Sq. Ft.	
M1047	10/31/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	
M1048	10/31/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Restroom - Concrete Floor, Plaster Wall, Decorative Plaster Wall, Wood Wall, Drop Ceiling Over Decorative Plaster Ceiling
M1048	10/31/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		6	Lin. Ft.	
M1048	10/31/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		54	Sq. Ft.	
M1048	10/31/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	
M1049	10/31/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Old Office Space - Concrete Floor, Drywall Wall, Wood Wall, Concrete Wall, Drop Ceiling Over Decorative Plaster Ceiling
M1049	10/31/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		63	Lin. Ft.	
M1049	10/31/2012	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		242	Sq. Ft.	
M1049	10/31/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
M1050	10/31/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	HVAC Room - Floor Tile Over Concrete Floor, Plaster Wall, Decorative Plaster Wall, Drywall Wall, Decorative Plaster Ceiling	
M1050	10/31/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		4 Ea.		
M1050	10/31/2012	13	Fire Door	Assumed	---	NF	M	G	ND		2 Ea.		
M1050	10/31/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		22 Lin. Ft.		
M1050	10/31/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
M1050	10/31/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		17 Lin. Ft.		
M1050	10/31/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
M1050	10/31/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
M1050	10/31/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
M1050	10/31/2012	70	12" x 12" Floor Tile, Tan with Light and Dark Splotches	Chrysotile	2% (Tile Only)	NF	M	G	ND		1406 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1051	10/31/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	4	Ea.		
M1051	10/31/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		
M1051	10/31/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	18	Lin. Ft.		
M1051	10/31/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND	NQ		Hallway and Stairwell - Floor Tile Over Concrete, Concrete Wall, Decorative Plaster Wall, Drywall Wall, Decorative Plaster Ceiling	
M1051	10/31/2012	70	12" x 12" Floor Tile, Tan with Light and Dark Splotches	Chrysotile	2% (Tile Only)	NF	M	G	ND	198	Sq. Ft.		
M1052	11/1/2012	15	Drywall	None Detected	---	NF	M	G	ND	NQ			
M1052	11/1/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND	NQ		Balcony Area - Concrete Floor, Drywall Wall, Concrete Wall, Brick Wall, Decorative Plaster Ceiling	
M1053	11/1/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Old Dressing Room Area - Concrete Floor, Concrete Wall, Brick Wall, Plaster Ceiling	
M1053	11/1/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	18	Lin. Ft.		
M1054	11/1/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Hallway - Ceramic Tile Floor, Concrete Wall, Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1054	11/1/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	
M1055	11/1/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Closet - Concrete Floor, Concrete Wall, Plaster Ceiling
M1056	11/1/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	Hallway - Concrete Floor, Concrete Wall, Decorative Plaster Ceiling
M1056	11/1/2012	82	Flooring, Brown	None Detected	---	NF	M	G	ND		96	Sq. Ft.	
M1057	11/1/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Open Space - Concrete Floor, Concrete Wall, Brick Wall, Plaster Ceiling
M1058	11/1/2012	2	6" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		7	Lin. Ft.	
M1058	11/1/2012	13	Fire Door	Assumed	---	NF	M	G	ND		2	Ea.	
M1058	11/1/2012	26	2' x 2' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1	Sq. Ft.	
M1058	11/1/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	Hallway - Carpet Over Concrete Floor, Decorative Plaster Wall, Drywall Wall, Decorative Plaster Ceiling
M1059	11/1/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1059	11/1/2012	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND	10	Lin. Ft.	Restroom - Concrete Floor, Concrete Wall, Plaster Ceiling,	
M1060	11/1/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Closet - Concrete Floor, Concrete Wall, Plaster Ceiling	
M1061	11/1/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Closet - Concrete Floor, Concrete Wall, Plaster Ceiling	
M1062	11/1/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Closet - Concrete Floor, Concrete Wall, Plaster Ceiling	
M1063	11/1/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	1	Ea.	Above M.D.T.M.B. Office - Decorative Plaster Wall, Decorative Plaster Ceiling	
M1063	11/1/2012	17	Vibration Dampening Cloth, Olive Green	None Detected	---	NF	M	G	ND	14	Lin. Ft.		
M1063	11/1/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND	NQ			
M1064	11/1/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	17	Lin. Ft.	Crawlspace Above 1058 - Clay Tile Wall, Concrete Ceiling	
M1064	11/1/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	28	Ea.	Debris Underneath 3'E, 9' S of NW Cor. on Plank	
M1065	11/1/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	SD	80	Lin. Ft.	Crawlspace Above 1046	



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Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1065	11/1/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	16	Ea.		
M1065	11/1/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	240	Lin. Ft.		
M1066	11/1/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	160	Lin. Ft.		
M1066	11/1/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	32	Ea.		
M1066	11/1/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	480	Lin. Ft.		
M1066	11/1/2012	17	Vibration Dampening Cloth, Olive Green	None Detected	---	NF	M	G	ND	6	Lin. Ft.	Crawlspace Above - M1052, M1053, M1055, M1056	
M1067	11/1/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	325	Lin. Ft.	Crawlspace Above 1041	
M1067	11/1/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	30	Ea.		
M1068	11/1/2012	0	No Asbestos Detected	--	---	--	--	--	--	--		Crawlspace Above L325	
M1068	11/1/2012	17	Vibration Dampening Cloth, Olive Green	None Detected	---	NF	M	G	ND	12	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
M1069	11/1/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	L	SD	8	Ea.	Crawlspace Above L500	
M1069	11/1/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	75	Lin. Ft.		
M1070	11/1/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	45	Lin. Ft.		
M1070	11/1/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	2	Ea.	Crawlspace Above L500	
M1071	11/1/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	45	Lin. Ft.	Crawlspace Above L500	
M1072	11/1/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	60	Lin. Ft.		
M1072	11/1/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	2	Ea.	Crawlspace Above L500	
M1073	11/2/2012	0	No Asbestos Detected	--	---	--	--	--	--	--	--	Crawlspace Above L385,L460,L450	
M1074	12/6/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	L	SD	55	Lin. Ft.	Crawl Space Above Lottery - Plaster Floor, Clay Tile Wall, Concrete Ceiling	
M1074	12/6/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	L	SD	15	Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1074	12/6/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	L	SD	40	Lin. Ft.		
M1074	12/6/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	L	SD	2	Ea.		
M1074	12/6/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	L	SD	48	Lin. Ft.		
M1075	12/6/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	L	SD	130	Lin. Ft.		
M1075	12/6/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	L	SD	14	Ea.		
M1075	12/6/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	L	SD	135	Lin. Ft.	Crawl Space Above L560 And S.O.S. - Plaster Floor, Clay Tile Wall, Concrete Ceiling	
M1075	12/6/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	L	SD	1	Ea.		
M1076	12/6/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	L	SD	60	Lin. Ft.	Crawlspace Above M1013 - Plaster Floor, Clay Tile Wall, Concrete Ceiling	
M1076	12/6/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	L	SD	2	Ea.		
M1077	10/15/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	160	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1077	10/15/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		120	Lin. Ft.	
M1077	10/15/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		Wood Floor, Concrete Walls, Decorative Plaster Ceiling
M1077	10/15/2012	70	12" x 12" Floor Tile, Tan with Light and Dark Splotches	Chrysotile	2% (Tile Only)	NF	M	G	ND		1116	Sq. Ft.	
M1077	12/6/2012	101	2' x 2' Raised Computer Floor, White with Random Gray Lines	None Detected	---	NF	M	G	ND		80	Sq. Ft.	
M1077	10/15/2012	108	Vinyl Sheet Flooring, Brown With Bubble Pattern	None Detected	---	NF	M	G	ND		144	Sq. Ft.	
M1078	10/15/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	L	D		850	Lin. Ft.	Mechanical Room - Mez. Open Area to Command Center - Concrete Floors, Clay Tile Wall, Concrete Deck
M1078	10/15/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	L	D		183	Ea.	
M1078	10/15/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		4	Ea.	
M1078	10/15/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
M1078	10/15/2012	109	Taped Duct Insulation	None Detected	---	NF	T	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1079	12/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Crawlspace Above Western Central Hallway - Plaster Floor, Clay Block Wall, Concrete Deck	
M1079	12/6/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		120 Lin. Ft.		
M1079	12/6/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		13 Ea.		
M1079	12/6/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		35 Lin. Ft.		
M1080	1/9/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Storage - Floor Tile Over Concrete Floor, Plaster Wall, Plaster Ceiling	
M1080	1/9/2013	13	Fire Door	Assumed	---	NF	M	G	ND		1 Ea.		
M1080	1/9/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		35 Lin. Ft.		
M1080	1/9/2013	130	9" x 9" Floor Tile, Light Cream with White and Tan Streaks	Chrysotile	2% (Tile) 3% (Mastic)	NF	M	G	ND		88 Sq. Ft.		
M1081	1/9/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Air Handling Room - Concrete Floor, Plaster Wall, Drywall Wall, Plaster Ceiling	
M1081	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1081	1/9/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		74	Lin. Ft.	
M1081	1/9/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
M1082	1/9/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Electrical Room - Floor Tile Over Concrete Floor, Plaster Wall, Plaster Ceiling
M1082	1/9/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		22	Lin. Ft.	
M1082	1/9/2013	130	9" x 9" Floor Tile, Light Cream with White and Tan Streaks	Chrysotile	2% (Tile) 3% (Mastic)	NF	M	G	ND		36	Sq. Ft.	
M1083	1/9/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Telephone Room - Floor Tile Over Concrete Floor, Plaster Wall, Plaster Ceiling
M1083	1/9/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		18	Lin. Ft.	
M1083	1/9/2013	130	9" x 9" Floor Tile, Light Cream with White and Tan Streaks	Chrysotile	2% (Tile) 3% (Mastic)	NF	M	G	ND		27	Sq. Ft.	
M1084	1/9/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
M1084	1/9/2013	13	Fire Door	Assumed	---	NF	M	G	ND		1	Ea.	Lobby Area - Carpet Over Concrete Floor, Plaster Wall, Plaster Ceiling, Concrete Ceiling



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1084	1/9/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		78	Lin. Ft.	
M1084	1/9/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
M1084	1/9/2013	80	12" x 12" Ceiling Tile, Glued On, White with Random Gouges and Brown Glue Pods	Chrysotile	<1%	NF	M	G	ND		558	Sq. Ft.	
M1085	1/9/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Hallway - Carpet Over Concrete Floor, Plaster Wall, Plaster Ceiling, Concrete Ceiling
M1085	1/9/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND			Lin. Ft.	
M1085	1/9/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
M1086	1/9/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Open Space - Carpet Over Concrete Floor, Ceramic Tile Floor, Plaster Wall, Drywall Wall, Plaster Ceiling
M1086	1/9/2013	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
M1086	1/9/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		140	Lin. Ft.	
M1087	1/9/2013	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Men's Restroom - Ceramic Tile Floor, Concrete Floor, Ceramic Tile Wall, Plaster Wall, Plaster Ceiling



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1087	1/9/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		12	Lin. Ft.	
M1088	1/9/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Women's Restroom - Concrete Floor, Ceramic Tile Floor, Ceramic Tile Wall, Plaster Wall, Plaster Ceiling
M1088	1/9/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		47	Lin. Ft.	
M1089	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Stairwell - Vinyl Floor Tread Over Wood Floor, Concrete Wall, Plaster Ceiling
M1089	1/10/2013	131	Vinyl Floor Tread, Light and Dark Red	None Detected	---	NF	M	G	ND		42	Sq. Ft.	
M1090	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Open Area - Floor Tile Over Concrete Floor, Concrete Wall, Plaster Wall, Drop Ceiling Over Plaster Ceiling
M1090	1/10/2013	25	2' x 2' Ceiling Tile, White, Recessed, Textured	None Detected	---	F	M	G	ND		940	Sq. Ft.	
M1090	1/10/2013	88	9" x 9" Floor Tile, Red with White Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND		806	Sq. Ft.	
M1090	1/10/2013	97	1' x 2' Floor Tile, Black	Chrysotile	2% (Tile Only)	NF	M	G	ND		134	Sq. Ft.	
M1091	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
M1091	1/10/2013	70	12" x 12" Floor Tile, Tan with Light and Dark Splotches	Chrysotile	2% (Tile Only)	NF	M	G	ND	30	Sq. Ft.	Restroom - Floor Tile Over Concrete Floor, Concrete Ceiling, Plaster Wall, Plaster Ceiling	
M1092	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Restroom - Concrete Floor, Concrete Wall, Wood Wall, Plaster Ceiling	
M1093	1/10/2013	3	Electrical Box	Assumed	---	NF	M	G	ND	1	Ea.		
M1093	1/10/2013	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	4	Lin. Ft.		
M1093	1/10/2013	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
M1093	1/10/2013	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
M1093	1/10/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
M1093	1/10/2013	107	Vinyl Sheet Flooring, Brown	None Detected	---	NF	M	G	ND	765	Sq. Ft.	Open Area - Concrete Floor, Vinyl Sheet Floor, Wood Wall, Concrete Wall, Decorative Plaster Ceiling	
M1094	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Closet - Concrete Floor, Concrete Wall, Plaster Wall, Plaster Ceiling	
M1094	1/10/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	4	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1094	1/10/2013	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	3	Ea.		
M1095	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Closet - Concrete Floor, Concrete Wall, Plaster Wall, Plaster Ceiling	
M1095	1/10/2013	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	3	Lin. Ft.		
M1096	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Closet - Concrete Floor, Concrete Wall, Plaster Wall, Plaster Ceiling	
M1097	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Storage - Carpet Over Vinyl Sheet Flooring Over Concrete Floor, Concrete Wall, Plaster Wall, Wood Wall, Glued On Ceiling Tile Over	
M1097	1/10/2013	31	12" x 12" Ceiling Tile, Glued On, White with Lateral Groves	None Detected	---	F	M	G	ND	240	Sq. Ft.		
M1097	1/10/2013	107	Vinyl Sheet Flooring, Brown	None Detected	---	NF	M	G	ND	240	Sq. Ft.		
M1098	1/10/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
M1098	1/10/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
M1098	1/10/2013	82	Flooring, Brown	None Detected	---	NF	M	G	ND	68	Sq. Ft.	Stairwell - Brown Flooring, Wood Wall, Drywall Wall, Concrete Wall, Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
M1099	2/13/2013	3	Electrical Box	Assumed	---	NF	M	G	ND	1	Ea.		
M1099	2/13/2013	17	Vibration Dampening Cloth, Olive Green	None Detected	---	NF	M	G	ND	8	Lin. Ft.		
M1099	2/13/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND	NQ		Storage - Concrete Floor, Decorative Plaster Wall, Decorative Plaster Ceiling	
M1100	2/13/2013	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Storage - Floor Tile Over Concrete Floor, Plaster Wall, Glued On Ceiling Tile Over Drywall Ceiling Over Decorative Plaster Ceiling	
M1100	2/13/2013	15	Drywall	None Detected	---	NF	M	G	ND	NQ			
M1100	2/13/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	71	Lin. Ft.		
M1100	2/13/2013	31	12" x 12" Ceiling Tile, Glued On, White with Lateral Grooves	None Detected	---	F	M	G	ND	171	Sq. Ft.		
M1100	2/13/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND	NQ			
M1100	2/13/2013	92	9" x 9" Floor Tile, Beige with Brown and White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	342	Sq. Ft.		
M1100	2/13/2013	162	12" x 12" Ceiling Tile, Wide Grooves and Pinholes, Glued On	None Detected	---	F	M	G	ND	171	Sq. Ft.		



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Job No.: 121268

Building No.: 1

Facility: Asbestos Building Survey
Cadillac Place State Office Building
3026 West Grand Boulevard
Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-fri-able	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(L)		
M1101	2/13/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Hallway - Floor Tile Over Concrete Floor, Plaster Wall, Glued On Ceiling Tile Over Drywall Ceiling Over Decorative Plaster Ceiling	
M1101	2/13/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
M1101	2/13/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	20	Lin. Ft.		
M1101	2/13/2013	31	12" x 12" Ceiling Tile, Glued On, White with Lateral Groves	None Detected	---	F	M	G	ND	24	Sq. Ft.		
M1101	2/13/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
M1101	2/13/2013	92	9" x 9" Floor Tile, Beige with Brown and White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	120	Sq. Ft.		
M1101	2/13/2013	162	12" x 12" Ceiling Tile, Wide Grooves and Pinholes, Glued On	None Detected	---	F	M	G	ND	96	Sq. Ft.		
M1102	2/13/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Hallway - Floor Tile Over Concrete Floor, Plaster Wall, Glued On Ceiling Tile Over Drywall Ceiling Over Decorative Plaster Ceiling	
M1102	2/13/2013	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		
M1102	2/13/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
M1102	2/13/2013	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		34	Lin. Ft.	
M1102	2/13/2013	31	12" x 12" Ceiling Tile, Glued On, White with Lateral Grooves	None Detected	---	F	M	G	ND		31	Sq. Ft.	
M1102	2/13/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND			NQ	
M1102	2/13/2013	70	12" x 12" Floor Tile, Tan with Light and Dark Splotches	Chrysotile	2% (Tile Only)	NF	M	G	ND		17	Sq. Ft.	
M1102	2/13/2013	92	9" x 9" Floor Tile, Beige with Brown and White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		137	Sq. Ft.	
M1102	2/13/2013	162	12" x 12" Ceiling Tile, Wide Grooves and Pinholes, Glued On	None Detected	---	F	M	G	ND		123	Sq. Ft.	
M1103	2/13/2013	3	Electrical Box	Assumed	---	NF	M	G	ND		3	Ea.	Catwalk Above Credit Union - Metal Grate Floor, Plaster Wall, Decorative Plaster Wall, Decorative Plaster Ceiling
M1103	2/13/2013	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		24	Lin. Ft.	
M1103	2/13/2013	17	Vibration Dampening Cloth, Olive Green	None Detected	---	NF	M	G	ND		48	Lin. Ft.	
M1103	2/13/2013	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		96	Ea.	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
M1103	2/13/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
M1103	2/13/2013	163	HVAC Duct Insulation	None Detected	---	NF	T	G	ND		2496 Sq. Ft.		
M1104	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Hallway and Stairwell - Carpet Over Concrete Floor, Plaster Wall, Drywall Wall, Drop Ceiling Over Plaster Ceiling
M1104	1/25/2013	2	6" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		12 Lin. Ft.		
M1104	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
M1104	1/25/2013	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		128 Sq. Ft.		
M1104	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
M1105	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Break Room - Ceramic Tile Floor, Plaster Wall, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling
M1105	1/25/2013	2	6" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		48 Lin. Ft.		
M1105	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	1-25 D(L)		
M1105	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
M1105	1/25/2013	72	Sink Under Coating, Gray	None Detected	---	NF	M	G	ND		1 Ea.		
M1106	1/25/2013	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Storage - Carpet Over Concrete Floor, Plaster Wall, Drywall Wall, Drop Ceiling Over Decorative Plaster Ceiling
M1106	1/25/2013	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
M1106	1/25/2013	38	2' x 4' Ceiling Tile, White with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		72 Sq. Ft.		
M1106	1/25/2013	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02001	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02001	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		88 Lin. Ft.	Assumed In Wall	
02001	12/4/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		66 Lin. Ft.	Assumed In Wall	
02001	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02001	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		180 Sq. Ft.		
02001	11/2/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		47 Lin. Ft.		
02001	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		Lin. Ft.		
02001	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		2592 Lin. Ft.	Office Space with Cubicles- Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02001	11/2/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02001	11/2/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		2 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02002	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02002	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		44 Lin. Ft.	Assumed In Wall	
02002	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		44 Lin. Ft.	Assumed In Wall	
02002	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02002	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		127 Sq. Ft.		
02002	11/2/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		47 Lin. Ft.		
02002	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		816 Lin. Ft.	Office Space with Cubicles- Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02003	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02003	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
02003	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
02003	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02003	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		78	Sq. Ft.	
02003	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		756	Lin. Ft.	Office Space with Cubicles- Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
02003	11/2/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
02003	11/2/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		1	Sq. Ft.	
02004	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Mechanical Room - Concrete Floor, Drywall Wall, Plaster Ceiling
02004	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
02004	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
02004	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		85	Lin. Ft.	
02004	11/2/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02004	11/2/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02005	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02005	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02005	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	320	Sq. Ft.	Office Space with Cubicles- Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02005	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	49	Lin. Ft.		
02005	11/2/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02006	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02006	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02006	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
02006	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
02006	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		368	Sq. Ft.	Office Space with Cubicles- Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
02006	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		78	Lin. Ft.	
02007	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02007	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02007	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		64	Sq. Ft.	Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
02007	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		12	Lin. Ft.	
02008	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02008	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
02008	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22	Lin. Ft.	Assumed In Wall
02008	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02008	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		208	Sq. Ft.	Office Space with Cubicles- Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
02008	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		55	Lin. Ft.	
02009	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
02009	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
02009	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		195	Sq. Ft.	Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
02009	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		44	Lin. Ft.	
02010	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
02010	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
02010	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
02010	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		640	Sq. Ft.	Office Space with Cubicles- Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02010	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		97	Lin. Ft.	
02010	11/2/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
02011	11/2/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		1	Ea.	
02011	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		3	Lin. Ft.	
02011	11/2/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	Pipe Chase - Concrete Floor, Clay Tile Wall, Metal Ceiling
02012	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
02012	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		33	Lin. Ft.	Assumed In Wall
02012	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		44	Lin. Ft.	Assumed In Wall
02012	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
02012	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		968	Sq. Ft.	Office Space with Cubicles- Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling



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Building No.: 1

Facility: Asbestos Building Survey
Cadillac Place State Office Building
3026 West Grand Boulevard
Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
02012	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		129	Lin. Ft.	
02012	11/2/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
02013	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
02013	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		44	Lin. Ft.	Assumed In Wall
02013	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		44	Lin. Ft.	Assumed In Wall
02013	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
02013	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1260	Sq. Ft.	Office Space with Cubicles- Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
02013	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		160	Lin. Ft.	
02013	11/2/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
02013	11/2/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		6	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02014	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02014	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02014	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	276	Sq. Ft.	Hallway- Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02014	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	80	Lin. Ft.		
02015	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02015	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	33	Lin. Ft.	Assumed In Wall	
02015	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
02015	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02015	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	1856	Sq. Ft.	Office Space with Cubicles- Carpet Over Concrete and Wood Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02015	11/2/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND	2	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
02015	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		156	Lin. Ft.	
02015	11/2/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
02016	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
02016	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
02016	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22	Lin. Ft.	Assumed In Wall
02016	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
02016	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		420	Sq. Ft.	
02016	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		79	Lin. Ft.	Office Space with Cubicles- Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
02016	11/2/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
02016	11/2/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		4	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02017	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02017	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02017	11/2/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.	Chase Way -Terrazzo Floor, Drywall Wall, Concrete Wall, Drywall Ceiling	
02018	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02018	11/2/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		9 Ea.		
02018	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
02018	11/2/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		5 Lin. Ft.		
02018	11/2/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.	Electrical Room - Ceramic Tile Floor, Concrete Wall, Plaster Wall, Clay Brick Ceiling	
02019	11/2/2012	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		28 Lin. Ft.		
02019	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		259 Sq. Ft.	Men's Bathroom - Ceramic Tile Floor, Ceramic Tile Wall, Drop Ceiling Over Clay Tile Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02020	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Break Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02020	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
02020	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02020	11/2/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		177 Sq. Ft.		
02020	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		53 Lin. Ft.		
02020	11/2/2012	72	Sink Under Coating, Gray	None Detected	---	NF	M	G	ND		1 Ea.		
02020	11/2/2012	85	12" x 12" Floor Tile, Green with Dark Green and Gray Splotches	None Detected	---	NF	M	G	ND		27 Sq. Ft.		
02020	11/2/2012	86	12" x 12" Floor Tile, Black with White Splotches	None Detected	---	NF	M	G	ND		36 Sq. Ft.		
02020	11/2/2012	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND		12 Sq. Ft.		
02021	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02021	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02021	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
02021	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02021	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	300	Sq. Ft.		
02021	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	58	Lin. Ft.	Office Space - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02022	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02022	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02022	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02022	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	180	Sq. Ft.		
02022	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	51	Lin. Ft.	Office Space - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02023	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02023	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
02023	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		44 Lin. Ft.	Assumed In Wall	
02023	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02023	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1113 Sq. Ft.		
02023	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		142 Lin. Ft.	Office Space - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02023	11/2/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02023	11/2/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		2 Sq. Ft.		
02024	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02024	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Telecom Room - Concrete Floor, Wood Wall, Drywall Wall, Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
02024	11/2/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
02025	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Break Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02025	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02025	11/2/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		167 Sq. Ft.		
02025	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		220 Sq. Ft.		
02025	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		59 Lin. Ft.		
02025	11/2/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02025	11/2/2012	85	12" x 12" Floor Tile, Green with Dark Green and Gray Splotches	None Detected	---	NF	M	G	ND		13 Sq. Ft.		
02025	11/2/2012	86	12" x 12" Floor Tile, Black with White Splotches	None Detected	---	NF	M	G	ND		24 Sq. Ft.		
02025	11/2/2012	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND		16 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02026	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02026	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		44 Lin. Ft.	Assumed In Wall	
02026	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		44 Lin. Ft.	Assumed In Wall	
02026	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02026	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1280 Sq. Ft.		
02026	11/2/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		40 Lin. Ft.		
02026	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		159 Lin. Ft.	Office Space with Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02026	11/2/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02027	11/2/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		8 Lin. Ft.	Storage Closet - Floor Tile Over Concrete Floor, Wood Wall, Concrete Wall, Metal Ceiling	
02027	11/2/2012	88	9" x 9" Floor Tile, Red with White Streaks	Chrysotile	2% (Tile Only)	NF	M	G	ND		63 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02028	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02028	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
02028	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
02028	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02028	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		165 Sq. Ft.		
02028	11/2/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		10 Lin. Ft.		
02028	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		49 Lin. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02029	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02029	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02029	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		120 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02029	11/2/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	43	Lin. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02030	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02030	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02030	11/2/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	960	Sq. Ft.	Hallway - Marble Floor, Marble Wall, Drywall Wall, Plaster Ceiling	
02031	11/2/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02031	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	77	Lin. Ft.	Assumed In Wall	
02031	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	66	Lin. Ft.	Assumed In Wall	
02031	11/2/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02031	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	4382	Sq. Ft.		
02031	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	210	Lin. Ft.	Office Space with Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	



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Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
02031	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02032	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02032	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02032	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	44	Lin. Ft.	Assumed In Wall	
02032	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02032	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	224	Sq. Ft.		
02032	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	57	Lin. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02032	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02032	11/5/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	1	Sq. Ft.		
02033	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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Job No.: 121268

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Cadillac Place State Office Building
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Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

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									0-1 ND	1-10 D(G)	>10 SD(G)		
02033	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02033	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		152	Sq. Ft.	
02033	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		48	Lin. Ft.	Storage - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
02034	11/5/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		3	Ea.	
02034	11/5/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		18	Lin. Ft.	Mechanical Room - Concrete Floor, Clay Tile Wall, Metal Ceiling
02035	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
02035	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
02035	11/5/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	Telecom Room - Concrete Floor, Plaster Wall, Plaster Ceiling
02036	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
02036	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22	Lin. Ft.	Assumed In Wall



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02036	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02036	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		180 Sq. Ft.	Office Space - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02036	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		51 Lin. Ft.		
02036	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02037	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02037	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
02037	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02037	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		180 Sq. Ft.	Office Space - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02037	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		51 Lin. Ft.		
02038	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02038	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
02038	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
02038	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02038	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		180 Sq. Ft.	Office Space - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02038	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		51 Lin. Ft.		
02039	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02039	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
02039	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02039	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		180 Sq. Ft.	Office Space - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02039	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		51 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02039	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02040	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02040	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02040	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
02040	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02040	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	288	Sq. Ft.	Office Space - Carpet Over Concrete and Wood Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02040	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	69	Lin. Ft.		
02041	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02041	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02041	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02041	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		372	Sq. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
02041	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		76	Lin. Ft.	
02041	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
02042	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
02042	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
02042	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
02042	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		240	Sq. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
02042	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		61	Lin. Ft.	
02042	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
02043	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02043	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02043	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Mechanical Room - Concrete Floor, Drywall Wall, Plaster Ceiling	
02043	11/5/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
02043	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02044	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02044	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02044	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	311.5	Sq. Ft.	Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02044	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	60	Lin. Ft.		
02044	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02045	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02045	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	110	Lin. Ft.	Assumed In Wall	
02045	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	110	Lin. Ft.	Assumed In Wall	
02045	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02045	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	4080	Sq. Ft.	Office Space with Cubicles - Carpet Over Concrete and Wood Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02045	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	218	Lin. Ft.		
02045	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02046	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02046	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02046	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
02046	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	1-25 D(L)		
02046	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	153	Sq. Ft.	Office Space - Carpet Over Concrete and Wood Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02046	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	45	Lin. Ft.		
02046	11/5/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	1	Sq. Ft.		
02047	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02047	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
02047	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02047	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	184	Sq. Ft.	Office Space - Carpet Over Concrete and Wood Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02047	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	52	Lin. Ft.		
02048	11/5/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	4	Lin. Ft.		
02048	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Telecom Room - Terrazzo Floor, Drywall Wall, Concrete Wall, Concrete Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02048	11/5/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
02049	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02049	11/5/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	11	Ea.		
02049	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02049	11/5/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND	5	Lin. Ft.		
02049	11/5/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.	Electrical Room - Ceramic Tile Floor, Concrete Wall, Block Wall, Concrete Ceiling	
02050	11/5/2012	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	20	Lin. Ft.		
02050	11/5/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		
02050	11/5/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	4	Lin. Ft.		
02050	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	259	Sq. Ft.	Men's Bathroom - Ceramic Tile Floor, Ceramic Tile Wall, Drop Ceiling Over Clay Tile Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02051	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Break Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02051	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
02051	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02051	11/5/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		167 Sq. Ft.		
02051	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		220 Sq. Ft.		
02051	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		59 Lin. Ft.		
02051	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02051	11/5/2012	85	12" x 12" Floor Tile, Green with Dark Green and Gray Splotches	None Detected	---	NF	M	G	ND		13 Sq. Ft.		
02051	11/5/2012	86	12" x 12" Floor Tile, Black with White Splotches	None Detected	---	NF	M	G	ND		24 Sq. Ft.		
02051	11/5/2012	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND		16 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02052	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02052	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
02052	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
02052	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02052	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		184 Sq. Ft.	Break Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02052	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		78 Lin. Ft.		
02053	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02053	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
02053	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
02053	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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Building: Cadillac Place State Office Building

Date: 26-Mar-13

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Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-fri-able	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(L)		
02053	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	460	Sq. Ft.	File Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02053	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	83	Lin. Ft.		
02054	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Telecom Room - Concrete Floor, Wood Wall, Drywall Wall, Plaster Ceiling	
02054	11/5/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND	Ea.			
02055	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ			
02055	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
02055	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND	NQ			
02055	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	400	Sq. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02055	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	45	Lin. Ft.		
02055	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND	NQ			



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02056	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Mail Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02056	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
02056	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02056	11/5/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		166 Sq. Ft.		
02056	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		360 Sq. Ft.		
02056	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		73 Lin. Ft.		
02056	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02056	11/5/2012	85	12" x 12" Floor Tile, Green with Dark Green and Gray Splotches	None Detected	---	NF	M	G	ND		108 Sq. Ft.		
02056	11/5/2012	86	12" x 12" Floor Tile, Black with White Splotches	None Detected	---	NF	M	G	ND		34 Sq. Ft.		
02056	11/5/2012	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND		52 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02057	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02057	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
02057	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02057	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		340 Sq. Ft.	Office Space - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02057	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		71 Lin. Ft.		
02057	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02057	11/5/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		1 Sq. Ft.		
02058	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02058	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		55 Lin. Ft.	Assumed In Wall	
02058	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		66 Lin. Ft.	Assumed In Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02058	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02058	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1520 Sq. Ft.	Office Space with Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02058	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		186 Lin. Ft.		
02058	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02059	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		960 Sq. Ft.	Hallway - Marble Floor, Marble Wall, Drop Ceiling Over Plaster Ceiling	
02059	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		24 Lin. Ft.		
02059	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02060	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02060	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		99 Lin. Ft.	Assumed In Wall	
02060	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		88 Lin. Ft.	Assumed In Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02060	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02060	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		3216 Sq. Ft.	Office Area with Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02060	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		230 Lin. Ft.		
02060	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02061	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02061	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
02061	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02061	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		192 Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02061	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		53 Lin. Ft.		
02062	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02062	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02062	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02062	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	326	Sq. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02062	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	70	Lin. Ft.		
02062	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02063	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02063	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02063	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02063	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	160	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02063	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	51	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02063	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02064	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02064	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
02064	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Exterior Door Way - Concrete Floor, Drywall Wall, Plaster Ceiling	
02065	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02065	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02065	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	304	Sq. Ft.	Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02065	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	67	Lin. Ft.		
02065	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02066	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Mechanical Room - Concrete Floor, Drywall Wall, Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02066	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02066	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
02066	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	84	Lin. Ft.		
02066	11/5/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
02066	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02067	11/5/2012	200	No Access	--	---	--	--	---	---	--		No Access - Doorway off Mechanical Room	
02068	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Stairwell - Marble Floor, Marble Wall, Plaster Ceiling	
02068	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	143	Lin. Ft.	Assumed In Wall	
02069	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02069	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	110	Lin. Ft.	Assumed In Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02069	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02069	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	3724	Sq. Ft.	Office Area with Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02069	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	240	Lin. Ft.		
02069	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02070	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02070	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
02070	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02070	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	298	Sq. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02070	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	65	Lin. Ft.		
02070	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
02071	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	HVAC Room - Marble Floor, Concrete Floor, Drywall Wall, Plaster Ceiling	
02071	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
02071	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02071	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		93 Lin. Ft.		
02071	11/5/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
02071	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02072	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Stairwell - Marble Floor, Marble Wall, Plaster Ceiling	
02073	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Old Electrical Room - Terrazzo Floor, Plaster Wall, Plaster Ceiling	
02073	11/5/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
02074	11/5/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		4 Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02074	11/5/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND	12	Lin. Ft.		
02074	11/5/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	24	Lin. Ft.		
02074	11/5/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	12	Lin. Ft.		
02074	11/5/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	1	Ea.		
02074	11/5/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	48	Lin. Ft.	Pipe Chase - Concrete Floor, Clay Tile Wall, Metal Ceiling	
02075	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02075	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Chase Way - Ceramic Tile Floor, Drywall Wall, Plaster Ceiling	
02076	11/5/2012	7	Magnesium Silicate Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	20	Lin. Ft.		
02076	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02076	11/5/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	4	Lin. Ft.		



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Building: Cadillac Place State Office Building

Date: 26-Mar-13

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Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-fri-able	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
02076	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	294	Sq. Ft.	Men's Bathroom - Ceramic Tile Floor, Ceramic Tile Wall, Drop Ceiling	
02076	11/5/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND	22	Lin. Ft.		
02077	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Break Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02077	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02077	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND	NQ			
02077	11/5/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND	135	Sq. Ft.		
02077	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	210	Sq. Ft.		
02077	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	59	Lin. Ft.		
02077	11/5/2012	72	Sink Under Coating, Gray	None Detected	---	NF	M	G	ND	1	Ea.		
02077	11/5/2012	85	12" x 12" Floor Tile, Green with Dark Green and Gray Splotches	None Detected	---	NF	M	G	ND	27	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
02077	11/5/2012	86	12" x 12" Floor Tile, Black with White Splotches	None Detected	---	NF	M	G	ND		36	Sq. Ft.	
02077	11/5/2012	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND		12	Sq. Ft.	
02078	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
02078	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
02078	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		826	Sq. Ft.	Hallway - Marble Floor, Marble Wall, Drywall Wall, Plaster Ceiling
02078	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		102	Lin. Ft.	
02078	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
02079	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
02079	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
02079	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1380	Sq. Ft.	East Elevator Lobby - Marble Floor, Marble Wall, Drywall Wall, Drop Ceiling Over Glued On Ceiling Over Plaster Ceiling



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02079	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	12	Lin. Ft.		
02079	11/5/2012	80	12" x 12" Ceiling Tile, Glued On, White with Random Gouges and Brown Glue Pods	Chrysotile	<1%	NF	M	G	ND	1242	Sq. Ft.		
02080	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ		Electrical Room - Marble Floor, Concrete Floor, Concrete Wall, Block Wall, Glued On Ceiling Tile Over Plaster Ceiling	
02080	11/5/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	11	Ea.		
02080	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02080	11/5/2012	80	12" x 12" Ceiling Tile, Glued On, White with Random Gouges and Brown Glue Pods	Chrysotile	<1%	NF	M	G	ND	50	Sq. Ft.		
02081	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND	NQ			
02081	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02081	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
02081	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND	NQ		Storage - Concrete Floor, Drywall Wall, Glued On Ceiling Tile Over Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02081	11/5/2012	80	12" x 12" Ceiling Tile, Glued On, White with Random Gouges and Brown Glue Pods	Chrysotile	<1%	NF	M	G	ND		486	Sq. Ft.	
02082	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Electrical Room - Marble Floor, Concrete Floor, Concrete Wall, Block Wall, Plaster Ceiling
02082	11/5/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		10	Ea.	
02082	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
02082	11/5/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	
02083	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Plumbing Room - Marble Floor, Concrete Floor, Concrete Wall, Block Wall, Plaster Ceiling
02083	11/5/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		11	Ea.	
02083	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
02083	11/5/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	
02084	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Storage - Concrete Floor, Plaster Wall, Glued On Ceiling Tile Over Plaster Ceiling



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02084	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02084	11/5/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
02084	11/5/2012	80	12" x 12" Ceiling Tile, Glued On, White with Random Gouges and Brown Glue Pods	Chrysotile	<1%	NF	M	G	ND	522	Sq. Ft.		
02085	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02085	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02085	11/5/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.	Electrical Room - Marble Floor, Concrete Floor, Concrete Wall, Plaster Ceiling, Metal Ceiling	
02086	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02086	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	150	Sq. Ft.	Hallway - Marble Floor, Marble Wall, Drop Ceiling Over Glued On Ceiling Tile Over Plaster Ceiling	
02086	11/5/2012	80	12" x 12" Ceiling Tile, Glued On, White with Random Gouges and Brown Glue Pods	Chrysotile	<1%	NF	M	G	ND	135	Sq. Ft.		
02087	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	West Elevator Lobby - Marble Floor, Marble Wall, Drywall Wall, Drop Ceiling Over Glued On Ceiling Tile Over Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02087	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02087	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1242	Sq. Ft.	
02087	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		12	Lin. Ft.	
02087	11/5/2012	80	12" x 12" Ceiling Tile, Glued On, White with Random Gouges and Brown Glue Pods	Chrysotile	<1%	NF	M	G	ND		994	Sq. Ft.	
02088	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Break Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
02088	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
02088	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02088	11/5/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		135	Sq. Ft.	
02088	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		210	Sq. Ft.	
02088	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		59	Lin. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
02088	11/5/2012	72	Sink Under Coating, Gray	None Detected	---	NF	M	G	ND	1	Ea.		
02088	11/5/2012	85	12" x 12" Floor Tile, Green with Dark Green and Gray Splotches	None Detected	---	NF	M	G	ND	27	Sq. Ft.		
02088	11/5/2012	86	12" x 12" Floor Tile, Black with White Splotches	None Detected	---	NF	M	G	ND	36	Sq. Ft.		
02088	11/5/2012	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND	12	Sq. Ft.		
02089	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02089	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
02089	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02089	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	315	Sq. Ft.	Office Space - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02089	11/5/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	66	Lin. Ft.		
02089	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02090	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02090	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
02090	11/5/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		8 Lin. Ft.		
02090	11/5/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		4 Lin. Ft.		
02090	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02090	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		252 Sq. Ft.	Women's Bathroom - Ceramic Tile Floor, Ceramic Tile Wall, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02090	11/5/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		22 Lin. Ft.		
02091	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02091	11/5/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Storage Closet - Ceramic Tile Floor, Ceramic Tile Wall, Drywall Wall, Plaster Ceiling	
02092	11/5/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		3 Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
02092	11/5/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND	12	Lin. Ft.		
02092	11/5/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	12	Lin. Ft.	Pipe Chase - Concrete Floor, Clay Tile Wall, Metal Ceiling, Concrete Ceiling	
02092	11/5/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	24	Lin. Ft.		
02092	11/5/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
02092	11/5/2012	75	Cork Insulated Piping	None Detected	---	NF	M	G	ND	12	Lin. Ft.		
02092	11/5/2012	76	Mud Compound Insulation on Cork Insulated Lines	None Detected	---	F	M	G	ND	3	Ea.		
02093	11/5/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Custodial Closet - Terrazzo Floor, Concrete Wall, Plaster Ceiling	
02094	11/5/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	924	Sq. Ft.	Hallway - Marble Floor, Marble Wall, Concrete Wall, Drop Ceiling Over Plaster Ceiling	
02094	11/5/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02095	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02095	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
02095	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02095	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	2646	Sq. Ft.	Office Space With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02095	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	200	Lin. Ft.		
02095	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02096	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02096	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	55	Lin. Ft.	Assumed In Wall	
02096	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	66	Lin. Ft.	Assumed In Wall	
02096	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02096	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	712	Sq. Ft.	Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02096	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	200	Lin. Ft.		
02096	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02097	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02097	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02097	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02097	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	168	Sq. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02097	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	49	Lin. Ft.		
02097	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02098	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02098	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	



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Building No.: 1

Facility: Asbestos Building Survey
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Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-fri-able	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
02098	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
02098	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02098	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	168	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02098	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	49	Lin. Ft.		
02099	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02099	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02099	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	186	Sq. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02099	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	51	Lin. Ft.		
02100	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02100	11/6/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	176	Lin. Ft.	66' Assumed In Wall	
02100	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	66	Lin. Ft.	Assumed In Wall	
02100	11/6/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	12	Ea.		
02100	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02100	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	1872	Sq. Ft.	Office Space With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster and Decorative Plaster	
02100	11/6/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND	10	Lin. Ft.		
02100	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	244	Lin. Ft.		
02100	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02100	11/6/2012	65	Decorative Plaster, Off White	None Detected	---	F	S	G	ND		NQ		
02101	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02101	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02101	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	44	Lin. Ft.	Assumed In Wall	
02101	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02101	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	2924	Sq. Ft.	Open Office Area With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02101	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	202	Lin. Ft.		
02101	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02102	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02102	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02102	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	270	Sq. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02102	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	53	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02102	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02103	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02103	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
02103	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02103	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		315 Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02103	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		68 Lin. Ft.		
02103	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02104	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02104	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
02104	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02104	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02104	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	315	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02104	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	68	Lin. Ft.		
02104	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02105	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
02105	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	55	Lin. Ft.	Assumed In Wall	
02105	11/2/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	66	Lin. Ft.	Assumed In Wall	
02105	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02105	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	693	Sq. Ft.	Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02105	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	172	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02105	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02106	12/3/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	File Room - Carpet Over Concrete, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
02106	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
02106	12/3/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
02106	12/3/2012	32	2' x 4' Ceiling Tile, White with Random Divots and Pin Holes	None Detected	---	F	M	G	ND	260	Sq. Ft.		
02106	12/3/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	63	Lin. Ft.		
02106	12/3/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02107	2/12/2013	13	Fire Door	Assumed	---	NF	M	G	ND	12	Ea.	Stairwell B - Slate Floor, Concrete Wall, Marble Wall, Concrete Ceiling	
02108	2/12/2013	13	Fire Door	Assumed	---	NF	M	G	ND	9	Ea.	Stairwell C - Slate Floor, Concrete Wall, Marble Wall, Concrete Ceiling	
02109	2/13/2013	3	Electrical Box	Assumed	---	NF	M	G	ND	3	Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02109	2/13/2013	155	Rolled Roofing	None Detected	---	NF	M	G	ND	10000	Sq. Ft.	Court # 1 - Rolled Roof Floor, Brick Wall	
02109	2/13/2013	156	Roof Flashing	None Detected	---	NF	M	G	ND	1200	Sq. Ft.		
02109	2/13/2013	157	Roof Tar	None Detected	---	NF	M	G	ND	10000	Sq. Ft.		
02109	2/13/2013	159	Exterior Roof Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02110	2/13/2013	3	Electrical Box	Assumed	---	NF	M	G	ND	6	Ea.		
02110	2/13/2013	155	Rolled Roofing	None Detected	---	NF	M	G	ND	12000	Sq. Ft.	Court # 2 - Rolled Roof Floor, Brick Wall	
02110	2/13/2013	156	Roof Flashing	None Detected	---	NF	M	G	ND	1200	Sq. Ft.		
02110	2/13/2013	157	Roof Tar	None Detected	---	NF	M	G	ND	12000	Sq. Ft.		
02110	2/13/2013	159	Exterior Roof Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02111	2/13/2013	3	Electrical Box	Assumed	---	NF	M	G	ND	5	Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02111	2/13/2013	155	Rolled Roofing	None Detected	---	NF	M	G	ND	12000	Sq. Ft.	Court # 3 - Rolled Roof Floor, Brick Wall	
02111	2/13/2013	156	Roof Flashing	None Detected	---	NF	M	G	ND	1200	Sq. Ft.		
02111	2/13/2013	157	Roof Tar	None Detected	---	NF	M	G	ND	12000	Sq. Ft.		
02111	2/13/2013	159	Exterior Roof Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02112	2/13/2013	155	Rolled Roofing	None Detected	---	NF	M	G	ND	12000	Sq. Ft.	Court # 4 - Rolled Roof Floor, Brick Wall	
02112	2/13/2013	156	Roof Flashing	None Detected	---	NF	M	G	ND	1200	Sq. Ft.		
02112	2/13/2013	157	Roof Tar	None Detected	---	NF	M	G	ND	12000	Sq. Ft.		
02112	2/13/2013	159	Exterior Roof Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02113	2/13/2013	3	Electrical Box	Assumed	---	NF	M	G	ND	1	Ea.		
02113	2/13/2013	155	Rolled Roofing	None Detected	---	NF	M	G	ND	9300	Sq. Ft.	Court # 5 - Rolled Roof Floor, Brick Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
02113	2/13/2013	156	Roof Flashing	None Detected	---	NF	M	G	ND	1000	Sq. Ft.		
02113	2/13/2013	157	Roof Tar	None Detected	---	NF	M	G	ND	9300	Sq. Ft.		
02113	2/13/2013	159	Exterior Roof Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
02114	2/13/2013	3	Electrical Box	Assumed	---	NF	M	G	ND	10	Ea.	Sub Station - Concrete Floor, Metal Wall, Metal Ceiling	
02115	2/13/2013	3	Electrical Box	Assumed	---	NF	M	G	ND	4	Ea.		
02115	2/13/2013	155	Rolled Roofing	None Detected	---	NF	M	G	ND	12000	Sq. Ft.	Court # 6 - Rolled Roof Floor, Brick Wall	
02115	2/13/2013	156	Roof Flashing	None Detected	---	NF	M	G	ND	1200	Sq. Ft.		
02115	2/13/2013	157	Roof Tar	None Detected	---	NF	M	G	ND	12000	Sq. Ft.		
02115	2/13/2013	159	Exterior Roof Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03001	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03001	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		33 Lin. Ft.	Assumed In Wall	
03001	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		44 Lin. Ft.	Assumed In Wall	
03001	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03001	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		3311 Sq. Ft.	Office Space With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03001	11/6/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		20 Lin. Ft.		
03001	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		240 Lin. Ft.		
03001	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03002	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03002	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		55 Lin. Ft.	Assumed In Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03002	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03002	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	273	Sq. Ft.	File Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03002	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	60	Lin. Ft.		
03003	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03003	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	33	Lin. Ft.	Assumed In Wall	
03003	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	44	Lin. Ft.	Assumed In Wall	
03003	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03003	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	1026	Sq. Ft.	Office Space With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03003	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	142	Lin. Ft.		
03003	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03004	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03004	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		55 Lin. Ft.	Assumed In Wall	
03004	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		66 Lin. Ft.	Assumed In Wall	
03004	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03004	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		672 Sq. Ft.	Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03004	11/6/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		10 Lin. Ft.		
03004	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		168 Lin. Ft.		
03004	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03005	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03005	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		55 Lin. Ft.	Assumed In Wall	



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Building No.: 1

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Cadillac Place State Office Building
3026 West Grand Boulevard
Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
03005	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	66	Lin. Ft.	Assumed In Wall	
03005	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03005	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	3520	Sq. Ft.	Office Space With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03005	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	236	Lin. Ft.		
03005	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03006	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03006	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
03006	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03006	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	513	Sq. Ft.	Office Space With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03006	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	89	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03007	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03007	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		66 Lin. Ft.	Assumed In Wall	
03007	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03007	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		680 Sq. Ft.	Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03007	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		170 Lin. Ft.		
03007	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03008	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
03008	11/6/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		4 Lin. Ft.	Women's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drop Ceiling Over Concrete Ceiling	
03008	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		252 Sq. Ft.		
03009	11/6/2012	0	No Asbestos Detected	--	---	--	--	--	--		--	Custodial Closet - Terrazzo Floor, Concrete Wall, Concrete Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
03010	11/6/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	47	Ea.		
03010	11/6/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND	20	Lin. Ft.	Chase Way - Concrete Floor, Clay Tile Wall, Metal Ceiling	
03010	11/6/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	12	Lin. Ft.		
03010	11/6/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	12	Lin. Ft.		
03010	11/6/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	2	Ea.		
03011	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03011	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03011	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Mail Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Concrete Ceiling	
03011	11/6/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND	204	Sq. Ft.		
03011	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	336	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03011	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		71 Lin. Ft.		
03011	11/6/2012	86	12" x 12" Floor Tile, Black with White Splotches	None Detected	---	NF	M	G	ND		24 Sq. Ft.		
03011	11/6/2012	89	12" x 12" Floor Tile, Red with Dark and Light Red Splotches	None Detected	---	NF	M	G	ND		72 Sq. Ft.		
03011	11/6/2012	90	12" x 12" Floor Tile, Gray with Dark and Light Gray Splotches	None Detected	---	NF	M	G	ND		36 Sq. Ft.		
03012	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03012	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
03012	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
03012	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03012	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03012	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		378 Sq. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03012	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	75	Lin. Ft.		
03013	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03013	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03013	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
03013	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	305	Sq. Ft.	Storage - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03013	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	48	Lin. Ft.		
03013	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03014	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Data Room - Concrete Floor, Wood Wall, Drywall Wall, Plaster Ceiling	
03014	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03014	11/6/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03015	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03015	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
03015	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
03015	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03015	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		756 Sq. Ft.	Training Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03015	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		106 Lin. Ft.		
03015	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03016	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Concrete Ceiling	
03016	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
03016	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
03016	11/6/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		252	Sq. Ft.	
03016	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND			Sq. Ft.	
03016	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		63	Lin. Ft.	
03016	11/6/2012	72	Sink Under Coating, Gray	None Detected	---	NF	M	G	ND		1	Ea.	
03017	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Electrical Room - Ceramic Tile Floor, Concrete Wall, Block Wall, Plaster Ceiling
03017	11/6/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		16	Ea.	
03017	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
03017	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
03017	11/6/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		5	Lin. Ft.	
03017	11/6/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03018	11/6/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	15	Lin. Ft.		
03018	11/6/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	2	Ea.		
03018	11/6/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		
03018	11/6/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	4	Lin. Ft.	Men's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drop Ceiling Over Concrete Ceiling	
03018	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	259	Sq. Ft.		
03019	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03019	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03019	11/6/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND	1	Ea.		
03019	11/6/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.	Old Electrical Room - Terrazzo Floor, Concrete Wall, Drywall Wall, Plaster Ceiling	
03020	11/6/2012	4	Woolfelt Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND	20	Lin. Ft.	Pipe Chase - Concrete Floor, Clay Tile Wall, Metal Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03020	11/6/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	3	Ea.		
03021	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03021	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
03021	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03021	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	162	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03021	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	48	Lin. Ft.		
03021	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03022	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03022	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03022	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03022	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	174	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03022	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	52	Lin. Ft.		
03023	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03023	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03023	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
03023	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03023	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	174	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03023	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	52	Lin. Ft.		
03023	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03024	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03024	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03024	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03024	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	174	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03024	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	52	Lin. Ft.		
03025	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03025	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03025	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
03025	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03025	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	174	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03025	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	52	Lin. Ft.		



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Building: Cadillac Place State Office Building

Date: 26-Mar-13

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Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
03026	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03026	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
03026	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03026	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		174 Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03026	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		52 Lin. Ft.		
03026	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03027	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03027	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		55 Lin. Ft.	Assumed In Wall	
03027	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		66 Lin. Ft.	Assumed In Wall	
03027	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03027	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	3373	Sq. Ft.	Office Space With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03027	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	270	Lin. Ft.		
03027	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03028	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03028	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03028	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03028	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	231	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03028	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	64	Lin. Ft.		
03029	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Conference Room - Carpet Over Floor Tile Over Concrete Floor, Drywall Wall, Drywall Ceiling, Drop Ceiling Over Plaster Ceiling	
03029	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	33	Lin. Ft.	Assumed In Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03029	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	44	Lin. Ft.	Assumed In Wall	
03029	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03029	11/6/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND	60	Lin. Ft.		
03029	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	90	Lin. Ft.		
03029	11/6/2012	91	2' x 2' Ceiling Tile, White, Textured, 1' x 1' Pattern, Recessed	None Detected	---	F	M	G	ND	300	Sq. Ft.		
03029	12/6/2012	92	9" x 9" Floor Tile, Beige with Brown and White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND	1152	Sq. Ft.		
03030	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03030	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03030	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
03030	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)			
03030	11/6/2012	24	2' x 2' Ceiling Tile, White with Random Pencil Holes and Pin Holes	None Detected	---	F	M	G	ND	0-1 ND	1-10 D(G)	>10 SD(G)	378 Sq. Ft.	Server Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over
03030	11/6/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND	0-1 ND	1-10 D(G)	>10 SD(G)	20 Lin. Ft.	
03030	11/6/2012	44	12" x 12" Floor Tile, Gray with Dark Gray, White, and Tan Splotches	None Detected	---	NF	M	G	ND	0-1 ND	1-10 D(G)	>10 SD(G)	378 Sq. Ft.	
03030	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	0-1 ND	1-10 D(G)	>10 SD(G)	58 Lin. Ft.	
03031	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND	0-1 ND	1-10 D(G)	>10 SD(G)	NQ	
03031	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	0-1 ND	1-10 D(G)	>10 SD(G)	11 Lin. Ft.	Assumed In Wall
03031	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND	0-1 ND	1-10 D(G)	>10 SD(G)	NQ	
03031	11/6/2012	24	2' x 2' Ceiling Tile, White with Random Pencil Holes and Pin Holes	None Detected	---	F	M	G	ND	0-1 ND	1-10 D(G)	>10 SD(G)	147 Sq. Ft.	Storage - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over
03031	11/6/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND	0-1 ND	1-10 D(G)	>10 SD(G)	10 Lin. Ft.	
03031	11/6/2012	44	12" x 12" Floor Tile, Gray with Dark Gray, White, and Tan Splotches	None Detected	---	NF	M	G	ND	0-1 ND	1-10 D(G)	>10 SD(G)	147 Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03031	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	58	Lin. Ft.		
03032	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03032	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	66	Lin. Ft.	Assumed In Wall	
03032	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	44	Lin. Ft.	Assumed In Wall	
03032	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03032	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	2590	Sq. Ft.	Office Space With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03032	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	177	Lin. Ft.		
03032	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03033	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03033	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03033	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03033	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		342 Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03033	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		71 Lin. Ft.		
03034	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03034	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
03034	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
03034	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03034	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		165 Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03034	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		49 Lin. Ft.		
03034	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03035	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03035	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
03035	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
03035	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03035	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		160 Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03035	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		48 Lin. Ft.		
03036	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03036	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
03036	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03036	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		160 Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03036	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		48	Lin. Ft.	
03036	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
03037	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
03037	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
03037	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22	Lin. Ft.	Assumed In Wall
03037	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
03037	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		160	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
03037	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		48	Lin. Ft.	
03037	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
03038	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03038	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03038	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		138 Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03038	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		41 Lin. Ft.		
03038	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03039	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03039	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
03039	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		85 Lin. Ft.		
03039	11/6/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
03039	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ	Mechanical Room - Concrete Floor, Drywall Wall, Plaster Ceiling	
03039	11/6/2012	93	Duct Caulk, Beige	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03040	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03040	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03040	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		481 Sq. Ft.	Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03040	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		140 Lin. Ft.		
03040	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03041	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03041	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		55 Lin. Ft.	Assumed In Wall	
03041	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		66 Lin. Ft.	Assumed In Wall	
03041	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03041	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1540 Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
03041	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		177	Lin. Ft.	
03041	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
03042	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
03042	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		731	Sq. Ft.	
03042	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		12	Lin. Ft.	Hallway - Marble Floor, Marble Wall, Drywall Wall, Drop Ceiling Over Concrete Ceiling
03043	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
03043	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
03043	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
03043	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		320	Sq. Ft.	Reception Area - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
03043	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		69	Lin. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
03043	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03044	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03044	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03044	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	440	Sq. Ft.		
03044	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	4	Lin. Ft.	Hallway - Marble Floor, Marble Wall, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03045	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03045	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03045	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	41	Lin. Ft.		
03045	11/6/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
03045	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ	Mechanical Room - Concrete Floor, Drywall Wall, Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03045	11/6/2012	93	Duct Caulk, Beige	None Detected	---	NF	M	G	ND		NQ		
03046	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03046	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		143 Lin. Ft.	Assumed In Wall	
03046	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		110 Lin. Ft.	Assumed In Wall	
03046	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03046	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		4610 Sq. Ft.	Office Space With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03046	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		300 Lin. Ft.		
03046	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03047	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03047	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03047	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03047	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		252 Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03047	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		62 Lin. Ft.		
03047	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03048	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03048	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03048	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		488 Sq. Ft.	Hallway - Marble Floor, Carpet Over Marble Floor, Drywall Wall, Marble Wall, Drop Ceiling Over Plaster Ceiling	
03048	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		67 Lin. Ft.		
03048	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03049	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
03049	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03049	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	1457	Sq. Ft.	East Elevator Lobby - Marble Floor, Carpet Over Marble Floor, Drywall Wall, Marble Wall, Drop Ceiling Over Plaster Ceiling	
03049	11/7/2012	96	12" x 12" Floor Tile, Off White with Dark Specks	None Detected	---	NF	M	G	ND	140	Sq. Ft.		
03049	12/6/2012	96	12" x 12" Floor Tile, Off White with Dark Specks	None Detected	---	NF	M	G	ND	140	Sq. Ft.		
03050	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03050	11/6/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	16	Ea.	Electrical Room - Marble Floor, Concrete Floor, Block Wall, Concrete Wall, Plaster Ceiling, Metal Ceiling	
03050	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03050	11/6/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	8	Lin. Ft.		
03050	11/6/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
03050	11/6/2012	94	9" x 9" Floor Tile, Rust Color with Agate Pattern	None Detected	---	NF	M	G	ND	16	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03051	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03051	11/6/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	1 Ea.		Electrical Chase - Marble Floor, Concrete Floor, Block Wall, Concrete Wall, Plaster Ceiling, Metal Ceiling	
03051	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11 Lin. Ft.		Assumed In Wall	
03051	11/6/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
03051	11/6/2012	94	9" x 9" Floor Tile, Rust Color with Agate Pattern	None Detected	---	NF	M	G	ND	16 Sq. Ft.			
03052	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03052	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11 Lin. Ft.		Assumed In Wall	
03052	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22 Lin. Ft.		Assumed In Wall	
03052	11/6/2012	28	2' x 2' Ceiling Tile, White Recessed with Random Pinholes and Knife Punctures	None Detected	---	F	M	G	ND	513 Sq. Ft.			
03052	11/6/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND	48 Lin. Ft.		Storage - Concrete Floor, Concrete Wall, Drop Ceiling Tile Over Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
03053	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03053	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
03053	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03053	11/6/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		437 Sq. Ft.		
03053	11/6/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		72 Lin. Ft.	Break Room - Floor Tile Over Concrete Floor, Drywall Wall, Concrete Wall, Splined Ceiling Tile Over Plaster Ceiling	
03053	11/6/2012	62	4" Vinyl Cove Base, Brown	None Detected	---	NF	M	G	ND		58 Lin. Ft.		
03053	11/6/2012	95	12" x 12" Ceiling Tile, White with Lateral Gouges, Splined.	None Detected	---	F	M	G	ND		437 Sq. Ft.		
03053	11/6/2012	95	12" x 12" Ceiling Tile, White with Lateral Gouges, Splined.	None Detected	---	F	M	G	ND		Sq. Ft.		
03054	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
03054	11/6/2012	200	No Access	--	---	--	--	---	---		--	No Access	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03055	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03055	11/6/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	17	Ea.	Electrical Room - Marble Floor, Concrete Floor, Block Wall, Concrete Wall, Plaster Ceiling, Metal Ceiling	
03055	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03055	11/6/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	8	Lin. Ft.		
03055	11/6/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
03055	11/6/2012	94	9" x 9" Floor Tile, Rust Color with Agate Pattern	None Detected	---	NF	M	G	ND	16	Sq. Ft.		
03056	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03056	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	HVAC Room - Concrete Floor, Concrete Wall, Drywall Wall, Block Wall, Metal Ceiling	
03056	11/6/2012	42	Spray on Fire Proofing, Gray	None Detected	---	F	S	G	ND	64	Sq. Ft.		
03056	11/6/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03057	11/6/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		
03057	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Control Room - Marble Floor, Tile Floor, Block Wall, Drywall Wall, Concrete Ceiling	
03057	11/6/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
03057	11/6/2012	94	9" x 9" Floor Tile, Rust Color with Agate Pattern	None Detected	---	NF	M	G	ND	16	Sq. Ft.		
03058	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03058	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	500	Sq. Ft.	Hallway - Marble Floor, Plaster Wall, Marble Wall, Drop Ceiling Over Plaster Ceiling	
03059	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03059	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03059	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	1643	Sq. Ft.	West Elevator Lobby - Marble Floor, Drywall Wall, Marble Wall, Drop Ceiling Over Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
03059	11/7/2012	96	12" x 12" Floor Tile, Off White with Dark Specks	None Detected	---	NF	M	G	ND		140	Sq. Ft.	
03059	12/6/2012	96	12" x 12" Floor Tile, Off White with Dark Specks	None Detected	---	NF	M	G	ND		140	Sq. Ft.	
03060	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
03060	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
03060	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		144	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
03060	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		47	Lin. Ft.	
03060	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		47	Lin. Ft.	
03061	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
03061	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
03061	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22	Lin. Ft.	Assumed In Wall



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03061	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03061	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		144 Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03061	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03062	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03062	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
03062	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03062	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		320 Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03062	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		72 Lin. Ft.		
03062	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03063	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03063	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03063	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
03063	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03063	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	144	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03063	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	47	Lin. Ft.		
03064	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03064	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03064	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03064	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	240	Sq. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03064	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	59	Lin. Ft.		



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Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-fri-able	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
03064	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03065	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03065	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
03065	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
03065	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03065	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		240 Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03065	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		59 Lin. Ft.		
03065	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03066	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03066	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	



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Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

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Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
03066	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03066	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	256	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03066	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	61	Lin. Ft.		
03066	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03067	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03067	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	77	Lin. Ft.	Assumed In Wall	
03067	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	66	Lin. Ft.	Assumed In Wall	
03067	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03067	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	2970	Sq. Ft.	Open Office Area With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03067	11/6/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND	6	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
03067	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	204	Lin. Ft.		
03067	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03068	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03068	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03068	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03068	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	50	Lin. Ft.		
03068	11/6/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
03068	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ	Mechanical Room - Concrete Floor, Drywall Wall, Drywall Ceiling, Plaster Ceiling	
03068	11/6/2012	93	Duct Caulk, Beige	None Detected	---	NF	M	G	ND		NQ		
03069	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03069	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03069	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	894	Sq. Ft.	Hallway - Marble Floor, Plaster Wall, Marble Wall, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03070	11/6/2012	0	No Asbestos Detected	--	---	--	--	--	--	--	--	Custodial Closet - Terrazzo Floor, Concrete Wall, Concrete Ceiling	
03071	11/6/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	14	Ea.		
03071	11/6/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	20	Lin. Ft.		
03071	11/6/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.	Pipe Chase - Concrete Floor, Clay Block Wall, Metal Ceiling	
03072	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03072	11/6/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	4	Lin. Ft.	Women's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drop Ceiling Over Concrete Ceiling	
03072	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	305	Sq. Ft.		
03073	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03073	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03073	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03073	11/6/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND	128	Sq. Ft.		
03073	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	231	Sq. Ft.		
03073	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	61	Lin. Ft.	Break Room - Floor Tile Over Concrete Floor, Drywall Wall, Concrete Wall, Drop Ceiling Over Plaster Ceiling	
03073	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03073	11/6/2012	72	Sink Under Coating, Gray	None Detected	---	NF	M	G	ND	1	Ea.		
03073	11/6/2012	86	12" x 12" Floor Tile, Black with White Splotches	None Detected	---	NF	M	G	ND	64	Sq. Ft.		
03073	11/6/2012	89	12" x 12" Floor Tile, Red with Dark and Light Red Splotches	None Detected	---	NF	M	G	ND	27	Sq. Ft.		
03073	11/6/2012	90	12" x 12" Floor Tile, Gray with Dark and Light Gray Splotches	None Detected	---	NF	M	G	ND	12	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03074	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03074	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		44 Lin. Ft.	Assumed In Wall	
03074	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		44 Lin. Ft.	Assumed In Wall	
03074	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03074	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1254 Sq. Ft.	Open Office Area With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03074	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		172 Lin. Ft.		
03074	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03075	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03075	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
03075	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03075	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03075	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		532 Sq. Ft.	Open Office Area With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03075	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		87 Lin. Ft.		
03075	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03076	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03076	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
03076	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Mail Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Concrete Ceiling	
03076	11/6/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		198 Sq. Ft.		
03076	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		304 Sq. Ft.		
03076	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		57 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
03076	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03076	11/6/2012	86	12" x 12" Floor Tile, Black with White Splotches	None Detected	---	NF	M	G	ND		24	Sq. Ft.	
03076	11/6/2012	89	12" x 12" Floor Tile, Red with Dark and Light Red Splotches	None Detected	---	NF	M	G	ND		54	Sq. Ft.	
03076	11/6/2012	90	12" x 12" Floor Tile, Gray with Dark and Light Gray Splotches	None Detected	---	NF	M	G	ND		28	Sq. Ft.	
03077	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03077	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		22	Lin. Ft.	Assumed In Wall
03077	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22	Lin. Ft.	Assumed In Wall
03077	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03077	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		475	Sq. Ft.	Open Office Area With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
03077	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		85	Lin. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03077	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03078	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03078	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Telecom Room - Concrete Floor, Wood Wall, Drywall Wall, Plaster Ceiling	
03078	11/6/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
03079	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03079	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
03079	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	44	Lin. Ft.	Assumed In Wall	
03079	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03079	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	798	Sq. Ft.	File Storage Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03079	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	109	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03079	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03080	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03080	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03080	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Break Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Concrete Ceiling	
03080	11/6/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND	140	Sq. Ft.		
03080	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	228	Sq. Ft.		
03080	11/6/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	57	Lin. Ft.		
03080	11/6/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03080	11/6/2012	72	Sink Under Coating, Gray	None Detected	---	NF	M	G	ND	1	Ea.		
03080	11/6/2012	86	12" x 12" Floor Tile, Black with White Splotches	None Detected	---	NF	M	G	ND	28	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
03080	11/6/2012	89	12" x 12" Floor Tile, Red with Dark and Light Red Splotches	None Detected	---	NF	M	G	ND		27	Sq. Ft.	
03080	11/6/2012	90	12" x 12" Floor Tile, Gray with Dark and Light Gray Splotches	None Detected	---	NF	M	G	ND		12	Sq. Ft.	
03081	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Electrical Room - Ceramic Tile Floor, Concrete Wall, Block Wall, Plaster Concrete Ceiling
03081	11/6/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		18	Ea.	
03081	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
03081	11/6/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		5	Lin. Ft.	
03081	11/6/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	
03082	11/6/2012	13	Fire Door	Assumed	---	NF	M	G	ND		1	Ea.	
03082	11/6/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		4	Lin. Ft.	Men's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drop Ceiling Over Concrete Ceiling
03082	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		259	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
03083	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03083	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Custodial Closet - Terrazzo Floor, Concrete Wall, Drywall Wall, Plaster Ceiling	
03083	11/6/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
03084	11/6/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03084	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03084	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	960	Sq. Ft.	Hallway - Marble Floor, Plaster Wall, Marble Wall, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03085	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Mechanical Room - Concrete Floor, Drywall Wall, Plaster Ceiling	
03085	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03085	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03085	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	85	Lin. Ft.		



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Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
03085	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
03085	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03085	11/7/2012	93	Duct Caulk, Beige	None Detected	---	NF	M	G	ND		NQ		
03086	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03086	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03086	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		552 Sq. Ft.		
03086	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		54 Lin. Ft.		Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
03086	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03087	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03087	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		121 Lin. Ft.		Assumed In Wall



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03087	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	110	Lin. Ft.	Assumed In Wall	
03087	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03087	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	3648	Sq. Ft.		
03087	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	260	Lin. Ft.	Open Office Area With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03087	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03088	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03088	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03088	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
03088	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03088	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	160	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03088	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	51	Lin. Ft.	Copy Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03088	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03089	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03089	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03089	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03089	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	187	Sq. Ft.		
03089	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	53	Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03090	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03090	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
03090	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03090	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03090	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		439	Sq. Ft.	
03090	11/7/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		8	Lin. Ft.	
03090	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		78	Lin. Ft.	Hearing Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
03090	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
03091	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
03091	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
03091	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22	Lin. Ft.	Assumed In Wall
03091	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
03091	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		350	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03091	11/7/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		1 Lin. Ft.		
03091	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		78 Lin. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03091	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03092	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03092	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03092	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		126 Sq. Ft.		
03092	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		54 Lin. Ft.	Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03093	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Old Telecom Room - Concrete Floor, Wood Wall, Plaster Wall, Plaster Ceiling	
03093	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	L	D		4 Lin. Ft.		
03093	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03094	11/7/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	1	Ea.		
03094	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	5	Lin. Ft.		
03094	11/7/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND	3	Ea.	Pipe Chase - Concrete Floor, Clay Tile Wall, Metal Ceiling	
03094	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
03095	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03095	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
03095	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03095	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	549	Sq. Ft.		
03095	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	89	Lin. Ft.	Hearing Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03095	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
03096	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03096	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
03096	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03096	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		149 Sq. Ft.		
03096	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		46 Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03096	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03097	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03097	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
03097	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03097	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		160 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03097	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		48	Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
03098	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
03098	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
03098	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22	Lin. Ft.	Assumed In Wall
03098	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
03098	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		160	Sq. Ft.	
03098	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		48	Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
03098	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	
03099	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
03099	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03099	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03099	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		160	Sq. Ft.	
03099	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		48	Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
03099	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	
03100	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
03100	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	
03100	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22	Lin. Ft.	Assumed In Wall
03100	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
03100	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		160	Sq. Ft.	
03100	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		48	Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03100	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
03101	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03101	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
03101	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03101	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		160 Sq. Ft.		
03101	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		48 Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03102	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03102	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		11 Lin. Ft.		
03102	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03102	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		550 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03102	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	86	Lin. Ft.	Hearing Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03102	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
03103	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03103	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03103	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	135	Sq. Ft.		
03103	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	44	Lin. Ft.	File Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
03104	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03104	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03104	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	550	Sq. Ft.		
03104	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	84	Lin. Ft.	Hearing Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	



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Job No.: 121268

Building No.: 1

Facility: Asbestos Building Survey
Cadillac Place State Office Building
3026 West Grand Boulevard
Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(L)		
03105	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03105	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03105	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		144	Sq. Ft.	
03105	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		47	Lin. Ft.	File Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
03106	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03106	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03106	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		180	Sq. Ft.	
03106	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		55	Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
03107	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
03107	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03107	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		550	Sq. Ft.	
03107	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		84	Lin. Ft.	Hearing Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
03107	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
03108	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
03108	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
03108	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		728	Sq. Ft.	
03108	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		180	Lin. Ft.	Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
03108	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
03109	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
03109	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		55	Lin. Ft.	Assumed In Wall



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									0-1 ND	1-10 D(G)	>10 SD(G)		
03109	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	66	Lin. Ft.	Assumed In Wall	
03109	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
03109	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	1032	Sq. Ft.		
03109	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	210	Lin. Ft.	Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04001	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04001	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
04001	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
04001	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04001	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		304 Sq. Ft.		
04001	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		57 Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04001	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		5 Sq. Ft.		
04002	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04002	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
04002	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04002	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		160	Sq. Ft.	
04002	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		48	Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04002	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		4	Sq. Ft.	
04003	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Mechanical Room - Concrete Floor, Drywall Wall, Plaster Ceiling
04003	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
04003	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04003	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		85	Lin. Ft.	
04003	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	
04003	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
04003	11/7/2012	93	Duct Caulk, Beige	None Detected	---	NF	M	G	ND		NQ		
04003	11/7/2012	93	Duct Caulk, Beige	None Detected	---	NF	M	G	ND		NQ		
04004	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04004	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	132	Lin. Ft.	121' Assumed In Wall	
04004	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	132	Lin. Ft.	Assumed In Wall	
04004	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04004	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	4892	Sq. Ft.		
04004	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	240	Lin. Ft.	Office Area with Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04004	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04004	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	27	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04005	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04005	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		143 Lin. Ft.	Assumed In Wall	
04005	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		154 Lin. Ft.	Assumed In Wall	
04005	11/7/2012	13	Fire Door	Assumed	---	NF	M	G	ND		1 Ea.		
04005	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04005	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		4892 Sq. Ft.		
04005	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		240 Lin. Ft.	Office Area with Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04005	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04005	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		18 Sq. Ft.		
04006	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Old Telecom Room - Concrete Floor, Wood Wall, Plaster Wall, Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04006	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	
04007	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	Pipe Chase - Concrete Floor, Clay Tile Wall, Metal Ceiling
04008	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
04008	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Old Telecom Closet - Terrazzo Floor, Concrete Wall, Drywall Wall, Plaster Ceiling
04008	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	
04009	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Mechanical Room - Ceramic Tile Floor, Concrete Wall, Plaster Wall, Concrete Ceiling
04009	11/7/2012	3	Electrical Box	Assumed	---	NF	M	G	ND			9 Ea.	
04009	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND			11 Lin. Ft.	Assumed In Wall
04009	11/7/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND			5 Lin. Ft.	
04009	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04010	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		22	Lin. Ft.	
04010	11/7/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		2	Ea.	
04010	11/7/2012	13	Fire Door	Assumed	---	NF	M	G	ND		1	Ea.	Men's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drop Ceiling Over Concrete Ceiling
04010	11/7/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		4	Lin. Ft.	
04010	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		246	Sq. Ft.	
04011	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
04011	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
04011	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
04011	11/7/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		185	Sq. Ft.	
04011	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		252	Sq. Ft.	Break Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling



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									0-1 ND	1-10 D(G)	>10 SD(L)		
04011	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	63	Lin. Ft.		
04011	11/7/2012	85	12" x 12" Floor Tile, Green with Dark Green and Gray Splotches	None Detected	---	NF	M	G	ND	27	Sq. Ft.		
04011	11/7/2012	86	12" x 12" Floor Tile, Black with White Splotches	None Detected	---	NF	M	G	ND	28	Sq. Ft.		
04011	11/7/2012	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND	12	Sq. Ft.		
04012	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04012	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
04012	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04012	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	196	Sq. Ft.		
04012	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	53	Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04012	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	3	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
04013	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04013	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
04013	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04013	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		196 Sq. Ft.		
04013	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		53 Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04013	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		3 Sq. Ft.		
04014	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04014	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
04014	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04014	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		300 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04014	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	53	Lin. Ft.	Hallway and Entry - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04014	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04015	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04015	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
04015	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
04015	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04015	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	300	Sq. Ft.		
04015	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	67	Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04016	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04016	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Data Room - Concrete Floor, Wood Wall, Drywall Wall, Plaster Ceiling	



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Cadillac Place State Office Building
3026 West Grand Boulevard
Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
04016	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
04017	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04017	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
04017	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
04017	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04017	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		368 Sq. Ft.		
04017	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		53 Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04017	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		3 Sq. Ft.		
04018	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04018	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04018	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04018	11/7/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		164	Sq. Ft.	
04018	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		336	Sq. Ft.	Lactation Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04018	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		63	Lin. Ft.	
04018	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
04018	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		3	Sq. Ft.	
04018	11/7/2012	85	12" x 12" Floor Tile, Green with Dark Green and Gray Splotches	None Detected	---	NF	M	G	ND		108	Sq. Ft.	
04018	11/7/2012	86	12" x 12" Floor Tile, Black with White Splotches	None Detected	---	NF	M	G	ND		24	Sq. Ft.	
04018	11/7/2012	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND		40	Sq. Ft.	
04019	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04019	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
04019	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
04019	11/7/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	8	Lin. Ft.		
04019	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04019	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	861	Sq. Ft.		
04019	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	124	Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04019	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04019	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	9	Sq. Ft.		
04020	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04020	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04020	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
04020	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04020	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	483	Sq. Ft.		
04020	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	85	Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04020	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	5	Sq. Ft.		
04021	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04021	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
04021	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
04021	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04021	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	315	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04021	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	69	Lin. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04021	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04021	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	2	Sq. Ft.		
04022	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04022	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
04022	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04022	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	271	Sq. Ft.		
04022	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	68	Lin. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04022	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04022	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	4	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04023	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Hallway - Marble Floor, Marble Wall, Drywall Wall, Drop Ceiling Over Concrete Ceiling	
04023	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		960 Sq. Ft.		
04023	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		5 Lin. Ft.		
04024	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Mechanical Room - Concrete Floor, Drywall Wall, Plaster Ceiling	
04024	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	In Wall	
04024	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04024	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		58 Lin. Ft.		
04024	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
04024	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04024	11/7/2012	93	Duct Caulk, Beige	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04025	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04025	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed in Wall	
04025	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
04025	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04025	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		294 Sq. Ft.		
04025	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		68 Lin. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04025	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04025	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		3 Sq. Ft.		
04026	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04026	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		143 Lin. Ft.	Assumed in Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04026	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	110	Lin. Ft.	Assumed In Wall	
04026	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04026	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	4608	Sq. Ft.		
04026	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	68	Lin. Ft.	Open Office Area With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04026	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04026	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	20	Sq. Ft.		
04027	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Custodial Closet - Terrazzo Floor, Concrete Wall, Plaster Wall, Plaster Ceiling	
04027	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
04028	11/7/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND	3	Ea.		
04028	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	36	Lin. Ft.	Pipe Chase - Concrete Floor, Clay Brick Wall, Metal Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04028	11/7/2012	75	Cork Insulated Piping	None Detected	---	NF	M	G	ND		12	Lin. Ft.	
04029	11/7/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		4	Lin. Ft.	
04029	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Storage Closet - Ceramic Tile Floor, Ceramic Tile Wall, Drywall Wall, Concrete Ceiling
04030	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		30	Lin. Ft.	
04030	11/7/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		2	Ea.	
04030	11/7/2012	13	Fire Door	Assumed	---	NF	M	G	ND		1	Ea.	Men's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drywall Wall, Drop Ceiling Over Concrete Ceiling
04030	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04030	11/7/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		10	Lin. Ft.	
04030	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		273	Sq. Ft.	
04031	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04031	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed in Wall	
04031	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04031	11/7/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND	61	Sq. Ft.		
04031	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	132	Sq. Ft.	Break Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04031	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	43	Lin. Ft.		
04031	11/7/2012	72	Sink Under Coating, Gray	None Detected	---	NF	M	G	ND	1	Ea.		
04031	11/7/2012	85	12" x 12" Floor Tile, Green with Dark Green and Gray Splotches	None Detected	---	NF	M	G	ND	27	Sq. Ft.		
04031	11/7/2012	86	12" x 12" Floor Tile, Black with White Splotches	None Detected	---	NF	M	G	ND	32	Sq. Ft.		
04031	11/7/2012	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND	12	Sq. Ft.		
04032	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Hallway - Marble Floor, Marble Wall, Drywall Wall, Drop Ceiling Over Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04032	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		557	Sq. Ft.	
04032	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
04033	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	West Elevator Lobby - Marble Floor, Marble Wall, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04033	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1380	Sq. Ft.	
04033	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
04033	11/7/2012	77	3" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		18	Lin. Ft.	
04033	11/7/2012	93	Duct Caulk, Beige	None Detected	---	NF	M	G	ND			NQ	
04033	11/7/2012	96	12" x 12" Floor Tile, Off White with Dark Specks	None Detected	---	NF	M	G	ND		140	Sq. Ft.	
04034	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
04034	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall



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									0-1 ND	1-10 D(G)	>10 SD(L)		
04034	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Utility Room - Marble Floor, Floor Tile Over Concrete Floor, Block Wall, Drywall Wall, Plaster Ceiling	
04034	11/7/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		1 Sq. Ft.		
04034	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
04034	11/7/2012	93	Duct Caulk, Beige	None Detected	---	NF	M	G	ND		NQ		
04034	11/7/2012	94	9" x 9" Floor Tile, Rust Color with Agate Pattern	None Detected	---	NF	M	G	ND		16 Sq. Ft.		
04035	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Duct Room - Concrete Floor, Concrete Wall, Drywall Wall, Block Wall, Metal Ceiling	
04035	11/7/2012	42	Spray on Fire Proofing, Gray	None Detected	---	F	S	G	ND		64 Sq. Ft.		
04035	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
04036	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Electrical Room - Marble Floor, Concrete Floor, Floor Tile Floor, Block Wall, Concrete Wall, Metal Ceiling, Plaster Ceiling	
04036	11/7/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		9 Ea.		



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Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

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Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-fri-able	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
04036	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
04036	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
04036	11/7/2012	94	9" x 9" Floor Tile, Rust Color with Agate Pattern	None Detected	---	NF	M	G	ND	16	Sq. Ft.		
04037	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	30	Lin. Ft.		
04037	11/7/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND	2	Ea.		
04037	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
04037	11/7/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	4	Lin. Ft.		
04037	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Men's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drywall Wall, Drop Ceiling Over Concrete Ceiling	
04037	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	228	Sq. Ft.		
04037	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04037	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		2	Sq. Ft.	
04038	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		Pipe Chase - Concrete Floor, Sheet Rock Wall, Plaster Ceiling
04038	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
04039	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		30	Lin. Ft.	
04039	11/7/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		2	Ea.	
04039	11/7/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		4	Lin. Ft.	
04039	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		Men's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drywall Wall, Drop Ceiling Over Concrete Ceiling
04039	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		228	Sq. Ft.	
04039	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04039	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		2	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04040	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04040	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.		
04040	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
04040	11/7/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		23 Lin. Ft.		
04040	11/7/2012	20	9' x 9" Floor Tile, Green with White Streaks	Chrysotile	3% (Tile Only)	NF	M	G	ND		460 Sq. Ft.	Old Offices - Carpet Over Floor Tile Over Concrete Floor, Concrete Wall, Drop Ceiling Over Plaster Deck	
04040	11/7/2012	32	2' x 4' Ceiling Tile, White with Random Divots and Pin Holes	None Detected	---	F	M	G	ND		8 Sq. Ft.		
04040	11/7/2012	97	1' x 2' Floor Tile, Black	Chrysotile	2% (Tile Only)	NF	M	G	ND		72 Sq. Ft.		
04041	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Pipe Chase Room - Marble Floor, Floor Tile Floor, Concrete Floor, Plaster Wall, Concrete Wall, Block Wall, Metal Ceiling, Plaster Ceiling	
04041	11/7/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		2 Ea.		
04041	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04041	11/7/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		4	Lin. Ft.	
04041	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	
04041	11/7/2012	94	9" x 9" Floor Tile, Rust Color with Agate Pattern	None Detected	---	NF	M	G	ND		16	Sq. Ft.	
04042	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Electrical Room - Marble Floor, Concrete Floor, Block Wall, Concrete Wall, Plaster Ceiling, Metal Ceiling
04042	11/7/2012	3	Electrical Box	Assumed	---	NF	M	G	ND		9	Ea.	
04042	11/16/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
04042	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	
04043	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
04043	11/6/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Hallway - Marble Floor, Marble Wall, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04043	11/7/2012	18	4" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND		37	Lin. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
04043	11/6/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	550	Sq. Ft.		
04043	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04043	11/7/2012	77	3" Vinyl Cove Base, Black	None Detected	---	NF	M	G	ND	49	Lin. Ft.		
04043	11/7/2012	93	Duct Caulk, Beige	None Detected	---	NF	M	G	ND		NQ		
04044	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04044	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04044	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	1560	Sq. Ft.	East Elevator Lobby - Marble Floor, Marble Wall, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04044	11/7/2012	96	12" x 12" Floor Tile, Off White with Dark Specks	None Detected	---	NF	M	G	ND	140	Sq. Ft.		
04045	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04045	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	In Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04045	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Mechanical Room - Concrete Floor, Drywall Wall, Plaster Ceiling	
04045	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		60 Lin. Ft.		
04045	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
04045	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04045	11/7/2012	93	Duct Caulk, Beige	None Detected	---	NF	M	G	ND		NQ		
04046	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04046	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
04046	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04046	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		213 Sq. Ft.		
04046	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		85 Lin. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04046	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04046	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		3 Sq. Ft.		
04047	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04047	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.		
04047	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04047	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		162 Sq. Ft.		
04047	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		50 Lin. Ft.		Storage - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04047	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		2 Sq. Ft.		
04048	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04048	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04048	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04048	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		197	Sq. Ft.	
04048	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		61	Lin. Ft.	Storage - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04048	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		2	Sq. Ft.	
04049	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
04049	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Column
04049	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	
04049	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22	Lin. Ft.	Assumed In Wall
04049	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
04049	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		504	Sq. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04049	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	70	Lin. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04049	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04049	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	1	Sq. Ft.		
04050	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04050	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04050	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	265	Sq. Ft.		
04050	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	20	Lin. Ft.	Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04050	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04051	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04051	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	121	Lin. Ft.	Assumed In Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04051	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	88	Lin. Ft.	Assumed In Wall	
04051	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04051	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	3936	Sq. Ft.		
04051	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	257	Lin. Ft.	Open Office Area - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04051	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04051	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	12	Sq. Ft.		
04052	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04052	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
04052	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04052	11/7/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND	260	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04052	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		331	Sq. Ft.	Break Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04052	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		61	Lin. Ft.	
04052	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
04052	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		1	Sq. Ft.	
04052	11/7/2012	72	Sink Under Coating, Gray	None Detected	---	NF	M	G	ND		1	Ea.	
04052	11/7/2012	85	12" x 12" Floor Tile, Green with Dark Green and Gray Splotches	None Detected	---	NF	M	G	ND		27	Sq. Ft.	
04052	11/7/2012	86	12" x 12" Floor Tile, Black with White Splotches	None Detected	---	NF	M	G	ND		32	Sq. Ft.	
04052	11/7/2012	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND		12	Sq. Ft.	
04053	11/7/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		2	Ea.	
04053	11/7/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		4	Lin. Ft.	



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Building No.: 1

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Cadillac Place State Office Building
3026 West Grand Boulevard
Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-fri-able	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
04053	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Men's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drywall Wall, Drop Ceiling Over Concrete Ceiling	
04053	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		294 Sq. Ft.		
04053	11/7/2012	47	Mud Compound Insulation on Fiberglass Pipe Insulated Lines	None Detected	---	F	T	G	ND		1 Ea.		
04053	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04054	11/7/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		8 Ea.		
04054	11/7/2012	6	Magnesium Silicate Pipe Insulation, <6" in Diameter	Chrysotile Amosite Crocidolite	5% 5% 5%	F	T	G	ND		12 Lin. Ft.		
04054	11/7/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		12 Lin. Ft.		
04054	11/7/2012	10	Aircell Pipe Insulation, >6" in Diameter	Chrysotile	60%	F	T	G	ND		12 Lin. Ft.		
04054	11/7/2012	11	Mud Compound Insulation on Aircell Pipe Insulated Lines	Chrysotile	50%	F	T	G	ND		2 Ea.		
04054	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		82 Lin. Ft.	Pipe Chase - Concrete Floor, Clay Tile Wall, Metal Ceiling	



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									0-1 ND	1-10 D(G)	>10 SD(L)		
04055	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
04055	11/7/2012	75	Cork Insulated Piping	None Detected	---	NF	M	G	ND		8 Lin. Ft.	Custodial Closet - Terrazzo Floor, Concrete Wall, Plaster Wall, Plaster Ceiling	
04056	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04056	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		8523 Sq. Ft.		
04056	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		80 Lin. Ft.	Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Concrete Ceiling	
04056	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04057	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04057	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
04057	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04057	11/7/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		164 Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04057	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		336	Sq. Ft.	Office - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04057	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		71	Lin. Ft.	
04057	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
04057	11/7/2012	85	12" x 12" Floor Tile, Green with Dark Green and Gray Splotches	None Detected	---	NF	M	G	ND		108	Sq. Ft.	
04057	11/7/2012	86	12" x 12" Floor Tile, Black with White Splotches	None Detected	---	NF	M	G	ND		24	Sq. Ft.	
04057	11/7/2012	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND		40	Sq. Ft.	
04058	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
04058	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		44	Lin. Ft.	Assumed in Wall
04058	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		66	Lin. Ft.	Assumed In Wall
04058	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04058	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1491	Sq. Ft.	
04058	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		158	Lin. Ft.	Open Office Area - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04058	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
04058	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		7	Sq. Ft.	
04059	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
04059	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	Telecom Room - Concrete Floor, Drywall Wall, Wood Wall, Plaster Ceiling
04059	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND			Ea.	
04060	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
04060	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
04060	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04060	11/7/2012	23	12" x 12" Floor Tile, Off White with Gray and White Splotches	None Detected	---	NF	M	G	ND		192	Sq. Ft.	
04060	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		252	Sq. Ft.	Break Room - Floor Tile Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04060	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		63	Lin. Ft.	
04060	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
04060	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		1	Sq. Ft.	
04060	11/7/2012	72	Sink Under Coating, Gray	None Detected	---	NF	M	G	ND		1	Ea.	
04060	11/7/2012	85	12" x 12" Floor Tile, Green with Dark Green and Gray Splotches	None Detected	---	NF	M	G	ND		27	Sq. Ft.	
04060	11/7/2012	86	12" x 12" Floor Tile, Black with White Splotches	None Detected	---	NF	M	G	ND		21	Sq. Ft.	
04060	11/7/2012	87	12' x 12" Floor Tile, Blue with Light and Dark Blue Splotches	None Detected	---	NF	M	G	ND		12	Sq. Ft.	
04061	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	Electrical Room - Ceramic Tile Floor, Concrete Floor, Floor Tile Floor, Block Wall, Concrete Wall, Metal Ceiling, Plaster Ceiling



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04061	11/7/2012	3	Electrical Box	Assumed	---	NF	M	G	ND	11	Ea.		
04061	11/7/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	8	Lin. Ft.		
04061	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
04062	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	4	Lin. Ft.		
04062	11/7/2012	13	Fire Door	Assumed	---	NF	M	G	ND	1	Ea.		
04062	11/7/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	4	Lin. Ft.		
04062	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Men's Restroom - Ceramic Tile Floor, Ceramic Tile Wall, Drop Ceiling Over Concrete Ceiling	
04062	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	266	Sq. Ft.		
04062	11/7/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND	5	Lin. Ft.		
04062	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04063	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ	Custodial Closet - Terrazzo Floor, Concrete Wall, Plaster Ceiling	
04063	11/7/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND		4 Lin. Ft.		
04063	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
04064	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04064	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
04064	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
04064	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04064	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		294 Sq. Ft.		
04064	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		67 Lin. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04064	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04064	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	2	Sq. Ft.		
04065	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04065	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
04065	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04065	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	171	Sq. Ft.		
04065	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		Lin. Ft.	Open Office Area - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04065	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04065	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	3	Sq. Ft.		
04066	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04066	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04066	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
04066	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04066	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	171	Sq. Ft.		
04066	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		Lin. Ft.	Open Office Area - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04066	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04066	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	2	Sq. Ft.		
04067	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04067	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	33	Lin. Ft.	Assumed In Wall	
04067	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
04067	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04067	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1308	Sq. Ft.	
04067	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND			Lin. Ft.	Open Office Area - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04067	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
04067	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		9	Sq. Ft.	
04068	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
04068	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		928	Sq. Ft.	Hallway - Marble Floor, Marble Wall, Drywall Wall, Drop Ceiling Over Concrete Ceiling
04068	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		30	Lin. Ft.	
04068	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
04069	11/7/2012	5	Mud Compound Insulation on Woolfelt Pipe Insulated Lines	Chrysotile	20%	F	T	G	ND		1	Ea.	
04069	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		1	Lin. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04069	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.	Pipe Chase - Concrete Floor, Clay Tile Wall, Metal Ceiling	
04070	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04070	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04070	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		129 Sq. Ft.		
04070	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		42 Lin. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04071	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04071	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
04071	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04071	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		156 Sq. Ft.		
04071	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		52 Lin. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	



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Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
04072	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04072	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
04072	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04072	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		305 Sq. Ft.		
04072	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		67 Lin. Ft.	Hallway/Entry Way - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04072	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		2 Sq. Ft.		
04073	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04073	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
04073	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
04073	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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Detroit Rapids, Michigan 48202

Building: Cadillac Place State Office Building

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Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-friable	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(L)		
04073	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		174	Sq. Ft.	
04073	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		174	Sq. Ft.	
04073	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		60	Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04074	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
04074	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
04074	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
04074	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		60	Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04075	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
04075	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
04075	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22	Lin. Ft.	Assumed In Wall



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04075	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04075	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		174	Sq. Ft.	
04075	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		60	Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04076	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04076	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
04076	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04076	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		172	Sq. Ft.	
04076	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		58	Lin. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04077	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04077	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		33	Lin. Ft.	Assumed In Wall



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									0-1 ND	1-10 D(G)	1-25 D(L)		
04077	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	44	Lin. Ft.	Assumed In Wall	
04077	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04077	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	2220	Sq. Ft.		
04077	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	147	Lin. Ft.	Open Office Area With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04077	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04077	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	6	Sq. Ft.		
04078	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04078	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
04078	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
04078	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04078	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		473	Sq. Ft.	
04078	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		80	Lin. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04078	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
04079	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
04079	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	Assumed In Wall
04079	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
04079	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		252	Sq. Ft.	
04079	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		57	Lin. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04079	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND			NQ	
04080	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04080	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	33	Lin. Ft.	Assumed In Wall	
04080	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	44	Lin. Ft.	Assumed In Wall	
04080	11/7/2012	14	Vibration Dampening Cloth, Black	None Detected	---	NF	M	G	ND	8	Lin. Ft.		
04080	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04080	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	1150	Sq. Ft.		
04080	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	136	Lin. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04080	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04080	11/7/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	12	Sq. Ft.		
04081	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04081	11/7/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04081	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Mechanical Room - Concrete Floor, Drywall Wall, Plaster Ceiling	
04081	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
04081	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04081	11/7/2012	93	Duct Caulk, Beige	None Detected	---	NF	M	G	ND		NQ		
04082	11/7/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04082	11/7/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ	Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04082	11/7/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	840	Sq. Ft.		
04082	11/7/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	220	Lin. Ft.		
04082	11/7/2012	49	Fire Proofing Caulk, Red/Pink	None Detected	---	NF	M	G	ND		Ea.		
04082	11/7/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04083	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04083	11/8/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
04083	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
04083	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04083	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		276 Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04083	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		65 Lin. Ft.		
04083	11/8/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		3 Sq. Ft.		
04084	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04084	11/8/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
04084	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	1-25 D(L)		
04084	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	276	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04084	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	65	Lin. Ft.		
04085	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04085	11/8/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND	11	Lin. Ft.	Assumed In Wall	
04085	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND	22	Lin. Ft.	Assumed In Wall	
04085	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04085	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	157	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04085	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	48	Lin. Ft.		
04085	11/8/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04085	11/8/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND	3	Sq. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04086	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04086	11/8/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
04086	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04086	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		157 Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04086	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		48 Lin. Ft.		
04086	11/8/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		3 Sq. Ft.		
04087	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04087	11/8/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.	Assumed In Wall	
04087	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
04087	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04087	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		157	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04087	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		48	Lin. Ft.	
04087	11/8/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		3	Sq. Ft.	
04088	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND			NQ	
04088	11/8/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		99	Lin. Ft.	Assumed In Wall
04088	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		66	Lin. Ft.	Assumed In Wall
04088	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND			NQ	
04088	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		3232	Sq. Ft.	Open Office Area With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04088	11/8/2012	43	Window Caulk, Brown	None Detected	---	NF	M	G	ND		10	Lin. Ft.	
04088	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		263	Lin. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04088	11/8/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04088	11/8/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		10 Sq. Ft.		
04089	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04089	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04089	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		276 Sq. Ft.		Reception Area - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04089	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		65 Lin. Ft.		
04089	11/8/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04090	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04090	11/8/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		55 Lin. Ft.		Assumed In Wall
04090	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		66 Lin. Ft.		Assumed In Wall



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Building: Cadillac Place State Office Building

Date: 26-Mar-13

Building Survey Summary

Function Area No.	Inspection Date	HA No.	Description	Asbestos Type	Asbestos Percent	Friable/ Non-fri-able	Type Therm.(T) Surf.(S) Misc.(M)	Damage Loc.(L) Gen.(G)	% Damage			Approx. Quantity	Remarks
									0-1 ND	1-10 D(G)	>10 SD(G)		
04090	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04090	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		672 Sq. Ft.	Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04090	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		174 Lin. Ft.		
04091	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04091	11/8/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		33 Lin. Ft.	Assumed In Wall	
04091	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		66 Lin. Ft.	Assumed In Wall	
04091	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04091	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		1316 Sq. Ft.	Open Office Area With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04091	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		263 Lin. Ft.		
04091	11/8/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04092	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04092	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04092	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	305	Sq. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04092	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	78	Lin. Ft.		
04092	11/8/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04093	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04093	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04093	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	308	Sq. Ft.	Office Paper Storage - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04093	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	75	Lin. Ft.		
04094	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04094	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04094	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		242 Sq. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04094	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		59 Lin. Ft.		
04094	11/8/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04095	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04095	11/8/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		22 Lin. Ft.		
04095	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
04095	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04095	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		494 Sq. Ft.	Open Office Area With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04095	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		68 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
04095	11/8/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04095	11/8/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		3 Sq. Ft.		
04096	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04096	11/8/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.		
04096	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04096	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		209 Sq. Ft.		Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04096	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		57 Lin. Ft.		
04096	11/8/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		2 Sq. Ft.		
04097	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04097	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(L)		
04097	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		116	Sq. Ft.	File Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04097	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		42	Lin. Ft.	
04098	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04098	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22	Lin. Ft.	Assumed In Wall
04098	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04098	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		228	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04098	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		60	Lin. Ft.	
04099	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04099	11/8/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		22	Lin. Ft.	
04099	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22	Lin. Ft.	Assumed In Wall



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04099	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04099	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		874 Sq. Ft.	Open Office Area With Cubicles - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04099	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		132 Lin. Ft.		
04099	11/8/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		3 Sq. Ft.		
04100	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04100	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04100	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		410 Sq. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04100	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		74 Lin. Ft.		
04100	11/8/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04101	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04101	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04101	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		252 Sq. Ft.	Conference Room - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04101	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		63 Lin. Ft.		
04102	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04102	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04102	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		305 Sq. Ft.	Reception - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04102	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		62 Lin. Ft.		
04102	11/8/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04103	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04103	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04103	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		174	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04103	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		50	Lin. Ft.	
04104	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04104	11/8/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	
04104	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22	Lin. Ft.	Assumed In Wall
04104	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04104	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		174	Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04104	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		50	Lin. Ft.	
04105	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04105	11/8/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11	Lin. Ft.	



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04105	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04105	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		174 Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04105	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		50 Lin. Ft.		
04105	11/8/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04106	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04106	11/8/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		11 Lin. Ft.		
04106	11/7/2012	12	Woolfelt Pipe Insulation, <6" in Diameter	Chrysotile	40%	F	T	G	ND		22 Lin. Ft.	Assumed In Wall	
04106	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04106	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		174 Sq. Ft.	Office - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04106	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		50 Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04106	11/8/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04107	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04107	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04107	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	943	Sq. Ft.	Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04107	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	188	Lin. Ft.		
04107	11/8/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04108	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04108	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04108	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND	81	Sq. Ft.	Waiting Area - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling	
04108	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND	33	Lin. Ft.		



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									0-1 ND	1-10 D(G)	>10 SD(G)		
04109	11/8/2012	1	Plaster	None Detected	---	NF	S	G	ND		NQ		
04109	11/8/2012	9	Aircell Pipe Insulation, <6" in Diameter	Chrysotile	25%	F	T	G	ND		55 Lin. Ft.		
04109	11/8/2012	15	Drywall	None Detected	---	NF	M	G	ND		NQ		
04109	11/8/2012	34	2' x 4' Ceiling Tile, White Recessed Fake 2' x 2' with Random Pin Holes and Knife Punctures	None Detected	---	F	M	G	ND		616 Sq. Ft.		Hallway - Carpet Over Concrete Floor, Drywall Wall, Drop Ceiling Over Plaster Ceiling
04109	11/8/2012	48	4" Vinyl Cove Base, Gray	None Detected	---	NF	M	G	ND		188 Lin. Ft.		
04109	11/8/2012	60	Duct Caulk, Gray	None Detected	---	NF	M	G	ND		NQ		
04109	11/8/2012	68	Interior Window Caulk, Off White	None Detected	---	NF	M	G	ND		12 Sq. Ft.		

APPENDIX V

**PREVAILING WAGE SCHEDULES AND FEDERAL
PROVISIONS ADDENDUM
& WAGE RATE SCHEDULES**

Federal Provisions Addendum

This addendum applies to purchases that will be paid for in whole or in part with funds obtained from the federal government. The provisions below are required and the language is not negotiable. If any provision below conflicts with the State's terms and conditions, including any attachments, schedules, or exhibits to the State's Contract, the provisions below take priority to the extent a provision is required by federal law; otherwise, the order of precedence set forth in the Contract applies. Hyperlinks are provided for convenience only; broken hyperlinks will not relieve Contractor from compliance with the law.

1. Equal Employment Opportunity

If this Contract is a “**federally assisted construction contract**” as defined in [41 CFR Part 60-1.3](#), and except as otherwise may be provided under [41 CFR Part 60](#), then during performance of this Contract, the Contractor agrees as follows:

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) The Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Contractor's legal duty to furnish information.

(4) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) The Contractor will comply with all provisions of [Executive Order 11246](#) of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) The Contractor will furnish all information and reports required by [Executive Order 11246](#) of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in [Executive Order 11246](#) of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in [Executive Order 11246](#) of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of [Executive Order 11246](#) of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: *Provided*, That if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

2. Davis-Bacon Act (Prevailing Wage)

If this Contract is a **prime construction contracts** in excess of \$2,000, the Contractor (and its Subcontractors) must comply with the Davis-Bacon Act ([40 USC 3141-3148](#)) as supplemented by Department of Labor regulations ([29 CFR Part 5](#), "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"), and during performance of this Contract the Contractor agrees as follows:

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- (1) All transactions regarding this contract shall be done in compliance with the Davis-Bacon Act (40 U.S.C. 3141- 3144, and 3146-3148) and the requirements of 29C.F.R. pt. 5 as may be applicable. The contractor shall comply with 40 U.S.C. 3141-3144, and 3146-3148 and the requirements of 29 C.F.R. pt. 5 as applicable.
 - (2) Contractors are required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor.
 - (3) Additionally, contractors are required to pay wages not less than once a week.

3. Copeland “Anti-Kickback” Act

If this Contract is a contract for construction or repair work in excess of \$2,000 where the Davis-Bacon Act applies, the Contractor must comply with the Copeland “Anti-Kickback” Act ([40 USC 3145](#)), as supplemented by Department of Labor regulations ([29 CFR Part 3](#), “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”), which prohibits the Contractor and subrecipients from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled, and during performance of this Contract the Contractor agrees as follows:

- (1) Contractor. The Contractor shall comply with 18 U.S.C. §874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. pt. 3 as may be applicable, which are incorporated by reference into this contract.
- (2) Subcontracts. The Contractor or Subcontractor shall insert in any subcontracts the clause above and such other clauses as FEMA or the applicable federal awarding agency may by appropriate instructions require, and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all of these contract clauses.
- (3) Breach. A breach of the contract clauses above may be grounds for termination of the contract, and for debarment as a Contractor and Subcontractor as provided in 29 C.F.R. § 5.12.

4. Contract Work Hours and Safety Standards Act

If the Contract is **in excess of \$100,000** and **involves the employment of mechanics or laborers**, the Contractor must comply with [40 USC 3702](#) and [3704](#), as supplemented by Department of Labor regulations ([29 CFR Part 5](#)), as applicable, and during performance of this Contract the Contractor agrees as follows:

- (1) Overtime requirements. No Contractor or Subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

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- (2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1) of this section the Contractor and any Subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and Subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$27 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.
 - (3) Withholding for unpaid wages and liquidated damages. The State shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or Subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.
 - (4) Subcontracts. The Contractor or Subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1) through (4) of this section and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.

5. Rights to Inventions Made Under a Contract or Agreement

If the Contract is funded by a federal "funding agreement" as defined under [37 CFR §401.2 \(a\)](#) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with [37 CFR Part 401](#), "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

6. Clean Air Act and the Federal Water Pollution Control Act

If this Contract is **in excess of \$150,000**, the Contractor must comply with all applicable standards, orders, and regulations issued under the Clean Air Act ([42 USC 7401-7671g](#)) and the Federal Water Pollution Control Act ([33 USC 1251-1387](#)), and during performance of this Contract the Contractor agrees as follows:

Clean Air Act

1. The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.
2. The Contractor agrees to report each violation to the State and understands and agrees that the State will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency or the applicable federal awarding agency, and the appropriate Environmental Protection Agency Regional Office.

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3. The Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA or the applicable federal awarding agency.

Federal Water Pollution Control Act

1. The Contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.
2. The Contractor agrees to report each violation to the State and understands and agrees that the State will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency or the applicable federal awarding agency, and the appropriate Environmental Protection Agency Regional Office.
3. The Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA or the applicable federal awarding agency.

7. Debarment and Suspension

A “contract award” (see [2 CFR 180.220](#)) must not be made to parties listed on the government-wide exclusions in the [System for Award Management](#) (SAM), in accordance with the OMB guidelines at [2 CFR 180](#) that implement [Executive Orders 12549 \(51 FR 6370; February 21, 1986\)](#) and [12689 \(54 FR 34131; August 18, 1989\)](#), “Debarment and Suspension.” SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than [Executive Order 12549](#).

- (1) This Contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the Contractor is required to verify that none of the Contractor’s principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).
- (2) The Contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.
- (3) This certification is a material representation of fact relied upon by the State. If it is later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the State, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.
- (4) The bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

8. Byrd Anti-Lobbying Amendment

Contractors who apply or bid for an award of **\$100,000 or more** shall file the required certification in Exhibit 1 – Byrd Anti-Lobbying Certification below. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

9. Procurement of Recovered Materials

Under [2 CFR 200.322](#), Contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act.

- (1) In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired—
 1. Competitively within a timeframe providing for compliance with the contract performance schedule;
 2. Meeting contract performance requirements; or
 3. At a reasonable price.
- (2) Information about this requirement, along with the list of EPA- designated items, is available at EPA’s Comprehensive Procurement Guidelines web site, <https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>.
- (3) The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.

10. Additional FEMA Contract Provisions.

The following provisions apply to purchases that will be paid for in whole or in part with funds obtained from the Federal Emergency Management Agency (FEMA):

- (1) Access to Records. The following access to records requirements apply to this contract:
 - a. The Contractor agrees to provide the State, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.
 - b. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
 - c. The Contractor agrees to provide the FEMA Administrator or his authorized representatives access to construction or other work sites pertaining to the work being completed under the contract.
 - d. In compliance with the Disaster Recovery Act of 2018, the State and the Contractor acknowledge and agree that no language in this contract is intended to prohibit audits or internal reviews by the FEMA Administrator or the Comptroller General of the United States.

(2) Changes.

See the provisions regarding modifications or change notice in the Contract Terms.

(3) DHS Seal, Logo, And Flags

The Contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre-approval.

(4) Compliance with Federal Law, Regulations, and Executive Orders

This is an acknowledgement that FEMA financial assistance will be used to fund all or a portion of the contract. The Contractor will comply with all applicable Federal law, regulations, executive orders, FEMA policies, procedures, and directives.

(5) No Obligation by Federal Government

The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the State, Contractor, or any other party pertaining to any matter resulting from the Contract.”

(6) Program Fraud and False or Fraudulent Statements or Related Acts

The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor's actions pertaining to this contract.

Exhibit 1 - Byrd Anti-Lobbying Certification

Contractor must complete this certification if the purchase will be paid for in whole or in part with funds obtained from the federal government and the purchase is greater than \$100,000.

APPENDIX A, 44 C.F.R. PART 18 – CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official

Name and Title of Contractor's Authorized Official

Date

§ 200.322 Domestic Preferences for Procurements

- (a) As appropriate and to the extent consistent with law, the non-Federal entity should, to the greatest extent practicable under a Federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards including all contracts and purchase orders for work or products under this award.
- (b) For purposes of this section:
 - (1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
 - (2) "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

FEDERAL STATE and LOCAL FISCAL RECOVERY FUNDS (SLFRF) PROJECT SPECIFIC REQUIREMENTS

The funding being used for this project is Federal State and Local Fiscal Recovery Funds (SLFRF). As a result, additional provisions apply and are included in this Attachment.

Each primary contracted contractor with the DTMB must register with the Federal System for Award Management (SAM) must register prior to contract execution. The SAM website is <https://sam.gov/content/home>. The direct hyperlink for SAM.gov registration is <https://sam.gov/content/entity-registration>

As of April 4, 2022, the Federal government will use a Unique Entity Identifier (UEI) created in SAM.gov as the official subrecipient identifier. All primary contracted contractors with the DTMB will be required to maintain an active registration on SAM.gov. To receive payment, all primary contracted vendors need to have a Unique Entity Identifier (UEI) number and have the UEI entered in their SIGMA account. Information on the UEI and sign up can be obtained at: <https://www.gsa.gov/about-us/organization/federal-acquisition-service/office-of-systems-management/integrated-award-environment-iae/iae-systems-information-kit/unique-entity-identifier-update>

Contractor is to fill in and provide the following documentation for use in SLFRF reporting prior to Contract Execution for use in the reporting requirements:

Contractor's UEI _____

Contractor's Full Legal Name _____

Primary Point-of-Contact Email Address _____

Business Address _____

City Business is located _____

State Business is located _____

US Zip Code + 4 digits _____

"General Decision Number: MI20250101 01/03/2025

Superseded General Decision Number: MI20240101

State: Michigan

Construction Type: Building

County: Wayne County in Michigan.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2025.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number Publication Date
0 01/03/2025

ASBE0025-002 06/01/2023

Rates Fringes

ASBESTOS WORKER/HEAT & FROST

INSULATOR.....\$ 37.98 34.27

BOIL0169-001 01/01/2024

Rates Fringes

BOILERMAKER.....\$ 39.65 35.68

BRMI0001-001 06/01/2022

Rates Fringes

BRICKLAYER.....\$ 38.87 25.18

TILE FINISHER.....\$ 30.75 22.67

TILE SETTER.....\$ 37.88 22.67

CARP0687-003 06/01/2024

Rates Fringes

CARPENTER (Including Acoustical Ceiling Installation, Drywall Hanging, Form Work, Metal Stud Installation & Scaffold Building).....\$ 41.11 30.23

CARP1045-001 06/01/2024

Rates Fringes

CARPENTER (Floor Layer - Carpet, Resilient, & Vinyl Flooring).....	\$ 34.09	20.81
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CARP1102-002 06/01/2024

	Rates	Fringes
MILLWRIGHT.....	\$ 36.47	40.52

ELEC0058-001 07/21/2024

	Rates	Fringes
ELECTRICIAN (Low Voltage Wiring and Installation of Alarms)		
Installer.....	\$ 31.64	17.72
Technician.....	\$ 39.93	17.97
ELECTRICIAN.....	\$ 51.32	28.54

ELEV0036-002 01/01/2024

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 62.36	37.885+a+b

FOOTNOTES:

A. PAID HOLIDAYS: New Years Day; Memorial Day; Independence Day; Labor Day; Veterans' Day; Thanksgiving Day; the Friday after Thanksgiving Day; and Christmas Day.

B. Employer contributes 8% basic hourly rate for 5 years or more of service of 6% basic hourly rate for 6 months to 5 years of service as vacation pay credit.

ENGI0324-017 06/01/2024

	Rates	Fringes
OPERATOR: Power Equipment		
GROUP 1.....	\$ 49.54	25.35
GROUP 2.....	\$ 48.04	25.35
GROUP 3.....	\$ 46.54	25.35
GROUP 4.....	\$ 46.24	25.35
GROUP 5.....	\$ 45.42	25.35
GROUP 6.....	\$ 44.56	25.35
GROUP 7.....	\$ 43.59	25.35
GROUP 8.....	\$ 41.88	25.35
GROUP 9.....	\$ 31.79	25.35

FOOTNOTES:

Tower cranes: to be paid the crane operator rate determined by the combined length of the mast and the boom. If the worker must climb 50 ft. or more to the work station, \$.25 per hour additional.

Derrick and cranes where the operator must climb 50 ft. or more to the work station, \$.25 per hour additional to the applicable crane operator rate.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Crane with boom and jib or leads 400' or longer

GROUP 2: Crane with boom and jib or leads 300' or longer

GROUP 3: Crane with boom and jib or leads 220' or longer

GROUP 4: Crane with boom and jib or leads 140' or longer

GROUP 5: Crane with boom and jib or leads 120' or longer

GROUP 6: Regular crane operator, and concrete pump with boom operator

GROUP 7: Backhoe/Excavator/Trackhoe, bobcat/skid Loader, broom/sweeper, bulldozer, grader/blade, highlift, hoist, loader, roller, scraper, tractor & trencher

GROUP 8: Forklift & extend-a-boom forklift

GROUP 9: Oiler

IRON0025-019 06/01/2024

	Rates	Fringes
IRONWORKER		
REINFORCING.....	\$ 33.43	37.15
STRUCTURAL.....	\$ 35.55	35.83

IRON0025-022 06/01/2022

	Rates	Fringes
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IRONWORKER STRUCTURAL (Metal

Building Erection Only).....\$ 25.81 26.43

LAB00259-002 08/01/2024

Rates Fringes

LABORER: Asbestos Abatement (Removal from Floors, Walls & Ceilings).....\$ 36.53 15.92

LAB00334-005 06/01/2024

Rates Fringes

LABORER: Landscape & Irrigation GROUP 1.....\$ 28.60 11.60 GROUP 2.....\$ 26.34 11.60

CLASSIFICATIONS

GROUP 1: Landscape specialist, including air, gas and diesel equipment operator, lawn sprinkler installer, skidsteer (or equivalent)

GROUP 2: Landscape laborer: small power tool operator, material mover, truck driver and lawn sprinkler installer tender

LAB01191-002 06/01/2024

Rates Fringes

LABORER Common or General; Grade Checker; Mason Tender - Brick/Cement/Concrete; Pipelayer; Sandblaster.....\$ 35.34 17.75

PAIN0022-003 06/01/2022

Rates Fringes

PAINTER: Brush and Roller.....\$ 32.85 20.41 PAINTER: Drywall Finishing/Taping.....\$ 32.85 20.41 PAINTER: Spray.....\$ 26.86 17.66

PAIN0357-002 06/01/2024

Rates Fringes

GLAZIER.....\$ 40.00 25.20

PAID HOLIDAYS: New Year's Day, Decoration Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day; provided that the employee has worked the last full regular scheduled work day prior to the holiday, and the first full regular scheduled work day following the holiday, provided the employee is physically able to work.

PLAS0067-001 04/01/2014

Rates Fringes

CEMENT MASON/CONCRETE FINISHER...\$ 30.63 14.07

PLAS0067-004 04/01/2014

Rates Fringes

PLASTERER.....\$ 30.63 14.07

PLUM0098-001 06/01/2023

Rates Fringes

PLUMBER, Excludes HVAC Pipe and Unit Installation.....\$ 35.79 28.28

PLUM0636-003 06/05/2023

Rates Fringes

PIPEFITTER, Includes HVAC Pipe and Unit Installation.....\$ 44.70 35.37

ROOF0149-001 07/01/2024

Rates Fringes

ROOFER.....\$ 42.68 28.75

SFMI0704-001 08/01/2024

Rates Fringes

SPRINKLER FITTER (Fire

Sprinklers).....\$ 52.16 33.46

 SHEE0080-004 06/01/2024

Rates Fringes

SHEET METAL WORKER (Including
 HVAC Duct Installation;
 Excluding HVAC System
 Installation).....\$ 42.51 35.77

TEAM0247-001 06/01/2024

Rates Fringes

TRUCK DRIVER
 GROUP 1
 Flatbed; Pickup; Dump &
 Tandem.....\$ 30.35 0.70+a+b
 GROUP 2
 Semi.....\$ 30.50 0.70+a+b
 GROUP 3
 Lowboy.....\$ 30.60 0.70+a+b

PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. If any of the above holidays fall on a Sunday, the following Monday shall be considered the holiday and, if work is performed, the rate shall be double time.

FOOTNOTE:
 a. \$456.70 per week, plus \$67.10 per day.

 SUMI2011-026 02/01/2011

Rates Fringes

INSTALLER - OVERHEAD DOOR.....\$ 27.98 0.00
 IRONWORKER, ORNAMENTAL.....\$ 18.48 7.93
 TRUCK DRIVER: Tractor Haul
 Truck.....\$ 13.57 ** 1.18

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

 ** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$17.75) or 13658 (\$13.30). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

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

 The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than "SU", "UAVG", "SA?", or "SC?" denotes that a union rate was

prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The "SU" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The "SA" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R. 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

----- WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

- a) a survey underlying a wage determination
- b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCDW-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION"

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. The Work of this Section Includes:

1. Demolition and removal of selected portions of exterior or interior of building or structure and site elements.
2. Removal and salvage of existing items for delivery to Owner and removal of existing items for reinstallation.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner as indicated.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage; prepare for reuse; and reinstall where indicated.
- D. Existing to Remain: Existing items of construction that are not to be removed.

1.3 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.4 COORDINATION

- A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

1.5 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for dust control, and, for noise control. Indicate proposed locations and construction of barriers.
- B. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 - 2. Temporary interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.

1.6 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.

1.7 FIELD CONDITIONS

- A. Owner will not occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 - 1. Before selective demolition, Owner will remove the following items:
 - a. Furniture.
 - b. Personal Belongings
 - c. Cubicles
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials:
 - 1. It is not expected that hazardous materials will be encountered in the Work.
 - a. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. Historic Areas: Demolition and hauling equipment and other materials to be of sizes that clear surfaces within historic spaces, areas, rooms, and openings, including

temporary protection, by 12 inches or more.

- F. On-site sale of removed items or materials is not permitted.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSP A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

3.2 PREPARATION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
- B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.3 UTILITY SERVICES AND BUILDING SYSTEMS

- A. Existing Services/Systems to Remain: Maintain utilities and building systems and equipment to remain and protect against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utilities and building systems serving areas to be selectively demolished.
 - 1. Arrange to shut off utilities with utility companies.
 - 2. If disconnection of utilities and building systems will affect adjacent occupied parts of the building, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to those parts of the building.
 - 3. Demolish and remove existing building systems, equipment, and components indicated on Drawings to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment and components.
 - 4. Abandon existing building systems, equipment, and components indicated on Drawings to be abandoned in place.
 - a. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
 - b. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.
 - 5. Remove and reinstall/salvage existing building systems, equipment, and components indicated on drawings to be removed and reinstalled or removed and salvaged:
 - a. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment and components; when appropriate, reinstall, reconnect, and make equipment operational.
 - b. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and components and deliver to Owner.

3.4 SALVAGE/REINSTALL

- A. Removed and Salvaged Items:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area on-site.
5. Protect items from damage during transport and storage.

B. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

3.5 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
5. Maintain fire watch during and for at least 2 hours after flame-cutting operations.
6. Maintain adequate ventilation when using cutting torches.
7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
8. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed trafficways if required by authorities having jurisdiction.

3.6 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete:

1. Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.
2. Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, and then remove concrete between saw cuts.

B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.

C. Resilient Floor Coverings: Remove floor coverings and adhesive in accordance with recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn demolished materials.

3.8 CLEANING

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

END OF SECTION 024119

SECTION 054000 - COLD-FORMED METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Interior non-load-bearing wall framing.
 - 2. Soffit framing.

1.2 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Cold-formed steel framing materials.
 - 2. Single deflection track.
 - 3. Soffit framing.
- B. Shop Drawings:
 - 1. Include layout, spacings, sizes, thicknesses, and types of cold-formed steel framing; fabrication; and fastening and anchorage details, including mechanical fasteners.
 - 2. Indicate reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachment to adjoining work.
- C. Delegated Design Submittal: For cold-formed steel framing.

1.3 QUALITY ASSURANCE

- A. Code-Compliance Certification of Studs and Tracks: Provide documentation that framing members are certified according to the product-certification program of the Certified Steel Stud Association, the Steel Framing Industry Association, the Steel Stud Manufacturers Association, or the Supreme Steel Framing System Association.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Protect and store cold-formed steel framing from corrosion, moisture staining, deformation, and other damage during delivery, storage, and handling as required in AISI S202.

PART 2 - PRODUCTS

2.1 COLD-FORMED METAL FRAMING

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. ClarkDietrich
2. Custom Stud
3. Jaimes Industries
4. Marino\WARE
5. SCAFCO Steel Stud Company; Stone Group of Companies

2.2 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide cold-formed steel framing capable of withstanding design loads within limits and under conditions indicated.
1. Deflection Limits: Design framing systems to withstand design loads without deflections greater than the following:
 - a. Interior Non-Load-Bearing Framing: Horizontal deflection of 1/360 of the wall height under a horizontal load of 5 lbf/sq. ft..
 2. Design framing system to maintain clearances at openings, to allow for construction tolerances, and to accommodate live load deflection of primary building structure as follows:
 - a. Upward and downward movement of 1/2 inch.
- B. Cold-Formed Steel Framing Standards: Unless more stringent requirements are indicated, framing complies with AISI S100 and ASTM C955.

2.3 COLD-FORMED STEEL FRAMING MATERIALS

- A. Framing Members, General: Comply with ASTM C955 for conditions indicated.

2.4 INTERIOR NON-LOAD-BEARING WALL FRAMING

- A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:
1. Minimum Base-Metal Thickness: 0.0329 inch.
 2. Flange Width: 1-5/8 inches.

- B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with unstiffened flanges, and as follows:
 - 1. Minimum Base-Metal Thickness: 0.0329 inch.
 - 2. Flange Width: 1-1/4 inches.

- C. Single Deflection Track: Manufacturer's single, deep-leg, U-shaped steel track; unpunched, with unstiffened flanges, of web depth to contain studs while allowing free vertical movement, with flanges designed to support horizontal loads and transfer them to the primary structure, and as follows:
 - 1. Minimum Base-Metal Thickness: 0.0428 inch.
 - 2. Flange Width: 1 inch plus the design gap for one-story structures.

- D. Drift Clips: Manufacturer's standard bypass or head clips, capable of isolating wall stud from upward and downward vertical displacement and lateral drift of primary structure through positive mechanical attachment to stud web and structure.

2.5 FRAMING ACCESSORIES

- A. Fabricate steel-framing accessories from ASTM A1003/A1003M, Structural Grade, Type H, metallic coated steel sheet, of same grade and coating designation used for framing members.

- B. Provide accessories of manufacturer's standard thickness and configuration, unless otherwise indicated, as follows:
 - 1. Supplementary framing.
 - 2. Bracing, bridging, and solid blocking.
 - 3. Web stiffeners.
 - 4. Anchor clips.
 - 5. End clips.
 - 6. Stud kickers and knee braces.
 - 7. Joist hangers and end closures.
 - 8. Hole-reinforcing plates.
 - 9. Backer plates.

2.6 ANCHORS, CLIPS, AND FASTENERS

- A. Steel Shapes and Clips: ASTM A36/A36M, zinc coated by hot-dip process according to ASTM A123/A123M.

- B. Power-Actuated Anchors: Fastener systems with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

- C. Mechanical Fasteners: ASTM C1513, corrosion-resistant-coated, self-drilling, self-tapping, steel drill screws.

1. Head Type: Low-profile head beneath sheathing; manufacturer's standard elsewhere.

D. Welding Electrodes: Comply with AWS standards.

2.7 FABRICATION

A. Fabricate cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened, according to referenced AISI's specifications and standards, manufacturer's written instructions, and requirements in this Section.

1. Fabricate framing assemblies using jigs or templates.
2. Cut framing members by sawing or shearing; do not torch cut.
3. Fasten cold-formed steel framing members by welding, screw fastening, clinch fastening, pneumatic pin fastening, or riveting as standard with fabricator. Wire tying of framing members is not permitted.
 - a. Comply with AWS D1.3/D1.3M requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
 - b. Locate mechanical fasteners and install according to Shop Drawings, with screws penetrating joined members by no fewer than three exposed screw threads.
4. Fasten other materials to cold-formed steel framing by welding, bolting, pneumatic pin fastening, or screw fastening, according to Shop Drawings.

B. Reinforce, stiffen, and brace framing assemblies to withstand handling, delivery, and erection stresses. Lift fabricated assemblies by means that prevent damage or permanent distortion.

C. Tolerances: Fabricate assemblies level, plumb, and true to line to a maximum allowable variation of 1/8 inch in 10 feet and as follows:

1. Spacing: Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative error are not to exceed minimum fastening requirements of sheathing or other finishing materials.
2. Squareness: Fabricate each cold-formed steel framing assembly to a maximum out-of-square tolerance of 1/8 inch.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, conditions, and abutting structural framing for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Cold-formed steel framing may be shop or field fabricated for installation, or it may be field assembled.
- B. Install cold-formed steel framing according to AISI S200, AISI S202, and manufacturer's written instructions unless more stringent requirements are indicated.
- C. Install shop- or field-fabricated, cold-formed framing and securely anchor to supporting structure.
 - 1. Screw, bolt, or weld wall panels at horizontal and vertical junctures to produce flush, even, true-to-line joints with maximum variation in plane and true position between fabricated panels not exceeding 1/16 inch.
- D. Install cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened.
 - 1. Cut framing members by sawing or shearing; do not torch cut.
 - 2. Fasten cold-formed steel framing members by welding, screw fastening, clinch fastening, or riveting. Wire tying of framing members is not permitted.
 - a. Comply with AWS D1.3/D1.3M requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
 - b. Locate mechanical fasteners, install according to Shop Drawings, and comply with requirements for spacing, edge distances, and screw penetration.
- E. Install framing members in one-piece lengths unless splice connections are indicated for track or tension members.
- F. Install temporary bracing and supports to secure framing and support loads equal to those for which structure was designed. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to framing are secured.
- G. Do not bridge building expansion joints with cold-formed steel framing. Independently frame both sides of joints.
- H. Fasten hole-reinforcing plate over web penetrations that exceed size of manufacturer's approved or standard punched openings.

3.3 INSTALLATION OF INTERIOR NONLOADBEARING WALL FRAMING

- A. Install continuous tracks sized to match studs. Align tracks accurately and securely

anchor to supporting structure.

- B. Fasten both flanges of studs to top and bottom track unless otherwise indicated. Space studs as follows:
 - 1. Stud Spacing: As indicated on Drawings.
- C. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar requirements.
- D. Isolate non-load-bearing steel framing from building structure to prevent transfer of vertical loads while providing lateral support.
 - 1. Install single deep-leg deflection tracks and anchor to building structure.
 - 2. Connect vertical deflection clips to studs and anchor to building structure.
 - 3. Connect drift clips to cold-formed steel metal framing and anchor to building structure.
- E. Install horizontal bridging in wall studs, spaced vertically in rows indicated on Shop Drawings but not more than 48 inches apart. Fasten at each stud intersection.
 - 1. Channel Bridging: Cold-rolled steel channel, welded or mechanically fastened to webs of punched studs.
 - 2. Strap Bridging: Combination of flat, taut, steel sheet straps of width and thickness indicated and stud-track solid blocking of width and thickness to match studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
 - 3. Bar Bridging: Proprietary bridging bars installed according to manufacturer's written instructions.
- F. Top Bridging for Single Deflection Track: Install row of horizontal bridging within 18 inches of single deflection track. Install a combination of bridging and stud or stud-track solid blocking of width and thickness matching studs, secured to stud webs or flanges.
 - 1. Install solid blocking at centers indicated on Shop Drawings.
- G. Install miscellaneous framing and connections, including stud kickers, web stiffeners, clip angles, continuous angles, anchors, and fasteners, to provide a complete and stable wall-framing system.

3.4 INSTALLATION TOLERANCES

- A. Install cold-formed steel framing level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet and as follows:
 - 1. Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative error are not to exceed minimum fastening requirements of sheathing or other finishing materials.

3.5 REPAIR

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed steel framing with galvanized repair paint according to ASTM A780/A780M and manufacturer's written instructions.

3.6 PROTECTION

- A. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that cold-formed steel framing is without damage or deterioration at time of Substantial Completion.

END OF SECTION 054000

SECTION 081213 - HOLLOW METAL FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Interior standard steel frames.

1.2 DEFINITIONS

- A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.3 COORDINATION

- A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.
- B. Coordinate requirements for installation of door hardware, electrified door hardware, and access control and security systems.

1.4 ACTION SUBMITTALS

A. Product Data:

1. Interior standard steel frames.

B. Product Data Submittals: For each product.

C. Shop Drawings: Include the following:

1. Elevations of each frame type.
2. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
3. Locations of reinforcement and preparations for hardware.
4. Details of each different wall opening condition.
5. Details of electrical raceway and preparation for electrified hardware, access control systems, and security systems.
6. Details of anchorages, joints, field splices, and connections.
7. Details of accessories.

8. Details of moldings, removable stops, and glazing.

- D. Samples for Initial Selection: For hollow-metal frames with factory-applied color finishes.
- E. Product Schedule: For hollow-metal frames, prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final door hardware schedule.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow-metal frames palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
 - 1. Provide additional protection to prevent damage to factory-finished units.
- B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Store hollow-metal frames vertically under cover at Project site with head up. Place on minimum 4-inch- high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 HOLLOW METAL FRAMES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Daybar Industries, Ltd
 - 2. LaForce, LLC
 - 3. National Custom Hollow Metal Doors & Frames
 - 4. Republic Doors and Frames; a Allegion brand
 - 5. Steelcraft; Allegion plc

2.2 STANDARD STEEL FRAMES

- A. Construct hollow-metal frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.
- B. Interior Standard Steel Frames: SDI A250.8. At locations indicated in the Door and Frame Schedule on Drawings.

1. Materials: Metallic-coated steel sheet, minimum thickness of 0.042 inch.
2. Construction: Face welded.
3. Exposed Finish: Factory.

2.3 FRAME ANCHORS

A. Jamb Anchors:

1. Type: Anchors of minimum size and type required by applicable door and frame standard, and suitable for performance level indicated.
2. Quantity: Minimum of three anchors per jamb, with one additional anchor for frames with no floor anchor. Provide one additional anchor for each 24 inches of frame height above 7 feet.
3. Postinstalled Expansion Anchor: Minimum 3/8-inch- diameter bolts with expansion shields or inserts, with manufacturer's standard pipe spacer.

B. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor.

C. Floor Anchors for Concrete Slabs with Underlayment: Adjustable-type anchors with extension clips, allowing not less than 2-inch height adjustment. Terminate bottom of frames at top of underlayment.

D. Material: ASTM A879/A879M, Commercial Steel (CS), 04Z coating designation; mill phosphatized.

1. For anchors built into exterior walls, steel sheet complying with ASTM A1008/A1008M or ASTM A1011/A1011M; hot-dip galvanized according to ASTM A153/A153M, Class B.

2.4 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A1011/A1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B.

D. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A153/A153M.

E. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.

2.5 FABRICATION

- A. Hollow-Metal Frames: Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as frames.
1. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
 2. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.
 - a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
 - b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
 3. Terminated Stops: Terminate stops 6 inches above finish floor with a 45-degree angle cut, and close open end of stop with steel sheet closure. Cover opening in extension of frame with welded-steel filler plate, with welds ground smooth and flush with frame.
- B. Hardware Preparation: Factory prepare hollow-metal frames to receive templated mortised hardware, and electrical wiring; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule on Drawings, and templates.
1. Reinforce frames to receive nontemplated, mortised, and surface-mounted door hardware.
 2. Comply with BHMA A156.115 for preparing hollow-metal frames for hardware.

2.6 STEEL FINISHES

- A. Factory Finish: Clean, pretreat, and apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat, complying with SDI A250.3.
1. Color and Gloss: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces. Touch up factory-applied finishes where spreaders are removed.
- B. Drill and tap frames to receive nontemplated, mortised, and surface-mounted door

hardware.

3.2 INSTALLATION

- A. General: Install hollow-metal frames plumb, rigid, properly aligned, and securely fastened in place. Comply with approved Shop Drawings and with manufacturer's written instructions. Comply with SDI A250.11.
- B. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces without damage to completed Work.
 - 1. Where frames are fabricated in sections, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces. Touch-up finishes.
 - 2. Install frames with removable stops located on secure side of opening.
- C. Floor Anchors: Secure with postinstalled expansion anchors.
 - 1. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
- D. Installation Tolerances: Adjust hollow-metal frames to the following tolerances:
 - 1. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
 - 2. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
 - 3. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 - 4. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

3.3 CLEANING AND TOUCHUP

- A. Factory-Finish Touchup: Clean abraded areas and repair with same material used for factory finish according to manufacturer's written instructions.
- B. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 081213

SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid-core five-ply flush wood doors and transom panels for opaque finish.

1.2 ACTION SUBMITTALS

A. Product Data:

1. Solid-core five-ply flush wood doors and transom panels for opaque finish.

B. Product Data Submittals: For each product, including the following:

1. Door core materials and construction.
2. Door edge construction
3. Door face type and characteristics.
4. Door trim for openings.
5. Door frame construction.
6. Factory-machining criteria.
7. Factory-finishing specifications.

C. Shop Drawings: Indicate location, size, and hand of each door; elevation of each type of door; construction details not covered in Product Data; and the following:

1. Door schedule indicating door location, type, size, fire protection rating, and swing.
2. Door elevations, dimension and locations of hardware, lite and louver cutouts, and glazing thicknesses.
3. Details of frame for each frame type, including dimensions and profile.
4. Dimensions and locations of blocking for hardware attachment.
5. Dimensions and locations of mortises and holes for hardware.
6. Clearances and undercuts.
7. Requirements for veneer matching.

1.3 CLOSEOUT SUBMITTALS

A. Quality Standard Compliance Certificates: AWI Quality Certification Program certificates.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of referenced standard and manufacturer's written instructions.
- B. Package doors individually in cardboard cartons, and wrap bundles of doors in plastic sheeting.
- C. Mark each door on top and bottom rail with opening number used on Shop Drawings.

1.5 FIELD CONDITIONS

- A. Environmental Limitations:
 - 1. Do not deliver or install doors until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, and HVAC system is operating and maintaining temperature and relative humidity at levels designed for building occupants for the remainder of construction period.
 - 2. Do not deliver or install doors until building is enclosed and weathertight, wet work is complete, and HVAC system is operating and maintaining temperature between 60 and 90 deg F and relative humidity between 25 and 55 percent during remainder of construction period.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

- A. Obtain flush wood doors from single manufacturer.

2.2 FLUSH WOOD DOORS AND FRAMES, GENERAL

- A. Quality Standard: In addition to requirements specified, comply with AWI/AWMAC/WI's "Architectural Woodwork Standards."
 - 1. Provide labels from AWI certification program indicating that doors comply with requirements of grades specified.

2.3 SOLID-CORE FIVE-PLY FLUSH WOOD DOORS AND TRANSOM PANELS FOR OPAQUE FINISH

- A. Interior Doors, Solid-Core Five-Ply for Opaque Finish:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Lynden Door, Inc.
 - b. Masonite Architectural
 - c. Oregon Door
 - d. Oshkosh Door Company
2. Performance Grade: ANSI/WDMA I.S. 1A Heavy Duty.
 3. ANSI/WDMA I.S. 1A Quality Grade: Premium.
 4. Architectural Woodwork Standards Quality Grade: Premium.
 5. Faces: Any closed-grain hardwood of mill option.
 6. Exposed Vertical and Top Edges: Any closed-grain hardwood.
 7. Core for Non-Fire-Rated Doors:
 - a. ANSI A208.1, Grade LD-1 particleboard.
 - 1) Blocking: Provide wood blocking in particleboard-core doors as needed to eliminate through-bolting hardware.
 - a) 5-inch top-rail blocking, in doors indicated to have closers.
 - b) 5-inch bottom-rail blocking, in exterior doors and doors indicated to have kick, mop, or armor plates.
 - c) 5-inch midrail blocking, in doors indicated to have exit devices.
 8. Construction: Five plies, hot-pressed bonded (vertical and horizontal edging is bonded to core), with entire unit abrasive planed before veneering.

2.4 FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated.
 1. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
 2. Comply with NFPA 80 requirements for fire-rated doors.
- B. Factory machine doors for hardware that is not surface applied.
 1. Locate hardware to comply with DHI-WDHS-3.
 2. Comply with final hardware schedules, door frame Shop Drawings, ANSI/BHMA-156.115-W, and hardware templates.
 3. Coordinate with hardware mortises in metal frames, to verify dimensions and alignment before factory machining.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and installed door frames, with Installer present, before hanging doors.

1. Verify that installed frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
2. Reject doors with defects.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Hardware: For installation, see Section 087111 "Door Hardware (Descriptive Specification)."
- B. Install doors and frames to comply with manufacturer's written instructions and referenced quality standard, and as indicated.
- C. Install frames level, plumb, true, and straight.
1. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.
 2. Anchor frames to anchors or blocking built in or directly attached to substrates.
 - a. Secure with countersunk, concealed fasteners and blind nailing.
 - b. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork.
 - 1) For factory-finished items, use filler matching finish of items being installed.
- D. Job-Fitted Doors:
1. Align and fit doors in frames with uniform clearances and bevels as indicated below.
 - a. Do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors.
 2. Machine doors for hardware.
 3. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.
 4. Clearances:
 - a. Provide 1/8 inch at heads, jambs, and between pairs of doors.
 - b. Provide 1/8 inch from bottom of door to top of decorative floor finish or covering unless otherwise indicated on Drawings.
 - c. Where threshold is shown or scheduled, provide 1/4 inch from bottom of door to top of threshold unless otherwise indicated.
 - d. Comply with NFPA 80 for fire-rated doors.
 5. Bevel non-fire-rated doors 1/8 inch in 2 inches at lock and hinge edges.

3.3 ADJUSTING

- A. Operation: Rehang or replace doors that do not swing or operate freely.
- B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 081416

SECTION 083113.53 - SECURITY ACCESS DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Security access doors and frames for walls and ceilings.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details materials, individual components and profiles, and finishes.

B. Samples: For each type of security access door and frame and for each finish specified, complete assembly minimum 6 by 6 inches in size.

C. Product Schedule: For security access doors and frames. Use same designations indicated on Drawings.

PART 2 - PRODUCTS

2.1 FABRICATION

A. General: Provide access door and frame assemblies manufactured as integral units ready for installation.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Comply with manufacturer's written instructions for installing access doors and frames.

3.3 ADJUSTING

- A. Adjust doors and hardware, after installation, for proper operation.

END OF SECTION 083113.53

SECTION 087111 - DOOR HARDWARE (DESCRIPTIVE SPECIFICATION)

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Hinges.
 - 2. Bored locks.
 - 3. Delayed-egress electromagnetic locks.
 - 4. Surface closers.
 - 5. Wall- and floor-mounted stops.

1.2 COORDINATION

- A. Installation Templates: Distribute for doors, frames, and other work specified to be factory prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- B. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

1.3 ACTION SUBMITTALS

- A. Product Data:
 - 1. Hinges.
 - 2. Bored locks.
 - 3. Surface closers.
 - 4. Wall- and floor-mounted stops.
- B. Product Data Submittals: For each product.
- C. Shop Drawings: For electrified door hardware.
- D. Door Hardware Schedule: Prepared by or under the supervision of Installer's Architectural Hardware Consultant. Coordinate door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - 1. Submittal Sequence: Submit door hardware schedule after submissions of product data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate the fabrication of other work that is critical in Project construction schedule.

2. Format: Use same scheduling sequence and format and use same door numbers as in door hardware schedule in the Contract Documents.
 3. Content: Include the following information:
 - a. Identification number, location, hand, fire rating, size, and material of each door and frame.
 - b. Locations of each door hardware set, cross-referenced to Drawings on floor plans and to door and frame schedule.
 - c. Complete designations, including name and manufacturer, type, style, function, size, quantity, function, and finish of each door hardware product.
 - d. Fastenings and other installation information.
 - e. Explanation of abbreviations, symbols, and designations contained in door hardware schedule.
 - f. Mounting locations for door hardware.
 - g. List of related door devices specified in other Sections for each door and frame.
- E. Keying Schedule: Prepared by or under the supervision of Installer's Architectural Hardware Consultant, detailing Owner's final keying instructions for locks. Include schematic keying diagram and index each key set to unique door designations that are coordinated with the Contract Documents.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of door hardware to include in maintenance manuals.
- B. Schedules: Final door hardware schedule.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lockup for door hardware delivered to Project site.
- B. Tag each item or package separately with identification coordinated with the final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.
- C. Deliver keys and permanent cores to Owner by registered mail or overnight package service.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

- A. Obtain each type of door hardware from single manufacturer.
 1. Provide electrified door hardware from same manufacturer as mechanical door

hardware unless otherwise indicated. Manufacturers that perform electrical modifications and that are listed by a testing and inspecting agency acceptable to authorities having jurisdiction are acceptable.

2.2 HINGES

A. Hinges: ANSI/BHMA A156.1. Provide template-produced hinges for hinges installed on hollow-metal doors and hollow-metal frames.

1. Basis-of-Design Product: Subject to compliance with requirements, provide McKinney 4 1/2" x 4 1/2" TA2714 and T2714. Finish US26D or comparable product by one of the following:

a. McKinney Products Company; ASSA ABLOY Accessories and Door Controls Group, Inc.; ASSA ABLOY

B. Antifriction-Bearing Hinges:

1. Mounting: Full mortise (butts).
2. Bearing Material: Ball bearing.
3. Grade 1 (heavy weight).
4. Base and Pin Metal:

a. Interior Hinges: Steel with steel pin.

5. Pins: Nonrising loose unless otherwise indicated.
6. Tips: Flat button.
7. Corners: Square.

C. Plain-Bearing Hinges: Grade 3 (standard weight).

1. Mounting: Full mortise (butts).
2. Base and Pin Metal: Brass with stainless steel pin body and brass protruding heads.
3. Pins: Nonrising loose unless otherwise indicated.
4. Tips: Flat button.
5. Corners: Square.

2.3 MECHANICAL LOCKS AND LATCHES

A. Lock Functions: As indicated in door hardware schedule.

B. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors, and as follows:

1. Bored Locks: Minimum 1/2-inch latchbolt throw.

C. Lock Backset: 2-3/4 inches unless otherwise indicated.

- D. Lock Trim:
 - 1. Description: As indicated on Drawings.
 - 2. Levers: Wrought.
 - 3. Escutcheons (Roses): Wrought.

- E. Strikes: Provide manufacturer's standard strike for each lock bolt or latchbolt complying with requirements indicated for applicable lock or latch and with strike box and curved lip extended to protect frame; finished to match lock or latch.
 - 1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
 - 2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
 - 3. Aluminum-Frame Strike Box: Manufacturer's special strike box fabricated for aluminum framing.
 - 4. Rabbet Front and Strike: Provide on locksets for rabbeted meeting stiles.

- F. Bored Locks: ANSI/BHMA A156.2, Grade 1, Series 4000.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Corbin Russwin CLX 3300 and CLX3357 or comparable product by one of the following:
 - a. Corbin Russwin, Inc.; an ASSA ABLOY Group company

2.4 LOCK CYLINDERS

- A. Standard Lock Cylinders: ANSI/BHMA A156.5, Grade 1 permanent cores; face finished to match lockset.
 - 1. Core Type: Interchangeable.

- B. Construction Master Keys: Provide cylinders with feature that permits voiding of construction keys without cylinder removal. Provide 10 construction master keys.

- C. Construction Cores: Provide construction cores that are replaceable by permanent cores. Provide 10 construction master keys.

2.5 SURFACE CLOSERS

- A. Surface Closers: ANSI/BHMA A156.4; rack-and-pinion hydraulic type with adjustable sweep and latch speeds controlled by key-operated valves and forged-steel main arm. Comply with manufacturer's written instructions for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide LCN 4000 series or comparable product by one of the following:

a. Allegion plc

B. Surface Closer without Cover: Grade 1; modern type.

1. Mounting: Hinge side.
2. Type: Regular arm.
3. Backcheck: Adjustable, effective between 60 and 85 degrees of door opening.
4. Closing Power Adjustment: At least 50 percent more than minimum tested value.

2.6 MECHANICAL STOPS AND HOLDERS

A. Wall- and Floor-Mounted Stops: ANSI/BHMA A156.16; polished cast-brass, -bronze, or -aluminum base metal.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. Allegion plc
- b. ASI-American Specialties, Inc.
- c. Baldwin; part of the Spectrum Brands Hardware and Home Improvement Group (HHI)
- d. Hager Companies
- e. Rockwood Manufacturing Company; ASSA ABLOY Accessories and Door Controls Group, Inc.; ASSA ABLOY

B. Dome-Type Floor Stop: Grade 1; with minimum 1-inch- high bumper for doors without threshold and 1-3/8-inch- high bumper for doors with threshold.

1. Provide with extruded-aluminum riser for carpet installations.

C. Wall Bumpers: Grade 1; with rubber bumper; 2-1/2-inch diameter, minimum 3/4-inch projection from wall; with backplate for concealed fastener installation.

1. Bumper Configuration: Convex.

2.7 FABRICATION

A. Manufacturer's Nameplate: Do not provide products that have manufacturer's name or trade name displayed in a visible location except in conjunction with required fire-rating labels and as otherwise approved by Architect.

1. Manufacturer's identification is permitted on rim of lock cylinders only.

B. Base Metals: Produce door hardware units of base metal indicated, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and ANSI/BHMA A156.18.

C. Fasteners: Provide door hardware manufactured to comply with published templates

prepared for machine, wood, and sheet metal screws. Provide screws that comply with commercially recognized industry standards for application intended; however, aluminum fasteners are not permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware unless otherwise indicated.

1. Concealed Fasteners: For door hardware units that are exposed when door is closed, except for units already specified with concealed fasteners. Do not use through bolts for installation where bolt head or nut on opposite face is exposed unless it is the only means of securely attaching the door hardware. Where through bolts are used on hollow door and frame construction, provide sleeves for each through bolt.
2. Spacers or Sex Bolts: For through bolting of hollow-metal doors.
3. Gasketing Fasteners: Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.

2.8 FINISHES

- A. Provide finishes complying with ANSI/BHMA A156.18 as indicated in door hardware schedule.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Steel Doors and Frames: For surface-applied door hardware, drill and tap doors and frames in accordance with ANSI/SDI A250.6.
- B. Wood Doors: Comply with door and hardware manufacturers' written instructions.

3.3 INSTALLATION

- A. Mounting Heights: Mount door hardware units at heights to comply with the following unless otherwise indicated or required to comply with governing regulations.
 - 1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
 - 2. Wood Doors: DHI's "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work. Do not install surface-mounted items until finishes have been completed on substrates involved.
 - 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
 - 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.
- C. Hinges: Install types and in quantities indicated in door hardware schedule, but not fewer than the number recommended by manufacturer for application indicated or one hinge for every 30 inches of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.
- D. Intermediate Offset Pivots: Where offset pivots are indicated, provide intermediate offset pivots in quantities indicated in door hardware schedule, but not fewer than one intermediate offset pivot per door and one additional intermediate offset pivot for every 30 inches of door height greater than 90 inches.
- E. Lock Cylinders: Install construction cores to secure building and areas during construction period.
 - 1. Replace construction cores with permanent cores as directed by Owner.
 - 2. Furnish permanent cores to Owner for installation.
- F. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they will impede traffic.

3.4 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
 - 1. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

3.5 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

END OF SECTION 087111

SECTION 088853 - SECURITY GLAZING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Polycarbonate security glazing.

1.2 DEFINITIONS

- A. Glazing Manufacturers: Firms that produce primary glass, monolithic plastic glazing, or fabricated security glazing, as defined in referenced glazing publications.
- B. Interspace: Space between lites of air-gap security glazing or insulating security glazing.

1.3 COORDINATION

- A. Coordinate glazing channel dimensions to provide necessary bite on security glazing, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples for Verification:
 - 1. Glazing: Actual sample of finished products for each type of security glazing.
 - a. Size: Manufacturers' standard size.
- C. Security Glazing Schedule: List security glazing types and thicknesses for each size opening and location. Use same designations indicated on Drawings. Indicate coordinated dimensions of security glazing and construction that receives security glazing, including clearances and glazing channel dimensions.

1.5 INFORMATIONAL SUBMITTALS

- A. Sample warranties.

1.6 QUALITY ASSURANCE

A. Qualifications:

1. Security Glazing Testing Agency: Subject to compliance with requirements, testing agency is one of the following:
 - a. Intertek.
 - b. Underwriters Laboratories, Inc.
 - c. Wiss, Janney, Elstner Associates, Inc.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect security glazing and glazing materials according to manufacturer's written instructions. Prevent damage from condensation, temperature changes, direct exposure to sun, or other causes.
- B. Comply with insulating security glazing and with air-gap security glazing manufacturers' written recommendations for venting and sealing units to avoid hermetic seal ruptures due to altitude change.

1.8 FIELD CONDITIONS

- A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.
 1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or below 40 deg F.

1.9 WARRANTY

- A. Special Warranty, Monolithic Polycarbonate Security Glazing: Manufacturer agrees to replace monolithic polycarbonate security glazing that fails in materials or workmanship within specified warranty period.
 1. Failures include, but are not limited to, the following:
 - a. Defects developed from normal use that are not attributed to maintaining and cleaning monolithic polycarbonate security glazing contrary to manufacturer's written instructions. Defects include yellowing and loss of light transmission.
 2. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

- A. Obtain each type of security glazing from single source from single manufacturer.
- B. Obtain glazing sealants, and gaskets from single source from single manufacturer for each product and installation method.

2.2 PERFORMANCE REQUIREMENTS

- A. General:
 - 1. Installed security glazing will withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or breakage attributable to defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.
 - 2. Installed security glazing will withstand security-related loads and forces without damage to the glazing beyond that allowed by referenced standards.
- B. Structural Performance: Glazing will withstand the following design loads within limits and under conditions indicated.
 - 1. Design Procedure for Glass: ASTM E1300 and the IBC.
- C. Safety Glazing: Where safety glazing is indicated, provide glazing that complies with 16 CFR 1201, Category II.

2.3 SECURITY GLAZING, GENERAL

- A. Glazing Publications: Comply with published recommendations of security glazing and glazing material manufacturers and organizations below unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.
 - 1. AAMA Publications: AAMA GDSG-1 and AAMA TIR-A7.
- B. Plastic Glazing Labeling: Identify plastic sheets with appropriate markings of applicable testing and inspecting agency, indicating compliance with required fire-test-response characteristics.
- C. Safety Glazing Labeling: Where safety glazing is indicated, permanently mark glazing with certification label of the Safety Glazing Certification Council or another certification agency acceptable to authorities having jurisdiction. Label will indicate manufacturer's name, type of glazing, glass thickness, and safety glazing standard with which glazing complies.

2.4 POLYCARBONATE SECURITY GLAZING

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Dlubak Specialty Glass Corporation; Consolidated Glass Holdings, Inc.
 2. Global Security Glazing; Consolidated Glass Holdings, Inc.
 3. McGrory Glass, Inc
 4. OldCastle BuildingEnvelope (OBE)
 5. Palram Americas Ltd.
 6. Plaskolite
 7. Standard Bent Glass Corp
 8. Total Security Solutions
- B. Monolithic Polycarbonate Security Glazing: ASTM C1349, Appendix X1, Type II, coated, mar-resistant, UV-stabilized polycarbonate with coating on exposed surfaces and Type I, standard, UV-stabilized polycarbonate where no surfaces are exposed.

2.5 MISCELLANEOUS GLAZING MATERIALS

- A. General: Provide products of material, size, and shape complying with referenced glazing standard, recommended in writing by manufacturers of security glazing and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.
- B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.
- C. Setting Blocks:
1. EPDM with Shore A durometer hardness of 85, plus or minus 5.
 2. Type recommended in writing by sealant or glass manufacturer.
- D. Spacers:
1. Neoprene blocks or continuous extrusions of hardness required by security glazing manufacturer to maintain security glazing lites in place for installation indicated.
 2. Type recommended in writing by sealant or security glazing manufacturer.
- E. Edge Blocks:
1. EPDM with Shore A durometer hardness in accordance with manufacturer's written instructions.
 2. Type recommended in writing by sealant or security glazing manufacturer.
- F. Cylindrical Glazing Sealant Backing: ASTM C1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing

sealant performance.

2.6 FABRICATION OF SECURITY GLAZING

- A. Fabricate security glazing in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.
- B. Grind smooth and polish exposed security glazing edges and corners.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine framing for security glazing, with Installer present, for compliance with the following:
 - 1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
 - 2. Presence and functioning of weep system.
 - 3. Minimum required face or edge clearances.
 - 4. Minimum required bite.
 - 5. Effective sealing between joints of framing members.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean glazing channels and other framing members receiving security glazing immediately before glazing. Remove coatings not firmly bonded to substrates.
- B. Examine glazing units to locate exterior and interior surfaces. Label or mark units as needed so that exterior and interior surfaces are readily identifiable. Do not use materials that will leave visible marks in the completed work.

3.3 GLAZING, GENERAL

- A. Comply with combined written instructions of manufacturers of security glazing, sealants, gaskets, and other glazing materials unless more stringent requirements are indicated, including those in referenced glazing publications.
- B. Protect edges of security glazing from damage during handling and installation. Remove damaged security glazing from Project site and legally dispose of it off Project site. Damaged security glazing includes units with edge or face damage or other

imperfections that, when installed, could weaken security glazing and impair performance and appearance.

- C. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.
- D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications unless otherwise required by glazing unit manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
- E. Do not exceed edge pressures stipulated by security glazing manufacturers for installing lites.
- F. Provide spacers for security glazing lites where the length plus width is larger than 50 inches.
 - 1. Locate spacers directly opposite each other on both inside and outside faces of security glazing. Install correct size and spacing to preserve required face clearances unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with performance requirements.
 - 2. Provide 1/8-inch minimum bite of spacers on glazing lites and use thickness equal to sealant width. With glazing tape, use thickness of slightly less than final compressed thickness of tape.
- G. Provide edge blocking where indicated or needed to prevent security glazing from moving sideways in glazing channel, as recommended in writing by security glazing manufacturer and in accordance with requirements in referenced glazing publications.
- H. Set security glazing in each series with uniform pattern, draw, bow, and similar characteristics.
- I. Set coated security glazing with proper orientation so that coatings and films face exterior or interior as specified.
- J. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.
- K. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended in writing by gasket manufacturer.

3.4 TAPE GLAZING

- A. Position tapes on fixed stops so that, when compressed by security glazing, their exposed edges are flush with or protrude slightly above sightline of stops.

- B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.
- C. Cover vertical framing joints by applying tapes to heads and sills first and then to jambs. Cover horizontal framing joints by applying tapes to jambs and then to heads and sills.
- D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.
- E. Do not remove release paper from tape until just before each glazing unit is installed.
- F. Apply heel bead of elastomeric sealant.
- G. Center security glazing in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.
- H. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.5 GASKET GLAZING (DRY)

- A. Cut compression gaskets to lengths recommended in writing by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.
- B. Insert soft compression gasket between glazing unit and frame or fixed stop, so it is securely in place with joints miter cut and bonded together at corners.
- C. Installation with Drive-in Wedge Gaskets: Center security glazing in openings on setting blocks and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in security glazing. Seal gasket joints with sealant recommended in writing by gasket manufacturer.
- D. Installation with Pressure-Glazing Stops: Center security glazing in openings on setting blocks and press firmly against soft compression gasket. Install dense compression gaskets and pressure-glazing stops, applying pressure uniformly to compression gaskets. Compress gaskets to produce a weathertight seal without developing bending stresses in security glazing. Seal gasket joints with sealant recommended in writing by gasket manufacturer.
- E. Install gaskets so they protrude past face of glazing stops.

3.6 SEALANT GLAZING (WET)

- A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between security glazing and glazing stops to maintain face clearances and to prevent sealant from extruding into glazing channel and blocking weep systems. Secure spacers, or spacers and backings, in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.
- B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to security glazing and channel surfaces.
- C. Tool exposed surfaces of sealants to provide a substantial wash away from security glazing.

3.7 CLEANING AND PROTECTION

- A. Immediately after installation remove nonpermanent labels and clean surfaces.
- B. Protect security glazing from contact with contaminating substances resulting from construction operations, including weld splatter. Examine security glazing surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains.
 - 1. If, despite such protection, contaminating substances do contact with security glazing, remove substances immediately as recommended in writing by security glazing manufacturer. Remove and replace security glazing that cannot be cleaned without damage.
- C. Wash security glazing on both exposed surfaces not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash security glazing as recommended in writing by security glazing manufacturer.

3.8 MONOLITHIC POLYCARBONATE SECURITY GLAZING SCHEDULE

- A. Security Glazing, Type SG-3: Monolithic polycarbonate with mar-resistant coating on both surfaces.
 - 1. Basis-of-Design Product: Ballistic level 3.

END OF SECTION 088853

SECTION 092216 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Framing systems.
- B. Related Requirements:

1.2 ACTION SUBMITTALS

- A. Product Data:
 - 1. Framing systems.

1.3 QUALITY ASSURANCE

- A. Code-Compliance Certification of Studs and Tracks: Provide documentation that framing members are certified according to the product-certification program of the Certified Steel Stud Association.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Notify manufacturer of damaged materials received prior to installation.
- B. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Protect cold-formed metal framing from corrosion, deformation, and other damage during delivery, storage, and handling as required by AISI S202, "Code of Standard Practice for Cold-Formed Steel Structural Framing."

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Horizontal Deflection: For composite wall assemblies, limited to 1/360 of the wall height based on horizontal loading of 5 lbf/sq. ft..

- B. Design framing systems in accordance with AISI S220, "North American Specification for the Design of Cold-Formed Steel Framing - Nonstructural Members," unless otherwise indicated.
- C. Design Loads: As indicated on architectural Drawings or 5 lbf/sq. ft. minimum as required by the IBC.

2.2 FRAMING SYSTEMS

- A. Framing Members, General: Comply with ASTM C645 for conditions indicated.
 - 1. Steel Sheet Components: Comply with ASTM C645 requirements for metal unless otherwise indicated
 - 2. Protective Coating: Comply with ASTM C645; ASTM A653/A653M, G40; or coating with equivalent corrosion resistance. Galvannealed products are unacceptable.
 - a. Coating demonstrates equivalent corrosion resistance with an evaluation report acceptable to authorities having jurisdiction.
- B. Studs and Track: ASTM C645.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. ClarkDietrich
 - b. Jaimes Industries, Inc.
 - c. Marino\WARE
 - d. SCAFCO Steel Stud Company; Stone Group of Companies
 - 2. Minimum Base-Steel Thickness: As required by performance requirements for horizontal deflection.
 - 3. Depth: As indicated on Drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Suspended Assemblies: Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at spacing required to support the Work and that hangers will develop their full strength.
 - 1. Furnish concrete inserts and other devices indicated to other trades for installation in advance of time needed for coordination and construction.

3.3 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C754.
 - 1. Gypsum Board Assemblies: Also comply with requirements in ASTM C840 that apply to framing installation.
- B. Install framing and accessories plumb, square, and true to line, with connections securely fastened.
- C. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- D. Install bracing at terminations in assemblies.
- E. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.4 INSTALLATION OF FRAMING SYSTEMS

- A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
 - 1. Single-Layer Application: As required by horizontal deflection performance requirements unless otherwise indicated.
- B. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- C. Install studs so flanges within framing system point in same direction.
- D. Install tracks at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts that penetrate partitions above ceiling.
 - 1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of

- finished assemblies.
2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb unless otherwise indicated.
 - b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint in finished assembly.
 - c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
 3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
- E. Direct Furring:
1. Screw to wood framing.
 2. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches o.c.
- F. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.

3.5 FIELD QUALITY CONTROL

- A. Installation Tolerances: Install suspension systems that are level to within 1/8 inch in 12 feet measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

END OF SECTION 092216

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Interior gypsum board.

B. Related Requirements:

1. Section 092216 "Non-Structural Metal Framing" for non-structural steel framing and suspension systems that support gypsum board panels.

1.2 ACTION SUBMITTALS

A. Product Data: For the following:

1. Gypsum board, Type X.

1.3 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.4 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C840 requirements or gypsum board manufacturer's written instructions, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, moisture damaged, and mold damaged.
1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

- A. Obtain each type of gypsum panel and joint finishing material from single source with resources to provide products of consistent quality in appearance and physical properties.

2.2 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

- A. Gypsum Board, Type X: ASTM C1396/C1396M.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Gypsum
 - b. CertainTeed; SAINT-GOBAIN
 - c. Georgia-Pacific Gypsum LLC
 - d. USG Corporation
 - 2. Thickness: 5/8 inch.
 - 3. Long Edges: Tapered.

2.4 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C475/C475M.
- B. Joint Tape:
 - 1. Interior Gypsum Board: Paper.
- C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.
 - 1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
 - 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.

3. Fill Coat: For second coat, use setting-type, sandable topping compound.
4. Finish Coat: For third coat, use setting-type, sandable topping compound.
5. Skim Coat: For final coat of Level 5 finish, use setting-type, sandable topping compound.

2.5 AUXILIARY MATERIALS

- A. Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.
- B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
- C. Steel Drill Screws: ASTM C1002 unless otherwise indicated.
 1. Use screws complying with ASTM C954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
 2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION AND FINISHING OF PANELS, GENERAL

- A. Comply with ASTM C840.
- B. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.
- C. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

- D. Form control and expansion joints with space between edges of adjoining gypsum panels.
- E. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
 - 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
 - 2. Fit gypsum panels around ducts, pipes, and conduits.
 - 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- wide joints to install sealant.
- F. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch- wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- G. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

3.3 INSTALLATION OF INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
 - 1. Type X: As indicated on Drawings.
- B. Single-Layer Application:
 - 1. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
 - b. At stairwells and other high walls, install panels horizontally unless otherwise indicated or required by fire-resistance-rated assembly.
 - 2. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.4 FINISHING OF GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

- B. Prefill open joints, rounded or beveled edges, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and in accordance with ASTM C840:
 - 1. Level 5: .
 - a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

3.5 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

SECTION 095113 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Acoustical panels.
 - 2. Metal suspension system.
 - 3. Metal edge moldings and trim.
- B. Products furnished, but not installed under this Section, include anchors, clips, and other ceiling attachment devices to be cast in concrete.

1.2 ACTION SUBMITTALS

- A. Product Data:
 - 1. Acoustical panels.
 - 2. Metal suspension system.
 - 3. Metal edge moldings and trim.
- B. Samples: For each exposed product and for each color and texture specified, 6 inches in size.
- C. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of sizes indicated below:
 - 1. Acoustical Panels: Set of 6-inch- square Samples of each type, color, pattern, and texture.
 - 2. Exposed Suspension-System Members, Moldings, and Trim: Set of 6-inch- long Samples of each type, finish, and color.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical panels, suspension-system components, and accessories to Project site and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.

1.4 FIELD CONDITIONS

- A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
 - 1. Pressurized Plenums: Operate ventilation system for not less than 48 hours before beginning acoustical panel ceiling installation.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

- A. Source Limitations for Ceiling System: Obtain each type of acoustical ceiling panel and its supporting suspension system from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame-Spread Index: Class A in accordance with ASTM E1264.
 - 2. Smoke-Developed Index: 50 or less.

2.3 ACOUSTICAL PANELS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide 2x4 white to match existing or comparable product by one of the following:
 - 1. Armstrong Ceiling and Wall Solutions
 - 2. CertainTeed; SAINT-GOBAIN
 - 3. USG Corporation
- B. Acoustical Panel Standard: Provide manufacturer's standard panels in accordance with ASTM E1264 and designated by type, form, pattern, acoustical rating, and light reflectance unless otherwise indicated.
- C. Color: White,As indicated on Drawings.
- D. Edge/Joint Detail: Match existing.
- E. Thickness:
 - 1. Match existing.

- F. Modular Size: 24 by 48 inches.

2.4 METAL SUSPENSION SYSTEM

- A. Basis-of-Design Product: Subject to compliance with requirements, provide white to match existing or comparable product by one of the following:
 - 1. Armstrong Ceiling & Wall Solutions
 - 2. CertainTeed; SAINT-GOBAIN
 - 3. USG Corporation
- B. Metal Suspension-System Standard: Provide manufacturer's standard, direct-hung, metal suspension system and accessories in accordance with ASTM C635/C635M and designated by type, structural classification, and finish indicated.
- C. Wide-Face, Capped, Double-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet; prepainted, electrolytically zinc coated, or hot-dip galvanized, G30 coating designation; with prefinished 15/16-inch- wide metal caps on flanges.
 - 1. End Condition of Cross Runners: Override (stepped),or,butt-edge type.
 - 2. Face Design: Flat, flush.
 - 3. Cap Material: Cold-rolled steel.
 - 4. Cap Finish: Painted white,Painted in color as selected from manufacturer's full range.

2.5 ACCESSORIES

- A. Attachment Devices: Size for five times the design load indicated in ASTM C635/C635M, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
 - 1. Anchors in Concrete: Anchors of type and material indicated below, with holes or loops for attaching hangers of type indicated and with capability to sustain, without failure, a load equal to five times that imposed by ceiling construction, as determined by testing in accordance with ASTM E488/E488M or ASTM E1512 as applicable, conducted by a qualified testing and inspecting agency.
 - a. Type: Postinstalled expansion anchors.
 - b. Corrosion Protection, Carbon Steel: Components zinc plated in accordance with ASTM B633, Class SC 1 (mild) service condition.
 - 2. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hangers of type indicated and with capability to sustain, without failure, a load equal to 10 times that imposed by ceiling construction, as determined by testing in accordance with ASTM E1190, conducted by a qualified testing and inspecting agency.

- B. Wire Hangers, Braces, and Ties: Provide wires as follows:
 - 1. Zinc-Coated, Carbon-Steel Wire: ASTM A641/A641M, Class 1 zinc coating, soft temper.
 - 2. Size: Wire diameter sufficient for its stress at three times hanger design load (ASTM C635/C635M, Table 1, "Direct Hung") will be less than yield stress of wire, but not less than 0.106-inch- diameter wire.

2.6 METAL EDGE MOLDINGS AND TRIM

- A. Basis-of-Design Product: Subject to compliance with requirements, provide white to match existing or comparable product by one of the following:
 - 1. Armstrong Ceiling & Wall Solutions
 - 2. CertainTeed; SAINT-GOBAIN
 - 3. USG Corporation
- B. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that comply with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension-system runners.
 - 1. Edge moldings to fit acoustical panel edge details and suspension systems indicated and match width and configuration of exposed runners unless otherwise indicated.
 - 2. For lay-in panels with reveal edge details, provide stepped edge molding that forms reveal of same depth and width as that formed between edge of panel and flange at exposed suspension member.
 - 3. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.
- C. Extruded-Aluminum Edge Moldings and Trim: Where indicated, provide manufacturer's extruded-aluminum edge moldings and trim of profile indicated or referenced by manufacturer's designations, including splice plates, corner pieces, and attachment and other clips, complying with seismic design requirements.
 - 1. Baked-Enamel or Powder-Coat Finish: Minimum dry film thickness of 1.5 mils. Comply with ASTM C635/C635M and coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, including structural framing to which acoustical panel ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and

anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical panel ceilings.

- B. Examine acoustical panels before installation. Reject acoustical panels that are wet, moisture damaged, or mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders unless otherwise indicated, and comply with layout shown on reflected ceiling plans.
- B. Layout openings for penetrations centered on the penetrating items.

3.3 INSTALLATION OF ACOUSTICAL PANEL CEILINGS

- A. Install acoustical panel ceilings in accordance with ASTM C636/C636M and manufacturer's written instructions.
- B. Suspend ceiling hangers from building's structural members and as follows:
 - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
 - 2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension-system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
 - 3. Secure wire hangers to ceiling-suspension members and to supports above with a minimum of three tight turns. Connect hangers directly to structure or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
 - 4. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices that are secure and appropriate for both the structure to which hangers are attached and the type of hanger involved. Install hangers in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.
 - 5. Do not support ceilings directly from permanent metal forms or floor deck. Fasten hangers to cast-in-place hanger inserts, postinstalled mechanical or adhesive anchors, or power-actuated fasteners that extend through forms into concrete.
 - 6. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
 - 7. Do not attach hangers to steel deck tabs.

8. Do not attach hangers to steel roof deck. Attach hangers to structural members.
 9. Space hangers not more than 48 inches o.c. along each member supported directly from hangers unless otherwise indicated; provide hangers not more than 8 inches from ends of each member.
 10. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
- C. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns. Suspend bracing from building's structural members as required for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs. Fasten bracing wires into concrete with cast-in-place or postinstalled anchors.
- D. Install suspension-system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
- E. Install acoustical panels with undamaged edges and fit accurately into suspension-system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide precise fit.
1. Arrange directionally patterned acoustical panels as follows:
 - a. As indicated on reflected ceiling plans.
 2. For square-edged panels, install panels with edges fully hidden from view by flanges of suspension-system runners and moldings.
 3. For reveal-edged panels on suspension-system runners, install panels with bottom of reveal in firm contact with top surface of runner flanges.
 4. For reveal-edged panels on suspension-system members with box-shaped flanges, install panels with reveal surfaces in firm contact with suspension-system surfaces and panel faces flush with bottom face of runners.
 5. Paint cut edges of panel remaining exposed after installation; match color of exposed panel surfaces using coating recommended in writing for this purpose by acoustical panel manufacturer.
 6. Protect lighting fixtures and air ducts in accordance with requirements indicated for fire-resistance-rated assembly.

3.4 ERECTION TOLERANCES

- A. Suspended Ceilings: Install main and cross runners level to a tolerance of 1/8 inch in 12 feet, non-cumulative.
- B. Moldings and Trim: Install moldings and trim to substrate and level with ceiling suspension system to a tolerance of 1/8 inch in 12 feet, non-cumulative.

3.5 CLEANING

- A. Clean exposed surfaces of acoustical panel ceilings, including trim, edge moldings, and suspension-system members. Comply with manufacturer's written instructions for

cleaning and touchup of minor finish damage.

- B. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 095113

SECTION 096513 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Vinyl base.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified, not less than 12 inches long.
- C. Samples for Verification: For each type of product indicated and for each color, texture, and pattern required in manufacturer's standard-size Samples, but not less than 12 inches long.
- D. Product Schedule: For resilient base and accessory products. Use same designations indicated on Drawings.

1.3 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Furnish not less than 10 linear feet for every 500 linear feet or fraction thereof, of each type, color, pattern, and size of resilient product installed.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F.

1.5 FIELD CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive resilient products

during the following periods:

1. 48 hours before installation.
 2. During installation.
 3. 48 hours after installation.
- B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.
- C. Install resilient products after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 VINYL BASE

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Johnsonite; a Tarkett company or comparable product by one of the following:
1. Armstrong World Industries, Inc
 2. Roppe Corporation; Roppe Holding Company
- B. Product Standard: ASTM F1861, Type TV (vinyl, thermoplastic).
1. Group: I (solid, homogeneous).
 2. Style and Location:
 - a. Style B, Cove: .
- C. Minimum Thickness: 0.125 inch.
- D. Height: 4 inches.
- E. Lengths: Coils in manufacturer's standard length.
- F. Outside Corners: Job formed.
- G. Inside Corners: Job formed.
- H. Colors and Patterns: As indicated on the drawings.

2.2 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by resilient-product manufacturer for applications indicated.

- B. Adhesives: Water-resistant type recommended by resilient-product manufacturer for resilient products and substrate conditions indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
 - 1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
 - 1. Installation of resilient products indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Concrete Substrates for Resilient Stair Accessories: Prepare horizontal surfaces according to ASTM F710.
 - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 - 2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
- C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.
- D. Do not install resilient products until materials are the same temperature as space where they are to be installed.
 - 1. At least 48 hours in advance of installation, move resilient products and installation materials into spaces where they will be installed.
- E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient products.

3.3 RESILIENT BASE INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient base.
- B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
- C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.
- D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
- E. Do not stretch resilient base during installation.
- F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.
- G. Preformed Corners: Install preformed corners before installing straight pieces.
- H. Job-Formed Corners:
 - 1. Outside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 3 inches in length.
 - a. Form without producing discoloration (whitening) at bends.
 - 2. Inside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 3 inches in length.
 - a. Miter or cope corners to minimize open joints.

3.4 RESILIENT ACCESSORY INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient accessories.
- B. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of floor covering that would otherwise be exposed.

3.5 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.
- B. Perform the following operations immediately after completing resilient-product installation:

1. Remove adhesive and other blemishes from surfaces.
 2. Sweep and vacuum horizontal surfaces thoroughly.
 3. Damp-mop horizontal surfaces to remove marks and soil.
- C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- D. Cover resilient products subject to wear and foot traffic until Substantial Completion.

END OF SECTION 096513

SECTION 096519 - RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid vinyl floor tile.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For each type of resilient floor tile.

1. Include floor tile layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.
2. Show details of special patterns.

C. Samples for Verification: Full-size units of each color and pattern of floor tile required.

1. For heat-welding bead, manufacturer's standard-size Samples, but not less than 9 inches long, of each color required.

D. Product Schedule: For floor tile. Use same designations indicated on Drawings.

1.3 CLOSEOUT SUBMITTALS

A. Maintenance Data: For each type of floor tile to include in maintenance manuals.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Floor Tile: Furnish one box for every 50 boxes or fraction thereof, of each type, color, and pattern of floor tile installed.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are competent in techniques required by manufacturer for floor tile installation and seaming

method indicated.

1. Engage an installer who employs workers for this Project who are trained or certified by floor tile manufacturer for installation techniques required.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store floor tile and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F. Store floor tiles on flat surfaces.

1.7 FIELD CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive floor tile during the following periods:
 1. 48 hours before installation.
 2. During installation.
 3. 48 hours after installation.
- B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.
- C. Close spaces to traffic during floor tile installation.
- D. Close spaces to traffic for 48 hours after floor tile installation.
- E. Install floor tile after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics: For resilient floor tile, as determined by testing identical products according to ASTM E648 or NFPA 253 by a qualified testing agency.
 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

2.2 SOLID VINYL FLOOR TILE

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Tarkett ID Event + Wood Crafted Plank Tricorn 11213 or comparable product by one of the following:

1. Armstrong Flooring, Inc.
2. Mannington Mills, Inc
3. Patcraft; a division of Shaw Industries, Inc
4. Shaw Industries Group, Inc.; Berkshire Hathaway Company

B. Tile Standard: ASTM F1700.

1. Class: As indicated by product designations.

C. Size: 6" x 48".

D. Colors and Patterns: As indicated on the drawings.

2.3 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by floor tile manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by floor tile and adhesive manufacturers to suit floor tile and substrate conditions indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
 1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of floor tile.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare substrates according to floor tile manufacturer's written instructions to ensure adhesion of resilient products.
- B. Concrete Substrates: Prepare according to ASTM F710.
 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods

recommended by floor tile manufacturer. Do not use solvents.

- C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.
- D. Do not install floor tiles until materials are the same temperature as space where they are to be installed.
 - 1. At least 48 hours in advance of installation, move resilient floor tile and installation materials into spaces where they will be installed.
- E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient floor tile.

3.3 FLOOR TILE INSTALLATION

- A. Comply with manufacturer's written instructions for installing floor tile.
- B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.
 - 1. Lay tiles in pattern indicated.
- C. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.
- D. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.
- E. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent marking device.
- F. Install floor tiles on covers for telephone and electrical ducts, building expansion-joint covers, and similar items in installation areas. Maintain overall continuity of color and pattern between pieces of tile installed on covers and adjoining tiles. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.
- G. Adhere floor tiles to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

3.4 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protecting floor tile.
- B. Perform the following operations immediately after completing floor tile installation:

1. Remove adhesive and other blemishes from surfaces.
 2. Sweep and vacuum surfaces thoroughly.
 3. Damp-mop surfaces to remove marks and soil.
- C. Protect floor tile from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- D. Cover floor tile until Substantial Completion.

END OF SECTION 096519

SECTION 096813 - TILE CARPETING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Carpet tile.

B. Related Requirements:

1. Section 024119 "Selective Demolition" for removing existing floor coverings.
2. Section 096513 "Resilient Base and Accessories", Section 096519 "Resilient Tile Flooring" for resilient wall base and accessories installed with carpet tile.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include manufacturer's written data on physical characteristics, durability, and fade resistance.
2. Include manufacturer's written installation recommendations for each type of substrate.

B. Shop Drawings: For carpet tile installation, showing the following:

1. Columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet tiles.
2. Carpet tile type, color, and dye lot.
3. Type of subfloor.
4. Type of installation.
5. Pattern of installation.
6. Pattern type, location, and direction.
7. Pile direction.
8. Type, color, and location of insets and borders.
9. Type, color, and location of edge, transition, and other accessory strips.
10. Transition details to other flooring materials.

C. Samples for Verification: Actual sample of finished products for each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.

1. Carpet Tile: Full-size Sample.
2. Exposed Edge, Transition, and Other Accessory Strip: 12-inch- long

Samples.

- D. Product Schedule: For carpet tile. Use same designations indicated on Drawings.

1.3 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For carpet tiles. Include the following:
 - 1. Methods for maintaining carpet tile, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
 - 2. Precautions for cleaning materials and methods that could be detrimental to carpet tile.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Extra Stock Material: Furnish extra materials, from the same production run, to Owner that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Carpet Tile: Full-size units equal to 5 percent of amount installed for each type indicated, but no fewer than 10 full-size units.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Comply with CRI 104.

1.6 FIELD CONDITIONS

- A. Comply with CRI 104 for temperature, humidity, and ventilation limitations.
- B. Environmental Limitations: Do not deliver or install carpet tiles until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at levels planned for building occupants during the remainder of the construction period.
- C. Do not install carpet tiles over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive and concrete slabs have pH range recommended in writing by carpet tile manufacturer.
- D. Where demountable partitions or other items are indicated for installation on top of carpet tiles, install carpet tiles before installing these items.

PART 2 - PRODUCTS

2.1 CARPET TILE

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Tarkett or comparable product by one of the following:
 - 1. Bentley Mills, Inc.
 - 2. Interface, Inc.
 - 3. Mannington Commercial; a business unit of Mannington Mills, Inc.
 - 4. Mohawk Carpet, LLC; The Mohawk Group
 - 5. Shaw Industries Group, Inc.; Berkshire Hathaway Company
- B. Color: As indicated on drawings.
- C. Pattern: As indicated on drawings.

2.2 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended in writing by carpet tile manufacturer.
- B. Adhesives: Water-resistant, mildew-resistant, nonstaining, pressure-sensitive types to suit products and subfloor conditions indicated, that comply with flammability requirements for installed carpet tile, and that are recommended in writing by carpet tile manufacturer for releasable installation.
- C. Metal Edge/Transition Strips: Extruded aluminum with mill finish of profile and width shown, of height required to protect exposed edge of carpet, and of maximum lengths to minimize running joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet tile performance.
- B. Examine carpet tile for type, color, pattern, and potential defects.
- C. Concrete Slabs: Verify that finishes comply with requirements specified in Section 033000 "Cast-in-Place Concrete" and that surfaces are free of cracks, ridges, depressions, scale, and foreign deposits.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. General: Comply with CRI 104 and with carpet tile manufacturer's written installation instructions for preparing substrates.
- B. Use trowelable leveling and patching compounds, in accordance with manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch wide or wider, and protrusions more than 1/32 inch unless more stringent requirements are required by manufacturer's written instructions.
- C. Concrete Substrates: Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by adhesive and carpet tile manufacturers.
- D. Broom and vacuum clean substrates to be covered immediately before installing carpet tile.

3.3 INSTALLATION

- A. General: Comply with CRI 104, Section 10, "Carpet Tile," and with carpet tile manufacturer's written installation instructions.
- B. Installation Method: As recommended in writing by carpet tile manufacturer.
- C. Maintain dye-lot integrity. Do not mix dye lots in same area.
- D. Maintain pile-direction patterns indicated on Drawings.
- E. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended in writing by carpet tile manufacturer.
- F. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- G. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on carpet tile as marked on subfloor. Use nonpermanent, nonstaining marking device.
- H. Install pattern parallel to walls and borders.

3.4 CLEANING AND PROTECTION

- A. Perform the following operations immediately after installing carpet tile:
 - 1. Remove excess adhesive and other surface blemishes using cleaner

- recommended in writing by carpet tile manufacturer.
2. Remove yarns that protrude from carpet tile surface.
 3. Vacuum carpet tile using commercial machine with face-beater element.
- B. Protect installed carpet tile to comply with CRI 104, Section 13.7.
- C. Protect carpet tile against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet tile manufacturer.

END OF SECTION 096813

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Water-based finish coatings.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

1. Include preparation requirements and application instructions.
2. Indicate VOC content.

B. Samples: For each type of topcoat product.

C. Product Schedule: Use same designations indicated on Drawings and in the Interior Painting Schedule to cross-reference paint systems specified in this Section. Include color designations.

1.3 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Paint Products: 5 percent, but not less than 1 gal. of each material and color applied.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.5 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air

temperatures are between 50 and 95 deg F.

- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures of less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 WATER-BASED FINISH COATS

- A. Interior, Latex, Flat: Pigmented, water-based paint for use on primed/sealed interior plaster and gypsum board, and on primed wood and metals.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Behr Paint Company; Behr Process Corporation
 - b. Benjamin Moore & Co.
 - c. PPG Paints; PPG Industries, Inc.
 - d. Sherwin-Williams Company (The)
 - e. Valspar; a brand of The Sherwin-Williams Company
 2. Gloss and Sheen Level: Manufacturer's standard flat finish.
- B. Interior, Latex, Eggshell: Pigmented, water-based paint for use on primed/sealed interior plaster and gypsum board, and on primed wood and metals.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Behr Paint Company; Behr Process Corporation
 - b. Benjamin Moore & Co.
 - c. PPG Paints; PPG Industries, Inc.
 - d. Sherwin-Williams Company (The)
 - e. Valspar; a brand of The Sherwin-Williams Company
 2. Gloss and Sheen Level: Manufacturer's standard eggshell finish.
- C. Interior, Latex, Semigloss: Pigmented, water-based paint for use on primed/sealed interior plaster and gypsum board, and on primed wood and metals.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Behr Paint Company; Behr Process Corporation
 - b. Benjamin Moore & Co.

- c. PPG Paints; PPG Industries, Inc.
 - d. Sherwin-Williams Company (The)
 - e. Valspar; a brand of The Sherwin-Williams Company
2. Gloss Level: Manufacturer's standard semigloss finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 1. Gypsum Board: 12 percent.
- C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- D. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- E. Proceed with coating application only after unsatisfactory conditions have been corrected.
 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

3.3 INSTALLATION

- A. Apply paints according to manufacturer's written instructions.
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 - 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Painting Fire-Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
 - 1. Paint the following work where exposed in occupied spaces:
 - a. Equipment, including panelboards.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 - g. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 - 2. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
 - 1. Do not clean equipment with free-draining water and prevent solvents, thinners,

- cleaners, and other contaminants from entering into waterways, sanitary and storm drain systems, and ground.
2. Dispose of contaminants in accordance with requirements of authorities having jurisdiction.
 3. Allow empty paint cans to dry before disposal.
 4. Collect waste paint by type and deliver to recycling or collection facility.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

END OF SECTION 099123

SECTION 099300 - STAINING AND TRANSPARENT FINISHING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
- B. Related Requirements:
 - 1. Section 099123 "Interior Painting" for stains and transparent finishes on concrete floors.

1.2 ACTION SUBMITTALS

- A. Product Data:
 - 1. For each type of product.
 - 2. Include preparation requirements and application instructions.
 - 3. Indicate VOC content.
- B. Samples for Verification: Sample for each type of finish system and in each color and gloss of finish required on representative samples of actual wood substrates.
 - 1. Size: 8 inches square.
 - 2. Apply coats on Samples in steps to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
- C. Product List: Cross-reference to finish system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.4 FIELD CONDITIONS

- A. Apply finishes only when temperature of surfaces to be finished and ambient air

temperatures are between 50 and 95 deg F.

- B. Do not apply finishes when relative humidity exceeds 85 percent, at temperatures of less than 5 deg F above the dew point, or to damp or wet surfaces.
- C. Do not apply exterior finishes in snow, rain, fog, or mist.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

- A. Source Limitations: Obtain each coating product from single source from single manufacturer.

2.2 STAINING AND TRANSPARENT FINISHING

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Benjamin Moore & Co.
 - 2. PPG Paints; PPG Industries, Inc.
 - 3. Pratt & Lambert; a subsidiary of The Sherwin-Williams Company
 - 4. Sherwin-Williams Company (The)
- B. Material Compatibility:
 - 1. Provide materials for use within each coating system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - a. Shellacs, Clear: 730 g/L.
 - b. Stains: 250 g/L.
 - c. Clear Wood Finishes (Varnishes, Sanding Sealers, and Lacquers): 275 g/L.
- C. Stain Colors: Match existing.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

- B. Maximum Moisture Content of Exterior Wood Substrates: 15 percent, when measured with an electronic moisture meter.
- C. Maximum Moisture Content of Interior Wood Substrates: 13 percent, when measured with an electronic moisture meter.
- D. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- E. Proceed with finish application only after unsatisfactory conditions have been corrected.
 - 1. Beginning finish application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

- A. Remove hardware, covers, plates, and similar items already in place that are removable. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and finishing.
 - 1. After completing finishing operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- B. Clean and prepare surfaces to be finished according to manufacturer's written instructions for each substrate condition and as specified.
 - 1. Remove dust, dirt, oil, and grease by washing with a detergent solution; rinse thoroughly with clean water and allow to dry. Remove grade stamps and pencil marks by sanding lightly. Remove loose wood fibers by brushing.
 - 2. Remove mildew by scrubbing with a commercial wash formulated for mildew removal and as recommended by stain manufacturer.
- C. Interior Wood Substrates:
 - 1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
 - 2. Apply wood filler paste to open-grain woods to produce smooth, glasslike finish.
 - 3. Sand surfaces exposed to view and dust off.
 - 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dry.

3.3 APPLICATION

- A. Apply finishes according to manufacturer's written instructions.
 - 1. Use applicators and techniques suited for finish and substrate indicated.
 - 2. Finish surfaces behind movable equipment and furniture same as similar exposed surfaces.

3. Do not apply finishes over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- B. Apply finishes to produce surface films without cloudiness, holidays, lap marks, brush marks, runs, ropiness, or other surface imperfections.

3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing finish application, clean spattered surfaces. Remove spattered materials by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from finish application. Correct damage by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced finished wood surfaces.

END OF SECTION 099300

SECTION 101423.16 - ROOM-IDENTIFICATION PANEL SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes room-identification signs that are directly attached to the building.

1.2 DEFINITIONS

- A. Accessible: In accordance with the accessibility standard.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For room-identification signs.
 - 1. Include fabrication and installation details and attachments to other work.
 - 2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
 - 3. Show message list, typestyles, graphic elements, including raised characters and Braille, and layout for each sign at least half size.

1.4 FIELD CONDITIONS

- A. Field Measurements: Verify locations of anchorage devices embedded in permanent construction by other installers by field measurements before fabrication, and indicate measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design", and, ICC A117.1.

2.2 ROOM-IDENTIFICATION SIGNS

- A. Room-Identification Sign: Sign with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and

profiles; and as follows:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. ACE Sign Systems, Inc.
 - b. Advance Corporation
 - c. Allen Industries
 - d. Best Sign Systems, Inc.
 - e. Diskey Sign Company
 - f. Foresight Supersign
 - g. inpro Corporation
 - h. Mohawk Sign Systems
 - i. Nelson-Harkins Industries
 - j. Poblocki Sign Company, LLC
2. Mounting: Manufacturer's standard method for substrates indicated with concealed anchors.
3. Text and Typeface: Accessible raised characters and Braille. Finish raised characters to contrast with background color, and finish Braille to match background color.

2.3 ACCESSORIES

- A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following:
 1. Use concealed fasteners and anchors unless indicated to be exposed.
- B. Adhesive: As recommended by sign manufacturer.
- C. Two-Face Tape: Manufacturer's standard high-bond, foam-core tape, 0.045 inch thick, with adhesive on both sides.

2.4 FABRICATION

- A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.
 1. Preassemble signs and assemblies in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
 2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
 3. Conceal connections if possible; otherwise, locate connections where they are

inconspicuous.

4. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.

2.5 GENERAL FINISH REQUIREMENTS

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.
 1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
 2. Install signs so they do not protrude or obstruct according to the accessibility standard.
 3. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
- B. Accessibility: Install signs in locations on walls as indicated on Drawings, and, according to the accessibility standard.
- C. Mounting Methods:
 1. Concealed Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.
 - a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place sign in position and push until flush to surface, embedding studs in holes. Temporarily support sign in position until adhesive fully sets.
 - b. Thin or Hollow Surfaces: Place sign in position and flush to surface, install washers and nuts on studs projecting through opposite side of surface, and tighten.
 2. Two-Face Tape: Clean bond-breaking materials from substrate surface and remove loose debris. Apply tape strips symmetrically to back of sign and of suitable quantity to support weight of sign without slippage. Keep strips away

from edges to prevent visibility at sign edges. Place sign in position, and push to engage tape adhesive.

3.2 ADJUSTING AND CLEANING

- A. Remove and replace damaged or deformed signs and signs that do not comply with specified requirements. Replace signs with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.
- B. Remove temporary protective coverings and strippable films as signs are installed.
- C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION 101423.16

SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Public-use washroom accessories.

1.2 COORDINATION

- A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.
- B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.3 ACTION SUBMITTALS

A. Product Data:

1. Public-use washroom accessories.

B. Product Data Submittals: For each product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
2. Include anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For accessories to include in maintenance manuals.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Design accessories and fasteners to comply with the following requirements:

1. Grab Bars: Installed units are able to resist 250 lbf concentrated load applied in any direction and at any point.

2.2 PUBLIC-USE WASHROOM ACCESSORIES

- A. Source Limitations: Obtain public-use washroom accessories from single source from single manufacturer.
- B. Grab Bar:
 1. Basis-of-Design Product: Subject to compliance with requirements, provide 'Bobrick Corporation' 18" straight grab bar #B-6806x18 or comparable product by one of the following:
 - a. ASI-American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc
 - c. Bradley Corporation
 2. Mounting: Flanges with concealed fasteners.
 3. Material: Stainless steel, 0.05 inch thick.
 - a. Finish: Smooth, ASTM A480/A480M No. 4 finish (satin) on ends and slip-resistant texture in grip area.
 4. OD: 1-1/2 inches.
 5. Configuration and Length: As indicated on Drawings.

2.3 MATERIALS

- A. Stainless Steel: ASTM A240/A240M or ASTM A666, Type 304, 0.031-inch- minimum nominal thickness unless otherwise indicated.
- B. Fasteners: Screws, bolts, and other devices of same material as accessory unit, unless otherwise recommended by manufacturer or specified in this Section, and tamper and theft resistant where exposed, and of stainless or galvanized steel where concealed.

2.4 FABRICATION

- A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install accessories in accordance with manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
 - 1. Remove temporary labels and protective coatings.
- B. Grab Bars: Install to comply with specified structural-performance requirements.

3.2 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.
- B. Clean and polish exposed surfaces in accordance with manufacturer's written instructions.

END OF SECTION 102800

SECTION 123623.13 - PLASTIC-LAMINATE-CLAD COUNTERTOPS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Plastic-laminate-clad countertops.
 - 2. Accessories.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include data for fire-retardant treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements.
- B. Shop Drawings:
 - 1. Plans, sections, details, edge and backsplash profiles, and attachments to other work.
 - 2. Locations and details of joints.
 - 3. Locations and sizes of cutouts and holes for items installed in countertop.
- C. Samples for Verification:
 - 1. Plastic Laminates: For each type, color, pattern, and surface finish required, 8 by 10 inches in size.

1.3 QUALITY ASSURANCE

- A. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.
- B. Installer Qualifications: Fabricator of products.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver countertops only after casework and supports on which they will be installed have been completed in installation areas.
- B. Store countertops in areas where environmental conditions comply with requirements

specified in "Field Conditions" Article.

- C. Keep surfaces of countertops covered with protective covering during handling and installation.

1.5 FIELD CONDITIONS

- A. Field Measurements: Where countertops are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- B. Established Dimensions: Where countertops are indicated to fit to other construction, establish dimensions for areas where countertops are to fit. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.

PART 2 - PRODUCTS

2.1 PLASTIC-LAMINATE-CLAD COUNTERTOPS

- A. Quality Standard: Unless otherwise indicated, comply with ANSI/AWI 1236 for grades of plastic-laminate-clad countertops indicated for construction, finishes, installation, and other requirements.
 - 1. The Contract Documents contain requirements that are more stringent than that of the referenced quality standard. Comply with requirements of the Contract Documents in addition to those of referenced quality standard.
- B. Certified Wood: Verify product is labeled in accordance with the AF&PA's Sustainable Forestry Initiative, certified as "FSC Pure" in accordance with FSC STD-01-001 and FSC STD-40-004, or certified and labeled in accordance with the standards of the Programme for Endorsement of Forest Certification.
- C. High-Pressure Decorative Laminate: ISO 4586-3, Grade HGS.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide 'Wilsonart' Black Alicante #4926-07 or comparable product by one of the following:
 - a. Wilsonart LLC
- D. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:
 - 1. Match Architect's sample.

- E. Edge Treatment: Same as laminate cladding on horizontal surfaces.
- F. Core Material: MDF.
- G. Core Thickness: 3/4 inch.
 - 1. Build up countertop thickness to 1-1/2 inches at front, back, and ends with additional layers of core material laminated to top.
- H. Backer Sheet: Provide plastic-laminate backer sheet, ISO 4586-3, grade to match exposed surface, on underside of countertop substrate.
- I. Paper Backing: Provide paper backing on underside of countertop substrate.

2.2 WOOD MATERIALS

- A. Wood Products: Provide materials that comply with requirements of referenced quality standard unless otherwise indicated.
- B. Composite Panel Products: Provide materials that comply with requirements of referenced quality standard for each type of countertop and quality grade specified unless otherwise indicated.
 - 1. Composite Wood Products: Verify formaldehyde emission rates are not greater than the following when tested in accordance with ASTM D6007 or ASTM E1333:
 - a. MDF More Than 5/16 Inch (8 mm) Thick: 0.11 ppm.
 - b. MDF 5/16 Inch (8 mm) or Less in Thickness: 0.13 ppm.
 - 2. Medium-Density Fiberboard (MDF): ANSI A208.2, MR 10.
 - a. Grade 130 or better; complying with performance requirements specified.

2.3 MISCELLANEOUS MATERIALS

- A. Adhesives: Do not use adhesives that contain urea formaldehyde.
- B. Adhesive for Bonding Plastic Laminate: Type II water-resistant type as selected by fabricator to comply with requirements.
 - 1. Adhesive for Bonding Edges: Hot-melt adhesive or adhesive specified above for faces.
- C. Installation Adhesive: Manufacturer's standard product that is recommended for application indicated.
 - 1. Verify adhesives have a VOC content of 70 g/L or less.

2.4 FABRICATION

- A. Sand fire-retardant-treated wood lightly to remove raised grain on exposed surfaces before fabrication.
- B. Fabricate countertops to dimensions, profiles, and details indicated. Provide front and end overhang of 1 inch over base cabinets. Ease edges to radius indicated for the following:
 - 1. Solid-Wood (Lumber) Members: 1/16 inch unless otherwise indicated.
- C. Complete fabrication, including assembly, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
 - 1. Notify Architect seven days in advance of dates and times countertop fabrication will be complete.
 - 2. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended, and check measurements of assemblies against field measurements before disassembling for shipment.
- D. Shop cut openings to maximum extent possible to receive appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately, and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.
 - 1. Seal edges of cutouts by saturating with varnish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates to receive countertops and conditions under which countertops will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of countertops.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Before installation, condition countertops to average prevailing humidity conditions in installation areas.
- B. Examine shop-fabricated work for completion and complete work as required, including

removal of packing.

3.3 INSTALLATION

- A. Grade: Install countertops to comply with same grade as item to be installed.
- B. Assemble countertops and complete fabrication at Project site to extent that it was not completed in the shop.
 - 1. Provide cutouts for appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately, and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.
 - 2. Seal edges of cutouts by saturating with varnish.
- C. Field Jointing: Where possible, make in the same manner as shop jointing, using dowels, splines, adhesives, and fasteners recommended by manufacturer. Prepare edges to be joined in shop so Project-site processing of top and edge surfaces is not required. Locate field joints where indicated on Shop Drawings.
 - 1. Secure field joints in countertops with concealed clamping devices located within 6 inches of front and back edges and at intervals not exceeding 24 inches. Tighten in accordance with manufacturer's written instructions to exert a constant, heavy-clamping pressure at joints.
- D. Countertop Installation:
 - 1. Scribe and cut countertops to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
 - 2. Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop.
 - 3. Anchor wall cleating necessary for proper setting for countertops not supported by casework.
 - 4. Install countertops level and true in line. Use concealed shims as required to maintain not more than 1/8-inch-in-96-inch variation from a straight, level plane.
 - 5. Seal joints between countertop and backsplash, if any, and joints where countertop and backsplash abut walls with mildew-resistant silicone sealant or another permanently elastic sealing compound recommended by countertop material manufacturer.

3.4 ADJUSTING AND CLEANING

- A. Repair damaged and defective countertops, where possible, to eliminate functional and visual defects. Where impossible to repair, replace countertops. Adjust joinery for uniform appearance.
- B. Clean countertops on exposed and semiexposed surfaces.

- C. Protection: Provide kraft paper or other suitable covering over countertop surfaces, taped to underside of countertop at a minimum of 48 inches o.c. Remove protection at Substantial Completion.

END OF SECTION 123623.13

SECTION 230500 – COMMON WORK RESULTS FOR HVAC

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 following:
 - 1. Grout.
 - 2. Mechanical demolition.
 - 3. Equipment installation requirements common to equipment sections.
 - 4. Painting and finishing.
 - 5. Supports and anchorages.

1.3 DEFINITIONS

- A. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct shafts, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspaces, and tunnels.
- B. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.
- C. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.
- D. Concealed, Interior Installations: Concealed from view and protected from physical contact by building occupants. Examples include above ceilings and in duct shafts.
- E. Concealed, Exterior Installations: Concealed from view and protected from weather conditions and physical contact by building occupants but subject to outdoor ambient temperatures. Examples include installations within unheated shelters.
- F. The following are industry abbreviations for plastic materials:
 - 1. ABS: Acrylonitrile-butadiene-styrene plastic.
 - 2. CPVC: Chlorinated polyvinyl chloride plastic.
 - 3. PE: Polyethylene plastic.
 - 4. PVC: Polyvinyl chloride plastic.
- G. The following are industry abbreviations for rubber materials:

1. EPDM: Ethylene-propylene-diene terpolymer rubber.
2. NBR: Acrylonitrile-butadiene rubber.

1.4 SUBMITTALS

A. Product Data: For the following:

1. Transition fittings.
2. Dielectric fittings.
3. Mechanical sleeve seals.

B. Welding certificates.

C. Operation and Maintenance Data: At the end of the project the contractor shall submit two paper copies of the Operation and Maintenance Data to the owner in three ring binders with the project title and contractor's contact information.

D. Project Record Documents: Throughout the project the contractor shall keep a running record of as-builts showing deviations from the plans. At the end of the project the contractor shall submit one clean hand sketch set of documents to the owner.

1.5 QUALITY ASSURANCE

A. Steel Support Welding: Qualify processes and operators according to AWS D1.1, "Structural Welding Code--Steel."

B. Steel Pipe Welding: Qualify processes and operators according to ASME Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualifications."

1. Comply with provisions in ASME B31 Series, "Code for Pressure Piping."
2. Certify that each welder has passed AWS qualification tests for welding processes involved and that certification is current.

C. Electrical Characteristics for Mechanical Equipment: Equipment of higher electrical characteristics may be furnished provided such proposed equipment is approved in writing and connecting electrical services, circuit breakers, and conduit sizes are appropriately modified. If minimum energy ratings or efficiencies are specified, equipment shall comply with requirements.

D. Install all equipment, materials, and accessories per manufacturers written instructions.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver pipes and tubes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and to prevent entrance of dirt, debris, and moisture.

- B. Store plastic pipes protected from direct sunlight. Support to prevent sagging and bending.

1.7 COORDINATION

- A. Arrange for pipe spaces, chases, slots, and openings in building structure during progress of construction, to allow for mechanical installations.
- B. Coordinate installation of required supporting devices and set sleeves in poured-in-place concrete and other structural components as they are constructed.
- C. Coordinate requirements for access panels and doors for mechanical items requiring access that are concealed behind finished surfaces. Access panels and doors are specified in Division 8 Section "Access Doors and Frames."

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

2.2 GROUT

- A. Description: ASTM C 1107, Grade B, nonshrink and nonmetallic, dry hydraulic-cement grout.
 - 1. Characteristics: Post-hardening, volume-adjusting, nonstaining, noncorrosive, nongaseous, and recommended for interior and exterior applications.
 - 2. Design Mix: 5000-psi, 28-day compressive strength.
 - 3. Packaging: Premixed and factory packaged.

PART 3 - EXECUTION

3.1 MECHANICAL DEMOLITION

- A. Refer to Division 1 Sections "Cutting and Patching" and "Selective Demolition" for general demolition requirements and procedures.
- B. Disconnect, demolish, and remove mechanical systems, equipment, and components indicated to be removed.
 - 1. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.

2. Equipment to Be Removed: Disconnect and cap services and remove equipment.

- C. If pipe, insulation, or equipment to remain is damaged in appearance or is unserviceable, remove damaged or unserviceable portions and replace with new products of equal capacity and quality.

3.2 EQUIPMENT INSTALLATION - COMMON REQUIREMENTS

- A. Install equipment to allow maximum possible headroom unless specific mounting heights are not indicated.
- B. Install equipment level and plumb, parallel and perpendicular to other building systems and components in exposed interior spaces, unless otherwise indicated.
- C. Install mechanical equipment to facilitate service, maintenance, and repair or replacement of components. Connect equipment for ease of disconnecting, with minimum interference to other installations. Extend grease fittings to accessible locations.
- D. Install equipment to allow right of way for piping installed at required slope.
- E. Install equipment per the manufacturer's recommendations. If the manufacturer's recommendations are different than shown on the construction documents or as otherwise specified contact the engineer.
- F. Contractor shall provide all equipment and associated controls required to provide a complete and operable system.
- G. The scope of work for all Division 23 sections includes all miscellaneous work needed (whether or not specified or shown on the documents) to produce a complete and fully operational system.

3.3 PAINTING

- A. Painting of mechanical systems, equipment, and components is specified in Architectural Section.
- B. Damage and Touchup: Repair marred and damaged factory-painted finishes with materials and procedures to match original factory finish.

3.4 ERECTION OF METAL SUPPORTS AND ANCHORAGES

- A. Refer to Division 5 Section "Metal Fabrications" for structural steel.
- B. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor mechanical materials and equipment.
- C. Field Welding: Comply with AWS D1.1.

3.5 ERECTION OF WOOD SUPPORTS AND ANCHORAGES

- A. Cut, fit, and place wood grounds, nailers, blocking, and anchorages to support, and anchor mechanical materials and equipment.
- B. Select fastener sizes that will not penetrate members if opposite side will be exposed to view or will receive finish materials. Tighten connections between members. Install fasteners without splitting wood members.
- C. Attach to substrates as required to support applied loads.

3.6 GROUTING

- A. Mix and install grout for mechanical equipment base bearing surfaces, pump and other equipment base plates, and anchors.
- B. Clean surfaces that will come into contact with grout.
- C. Provide forms as required for placement of grout.
- D. Avoid air entrapment during placement of grout.
- E. Place grout, completely filling equipment bases.
- F. Place grout on concrete bases and provide smooth bearing surface for equipment.
- G. Place grout around anchors.
- H. Cure placed grout.

3.7 EQUIPMENT LABEL INSTALLATION

- A. Install or permanently fasten labels on each major item of mechanical equipment.
- B. Locate equipment labels where accessible and visible.

END OF SECTION 230500

SECTION 230553 – IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT

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 following mechanical identification materials and their installation:
 - 1. Equipment nameplates.
 - 2. Equipment markers.
 - 3. Access panel and door markers.
 - 4. Duct markers.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For color, letter style, and graphic representation required for each identification material and device.
- C. Valve numbering scheme.
- D. Valve Schedules: For each piping system. Furnish extra copies (in addition to mounted copies) to include in maintenance manuals.

1.4 QUALITY ASSURANCE

- A. ASME Compliance: Comply with ASME A13.1, "Scheme for the Identification of Piping Systems," for letter size, length of color field, colors, and viewing angles of identification devices for piping.

1.5 COORDINATION

- A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- B. Coordinate installation of identifying devices with location of access panels and doors.
- C. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 EQUIPMENT IDENTIFICATION DEVICES

- A. Equipment Nameplates: Metal, with data engraved or stamped, for permanent attachment on equipment.
 - 1. Data:
 - a. Manufacturer, product name, model number, and serial number.
 - b. Capacity, operating and power characteristics, and essential data.
 - c. Labels of tested compliances.
 - 2. Location: Accessible and visible.
 - 3. Fasteners: As required to mount on equipment.
- B. Equipment Markers: Engraved, color-coded laminated plastic. Include contact-type, permanent adhesive.
 - 1. Terminology: Match schedules as closely as possible.
 - 2. Data:
 - a. Name and plan number.
 - 3. Size: 2-1/2 by 4 inches for control devices, dampers, and valves; 4-1/2 by 6 inches for equipment.
- C. Access Panel and Door Markers: 1/16-inch-thick, engraved laminated plastic, with abbreviated terms and numbers corresponding to identification. Provide 1/8-inch center hole for attachment.
 - 1. Fasteners: Self-tapping, stainless-steel screws or contact-type, permanent adhesive.

2.2 DUCT IDENTIFICATION DEVICES

- A. Duct Markers: Engraved, color-coded laminated plastic. Include direction and quantity of airflow and duct service (such as supply, return, and exhaust). Include contact-type, permanent adhesive.

PART 3 - EXECUTION

3.1 APPLICATIONS, GENERAL

- A. Products specified are for applications referenced in other Division 23 Sections. If more than single-type material, device, or label is specified for listed applications, selection is Installer's option.

3.2 EQUIPMENT IDENTIFICATION

- A. Install and permanently fasten equipment nameplates on each major item of mechanical equipment that does not have nameplate or has nameplate that is damaged or located where not easily visible. Locate nameplates where accessible and visible. Include nameplates for the following general categories of equipment:
 - 1. VAV Boxes and similar units.
- B. Install equipment markers with permanent adhesive on or near each major item of mechanical equipment. Data required for markers may be included on signs, and markers may be omitted if both are indicated.
 - 1. Letter Size: Minimum 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-fourths the size of principal lettering.
 - 2. Data: Distinguish among multiple units,
 - 3. Locate markers where accessible and visible. Include markers for the following general categories of equipment:
 - a. VAV Boxes and similar units
- C. Install access panel markers with screws on equipment access panels.

3.3 DUCT IDENTIFICATION

- A. Install duct markers with permanent adhesive on air ducts in the following color codes:
 - 1. Green: For cold-air supply ducts.
 - 2. Yellow: For hot-air supply ducts.
 - 3. Blue: For exhaust-, outside-, relief-, return-, and mixed-air ducts.
 - 4. ASME A13.1 Colors and Designs: For hazardous material exhaust.
 - 5. Letter Size: Minimum 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-fourths the size of principal lettering.
- B. Locate markers near points where ducts enter into concealed spaces and at maximum intervals of 50 feet in each space where ducts are exposed or concealed by removable ceiling system.

3.4 ADJUSTING

- A. Relocate mechanical identification materials and devices that have become visually blocked by other work.

3.5 CLEANING

- A. Clean faces of mechanical identification devices and glass frames of valve schedules.

END OF SECTION 230553

SECTION 230593 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 - GENERAL

1.1 SUMMARY

- A. The scope of work for this section includes all miscellaneous work needed (whether or not specified or shown on the documents) to produce a complete and fully operational system.
- B. This Section includes TAB to produce design objectives for the following:
 - 1. Air Systems:
 - a. Variable-air-volume systems.
 - 2. HVAC equipment quantitative-performance settings.
 - 3. Verifying that automatic control devices are functioning properly.
 - 4. Reporting results of activities and procedures specified in this Section.

1.2 SUBMITTALS

- A. Certified TAB Reports: Submit two copies of reports prepared, as specified in this Section, on approved forms certified by TAB firm.
- B. Warranties specified in this Section.

1.3 QUALITY ASSURANCE

- A. TAB Firm Qualifications: Engage a TAB firm certified by either AABC or NEBB.
- B. Certification of TAB Reports: Certify TAB field data reports. This certification includes the following:
 - 1. Review field data reports to validate accuracy of data and to prepare certified TAB reports.
 - 2. Certify that TAB team complied with approved TAB plan and the procedures specified and referenced in this Specification.
- C. TAB Report Forms: Use standard forms from AABC's National Standards for Testing and Balancing Heating, Ventilating, and Air Conditioning Systems, NEBB's Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems, or SMACNA's HVAC Systems - Testing, Adjusting, and Balancing.

1.4 PROJECT CONDITIONS

- A. Partial Owner Occupancy: Owner may occupy completed areas of building before Substantial Completion. Cooperate with Owner during TAB operations to minimize conflicts with Owner's operations.

1.5 COORDINATION

- A. Coordinate the efforts of factory-authorized service representatives for systems and equipment, HVAC controls installers, and other mechanics to operate HVAC systems and equipment to support and assist TAB activities.
- B. Perform TAB after leakage and pressure tests on air and water distribution systems have been satisfactorily completed.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine the Contract Documents to become familiar with Project requirements and to discover conditions in systems' designs that may preclude proper TAB of systems and equipment.
 - 1. Verify that balancing devices, such as test ports, gage cocks, thermometer wells, flow-control devices, balancing valves and fittings, and manual volume dampers, are required by the Contract Documents. Verify that quantities and locations of these balancing devices are accessible and appropriate for effective balancing and for efficient system and equipment operation.
- B. Examine approved submittal data of HVAC systems and equipment.
- C. Examine design data, including HVAC system descriptions, statements of design assumptions for environmental conditions and systems' output, and statements of philosophies and assumptions about HVAC system and equipment controls.
- D. Examine equipment performance data including fan and pump curves. Relate performance data to Project conditions and requirements, including system effects that can create undesired or unpredicted conditions that cause reduced capacities in all or part of a system. Calculate system effect factors to reduce performance ratings of HVAC equipment when installed under conditions different from those presented when the equipment was performance tested at the factory. To calculate system effects for air systems, use tables and charts found in AMCA 201, "Fans and Systems," Sections 7 through 10; or in SMACNA's "HVAC Systems--Duct Design," Sections 5 and 6. Compare this data with the design data and installed conditions.

- E. Examine system and equipment installations to verify that they are complete and that testing, cleaning, adjusting, and commissioning specified in individual Sections have been performed.
- F. Examine system and equipment test reports.
- G. Examine HVAC system and equipment installations to verify that indicated balancing devices, such as test ports, gage cocks, thermometer wells, flow-control devices, balancing valves and fittings, and manual volume dampers, are properly installed, and that their locations are accessible and appropriate for effective balancing and for efficient system and equipment operation.
- H. Examine systems for functional deficiencies that cannot be corrected by adjusting and balancing.
- I. Examine HVAC equipment to ensure that clean filters have been installed, bearings are greased, belts are aligned and tight, and equipment with functioning controls is ready for operation.
- J. Examine terminal units, such as variable-air-volume boxes, to verify that they are accessible and their controls are connected and functioning.
- K. Examine heat-transfer coils for correct piping connections and for clean and straight fins.
- L. Examine equipment for installation and for properly operating safety interlocks and controls.
- M. Examine automatic temperature system components to verify the following:
 - 1. Dampers, valves, and other controlled devices are operated by the intended controller.
 - 2. Dampers and valves are in the position indicated by the controller.
 - 3. Integrity of valves and dampers for free and full operation and for tightness of fully closed and fully open positions. This includes dampers in multizone units, mixing boxes, and variable-air-volume terminals.
 - 4. Automatic modulating and shutoff valves, including two-way valves and three-way mixing and diverting valves, are properly connected.
 - 5. Sensors are located to sense only the intended conditions.
 - 6. Sequence of operation for control modes is according to the Contract Documents.
 - 7. Interlocked systems are operating.
- N. Report deficiencies discovered before and during performance of TAB procedures. Observe and record system reactions to changes in conditions. Record default set points if different from indicated values.

3.2 PREPARATION

- A. Prepare a TAB plan that includes strategies and step-by-step procedures.
- B. Complete system readiness checks and prepare system readiness reports. Verify the following:
 - 1. Permanent electrical power wiring is complete.
 - 2. Automatic temperature-control systems are operational.

3. Equipment and duct access doors are securely closed.
4. Balance, smoke, and fire dampers are open.
5. Isolating and balancing valves are open and control valves are operational.
6. Ceilings are installed in critical areas where air-pattern adjustments are required and access to balancing devices is provided.
7. Windows and doors can be closed so indicated conditions for system operations can be met.

3.3 GENERAL PROCEDURES FOR TESTING AND BALANCING

- A. Perform testing and balancing procedures on each system according to the procedures contained in AABC's "National Standards for Testing and Balancing Heating, Ventilating, and Air Conditioning Systems" NEBB's "Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems" or SMACNA's "HVAC Systems - Testing, Adjusting, and Balancing" and this Section.
- B. Cut insulation, ducts, pipes, and equipment cabinets for installation of test probes to the minimum extent necessary to allow adequate performance of procedures. After testing and balancing, close probe holes and patch insulation with new materials identical to those removed. Restore vapor barrier and finish according to insulation Specifications for this Project.
- C. Mark equipment and balancing device settings with paint or other suitable, permanent identification material, including damper-control positions, valve position indicators, fan-speed-control levers, and similar controls and devices, to show final settings.

3.4 GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

- A. Prepare test reports for both fans and outlets. Obtain manufacturer's outlet factors and recommended testing procedures. Crosscheck the summation of required outlet volumes with required fan volumes.
- B. Prepare schematic diagrams of systems' "as-built" duct layouts.
- C. For variable-air-volume systems, develop a plan to simulate diversity.
- D. Determine the best locations in main and branch ducts for accurate duct airflow measurements.
- E. Check airflow patterns from the outside-air louvers and dampers and the return- and exhaust-air dampers, through the supply-fan discharge and mixing dampers.
- F. Locate start-stop and disconnect switches, electrical interlocks, and motor starters.
- G. Verify that motor starters are equipped with properly sized thermal protection.
- H. Check dampers for proper position to achieve desired airflow path.
- I. Check for airflow blockages.

- J. Check for proper sealing of air-handling unit components.
- K. Check for proper sealing of air duct system.

3.5 PROCEDURES FOR VARIABLE-AIR-VOLUME SYSTEMS

- A. Compensating for Diversity: When the total airflow of all terminal units is more than the indicated airflow of the fan, place a selected number of terminal units at a maximum set-point airflow condition until the total airflow of the terminal units equals the indicated airflow of the fan. Select the reduced airflow terminal units so they are distributed evenly among the branch ducts.
- B. Pressure-Independent, Variable-Air-Volume Systems: After the fan systems have been adjusted, adjust the variable-air-volume systems as follows:
 - 1. Set outside-air dampers at minimum, and return- and exhaust-air dampers at a position that simulates full-cooling load.
 - 2. Select the terminal unit that is most critical to the supply-fan airflow and static pressure. Measure static pressure. Adjust system static pressure so the entering static pressure for the critical terminal unit is not less than the sum of terminal-unit manufacturer's recommended minimum inlet static pressure plus the static pressure needed to overcome terminal-unit discharge system losses.
 - 3. Measure total system airflow. Adjust to within indicated airflow.
 - 4. Set terminal units at maximum airflow and adjust controller or regulator to deliver the designed maximum airflow. Use terminal-unit manufacturer's written instructions to make this adjustment. When total airflow is correct, balance the air outlets downstream from terminal units as described for constant-volume air systems.
 - 5. Set terminal units at minimum airflow and adjust controller or regulator to deliver the designed minimum airflow. Check air outlets for a proportional reduction in airflow as described for constant-volume air systems.
 - a. If air outlets are out of balance at minimum airflow, report the condition but leave outlets balanced for maximum airflow.
 - 6. Remeasure the return airflow to the fan while operating at maximum return airflow and minimum outside airflow. Adjust the fan and balance the return-air ducts and inlets as described for constant-volume air systems.
 - 7. Measure static pressure at the most critical terminal unit and adjust the static-pressure controller at the main supply-air sensing station to ensure that adequate static pressure is maintained at the most critical unit.
 - 8. Record the final fan performance data.

3.6 PROCEDURES FOR TEMPERATURE MEASUREMENTS

- A. During TAB, report the need for adjustment in temperature regulation within the automatic temperature-control system.

- B. Measure indoor wet- and dry-bulb temperatures every other hour for a period of two successive eight-hour days, in each separately controlled zone, to prove correctness of final temperature settings. Measure when the building or zone is occupied.
- C. Measure outside-air, wet- and dry-bulb temperatures.

3.7 TEMPERATURE-CONTROL VERIFICATION

- A. Check free travel and proper operation of control devices such as damper and valve operators.
- B. Check the interaction of interlock and lockout systems.
- C. Note operation of electric actuators using spring return for proper fail-safe operations.

3.8 TOLERANCES

- A. Set HVAC system airflow and water flow rates within the following tolerances:
 - 1. Supply, Return, and Exhaust Fans and Equipment with Fans: Plus 5 to plus 10 percent.
 - 2. Air Outlets and Inlets: 0 to minus 10 percent.
 - 3. Heating-Water Flow Rate: 0 to minus 10 percent.
 - 4. Cooling-Water Flow Rate: 0 to minus 5 percent.

3.9 FINAL REPORT

- A. General: Typewritten, or computer printout in letter-quality font, on standard bond paper, in three-ring binder, tabulated and divided into sections by tested and balanced systems.
 - 1. Include a certification sheet in front of binder signed and sealed by the certified testing and balancing engineer.
 - a. Include a list of instruments used for procedures, along with proof of calibration.
- B. Final Report Contents: In addition to certified field report data, include the following:
 - 1. Other information relative to equipment performance, but do not include Shop Drawings and Product Data.
- C. General Report Data: In addition to form titles and entries, include the following data in the final report, as applicable:
 - 1. Title page.
 - 2. Name and address of TAB firm.
 - 3. Project name.
 - 4. Project location.
 - 5. Architect's name and address.
 - 6. Engineer's name and address.
 - 7. Contractor's name and address.

8. Report date.
9. Signature of TAB firm who certifies the report.
10. Table of Contents with the total number of pages defined for each section of the report. Number each page in the report.
11. Summary of contents including the following:
 - a. Indicated versus final performance.
 - b. Notable characteristics of systems.
12. Nomenclature sheets for each item of equipment.
13. Data for terminal units, including manufacturer, type size, and fittings.
14. Notes to explain why certain final data in the body of reports varies from indicated values.
15. Test conditions for fans and pump performance forms including the following:
 - a. Conditions of filters.
 - b. Face and bypass damper settings at coils.
 - c. Fan drive settings including settings and percentage of maximum pitch diameter.
 - d. Settings for supply-air, static-pressure controller.
 - e. Other system operating conditions that affect performance.

D. System Diagrams: Include schematic layouts of air and hydronic distribution systems. Present each system with single-line diagram and include the following:

1. Quantities of outside, supply, return, and exhaust airflows.
2. Water and steam flow rates.
3. Duct, outlet, and inlet sizes.
4. Pipe and valve sizes and locations.
5. Terminal units.
6. Balancing stations.
7. Position of balancing devices.

3.10 ADDITIONAL TESTS

- A. After deficiencies have been corrected, rebalance system and resubmit report.
- B. Within 90 days of completing TAB, perform additional testing and balancing to verify that balanced conditions are being maintained throughout and to correct unusual conditions.
- C. Seasonal Periods: If initial TAB procedures were not performed during near-peak summer and winter conditions, perform additional testing, inspecting, and adjusting during near-peak summer and winter conditions.

END OF SECTION 230593

SECTION 230700 - HVAC INSULATION

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 mechanical insulation for boiler breeching, duct, equipment, and pipe, including the following:
 - 1. Insulation Materials:
 - a. Mineral fiber.
 - 2. Insulating cements.
 - 3. Adhesives.
 - 4. Mastics.
 - 5. Lagging adhesives.
 - 6. Sealants.
 - 7. Factory-applied jackets.
 - 8. Tapes.
 - 9. Securements.
- B. Related Sections include the following:
 - 1. Division 23 Section "Metal Ducts" for duct liners.

1.3 DEFINITIONS

- A. ASJ: All-service jacket.
- B. FSK: Foil, scrim, kraft paper.
- C. FSP: Foil, scrim, polyethylene.
- D. PVDC: Polyvinylidene chloride.
- E. SSL: Self-sealing lap.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated, identify thermal conductivity, thickness, and jackets (both factory and field applied, if any).
- B. Shop Drawings: Show details for the following:
 - 1. Application of protective shields, saddles, and inserts at hangers for each type of insulation and hanger.
 - 2. Insulation application at pipe expansion joints for each type of insulation.
 - 3. Insulation application at elbows, fittings, flanges, valves, and specialties for each type of insulation.
 - 4. Removable insulation at piping specialties, equipment connections, and access panels.
 - 5. Application of field-applied jackets.
 - 6. Field application for each equipment type.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Skilled mechanics who have successfully completed an apprenticeship program or another craft training program certified by the Department of Labor, Bureau of Apprenticeship and Training.
- B. Fire-Test-Response Characteristics: Insulation and related materials shall have fire-test-response characteristics indicated, as determined by testing identical products per ASTM E 84, by a testing and inspecting agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and adhesive, mastic, and cement material containers, with appropriate markings of applicable testing and inspecting agency.
 - 1. Insulation Installed Indoors: Flame-spread index of 25 or less, and smoke-developed index of 50 or less.
 - 2. Insulation Installed Outdoors: Flame-spread index of 75 or less, and smoke-developed index of 150 or less.
- C. National Commercial and Industrial Insulation Standards: Comply with installation standards.
- D. ASHRAE Standard 90.1-2004: Comply with insulation values required by the Energy Standards.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Packaging: Insulation material containers shall be marked by manufacturer with appropriate ASTM standard designation, type and grade, and maximum use temperature.

1.7 COORDINATION

- A. Coordinate size and location of supports, hangers, and insulation shields specified in Division 23 Section "Hangers and Supports for HVAC Piping and Equipment."
- B. Coordinate clearance requirements with piping Installer for piping insulation application, duct Installer for duct insulation application, and equipment Installer for equipment insulation application. Before preparing piping and ductwork Shop Drawings, establish and maintain clearance requirements for installation of insulation and field-applied jackets and finishes and for space required for maintenance.

1.8 SCHEDULING

- A. Schedule insulation application after pressure testing systems and, where required, after installing and testing heat tracing. Insulation application may begin on segments that have satisfactory test results.
- B. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 INSULATION MATERIALS

- A. Refer to Part 3 schedule articles for requirements about where insulating materials shall be applied.
- B. Products shall not contain asbestos, lead, mercury, or mercury compounds.
- C. Products that come in contact with stainless steel shall have a leachable chloride content of less than 50 ppm when tested according to ASTM C 871.
- D. Insulation materials for use on austenitic stainless steel shall be qualified as acceptable according to ASTM C 795.
- E. Foam insulation materials shall not use CFC or HCFC blowing agents in the manufacturing process.

F. Mineral-Fiber Blanket Insulation: Mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 553, Type II and ASTM C 1290, Type III with factory-applied FSK jacket. Factory-applied jacket requirements are specified in Part 2 "Factory-Applied Jackets" Article.

1. Products:

- a. CertainTeed Corp.; Duct Wrap.
- b. Johns Manville; Microlite.
- c. Knauf Insulation; Duct Wrap.
- d. Manson Insulation Inc.; Alley Wrap.
- e. Owens Corning; All-Service Duct Wrap.

G. Mineral-Fiber Board Insulation: Mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 612, Type IA or Type IB. For duct and plenum applications, provide insulation with factory-applied FSK jacket. For equipment applications, provide insulation without factory-applied jacket. Factory-applied jacket requirements are specified in Part 2 "Factory-Applied Jackets" Article.

1. Products:

- a. CertainTeed Corp.; Commercial Board.
- b. Fibrex Insulations Inc.; FBX.
- c. Johns Manville; 800 Series Spin-Glas.
- d. Knauf Insulation; Insulation Board.
- e. Manson Insulation Inc.; AK Board.
- f. Owens Corning; Fiberglas 700 Series.

2.3 INSULATING CEMENTS

A. Mineral-Fiber Insulating Cement: Comply with ASTM C 195.

1. Products:

- a. Insulco, Division of MFS, Inc.; Triple I.
- b. P. K. Insulation Mfg. Co., Inc.; Super-Stik.

B. Expanded or Exfoliated Vermiculite Insulating Cement: Comply with ASTM C 196.

1. Products:

- a. P. K. Insulation Mfg. Co., Inc.; Thermal-V-Kote.

C. Mineral-Fiber, Hydraulic-Setting Insulating and Finishing Cement: Comply with ASTM C 449/C 449M.

1. Products:

- a. Insulco, Division of MFS, Inc.; SmoothKote.

- b. P. K. Insulation Mfg. Co., Inc.; PK No. 127, and Quik-Cote.
- c. Rock Wool Manufacturing Company; Delta One Shot.

2.4 ADHESIVES

- A. Materials shall be compatible with insulation materials, jackets, and substrates and for bonding insulation to itself and to surfaces to be insulated, unless otherwise indicated.
- B. Mineral-Fiber Adhesive: Comply with MIL-A-3316C, Class 2, Grade A.
 - 1. Products:
 - a. Childers Products, Division of ITW; CP-82.
 - b. Foster Products Corporation, H. B. Fuller Company; 85-20.
 - c. ITW TACC, Division of Illinois Tool Works; S-90/80.
 - d. Marathon Industries, Inc.; 225.
 - e. Mon-Eco Industries, Inc.; 22-25.
- C. ASJ Adhesive, and FSK and PVDC Jacket Adhesive: Comply with MIL-A-3316C, Class 2, Grade A for bonding insulation jacket lap seams and joints.
 - 1. Products:
 - a. Childers Products, Division of ITW; CP-82.
 - b. Foster Products Corporation, H. B. Fuller Company; 85-20.
 - c. ITW TACC, Division of Illinois Tool Works; S-90/80.
 - d. Marathon Industries, Inc.; 225.
 - e. Mon-Eco Industries, Inc.; 22-25.

2.5 MASTICS

- A. Materials shall be compatible with insulation materials, jackets, and substrates; comply with MIL-C-19565C, Type II.
- B. Vapor-Barrier Mastic: Water based; suitable for indoor and outdoor use on below ambient services.
 - 1. Products:
 - a. Childers Products, Division of ITW; CP-35.
 - b. Foster Products Corporation, H. B. Fuller Company; 30-90.
 - c. ITW TACC, Division of Illinois Tool Works; CB-50.
 - d. Marathon Industries, Inc.; 590.
 - e. Mon-Eco Industries, Inc.; 55-40.
 - f. Vimasco Corporation; 749.
 - 2. Water-Vapor Permeance: ASTM E 96, Procedure B, 0.013 perm at 43-mil dry film thickness.

3. Service Temperature Range: Minus 20 to plus 180 deg F.
 4. Solids Content: ASTM D 1644, 59 percent by volume and 71 percent by weight.
 5. Color: White.
- C. Vapor-Barrier Mastic: Solvent based; suitable for indoor use on below ambient services.
1. Products:
 - a. Childers Products, Division of ITW; CP-30.
 - b. Foster Products Corporation, H. B. Fuller Company; 30-35.
 - c. ITW TACC, Division of Illinois Tool Works; CB-25.
 - d. Marathon Industries, Inc.; 501.
 - e. Mon-Eco Industries, Inc.; 55-10.
 2. Water-Vapor Permeance: ASTM F 1249, 0.05 perm at 35-mil dry film thickness.
 3. Service Temperature Range: 0 to 180 deg F.
 4. Solids Content: ASTM D 1644, 44 percent by volume and 62 percent by weight.
 5. Color: White.
- D. Vapor-Barrier Mastic: Solvent based; suitable for outdoor use on below ambient services.
1. Products:
 - a. Childers Products, Division of ITW; Encacel.
 - b. Foster Products Corporation, H. B. Fuller Company; 60-95/60-96.
 - c. Marathon Industries, Inc.; 570.
 - d. Mon-Eco Industries, Inc.; 55-70.
 2. Water-Vapor Permeance: ASTM F 1249, 0.05 perm at 30-mil dry film thickness.
 3. Service Temperature Range: Minus 50 to plus 220 deg F.
 4. Solids Content: ASTM D 1644, 33 percent by volume and 46 percent by weight.
 5. Color: White.
- E. Breather Mastic: Water based; suitable for indoor and outdoor use on above ambient services.
1. Products:
 - a. Childers Products, Division of ITW; CP-10.
 - b. Foster Products Corporation, H. B. Fuller Company; 35-00.
 - c. ITW TACC, Division of Illinois Tool Works; CB-05/15.
 - d. Marathon Industries, Inc.; 550.
 - e. Mon-Eco Industries, Inc.; 55-50.
 - f. Vimasco Corporation; WC-1/WC-5.
 2. Water-Vapor Permeance: ASTM F 1249, 3 perms at 0.0625-inch dry film thickness.
 3. Service Temperature Range: Minus 20 to plus 200 deg F.
 4. Solids Content: 63 percent by volume and 73 percent by weight.
 5. Color: White.

2.6 LAGGING ADHESIVES

- A. Description: Comply with MIL-A-3316C Class I, Grade A and shall be compatible with insulation materials, jackets, and substrates.
1. Products:
 - a. Childers Products, Division of ITW; CP-52.
 - b. Foster Products Corporation, H. B. Fuller Company; 81-42.
 - c. Marathon Industries, Inc.; 130.
 - d. Mon-Eco Industries, Inc.; 11-30.
 - e. Vimasco Corporation; 136.
 2. Fire-resistant, water-based lagging adhesive and coating for use indoors to adhere fire-resistant lagging cloths over duct, equipment, and pipe insulation.
 3. Service Temperature Range: Minus 50 to plus 180 deg F.
 4. Color: White.

2.7 SEALANTS

- A. Joint Sealants:
1. Joint Sealants for Cellular-Glass, Phenolic-Foam, and Polyisocyanurate Products:
 - a. Childers Products, Division of ITW; CP-76.
 - b. Foster Products Corporation, H. B. Fuller Company; 30-45.
 - c. Marathon Industries, Inc.; 405.
 - d. Mon-Eco Industries, Inc.; 44-05.
 - e. Pittsburgh Corning Corporation; Pittseal 444.
 - f. Vimasco Corporation; 750.
 2. Joint Sealants for Polystyrene Products:
 - a. Childers Products, Division of ITW; CP-70.
 - b. Foster Products Corporation, H. B. Fuller Company; 30-45/30-46.
 - c. Marathon Industries, Inc.; 405.
 - d. Mon-Eco Industries, Inc.; 44-05.
 - e. Vimasco Corporation; 750.
 3. Materials shall be compatible with insulation materials, jackets, and substrates.
 4. Permanently flexible, elastomeric sealant.
 5. Service Temperature Range: Minus 100 to plus 300 deg F.
 6. Color: White or gray.
- B. FSK and Metal Jacket Flashing Sealants:
1. Products:
 - a. Childers Products, Division of ITW; CP-76-8.

- b. Foster Products Corporation, H. B. Fuller Company; 95-44.
 - c. Marathon Industries, Inc.; 405.
 - d. Mon-Eco Industries, Inc.; 44-05.
 - e. Vimasco Corporation; 750.
2. Materials shall be compatible with insulation materials, jackets, and substrates.
 3. Fire- and water-resistant, flexible, elastomeric sealant.
 4. Service Temperature Range: Minus 40 to plus 250 deg F.
 5. Color: Aluminum.

2.8 FACTORY-APPLIED JACKETS

- A. Insulation system schedules indicate factory-applied jackets on various applications. When factory-applied jackets are indicated, comply with the following:
 1. FSK Jacket: Aluminum-foil, fiberglass-reinforced scrim with kraft-paper backing; complying with ASTM C 1136, Type II.

2.9 TAPES

- A. FSK Tape: Foil-face, vapor-retarder tape matching factory-applied jacket with acrylic adhesive; complying with ASTM C 1136 and UL listed.
 1. Products:
 - a. Avery Dennison Corporation, Specialty Tapes Division; Fasson 0827.
 - b. Compac Corp.; 110 and 111.
 - c. Ideal Tape Co., Inc., an American Biltrite Company; 491 AWF FSK.
 - d. Venture Tape; 1525 CW, 1528 CW, and 1528 CW/SQ.
 2. Width: 3 inches.
 3. Thickness: 6.5 mils.
 4. Adhesion: 90 ounces force/inch in width.
 5. Elongation: 2 percent.
 6. Tensile Strength: 40 lbf/ inch in width.
 7. FSK Tape Disks and Squares: Precut disks or squares of FSK tape.

2.10 SECUREMENTS

- A. Bands:
 1. Products:
 - a. Childers Products; Bands.
 - b. PABCO Metals Corporation; Bands.
 - c. RPR Products, Inc.; Bands.

2. Stainless Steel: ASTM A 167 or ASTM A 240/A 240M, Type 304 or Type 316; 0.015 inch thick, 3/4 inch wide with wing or closed seal.
3. Aluminum: ASTM B 209 (ASTM B 209M), Alloy 3003, 3005, 3105, or 5005; Temper H-14, 0.020 inch thick, 3/4 inch wide with wing or closed seal.
4. Springs: Twin spring set constructed of stainless steel with ends flat and slotted to accept metal bands. Spring size determined by manufacturer for application.

B. Insulation Pins and Hangers:

1. Capacitor-Discharge-Weld Pins: Copper- or zinc-coated steel pin, fully annealed for capacitor-discharge welding, 0.106-inch diameter shank, length to suit depth of insulation indicated.
 - a. Products:
 - 1) AGM Industries, Inc.; CWP-1.
 - 2) GEMCO; CD.
 - 3) Midwest Fasteners, Inc.; CD.
 - 4) Nelson Stud Welding; TPA, TPC, and TPS.
 2. Metal, Adhesively Attached, Perforated-Base Insulation Hangers: Baseplate welded to projecting spindle that is capable of holding insulation, of thickness indicated, securely in position indicated when self-locking washer is in place. Comply with the following requirements:
 - a. Products:
 - 1) AGM Industries, Inc.; Tactoo Insul-Hangers, Series T.
 - 2) GEMCO; Perforated Base.
 - 3) Midwest Fasteners, Inc.; Spindle.
 - b. Baseplate: Perforated, galvanized carbon-steel sheet, 0.030 inch thick by 2 inches square.
 - c. Spindle: Copper- or zinc-coated, low carbon steel, Aluminum, or Stainless steel, fully annealed, 0.106-inch-diameter shank, length to suit depth of insulation indicated.
 - d. Adhesive: Recommended by hanger manufacturer. Product with demonstrated capability to bond insulation hanger securely to substrates indicated without damaging insulation, hangers, and substrates.
 3. Nonmetal, Adhesively Attached, Perforated-Base Insulation Hangers: Baseplate fastened to projecting spindle that is capable of holding insulation, of thickness indicated, securely in position indicated when self-locking washer is in place. Comply with the following requirements:
 - a. Products:
 - 1) GEMCO; Nylon Hangers.
 - 2) Midwest Fasteners, Inc.; Nylon Insulation Hangers.

- b. Baseplate: Perforated, nylon sheet, 0.030 inch thick by 1-1/2 inches in diameter.
 - c. Spindle: Nylon, 0.106-inch-diameter shank, length to suit depth of insulation indicated, up to 2-1/2 inches.
 - d. Adhesive: Recommended by hanger manufacturer. Product with demonstrated capability to bond insulation hanger securely to substrates indicated without damaging insulation, hangers, and substrates.
4. Self-Sticking-Base Insulation Hangers: Baseplate welded to projecting spindle that is capable of holding insulation, of thickness indicated, securely in position indicated when self-locking washer is in place. Comply with the following requirements:
- a. Products:
 - 1) AGM Industries, Inc.; Tactoo Insul-Hangers, Series TSA.
 - 2) GEMCO; Press and Peel.
 - 3) Midwest Fasteners, Inc.; Self Stick.
 - 4) Baseplate: Galvanized carbon-steel sheet, 0.030 inch thick by 2 inches square.
 - b. Spindle: Copper- or zinc-coated, low carbon steel, Aluminum, or Stainless steel, fully annealed, 0.106-inch diameter shank, length to suit depth of insulation indicated.
 - c. Adhesive-backed base with a peel-off protective cover.
5. Insulation-Retaining Washers: Self-locking washers formed from 0.016-inch-thick, galvanized-steel, aluminum, or stainless-steel sheet, with beveled edge sized as required to hold insulation securely in place but not less than 1-1/2 inches in diameter.
- a. Products:
 - 1) AGM Industries, Inc.; RC-150.
 - 2) GEMCO; R-150.
 - 3) Midwest Fasteners, Inc.; WA-150.
 - 4) Nelson Stud Welding; Speed Clips.
 - b. Protect ends with capped self-locking washers incorporating a spring steel insert to ensure permanent retention of cap in exposed locations.
6. Nonmetal Insulation-Retaining Washers: Self-locking washers formed from 0.016-inch-thick nylon sheet, with beveled edge sized as required to hold insulation securely in place but not less than 1-1/2 inches in diameter.
- a. Manufacturers:
 - 1) GEMCO.
 - 2) Midwest Fasteners, Inc.
- C. Staples: Outward-clinching insulation staples, nominal 3/4-inch-wide, stainless steel or Monel.

- D. Wire: 0.080-inch nickel-copper alloy, 0.062-inch soft-annealed, stainless steel, or 0.062-inch soft-annealed, galvanized steel.
 - 1. Manufacturers:
 - a. ACS Industries, Inc.
 - b. C & F Wire.
 - c. Childers Products.
 - d. PABCO Metals Corporation.
 - e. RPR Products, Inc.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions for compliance with requirements for installation and other conditions affecting performance of insulation application.
 - 1. Verify that systems and equipment to be insulated have been tested and are free of defects.
 - 2. Verify that surfaces to be insulated are clean and dry.
 - 3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Preparation: Clean and dry surfaces to receive insulation. Remove materials that will adversely affect insulation application.
- B. Surface Preparation: Clean and prepare surfaces to be insulated. Before insulating, apply a corrosion coating to insulated surfaces as follows:
 - 1. Stainless Steel: Coat 300 series stainless steel with an epoxy primer 5 mils thick and an epoxy finish 5 mils thick if operating in a temperature range between 140 and 300 deg F. Consult coating manufacturer for appropriate coating materials and application methods for operating temperature range.
 - 2. Carbon Steel: Coat carbon steel operating at a service temperature between 32 and 300 deg F with an epoxy coating. Consult coating manufacturer for appropriate coating materials and application methods for operating temperature range.
- C. Mix insulating cements with clean potable water; if insulating cements are to be in contact with stainless-steel surfaces, use demineralized water.

3.3 COMMON INSTALLATION REQUIREMENTS

- A. Install insulation in strict accordance with the manufacturer's installation instructions and the National Commercial and Industrial Insulation Standards.

- B. Install insulation materials, accessories, and finishes with smooth, straight, and even surfaces; free of voids throughout the length of equipment, ducts and fittings, and piping including fittings, valves, and specialties.
- C. Install insulation materials, forms, vapor barriers or retarders, jackets, and thicknesses required for each item of equipment, duct system, and pipe system as specified in insulation system schedules.
- D. Install accessories compatible with insulation materials and suitable for the service. Install accessories that do not corrode, soften, or otherwise attack insulation or jacket in either wet or dry state.
- E. Install insulation with longitudinal seams at top and bottom of horizontal runs.
- F. Install multiple layers of insulation with longitudinal and end seams staggered.
- G. Do not weld brackets, clips, or other attachment devices to piping, fittings, and specialties.
- H. Keep insulation materials dry during application and finishing.
- I. Install insulation with tight longitudinal seams and end joints. Bond seams and joints with adhesive recommended by insulation material manufacturer.
- J. Install insulation with least number of joints practical.
- K. Where vapor barrier is indicated, seal joints, seams, and penetrations in insulation at hangers, supports, anchors, and other projections with vapor-barrier mastic.
 - 1. Install insulation continuously through hangers and around anchor attachments.
 - 2. For insulation application where vapor barriers are indicated, extend insulation on anchor legs from point of attachment to supported item to point of attachment to structure. Taper and seal ends at attachment to structure with vapor-barrier mastic.
 - 3. Install insert materials and install insulation to tightly join the insert. Seal insulation to insulation inserts with adhesive or sealing compound recommended by insulation material manufacturer.
 - 4. Cover inserts with jacket material matching adjacent pipe insulation. Install shields over jacket, arranged to protect jacket from tear or puncture by hanger, support, and shield.
- L. Apply adhesives, mastics, and sealants at manufacturer's recommended coverage rate and wet and dry film thicknesses.
- M. Install insulation with factory-applied jackets as follows:
 - 1. Draw jacket tight and smooth.
 - 2. Cover circumferential joints with 3-inch-wide strips, of same material as insulation jacket. Secure strips with adhesive and outward clinching staples along both edges of strip, spaced 4 inches o.c.
 - 3. Overlap jacket longitudinal seams at least 1-1/2 inches. Install insulation with longitudinal seams at bottom of pipe. Clean and dry surface to receive self-sealing lap. Staple laps with outward clinching staples along edge at **[2 inches] [4 inches]** o.c.

- a. For below ambient services, apply vapor-barrier mastic over staples.
- 4. Cover joints and seams with tape as recommended by insulation material manufacturer to maintain vapor seal.
- 5. Where vapor barriers are indicated, apply vapor-barrier mastic on seams and joints and at ends adjacent to duct and pipe flanges and fittings.
- N. Cut insulation in a manner to avoid compressing insulation more than 75 percent of its nominal thickness.
- O. Finish installation with systems at operating conditions. Repair joint separations and cracking due to thermal movement.
- P. Repair damaged insulation facings by applying same facing material over damaged areas. Extend patches at least 4 inches beyond damaged areas. Adhere, staple, and seal patches similar to butt joints.
- Q. For above ambient services, do not install insulation to the following:
 - 1. Vibration-control devices.
 - 2. Testing agency labels and stamps.
 - 3. Nameplates and data plates.
 - 4. Manholes.
 - 5. Handholes.
 - 6. Cleanouts.

3.4 PENETRATIONS

- A. Insulation Installation at Interior Wall and Partition Penetrations (That Are Not Fire Rated): Install insulation continuously through walls and partitions.

3.5 DUCT AND PLENUM INSULATION INSTALLATION

- A. Blanket Insulation Installation on Ducts and Plenums: Secure with adhesive and insulation pins.
 - 1. Apply adhesives according to manufacturer's recommended coverage rates per unit area, for 100 percent coverage of duct and plenum surfaces.
 - 2. Apply adhesive to entire circumference of ducts and to all surfaces of fittings and transitions.
 - 3. Install either capacitor-discharge-weld pins and speed washers or cupped-head, capacitor-discharge-weld pins on sides and bottom of horizontal ducts and sides of vertical ducts as follows:
 - a. On duct sides with dimensions 18 inches and smaller, place pins along longitudinal centerline of duct. Space 3 inches maximum from insulation end joints, and 16 inches o.c.

- b. On duct sides with dimensions larger than 18 inches, place pins 16 inches o.c. each way, and 3 inches maximum from insulation joints. Install additional pins to hold insulation tightly against surface at cross bracing.

3.6 MINERAL-FIBER INSULATION INSTALLATION

- A. Board Insulation Installation on Ducts and Plenums: Secure with adhesive and insulation pins.
 1. Apply adhesives according to manufacturer's recommended coverage rates per unit area, for 100 percent coverage of duct and plenum surfaces.
 2. Apply adhesive to entire circumference of ducts and to all surfaces of fittings and transitions.
 3. Install either capacitor-discharge-weld pins and speed washers or cupped-head, capacitor-discharge-weld pins on sides and bottom of horizontal ducts and sides of vertical ducts as follows:
 - a. On duct sides with dimensions 18 inches and smaller, place pins along longitudinal centerline of duct. Space 3 inches maximum from insulation end joints, and 16 inches o.c.
 - b. On duct sides with dimensions larger than 18 inches, space pins 16 inches o.c. each way, and 3 inches maximum from insulation joints. Install additional pins to hold insulation tightly against surface at cross bracing.
 - c. Pins may be omitted from top surface of horizontal, rectangular ducts and plenums.
 - d. Do not overcompress insulation during installation.
 - e. Cut excess portion of pins extending beyond speed washers or bend parallel with insulation surface. Cover exposed pins and washers with tape matching insulation facing.
 4. For ducts and plenums with surface temperatures below ambient, install a continuous unbroken vapor barrier. Create a facing lap for longitudinal seams and end joints with insulation by removing 2 inches from 1 edge and 1 end of insulation segment. Secure laps to adjacent insulation section with 1/2-inch outward-clinching staples, 1-inch o.c. Install vapor barrier consisting of factory- or field-applied jacket, adhesive, vapor-barrier mastic, and sealant at joints, seams, and protrusions.
 - a. Repair punctures, tears, and penetrations with tape or mastic to maintain vapor-barrier seal.
 - b. Install vapor stops for ductwork and plenums operating below 50 deg F at 18-foot intervals. Vapor stops shall consist of vapor-barrier mastic applied in a Z-shaped pattern over insulation face, along butt end of insulation, and over the surface. Cover insulation face and surface to be insulated a width equal to 2 times the insulation thickness but not less than 3-inches.
 5. Install insulation on rectangular duct elbows and transitions with a full insulation section for each surface. Groove and score insulation to fit as closely as possible to outside and inside radius of elbows. Install insulation on round and flat-oval duct elbows with individually mitered gores cut to fit the elbow.

6. Insulate duct stiffeners, hangers, and flanges that protrude beyond insulation surface with 6-inch-wide strips of same material used to insulate duct. Secure on alternating sides of stiffener, hanger, and flange with pins spaced 6 inches o.c.

3.7 DUCT INSULATION SCHEDULE, GENERAL

A. Plenums and Ducts Requiring Insulation:

1. Indoor, concealed supply and outdoor air.
2. Indoor, exposed supply and outdoor air.

B. Items Not Insulated:

1. Fibrous-glass ducts.
2. Metal ducts with duct liner of sufficient thickness to comply with energy code and ASHRAE/IESNA 90.1.
3. Factory-insulated flexible ducts.
4. Factory-insulated plenums and casings.
5. Flexible connectors.
6. Vibration-control devices.
7. Factory-insulated access panels and doors.
8. Exposed supply ductwork outside of the mechanical room, in an occupied area being conditioned by the supply ductwork

3.8 INDOOR DUCT AND PLENUM INSULATION SCHEDULE

A. Concealed, round and flat-oval, supply-air duct insulation shall be any of the following:

1. Mineral-Fiber Blanket: 1½-inches thick and 0.75-lb/cu. ft. nominal density.

B. Concealed, rectangular, supply-air duct insulation shall be any of the following:

1. Mineral-Fiber Blanket: 1½-inches thick and 0.75-lb/cu. ft. nominal density.

C. Concealed, supply-air plenum insulation shall be any of the following:

1. Mineral-Fiber Board: 1½-inches thick and 2-lb/cu. ft. nominal density.

END OF SECTION 230700

SECTION 230900 – INSTRUMENTATION AND CONTROL FOR HVAC

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Products Furnished But Not Installed Under This Section.
- B. Products Installed But Not Furnished Under This Section.
- C. Related Sections.
- D. Description.
- E. Approved Control System Contractor.
- F. Quality Assurance.
- G. System Performance.
- H. Submittals.
- I. Warranty.
- J. Ownership of Proprietary Material.

1.2 PRODUCTS FURNISHED BUT NOT INSTALLED UNDER THIS SECTION

- A. Section 233300 - Duct Accessories:
 - 1. Terminal Unit Controls

1.3 RELATED SECTIONS

- A. The General Conditions of the Contract, Supplementary Conditions, and General Requirements are a part of these Specifications and shall be used in conjunction with this Section as a part of the Contract Documents. Consult them for further instructions pertaining to this work. The Contractor is bound by the provisions of other Divisions.
- B. Refer to other Division 23 Sections for related work.

1.4 DESCRIPTION

- A. General: The control system shall be as indicated on the drawings and described in the specifications.
- B. Direct Digital Control (DDC) technology shall be used to provide the functions necessary for control of mechanical systems on this project.
- C. This project shall be comprised of a high speed Ethernet network utilizing BACnet/IP communications between System Controllers and Workstations. Communications between System Controllers and sub-networks of Custom Application Controllers and/or Application Specific Controllers shall utilize BACnet/MSTP (RS485)
 - 1. Each System Controller shall perform communications to a network of Custom Application and Application Specific Controllers using BACnet/MSTP (RS485) as defined by the BACnet standard.
 - a. Each System Controller shall function as a BACnet Router to each unit controller providing a unique BACnet Device ID for all controllers within the system.
 - b. Capable of BACnet/Modbus/Lontalk
 - c. Must have wireless communication capabilities
 - d. Capable of controlling 180 Application Specific Controllers
- D. The control system shall accommodate simultaneous multiple user operation. Access to the control system data should be limited only by operator password. Multiple users shall have access to all valid system data. An operator with a web browser shall be able to have access to all appropriate data. Control system shall be accessed from the State of Michigan's Tridium Central Control System. Building Automation System (BAS) to be web based. A dedicated controller shall be provided per piece of equipment and per floor plan with future expansion. Controllers shall be capable of controlling system without head end.
- E. BAS to be accessed daily by central control. If connection is lost, BAS to be controlled by communication ports in the building and through the web.
- F. The control system shall be designed such that each mechanical system will be able to operate under stand-alone control. As such, in the event of a network communication failure, or the loss of any other controller, the control system shall continue to independently operate under control. Route alarms to central control if communication goes down anywhere (between controller and JACE also). Graphics shall be in JACE on a secondary port when building loses connection with central control and the building's front end laptop can be connected right at the unit to connect to and control the unit.
- G. Alarms to central control shall have separate alarms for primary controllers for AHUs, but there shall be one common alarm for all secondary controllers.
- H. Communication between the control panels and all work-stations shall be over a high speed network. All nodes on this network shall be peers. The operator shall not have to know the panel identifier or location to view or control an object. Application Specific Controllers shall be constantly scanned by the network controllers to update point information and alarm information.

- I. The documentation is schematic in nature. The Contractor shall provide hardware and software necessary to implement the functions and sequences shown and operate the systems in a safe and stable manner.
- J. Building Automation System (BAS) front end shall be web based and connected to MIBIS. Graphics shall match Tridium standard graphics. Provide all communication devices to be able to monitor and change all points from the Tridium System at Central Control. Graphics shall also be changed at Central Control to match most Tridium current graphics displayed in other recent building modifications. Include in these graphics includes, but are not limited to schedules, graphics and direct feedback display. System will be monitored and controlled both at the building and Central Control through web and connect to MIBIS. Tridium Vykon JACE(S) to be used to communicate between building and central control.
 - 1. Password access shall be established and implemented per the Owner's direction to limit changes to system operation based on access capability.
 - 2. Provide and install links to access equipment sequence of operations and shop drawing from equipment main screen. Controls Contractor is also responsible for uploading the required sequence of operations and shop drawing.
- K. BAS to have no limit on points with write capabilities to override. Controls contractor to also provide manufacturer's standard capabilities to download and upload programs remotely.
- L. No controls or control accessories shall be abandoned in place. Anything not being used shall be removed. Pneumatic tubing shall be removed from control device back to the remaining active pneumatic air main.
- M. All sensors, equipment, freeze stats, etc. to be replaced.
- N. All space sensors being removed shall have wall marks repaired and painted as required to match existing wall.
- O. Where applicable conduit can be reused. Contractor is responsible to field verify existing conditions of conduit if they plan on reusing some existing conduits. If existing conduit is being reused the final installation shall be code compliant.
- P. All wire above lay-in ceilings to be plenum rated.
- Q. In areas with no ceilings install wire in conduit.
- R. All control wires to be clearly labeled with printed labels from a label maker at both ends of the wire. Wire labels to correspond with as built.
- S. Control wiring shall be daisy chained throughout the building, with no branches going off to serve separate pieces of equipment.
- T. Each thermostat and equipment shall be labeled with equipment tag number and address it is connected to and if equipment is located above a ceiling a label shall also be placed on the ceiling tile below the equipment location. Label on ceiling shall be a black or blue label with white lettering for tag number and address. All labels to be from a label maker.

- U. All existing equipment numbers shall be reused.
- V. Contractor to provide list of common parts to owner. Owner to purchase common parts separately after the project has been completed.
- W. A minimum of four (4) hard sets and one (1) pdf file of as-builts set of plans shall be provided to the owner by the contractor after work is completed. As built plans to include detailed control wiring layout on floor plans showing actual daisy chained control wiring routing.

1.5 QUALITY ASSURANCE

A. System Installer Qualifications

1. The Installer shall have an established working relationship with the Control System Manufacturer of not less than three years.
2. The Installer shall have successfully completed Control System Manufacturer's classes on the control system and have a minimum of five years experience in the design and installation of control systems. The Installer shall present for review the certification of completed training, including the hours of instruction and course outlines upon request.
3. The installer shall have an office within 75 miles of the project site and provide 24 hour response in the event of a customer call.

B. Codes and Standards: Meet requirements of all applicable standards and codes, except when more detailed or stringent requirements are indicated by the Contract Documents, including requirements of this Section.

1. Underwriters Laboratories: Products shall be UL-916-PAZX listed.
2. National Electrical Code -- NFPA 70.
3. Federal Communications Commission -- Part J.
4. ASHRAE/ANSI 135-1995 (BACnet).

C. All products used in this installation shall be new, currently under manufacture, and shall be applied in similar installations for a minimum of 2 years. This installation shall not be used as a test site for any new products unless explicitly approved by the Owner's representative in writing prior to bid date. Spare parts shall be available for at least 5 years after completion of this contract.

1.6 SYSTEM PERFORMANCE

A. Performance Standards. The system shall conform to the following:

1. Graphic Display. The system shall display a graphic with a minimum of 20 dynamic points. All current data shall be displayed within 20 seconds of the request.
2. Graphic Refresh. The system shall update all dynamic points with current data within 30 seconds.

3. Object Command. The maximum time between the command of a binary object by the operator and the reaction by the device shall be 10 seconds. Analog objects shall start to adjust within 10 seconds.
4. Object Scan. All changes of state and change of analog values shall be transmitted over the high-speed network such that any data used or displayed at a controller or work-station will be current, within the prior 60 seconds.
5. Alarm Response Time. The maximum time from when an object goes into alarm to when it is annunciated at the work-station shall not exceed 45 seconds.
6. Program Execution Frequency. Custom and standard applications shall be capable of running as often as once every 5 seconds. The Contractor shall be responsible for selecting execution times consistent with the mechanical process under control.
7. Performance. Programmable Controllers shall be able to execute DDC PID control loops at a selectable frequency from at least once every 5 seconds. The controller shall scan and update the process value and output generated by this calculation at this same frequency.
8. Multiple Alarm Annunciation. All work-stations on the network shall receive alarms within 5 seconds of each other.
9. Reporting Accuracy. Table 1 lists minimum acceptable reporting accuracies for all values reported by the specified system.

a. Table 1 -- Reporting Accuracy

Measured Variable	Reported Accuracy
Space temperature	$\pm 0.5^{\circ}\text{C}$ ($\pm 1^{\circ}\text{F}$)
Ducted air	$\pm 1.0^{\circ}\text{C}$ ($\pm 2^{\circ}\text{F}$)
Outside air	$\pm 1.0^{\circ}\text{C}$ ($\pm 2^{\circ}\text{F}$)
Water temperature	$\pm 0.5^{\circ}\text{C}$ ($\pm 1^{\circ}\text{F}$)
Delta-T	$\pm 0.15^{\circ}\text{C}$ ($\pm 0.25^{\circ}\text{F}$)
Relative humidity	$\pm 5\%$ RH
Water flow	$\pm 5\%$ of full scale
Air flow (terminal)	$\pm 10\%$ of reading *Note 1
Air flow (measuring stations)	$\pm 5\%$ of reading
Air pressure (ducts)	± 25 Pa (± 0.1 "W.G.)
Air pressure (space)	± 3 Pa (± 0.01 "W.G.)
Water pressure	$\pm 2\%$ of full scale *Note 2
Electrical Power	5% of reading *Note 3
Carbon Monoxide (CO)	± 50 PPM
Carbon Dioxide (CO ₂)	± 50 PPM

Note 1: (10%-100% of scale) (cannot read accurately below 10%)

Note 2: for both absolute and differential pressure

Note 3: * not including utility supplied meters

1.7 SUBMITTALS

- A. Contractor shall provide shop drawings and manufacturers' standard specification data sheets on all hardware and software to be provided. No work may begin on any segment of this project until submittals have been reviewed by the Engineer and Owner for conformity with the

plan and specifications. All shop drawings shall be done on AutoCAD, and provided to the Engineer via a PDF file.

- B. Quantities of items submitted shall be reviewed by the Engineer and Owner. Such review shall not relieve the contractor from furnishing quantities and specified functionality required for completion.
- C. Provide the Engineer and Owner, any additional information or data which is deemed necessary to determine compliance with these specifications or which is deemed valuable in documenting the system to be installed.
- D. Submit the following within 60 days of contract award:
 - 1. A complete bill of materials of equipment to be used indicating quantity, manufacturer and model number.
 - 2. A schedule of all control valves including the valve size, model number (including pattern and connections), flow, CV, pressure rating, and location.
 - 3. A schedule of all control dampers. This shall include the damper size, pressure drop, manufacturer and model number.
 - 4. Provide manufacturers cut sheets for major system components. When manufacturer's cut sheets apply to a product series rather than a specific product, the data specifically applicable to the project shall be highlighted or clearly indicated by other means. Each submitted piece of literature and drawings shall clearly reference the specification and/or drawing that the submittal is being submitted to cover. Include:
 - a. Building Controllers
 - b. Custom Application Controllers
 - c. Application Specific Controllers
 - d. Operator Interface Computer
 - e. Portable Operator Workstation
 - f. Auxiliary Control Devices
 - g. Proposed control system riser diagram showing system configuration, device locations, addresses, and cabling.
 - h. Detailed termination drawings showing all required field and factory terminations. Terminal numbers shall be clearly labeled.
 - i. Points list showing all system objects and the proposed English language object names.
 - j. Sequence of operations for each system under control. This sequence shall be specific for the use of the Control System being provided for this project.
 - k. Provide a BACnet Product Implementation Conformance Statement (PICS) for each BACnet device type in the submittal.
 - l. Color prints of proposed graphics with a list of points for display.
- E. Project Record Documents: Upon completion of installation submit four (4) and one (1) flash drive with PDF and AutoCAD copies of record (as-built) documents. The documents shall be submitted for approval prior to final completion and include:

1. Project Record Drawings - These shall be as-built versions of the submittal shop drawings. One set of magnetic media including CAD .DWG or .DXF drawing files shall also be provided.
2. Testing and Commissioning Reports and Checklists.
3. Operating and Maintenance (O & M) Manual - These shall be as-built versions of the submittal product data. In addition to that required for the submittals, the O & M manual shall include:
 - a. Names, address and 24-hour telephone numbers of Contractors installing equipment, and the control systems and service representative of each.
 - b. Operators Manual with procedures of operating the control systems including logging on/off, alarm handling, producing point reports, trending data, overriding computer control, and changing set points and other variables.
 - c. Programming Manual with a description of the programming language including syntax, statement descriptions including algorithms and calculations used, point database creation and modification, program creation and modification, and use of the editor.
 - d. Engineering, Installation and Maintenance Manuals that explains how to design and install new points, panels, and other hardware; preventative maintenance and calibration procedures; how to debug hardware problems; and how to repair or replace hardware.
 - e. A listing and documentation of all custom software created using the programming language including the point database. One copy of these files and associated database shall also be provided
 - f. One copy of the files with all color-graphic screens created for the project.
 - g. A list of recommended spare parts with part numbers and supplier.
 - h. Complete original issue documentation, installation and maintenance information for all third party hardware provided including computer equipment and sensors.
 - i. Complete original issue software provided including operating systems, programming language, operator work-station software, and graphics software.
 - j. Licenses, Guarantee, and Warrantee documents for all equipment and systems.
 - k. Recommended preventive maintenance procedures for all system components including a schedule of tasks (inspection, cleaning, calibration, etc.), time between tasks, and task descriptions.

- F. Training Manuals: The Contractor shall provide a course outline and training manuals for all training classes at least six weeks prior to the first class. The Owner reserves the right to modify any or all of the training course outline and training materials. Review and approval by Owner and Engineer and shall be completed at least 3 weeks prior to first class.

1.8 WARRANTY

- A. Warrant all work as follows:

1. Labor & materials for control system specified shall be warranted free from defects for a period of twelve (12) months after final completion acceptance by the Owner. Control System failures during the warranty period shall be adjusted, repaired, or replaced at no

charge or reduction in service to the Owner. The Contractor shall respond to the Owner's request for warranty service within 24 hours during customary business hours.

2. At the end of the final start-up/testing, if equipment and systems are operating satisfactorily to the Owner and Engineer, the Owner shall sign certificates certifying that the control system's operation has been tested and accepted in accordance with the terms of this specification. The date of Owner's acceptance shall be the start of warranty.
3. Operator work-station software, project specific software, graphics, database, and firmware updates shall be provided to the Owner at no charge during the warranty period. Written authorization by Owner must, however, be granted prior to the installation of such changes.

1.9 OWNERSHIP OF PROPRIETARY MATERIAL

- A. All project developed hardware and software shall become the property of the Owner. These include but are not limited to:
 1. Project graphic images,
 2. Record drawings,
 3. Project database,
 4. Job-specific application programming code,
 5. All documentation.
 6. Controller configuration files.

PART 2 - PRODUCTS

2.1 SECTION INCLUDES

- A. Acceptable Manufacturers.
- B. Operator Interface.
- C. Building Controllers.
- D. Custom Application Controllers.
- E. Application Specific Controllers.
- F. Communications.
- G. Input/Output Interface.
- H. Auxiliary Control Devices.

2.2 ACCEPTABLE MANUFACTURERS

- A. Connect all new HVAC equipment to existing Trane DDC BAS.

1. All new HVAC equipment is to be visible on the State of Michigan MI-BIS front end.

2.3 OPERATOR INTERFACE

- A. Operator Interface. BAS to be on MI-BIS system.

2.4 SYSTEM SOFTWARE

- A. Furnish the following applications software for building and energy management. All software applications shall reside and run in the system controllers. Editing of applications shall occur at the operator work-station.
- B. System Security
 1. User access shall be secured using individual security passwords and user names.
 2. Passwords shall restrict the user to only the objects, applications, and system functions as assigned by the system manager.
 3. User logon/logoff attempts shall be recorded.
 4. The system shall protect itself from unauthorized use by automatically logging off following the last keystroke. The delay time shall be user definable.
- C. Scheduling. Provide the capability to schedule each object or group of objects in the system. Each of these schedules shall include the capability for start, stop, optimal start, optimal stop, and night economizer actions. Each schedule may consist of up to 10 events. When a group of objects are scheduled together, provide the capability to define advances and delays for each member. Each schedule shall consist of the following:
 1. Weekly Schedule. Provide separate schedules for each day of the week.
 2. Exception Schedules. Provide the ability for the operator to designate any day of the year as an exception schedule. This exception schedule shall override the standard schedule for that day. Exception schedules may be defined up to a year in advance. Once an exception schedule is executed it will be discarded and replaced by the standard schedule for that day of the week.
 3. Holiday Schedules. Provide the capability for the operator to define up to 99 special or holiday schedules. These schedules may be placed on the scheduling calendar and will be repeated each year. The operator shall be able to define the length of each holiday period.
 4. Optimal Start/Stop. The scheduling application outlined above shall support an optimal start/stop algorithm. This shall calculate the thermal characteristics of a zone and start the equipment prior to occupancy to achieve the desired space temperature at the specified occupancy time. The algorithm shall calculate separate sets of heating and cooling rates for zones that have been unoccupied for less than and greater than 24 hours. Provide the ability to modify the start/stop algorithm based on outdoor air temperature. Provide an early start limit in minutes to prevent the system from starting before an operator determined time limit.

- D. Alarm Reporting. The operator shall be able to determine the action to be taken in the event of an alarm. Alarms shall be routed to the appropriate work-stations based on time and other conditions. An alarm shall be able to start programs, be logged in the event log, printed, generate custom messages graphics.
- E. Remote Communications. The system shall have the ability to dial out in the event of an alarm. Receivers shall include PC Workstations, and Alpha-numeric pagers. The alarm message shall include the name of the calling location, the device that generated the alarm, and the alarm message itself. The operator shall be able to remotely access and operate the system using dial up communications in the same format and method used on site under section 2.1 (Operator Interface).
- F. Demand Limiting.
 - 1. The demand limiting program shall monitor building power consumption from signals generated by a pulse generator (provided by others) mounted at the building power meter, or from a watt transducer or current transformer attached to the building feeder lines.
 - 2. The demand limiting program shall be based on a predictive sliding window algorithm. The sliding window duration and sampling interval shall be set equal to that of the local Electrical Utility.
 - 3. Control system shall be capable of demand limiting by resetting HVAC system set-points to reduce load while maintaining Indoor Air Quality (humidity, VOC, CO₂) and comfort control in the space.
 - 4. Input capability shall also be provided for an end-of-billing period indication.
- G. Maintenance Management. The system shall monitor equipment status and generate maintenance messages based upon user designated run time, starts, and/or calendar date limits.
- H. PID Control. A PID (proportional-integral-derivative) algorithm with direct or reverse action and anti-wind-up shall be supplied. The algorithm shall calculate a time-varying analog value used to position an output or stage a series of outputs. The controlled variable, set-point, and PID gains shall be user-selectable. The set-point shall optionally be chosen to be a reset schedule.
- I. Staggered Start. This application shall prevent all controlled equipment from simultaneously restarting after a power outage. The order in which equipment (or groups of equipment) is started, along with the time delay between starts shall be user-selectable.
- J. System Calculations. Provide software to allow instantaneous power (e.g. KW), flow rates (e.g. L/s [GPM]) to be accumulated and converted to energy usage data. Provide an algorithm that calculates a sliding-window KW demand value. Provide an algorithm that calculates energy usage and weather data (heating and cooling degree days). These items shall all be available for daily, previous day, monthly and the previous month.
- K. Anti-Short Cycling. All binary output points shall be protected from short cycling. This feature shall allow minimum on-time and off-time to be selected.

2.5 BUILDING CONTROLLERS

- A. General. Provide Building Controllers to provide the performance specified in section 1 of this division. Each of these panels shall meet the following requirements.
1. The Building Automation System shall be composed of one or more independent, stand-alone, microprocessor based Building Controllers to manage the global strategies described in System software section.
 2. The Building Controller shall have sufficient memory to support its operating system, database, and programming requirements.
 3. The controller shall provide a communications port for connection of the Portable Operators Terminal using Point to Point BACnet physical/data link layer protocol or a connection to the inter-network.
 4. The operating system of the Controller shall manage the input and output communications signals to allow distributed controllers to share real and virtual point information and allow central monitoring and alarms.
 5. Controllers that perform scheduling shall have a real time clock.
 6. Data shall be shared between networked Building Controllers.
 7. The Building Controller shall continually check the status of its processor and memory circuits. If an abnormal operation is detected, the controller shall:
 - a. Assume a predetermined failure mode.
 - b. Generate an alarm notification.
 8. BACnet. The Building Controller shall use the Read (Initiate) and Write (Execute) Services as defined in Clauses 15.5 and 15.8, respectively, of ASHRAE Standard 135-95, to communicate with BACnet objects in the internetwork. Objects supported shall include: Analog input, analog output, binary input, binary output, device.
- B. Communications. Each Building Controller shall reside on a BACnet inter-network using the ISO 8802-3 (Ethernet) or ARCNET (ASTM 878.1) Physical/Data Link layer protocol. Each Building Controller shall also perform routing to a network of Custom Application and Application Specific Controllers.
- C. Environment. Controller hardware shall be suitable for the anticipated ambient conditions. Controller used in conditioned ambient shall be mounted in an enclosure, and shall be rated for operation at 0 C to 50 C (32 F to 120 F).
- D. Serviceability. Provide diagnostic LEDs for power, communications, and processor. All wiring connections shall be made to field removable, modular terminal strips or to a termination card connected by a ribbon cable.
- E. Memory. The Building Controller shall maintain all BIOS and programming information in the event of a power loss for at least 72 hours.
- F. Immunity to power and noise. Controller shall be able to operate at 90% to 110% of nominal voltage rating and shall perform an orderly shut-down below 80% nominal voltage.

2.6 CUSTOM APPLICATION CONTROLLERS

- A. General. Provide Custom Application Controllers to provide the performance specified in section 1 of this division. Each of these panels shall meet the following requirements.
1. The Building Automation System shall be composed of one or more independent, stand-alone, microprocessor based Building Controllers to manage the local strategies described in System software section.
 2. The Controller shall have sufficient memory to support its operating system, database, and programming requirements.
 3. Controllers that perform scheduling shall have a real time clock.
 4. The operating system of the Controller shall manage the input and output communications signals to allow distributed controllers to share real and virtual point information and allow central monitoring and alarms.
 5. Data shall be shared between networked Controllers.
 6. The Controller shall continually check the status of its processor and memory circuits. If an abnormal operation is detected, the controller shall:
 - a. Assume a predetermined failure mode.
 - b. Generate an alarm notification.
- B. Environment. Controller hardware shall be suitable for the anticipated ambient conditions.
1. Controllers used outdoors and/or in wet ambient shall be mounted within NEMA 4 Type waterproof enclosures, and shall be rated for operation at -40 C to 65 C.
 2. Controller used in conditioned ambient shall be mounted in NEMA 1 Type rated enclosures, and shall be rated for operation at 0 C to 50 C.
- C. Serviceability. Provide diagnostic LEDs for power, communications, and processor. All wiring connections shall be made to field removable, modular terminal strips or to a termination card connected by a ribbon cable.
- D. Memory. The Controller shall maintain all BIOS and programming information in the event of a power loss for at least 72 hours.
- E. Immunity to power and noise. Controller shall be able to operate at 90% to 110% of nominal voltage rating and shall perform an orderly shut-down below 80% nominal voltage.

2.7 APPLICATION SPECIFIC CONTROLLERS

- A. General. Application specific controllers (ASC) are microprocessor-based DDC controllers which through hardware or firmware design are dedicated to control a specific piece of equipment. They are not fully user programmable, but are customized for operation within the confines of the equipment they are designed to serve.
1. Each ASC shall be capable of stand-alone operation and shall continue to provide control functions without being connected to the network.
 2. Each ASC will contain sufficient I/O capacity to control the target system.

- B. Environment. The hardware shall be suitable for the anticipated ambient conditions.
 - 1. Controllers used outdoors and/or in wet ambient shall be mounted within NEMA 4 Type waterproof enclosures, and shall be rated for operation at -40 C to 65 C.
 - 2. Controller used in conditioned ambient shall be mounted in NEMA 1 Type rated enclosures, and shall be rated for operation at 0 C to 50 C.
- C. Serviceability. Provide diagnostic LEDs for power, and communications. All wiring connections shall be made to field removable, modular terminal strips or to a termination card connected by a ribbon cable.
- D. Memory. The Application Specific Controller shall maintain all BIOS and programming information in the event of a power loss for at least 90 days.
- E. Immunity to Power and noise. Controller shall be able to operate at 90% to 110% of nominal voltage rating and shall perform an orderly shut-down below 80%.
- F. Transformer. Power supply for the ASC must be rated at minimum of 125% of ASC power consumption, and shall be fused or current limiting type.

2.8 COMMUNICATIONS

- A. This project shall comprise a BACnet inter-network. All PC Workstations and Building Controller components shall meet ASHRAE / ANSI Standard 135-1995, BACnet. JACE shall communicate using standard Niagara AX protocol(s) to AX Supervisor.
- B. Each BACnet device shall operate on the BACnet physical/data link protocols specified for that device as defined earlier in this section
- C. The controls Contractor shall provide all communication media, connectors, repeaters, hubs, and routers necessary for the inter-network.
- D. All Building Controllers shall have a communications port for connections with the operator interfaces. This may be either an RS-232 port for Point to Point connection or a network interface node for connection to the Ethernet or ARCNET network.
- E. Remote operator interface via VPN or separate network shall allow for communication with any and all controllers on this network as described in F below.
- F. Communications services over the internetwork shall result in operator interface and value passing that is transparent to the internetwork architecture as follows:
 - 1. Connection of an operator interface device to any one controller on the internetwork will allow the operator to interface with all other controllers as if that interface were directly connected to the other controllers. Data, status information, reports, system software, custom programs, etc., for all controllers shall be available for viewing and editing from any one controller on the internetwork.

2. All database values (i.e., points, software variable, custom program variables) of any one controller shall be readable by any other controller on the internetwork. This value passing shall be automatically performed by a controller when a reference to a point name not located in that controller is entered into the controller's database. An operator/installer shall not be required to set up any communications services to perform internetwork value passing.

- G. The time clocks in all controllers shall be automatically synchronized daily.

2.9 INPUT/OUTPUT INTERFACE

- A. Hard-wired inputs and outputs may tie into the system through Building, Custom, or Application Specific Controllers.
- B. All input points and output points shall be protected such that shorting of the point to itself, another point, or ground will cause no damage to the controller. All input and output points shall be protected from voltage up to 24V of any duration, such that contact with this voltage will cause no damage to the controller.
- C. Binary inputs shall allow the monitoring of on/off signals from remote devices. The binary inputs shall provide a wetting current of at least 12 ma to be compatible with commonly available control devices.
- D. Pulse accumulation input points. This type of point shall conform to all the requirements of Binary Input points, and also accept up to 2 pulses per second for pulse accumulation, and shall be protected against effects of contact bounce and noise.
- E. Analog inputs shall allow the monitoring of low voltage (0-10 Vdc), current (4-20 ma), or resistance signals (thermistor, RTD). Analog inputs shall be compatible with, and field configurable to commonly available sensing devices.
- F. Binary outputs shall provide for on/off operation, or a pulsed low voltage signal for pulse width modulation control. Binary outputs on custom and building controllers shall have 3-position (on/off/auto) override switches and status lights. Outputs shall be selectable for either normally open or normally closed operation.
- G. Analog outputs shall provide a modulating signal for the control of end devices. Outputs shall provide either a 0-10 Vdc or a 4-20 ma signal as required to provide proper control of the output device. Analog outputs on building or custom programmable controllers shall have status lights and a 2-position (auto/manual) switch and manually adjustable potentiometer for manual override.
- H. Service software and Tridium operator interface needs to allow the overrides for all outputs.

2.10 AUXILIARY CONTROL DEVICES

- A. Motorized dampers, unless otherwise specified elsewhere, shall be as follows:

1. Damper frames shall be 16 gauge galvanized sheet metal or 1/8" extruded aluminum with reinforced corner bracing.
 2. Damper blades shall not exceed 8" in width or 48" in length. Blades are to be suitable for medium velocity performance (2,000 fpm). Blades shall be not less than 16 gauge.
 3. Damper shaft bearings shall be as recommended by manufacturer for application.
 4. All blade edges and top and bottom of the frame shall be provided with compressible seals. Side seals shall be compressible stainless steel. The blade seals shall provide for a maximum leakage rate of 10 CFM per square foot at 2.5" w.c. differential pressure.
 5. All leakage testing and pressure ratings will be based on AMCA Publication 500.
 6. Individual damper sections shall not be larger than 48" x 60". Provide a minimum of one damper actuator per section.
- B. Control dampers shall be parallel or opposed blade type as indicated in the sequence of operation.
- C. Electronic damper actuators.
1. The actuator shall have electronic overload or digital rotation sensing circuitry to prevent damage to the actuator throughout the rotation of the actuator.
 2. Where shown, for power-failure/safety applications, an internal mechanical, spring return mechanism shall be built into the actuator housing.
 3. All rotary spring return actuators shall be capable of both clockwise or counter clockwise spring return operation. Linear actuators shall spring return to the retracted position.
 4. Proportional actuators shall accept a 0-10 VDC or 0-20 ma control signal and provide a 2-10 VDC or 4-20 ma operating range.
 5. All 24 VAC/DC actuators shall operate on Class 2 wiring and shall not require more than 10 VA for AC or more than 8 W for DC applications. Actuators operating on 120 VAC or 230 VAC shall not required more than 11 VA.
 6. All non-spring return actuators shall have an external manual gear release to allow manual positioning of the damper when the actuator is not powered. Spring return actuators with more than 60 in-lb. torque capacity shall have a manual crank for this purpose.
 7. All modulating actuators shall have an external, built-in switch to allow the reversing of direction of rotation
 8. Actuators shall be provided with a conduit fitting and a minimum 1m electrical cable and shall be pre-wired to eliminate the necessity of opening the actuator housing to make electrical connections.
 9. Actuators shall be Underwriters Laboratories Standard 873 listed.
 10. Actuators shall be designed for a minimum of 60,000 full stroke cycles at the actuator's rated torque.
- D. Temperature Sensors
1. Temperature sensors shall be Resistance Temperature Device (RTD) or Thermistor.
 2. Duct sensors shall be rigid or averaging as shown. Averaging sensors shall be a minimum of 5 feet in length.
 3. Immersion sensors shall be provided with a separable stainless steel well. Pressure rating of well is to be consistent with the system pressure in which it is to be installed.
 4. Space sensors shall be flat plate sensors. No digital temperature display.

5. Provide matched temperature sensors for differential temperature measurement. Differential accuracy shall be within 0.2 F.

E. Static Pressure Sensors

1. Sensor shall have linear output signal. Zero and span shall be field-adjustable.
2. Sensor sensing elements shall withstand continuous operating conditions plus or minus 50% greater than calibrated span without damage.
3. Water pressure sensor shall have stainless steel diaphragm construction, proof pressure of 150 psi minimum. Sensor shall be complete with 4-20 ma output, required mounting brackets, and block and bleed valves. Mount in location accessible for service.
4. Water differential pressure sensor shall have stainless steel diaphragm construction, proof pressure of 150 psi minimum. Over-range limit (DP) and maximum static pressure shall be 3,000 psi. Transmitter shall be complete with 4-20 ma output, required mounting brackets, and five-valve manifold. Mount in a location accessible for service.

F. Low Limit Thermostats

1. Safety low limit thermostats shall be vapor pressure type with an element 20 ft. minimum length. Element shall respond to the lowest temperature sensed by any one foot section.
2. Low limit shall be manual reset only.

G. Indoor Air Quality Sensors

1. Indoor air quality sensors shall measure both total percentage VOCs and CO₂ in PPM. Sensors shall be duct or space mounted.

H. Flow Switches

1. Flow-proving switches shall be either paddle or differential pressure type.
2. Differential pressure type switches (air or water service) shall be UL listed, SPDT snap-acting, pilot duty rated (125 VA minimum), NEMA 1 Type enclosure, with scale range and differential suitable for intended application, or as specified.
3. Current sensing relays may be used for flow sensing or terminal devices.

I. Relays

1. Control relays shall be UL listed plug-in type with dust cover. Contact rating, configuration, and coil voltage suitable for application.
2. Time delay relays shall be UL listed solid-state plug-in type with adjustable time delay. Delay shall be adjustable plus or minus 200% (minimum) from set-point shown on plans. Contact rating, configuration, and coil voltage suitable for application. Provide NEMA 1 Type enclosure when not installed in local control panel.

J. Transformers and Power Supplies

1. Control transformers shall be UL listed, Class 2 current-limiting type, or shall be furnished with over-current protection in both primary and secondary circuits for Class 2 service.

2. Unit output shall match the required output current and voltage requirements. Current output shall allow for a 50% safety factor. Output ripple shall be 3.0 mV maximum Peak-to-Peak. Regulation shall be 0.10% line and load combined, with 50 microsecond response time for 50% load changes. Unit shall have built-in over-voltage protection.
3. Unit shall operate between 0 C and 50 C.
4. Unit shall be UL recognized.

K. Current Switches

1. Current-operated switches shall be self-powered, solid state with adjustable trip current. The switches shall be selected to match the current of the application and output requirements of the DDC system.

L. Local Control Panels

1. All indoor control cabinets shall be fully enclosed NEMA 1 Type construction with hinged door, key-lock latch, removable sub-panels. A single key shall be common to all field panels and sub-panels.
2. Interconnections between internal and face-mounted devices pre-wired with color-coded stranded conductors neatly installed in plastic troughs and/or tie-wrapped. Terminals for field connections shall be UL listed for 600-volt service, individually identified per control/interlock drawings, with adequate clearance for field wiring. Control terminations for field connection shall be individually identified per control drawings.
3. Provide on/off power switch with over-current protection and main air gauge for control power sources to each local panel.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. The project plans shall be thoroughly examined for control device and equipment locations, and any discrepancies, conflicts, or omissions shall be reported to the Architect/Engineer for resolution before rough-in work is started.
- B. The contractor shall inspect the site to verify that equipment is installable as shown, and any discrepancies, conflicts, or omissions shall be reported to the Architect/Engineer for resolution before rough-in work is started.

3.2 GENERAL WORKMANSHIP

- A. Install equipment, piping, wiring/conduit parallel to building lines (i.e. horizontal, vertical, and parallel to walls) wherever possible.
- B. Provide sufficient slack and flexible connections to allow for vibration of piping and equipment.

- C. Install all equipment in readily accessible location as defined by chapter 1 article 100 part A of the NEC. Control panels shall be attached to structural walls unless mounted in equipment enclosure specifically designed for that purpose. Panels shall be mounted to allow for unobstructed access for service.
- D. Verify integrity of all wiring to ensure continuity and freedom from shorts and grounds.
- E. All equipment, installation, and wiring shall comply with acceptable industry specifications and standards for performance, reliability, and compatibility and be executed in strict adherence to local codes and standard practices.

3.3 WIRING

- A. All control and interlock wiring shall comply with the national and local electrical codes and Division 26 of these specifications. Where the requirements of this section differ with those in Division 26, the requirements of this section shall take precedence.
- B. Install all Class 2 wires in conduit in the following locations:
 - 1. Mechanical spaces.
 - 2. Concealed inaccessible walls, chassis, ceiling, etc.
- C. Where Class 2 wires are in concealed and accessible locations including ceiling return air plenums, approved cables not in raceway may be used provided that:
 - 1. Circuits meet NEC Class 2 (current-limited) requirements. (Low-voltage power circuits shall be sub-fused when required to meet Class 2 current-limit.)
 - 2. All cables shall be UL listed for application, i.e. cables used in ceiling plenums shall be UL listed specifically for that purpose.
- D. Do not install Class 2 wiring in conduit containing Class 1 wiring. Boxes and panels containing high voltage may not be used for low voltage wiring except for the purpose of interfacing the two (e.g. relays and transformers).
- E. Where class 2 wiring is run exposed, wiring shall be run parallel along a surface or perpendicular to it, and bundled, using approved wire ties at no greater than 10 ft intervals. Such bundled cable shall be fastened to the structure, using specified fasteners, at 5 ft intervals or more often to achieve a neat and workmanlike result.
- F. All wire-to-device connections shall be made at a terminal blocks or terminal strip. All wire-to-wire connections shall be at a terminal block, or with a crimped connector. All wiring within enclosures shall be neatly bundled and anchored to permit access and prevent restriction to devices and terminals.
- G. Maximum allowable voltage for control wiring shall be 120V. If only higher voltages are available, the Control System Contractor shall provide step down transformers.

- H. All wiring shall be installed as continuous lengths, where possible. Any required splices shall be made only within an approved junction box or other approved protective device.
- I. Install plenum wiring in sleeves where it passes through walls and floors. Maintain fire rating at all penetrations in accordance with other sections of this specification and local codes.
- J. Size of conduit and size and type of wire shall be the design responsibility of the Control System Contractor, in keeping with the manufacturer's recommendation and NEC.
- K. Control and status relays are to be located in designated enclosures only. These relays may also be located within packaged equipment control panel enclosures. These relays shall not be located within Class 1 starter enclosures.
- L. Follow manufacturer's installation recommendations for all communication and network cabling. Network or communication cabling shall be run separately from other wiring.
- M. Adhere to Division 26 requirements for installation of raceway.
- N. This Contractor shall terminate all control and/or interlock wiring and shall maintain updated (as-built) wiring diagrams with termination's identified at the job site.
- O. Flexible metal conduits and liquid-tight, flexible metal conduits shall not exceed 3' in length and shall be supported at each end. Flexible metal conduit less than 1/2" electrical trade size shall not be used. In areas exposed to moisture, including chiller and boiler rooms, liquid-tight, flexible metal conduits shall be used.

3.4 FIBER OPTIC CABLE SYSTEM

- A. All cabling shall be installed in a neat and workmanlike manner. Minimum cable and unjacketed fiber bend radii as specified by cable manufacturer shall be maintained.
- B. Maximum pulling tensions as specified by the cable manufacturer shall not be exceeded during installation. Post installation residual cable tension shall be within cable manufacturer's specifications.
- C. Fiber optic cabinets, hardware, and cable entering the cabinet shall be installed in accordance with manufacturers' instructions. Minimum cable and unjacketed fiber bend radii as specified by cable manufacturer shall be maintained.

3.5 INSTALLATION OF SENSORS

- A. Install sensors in accordance with the manufacturer's recommendations.
- B. Mount sensors rigidly and adequate for the environment within which the sensor operates.
- C. Room temperature sensors shall be installed on concealed junction boxes properly supported by the wall framing.

- D. All wires attached to sensors shall be air sealed in their conduits or in the wall to stop air transmitted from other areas affecting sensor readings.
- E. Install duct static pressure tap with tube end facing directly down-stream of air flow.
- F. Sensors used in mixing plenums shall be of the averaging type. Averaging sensors shall be installed in a serpentine manner horizontally across duct. Each bend shall be supported with a capillary clip.
- G. All pipe mounted temperature sensors shall be installed in wells. Install all liquid temperature sensors with heat conducting fluid in thermal wells.
- H. Wiring for space sensors shall be concealed in building walls. EMT conduit is acceptable within mechanical and service rooms.
- I. Install outdoor air temperature sensors on north wall complete with sun shield at designated location.

3.6 ACTUATORS

- A. Mount and link control damper actuators per manufacturer's instructions.
- B. To compress seals when spring return actuators are used on normally closed dampers, power actuator to approximately 5° open position, manually close the damper, and then tighten the linkage.
- C. Check operation of damper/actuator combination to confirm that actuator modulates damper smoothly throughout stroke to both open and closed positions.
- D. Valves - Actuators shall be mounted on valves with adapters approved by the actuator manufacturer. Actuators and adapters shall be mounted following manufacturer's recommendations.

3.7 WARNING LABELS

- A. Affix plastic labels on each starter and equipment automatically controlled through the Control System. Label shall indicate the following:

<p>CAUTION This equipment is operating under automatic control and may start at any time without warning.</p>
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3.8 IDENTIFICATION OF HARDWARE AND WIRING

- A. All wiring and cabling, including that within factory-fabricated panels, shall be labeled at each end within 2" of termination with a cable identifier and other descriptive information.
- B. Permanently label or code each point of field terminal strips to show the instrument or item served.
- C. Identify control panels with minimum 1 cm letters on laminated plastic nameplates.
- D. Identify all other control components with permanent labels. Identifiers shall match record documents. All plug-in components shall be labeled such that removal of the component does not remove the label.

3.9 CONTROLLERS

- A. Provide a separate Controller for each major piece of HVAC equipment (Air Handling Unit). Points used for control loop reset such as outside air or space temperature are exempt from this requirement.
- B. Building Controllers and Custom Application Controllers shall be selected to provide a minimum of 15% spare I/O point capacity for each point type found at each location. If input points are not universal, 15% of each type is required. If outputs are not universal, 15% of each type is required. A minimum of one spare is required for each type of point used.
- C. Future use of spare capacity shall require providing the field device, field wiring, point database definition, and custom software. No additional Controller boards or point modules shall be required to implement use of these spare points.

3.10 PROGRAMMING

- A. Provide sufficient internal memory for the specified control sequences and trend logging. There shall be a minimum of 25% of available memory free for future use.
- B. Point Naming: System point names shall be modular in design, allowing easy operator interface without the use of a written point index. Coordinate naming with owner on point naming structure.
- C. Software Programming
 - 1. Provide programming for the system as per specifications and adhere to the strategy algorithms provided. All other system programming necessary for the operation of the system but not specified in this document shall also be provided by the Control System Contractor. Imbed into the control program sufficient comment statements to clearly describe each section of the program. The comment statements shall reflect the language used in the sequence of operations.

- D. Demonstration: A complete demonstration and readout of the capabilities of the monitoring and control system shall be performed. The contractor shall dedicate a minimum of 8 hours on-site with the Owner and his representatives for a complete functional demonstration of all the system requirements. This demonstration constitutes a joint acceptance inspection, and permits acceptance of the delivered system for on-line operation.
- E. Adjustments: Provide up to 2 additional site visits during the first year of operation to adjust systems and provide owner instruction as required for seasonal adjustments.

3.11 CLEANING

- A. This contractor shall clean up all debris resulting from his or her activities daily. The contractor shall remove all cartons, containers, crates, etc. under his control as soon as their contents have been removed. Waste shall be collected and placed in a location designated by the Construction Manager or General Contractor.
- B. At the completion of work in any area, the Contractor shall clean all of his/her work, equipment, etc., making it free from dust, dirt and debris, etc.
- C. At the completion of work, all equipment furnished under this Section shall be checked for paint damage, and any factory finished paint that has been damaged shall be repaired to match the adjacent areas. Any metal cabinet or enclosure that has been deformed shall be replaced with new material and repainted to match the adjacent areas.

3.12 PROTECTION

- A. The Contractor shall protect all work and material from damage by his/her work or workers, and shall be liable for all damage thus caused.
- B. The Contractor shall be responsible for his/her work and equipment until finally inspected, tested, and accepted. The Contractor shall protect his/her work against theft or damage, and shall carefully store material and equipment received on site that is not immediately installed. The Contractor shall close all open ends of work with temporary covers or plugs during storage and construction to prevent entry of foreign objects.

3.13 TRAINING

- A. Provide a minimum of 1 classroom training sessions, 8 hours, throughout the contract period for personnel designated by the Owner. Computer based training may be substituted for up to 8 hours of hands on training.
- B. Train the designated staff of Owner's representative and Owner to enable them to proficiently operate the system; create, modify and delete programming; add, remove and modify physical points for the system; add additional panels when required.

- C. These objectives will be divided into three logical groupings; participants may attend one or more of these, depending on level of knowledge required:
 - 1. Day-to-day Operators
 - 2. System Troubleshooter
 - 3. System Manager: parts
- D. Provide course outline and materials as per Part 1 of this Section. The instructor(s) shall provide one copy of training material per student.
- E. Classroom training shall be done using a network of working controllers representative of the installed hardware or at the customers site.
- F. In addition to class training, provide up to 16 hours of control time on site after the project has been closed out to make adjustments to the system as required by owner.

3.14 FIELD QUALITY CONTROL

- A. All work, materials and equipment shall comply with the rules and regulations of applicable local, state, and federal codes and ordinances as identified in Part 1 of this Section.
- B. Contractor shall continually monitor the field installation for code compliance and quality of workmanship. All visible piping and or wiring runs shall be installed parallel to building lines and properly supported.
- C. Contractor shall arrange for field inspections by local and/or state authorities having jurisdiction over the work.

3.15 ACCEPTANCE

- A. The control systems will not be accepted as meeting the requirements of Completion until all tests described in this specification have been performed to the satisfaction of both the Engineer and Owner. Any tests that cannot be performed due to circumstances beyond the control of the Contractor may be exempt from the Completion requirements if stated as such in writing by the Owner's representative. Such tests shall then be performed as part of the warranty.

END OF SECTION 230900

SECTION 230993 – SEQUENCE OF OPERATIONS FOR HVAC CONTROLS

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 control sequences for HVAC systems, subsystems, and equipment.
- B. This Section describes the minimum performance requirements for the systems and does not necessarily include all elements of control required for proper and safe operation of the systems. The Contractor shall provide all necessary safeties interlocks, high limits, low limits, time delays, and control logic for a complete and operable system.
- C. Related Sections include the following:
 - 1. Division 23 Section "Instrumentation and Controls for HVAC" for control equipment and devices and submittal requirements.
- D. All equipment, valves, fans, etc, shall be controlled by the temperature control contractor unless specified to be controlled by another method in the specifications or the construction documents.

1.3 DEFINITIONS

- A. DDC: Direct-digital controls.
- B. BAS: Building Automation System.

1.4 VAV BOX CONTROL

- A. Cooling Only VAV: BAS monitors space temperature and modulate box damper from minimum to maximum setting as required to maintain space setpoint. Reset damper position as required to maintain required airflow under varying supply pressure.
 - 1. Morning Warm-Up: Open box to maximum during morning warm-up until space temperature reaches setpoint. Close damper if space temperature reaches 5 deg F above setpoint and cooling is unavailable.
 - 2. Overcooling Control: During occupied status, reset box minimum to zero if space temperature falls more than 5 deg F below setpoint.

- B. VAV Reheat Boxes: Cooling damper control is the same as the cooling only sequence above except as follows:
1. Without Perimeter Heat: BAS to active electric reheat coil with box at minimum heating air flow as required to maintain heating setpoint.
- C. Display and/or Control the following:
1. System graphic.
 2. Box occupancy status.
 3. Space temperature.
 4. Space heating setpoint (occupied and unoccupied).
 5. Space cooling setpoint (occupied and unoccupied).
 6. Box damper position.
 7. VAV box reheat CV position.
 8. Box reheat coil status.
 9. Box airflow cfm.
 10. Box minimum position setting.
 11. Box maximum position setting.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 230993

SECTION 233113 – METAL DUCTS

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 metal ducts for supply, return, outside, and exhaust air-distribution systems in pressure classes from minus 2- to plus 10-inch wg. Metal ducts include the following:
 - 1. Rectangular ducts and fittings.
 - 2. Single-wall, round, and flat-oval spiral-seam ducts and formed fittings.
 - 3. Duct liner.
- B. Related Sections include the following:
 - 1. Division 23 Section "Duct Accessories" for dampers, sound-control devices, duct-mounting access doors and panels, turning vanes, and flexible ducts.

1.3 SYSTEM DESCRIPTION

- A. Duct system design, as indicated, has been used to select size and type of air-moving and -distribution equipment and other air system components. Changes to layout or configuration of duct system must be specifically approved in writing by Engineer. Accompany requests for layout modifications with calculations showing that proposed layout will provide original design results without increasing system total pressure.
- B. Drawings are diagrammatical and shall not be used as a shop drawing for fabrication. The contractor is responsible to coordinate with other trades and adjustments in elevation and routings as required to meet the project requirements.

1.4 SUBMITTALS

- A. Shop Drawings: CAD-generated and drawn to 1/4 inch equals 1 foot (1:50) scale. Show fabrication and installation details for metal ducts.
 - 1. Fabrication, assembly, and installation, including plans, elevations, sections, components, and attachments to other work.
 - 2. Duct layout indicating sizes and pressure classes.
 - 3. Elevations of top and bottom of ducts.

4. Dimensions of main duct runs from building grid lines.
5. Fittings.
6. Reinforcement and spacing.
7. Seam and joint construction.
8. Penetrations through fire-rated and other partitions.
9. Equipment installation based on equipment being used on Project.
10. Duct accessories, including access doors and panels.
11. Hangers and supports, including methods for duct and building attachment and vibration isolation.

- B. Field quality-control test reports.

1.5 QUALITY ASSURANCE

- A. Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel," for hangers and supports.
- B. NFPA Compliance:
1. NFPA 90A, "Installation of Air Conditioning and Ventilating Systems."
 2. NFPA 90B, "Installation of Warm Air Heating and Air Conditioning Systems."
- C. Comply with NFPA 96, "Ventilation Control and Fire Protection of Commercial Cooking Operations," Ch. 3, "Duct System," for range hood ducts, and the Michigan Department of Public Health Manual of Ventilation Systems for Food Service Establishments.

1.6 COORDINATION

- A. The contractor is responsible for coordination with other trades and maintaining required clearances for access and servicing of equipment.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 SHEET METAL MATERIALS

- A. Comply with SMACNA's "HVAC Duct Construction Standards--Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods, unless otherwise

indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.

- B. Galvanized Sheet Steel: Lock-forming quality; complying with ASTM A 653/A 653M and having G90 (Z275) coating designation; ducts shall have mill-phosphatized finish for surfaces exposed to view.
- C. Reinforcement Shapes and Plates: Galvanized-steel reinforcement where installed on galvanized sheet metal ducts.
- D. Tie Rods: Galvanized steel, 1/4-inch minimum diameter for lengths 36 inches or less; 3/8-inch minimum diameter for lengths longer than 36 inches.

2.3 RECTANGULAR FITTING CONSTRUCTION

- A. General: Construct fittings in accordance with SMACNA HVAC Duct Construction Standards. Use low loss fittings.
- B. Elbows: Use full radius type with inside radius equal to the duct width except where space limits use. Where square elbows are shown or used, provide turning vanes. Use airfoil type vanes where duct velocities exceed 2000 fpm.
- C. Transitions: Construct transitions between duct sizes with tapered fittings. Use 22.5-degree maximum angle per side for diverging transitions and 30-degree maximum angle for converging transitions.
- D. Divided Flow Fittings: Use full radiused tees, square tees with turning vanes, or enlarged branch connections with 45-degree entry equal to ¼ times the duct width. Round branch ducts to rectangular ducts may be conical or enlarged rectangular to round fittings with 45 degree enlarged entry. Round taps serving individual diffusers may be straight taps where branch duct velocities are less than 800 fpm.

2.4 DUCT LINER

- A. Fibrous-Glass Liner: Comply with NFPA 90A or NFPA 90B and with NAIMA AH124.
 - 1. Manufacturers:
 - a. CertainTeed Corp.; Insulation Group.
 - b. Johns Manville International, Inc.
 - c. Knauf Fiber Glass GmbH.
 - d. Owens Corning.
 - 2. Materials: ASTM C 1071; surfaces exposed to airstream shall be coated to prevent erosion of glass fibers.
 - a. Thickness: 1 inch unless otherwise indicated.

- b. Thermal Conductivity (k-Value): 0.26 at 75 deg F mean temperature.
 - c. Fire-Hazard Classification: Maximum flame-spread index of 25 and smoke-developed index of 50 when tested according to ASTM E 84.
 - d. Liner Adhesive: Comply with NFPA 90A or NFPA 90B and with ASTM C 916.
 - e. Mechanical Fasteners: Galvanized steel suitable for adhesive attachment, mechanical attachment, or welding attachment to duct without damaging liner when applied as recommended by manufacturer and without causing leakage in duct.
3. Tensile Strength: Indefinitely sustain a 50-lb- tensile, dead-load test perpendicular to duct wall.
 4. Fastener Pin Length: As required for thickness of insulation and without projecting more than 1/8 inch into airstream.
 5. Adhesive for Attaching Mechanical Fasteners: Comply with fire-hazard classification of duct liner system.

2.5 SEALANT MATERIALS

- A. Joint and Seam Sealants, General: The term "sealant" is not limited to materials of adhesive or mastic nature but includes tapes and combinations of open-weave fabric strips and mastics.
- B. Water-Based Joint and Seam Sealant: Flexible, adhesive sealant, resistant to UV light when cured, UL 723 listed, and complying with NFPA requirements for Class 1 ducts.
- C. Solvent-Based Joint and Seam Sealant: One-part, nonsag, solvent-release-curing, polymerized butyl sealant formulated with a minimum of 75 percent solids.
- D. Flanged Joint Mastic: One-part, acid-curing, silicone, elastomeric joint sealant complying with ASTM C 920, Type S, Grade NS, Class 25, Use O.
- E. Flange Gaskets: Butyl rubber or EPDM polymer with polyisobutylene plasticizer.

2.6 HANGERS AND SUPPORTS

- A. Building Attachments: Concrete inserts, powder-actuated fasteners, or structural-steel fasteners appropriate for construction materials to which hangers are being attached.
 1. Use powder-actuated concrete fasteners for standard-weight aggregate concretes or for slabs more than 4 inches thick.
 2. Exception: Do not use powder-actuated concrete fasteners for lightweight-aggregate concretes or for slabs less than 4 inches thick.
- B. Hanger Materials: Galvanized sheet steel or threaded steel rod.
 1. Hangers Installed in Corrosive Atmospheres: Electrogalvanized, all-thread rods or galvanized rods with threads painted with zinc-chromate primer after installation.
 2. Strap and Rod Sizes: Comply with SMACNA's "HVAC Duct Construction Standards-- Metal and Flexible" for steel sheet width and thickness and for steel rod diameters.

3. Galvanized-steel straps attached to aluminum ducts shall have contact surfaces painted with zinc-chromate primer.
- C. Duct Attachments: Sheet metal screws, blind rivets, or self-tapping metal screws; compatible with duct materials.
- D. Trapeze and Riser Supports: Steel shapes complying with ASTM A 36/A 36M.
 1. Supports for Galvanized-Steel Ducts: Galvanized-steel shapes and plates.
 2. Supports for Stainless-Steel Ducts: Stainless-steel support materials.
 3. Supports for Aluminum Ducts: Aluminum support materials unless materials are electrolytically separated from ducts.

2.7 RECTANGULAR DUCT FABRICATION

- A. Fabricate ducts, elbows, transitions, offsets, branch connections, and other construction according to SMACNA's "HVAC Duct Construction Standards--Metal and Flexible" and complying with requirements for metal thickness, reinforcing types and intervals, tie-rod applications, and joint types and intervals.
 1. Lengths: Fabricate rectangular ducts in lengths appropriate to reinforcement and rigidity class required for pressure class.
 2. Deflection: Duct systems shall not exceed deflection limits according to SMACNA's "HVAC Duct Construction Standards--Metal and Flexible."
- B. Transverse Joints: Prefabricated slide-on joints and components constructed using manufacturer's guidelines for material thickness, reinforcement size and spacing, and joint reinforcement.
 1. Manufacturers:
 - a. Ductmate Industries, Inc.
 - b. Nexus Inc.
 - c. Ward Industries, Inc.
- C. Formed-On Flanges: Construct according to SMACNA's "HVAC Duct Construction Standards--Metal and Flexible," Figure 1-4, using corner, bolt, cleat, and gasket details.
 1. Manufacturers:
 - a. Ductmate Industries, Inc.
 - b. Lockformer.
 2. Duct Size: Maximum 30 inches wide and up to 2-inch wg pressure class.
 3. Longitudinal Seams: Pittsburgh lock sealed with noncuring polymer sealant.
- D. Cross Breaking or Cross Beading: Cross break or cross bead duct sides 19 inches and larger and 0.0359 inch thick or less, with more than 10 sq. ft. of nonbraced panel area unless ducts are lined.

2.8 APPLICATION OF LINER IN RECTANGULAR DUCTS

- A. Use 1-inch thick liner on supply and return air ducts for a minimum distance of 10 ft from all air handling equipment or distance as noted on the plans. Increase the duct dimension as required to provide the internal clear dimensions shown on the drawings.
- B. Adhere a single layer of indicated thickness of duct liner with at least 90 percent adhesive coverage at liner contact surface area. Attaining indicated thickness with multiple layers of duct liner is prohibited.
- C. Apply adhesive to transverse edges of liner facing upstream that do not receive metal nosing.
- D. Butt transverse joints without gaps and coat joint with adhesive.
- E. Fold and compress liner in corners of rectangular ducts or cut and fit to ensure butted-edge overlapping.
- F. Do not apply liner in rectangular ducts with longitudinal joints, except at corners of ducts, unless duct size and standard liner product dimensions make longitudinal joints necessary.
- G. Apply adhesive coating on longitudinal seams in ducts with air velocity of 2500 fpm.
- H. Secure liner with mechanical fasteners 4 inches from corners and at intervals not exceeding 12 inches transversely; at 3 inches from transverse joints and at intervals not exceeding 18 inches longitudinally.
- I. Secure transversely oriented liner edges facing the airstream with metal nosings that have either channel or "Z" profiles or are integrally formed from duct wall. Fabricate edge facings at the following locations:
 - 1. Fan discharges.
 - 2. Intervals of lined duct preceding unlined duct.
 - 3. Upstream edges of transverse joints in ducts where air velocities are greater than 2500 fpm or where indicated.
- J. Where indicated on the drawings, secure insulation between perforated sheet metal inner duct of same thickness as specified for outer shell. Use mechanical fasteners that maintain inner duct at uniform distance from outer shell without compressing insulation.
 - 1. Sheet Metal Inner Duct Perforations: 3/32-inch diameter, with an overall open area of 23 percent.
 - 2. Terminate inner ducts with buildouts attached to fire-damper sleeves, dampers, turning vane assemblies, or other devices. Fabricated buildouts (metal hat sections) or other buildout means are optional; when used, secure buildouts to duct walls with bolts, screws, rivets, or welds.

2.9 ROUND AND FLAT-OVAL DUCT AND FITTING FABRICATION

- A. Diameter as applied to flat-oval ducts in this Article is the diameter of a round duct with a circumference equal to the perimeter of a given size of flat-oval duct.
- B. Round, Longitudinal- and Spiral Lock-Seam Ducts: Fabricate supply ducts of galvanized steel according to SMACNA's "HVAC Duct Construction Standards--Metal and Flexible."
- C. Flat-Oval, Spiral Lock-Seam Ducts: Fabricate supply ducts according to SMACNA's "HVAC Duct Construction Standards--Metal and Flexible." Fabricate ducts larger than 72 inches in diameter with butt-welded longitudinal seams.
 - 1. Manufacturers:
 - a. McGill AirFlow Corporation.
 - b. SEMCO Incorporated.
 - c. Dixie Sheet Metal Products.
 - d. Foremost.
 - e. Lindab.
- D. Duct Joints:
 - 1. Ducts up to 20 Inches in Diameter: Interior, center-beaded slip coupling, sealed before and after fastening, attached with sheet metal screws.
 - 2. Ducts 21 to 72 Inches in Diameter: Three-piece, gasketed, flanged joint consisting of two internal flanges with sealant and one external closure band with gasket.
 - 3. Ducts Larger Than 72 Inches in Diameter: Companion angle flanged joints per SMACNA "HVAC Duct Construction Standards--Metal and Flexible," Figure 3-2.
 - 4. Round Ducts: Prefabricated connection system consisting of double-lipped, EPDM rubber gasket. Manufacture ducts according to connection system manufacturer's tolerances.
 - a. Manufacturers:
 - 1) Lindab Inc.
 - 5. Flat-Oval Ducts: Prefabricated connection system consisting of two flanges and one synthetic rubber gasket.
 - a. Manufacturers:
 - 1) Ductmate Industries, Inc.
 - 2) McGill AirFlow Corporation.
 - 3) SEMCO Incorporated.
- E. 90-Degree Tees and Laterals and Conical Tees: Fabricate to comply with SMACNA's "HVAC Duct Construction Standards--Metal and Flexible," with metal thicknesses specified for longitudinal-seam straight ducts.

- F. Diverging-Flow Fittings: Fabricate with reducing entrance to branch taps and with no excess material projecting from fitting onto branch tap entrance.
- G. Fabricate elbows using die-formed, gored, pleated, or mitered construction. Bend radius of die-formed, gored, and pleated elbows shall be 1-1/2 times duct diameter. Unless elbow construction type is indicated, fabricate elbows as follows:
 - 1. Mitered-Elbow Radius and Number of Pieces: Welded construction complying with SMACNA's "HVAC Duct Construction Standards--Metal and Flexible," unless otherwise indicated.
 - 2. Round Mitered Elbows: Welded construction with the following metal thickness for pressure classes from minus 2- to plus 2-inch wg:
 - a. Ducts 3 to 36 Inches in Diameter: 0.034 inch.
 - 3. Round Mitered Elbows: Welded construction with the following metal thickness for pressure classes from 2- to 10-inch wg:
 - a. Ducts 3 to 26 Inches in Diameter: 0.034 inch.
 - 4. 90-Degree, 2-Piece, Mitered Elbows: Use only for supply systems or for material-handling Class A or B exhaust systems and only where space restrictions do not permit using radius elbows. Fabricate with single-thickness turning vanes.
 - 5. Round Elbows 8 Inches and Less in Diameter: Fabricate die-formed elbows for 45- and 90-degree elbows and pleated elbows for 30, 45, 60, and 90 degrees only. Fabricate nonstandard bend-angle configurations or nonstandard diameter elbows with gored construction.
 - 6. Round Elbows 9 through 14 Inches in Diameter: Fabricate gored or pleated elbows for 30, 45, 60, and 90 degrees unless space restrictions require mitered elbows. Fabricate nonstandard bend-angle configurations or nonstandard diameter elbows with gored construction.
 - 7. Round Elbows Larger Than 14 Inches in Diameter and All Flat-Oval Elbows: Fabricate gored elbows unless space restrictions require mitered elbows.
 - 8. Die-Formed Elbows for Sizes through 8 Inches in Diameter and All Pressures 0.040 inch thick with 2-piece welded construction.
 - 9. Round Gored-Elbow Metal Thickness: Same as non-elbow fittings specified above.
 - 10. Pleated Elbows for Sizes through 14 Inches in Diameter and Pressures through 10-Inch wg: 0.022 inch.

PART 3 - EXECUTION

3.1 DUCT APPLICATIONS

- A. Static-Pressure Classes: Unless otherwise indicated, construct ducts according to the following:
 - 1. Supply Ducts: 2-inch wg.
 - 2. Supply Ducts (before Air Terminal Units): 6-inch wg.
 - 3. Supply Ducts (after Air Terminal Units): 1-inch wg.

4. Return Ducts (Negative Pressure): 1-inch wg.

B. All ducts shall be galvanized steel.

3.2 DUCT INSTALLATION

- A. Construct and install ducts according to SMACNA's "HVAC Duct Construction Standards--Metal and Flexible," unless otherwise indicated.
- B. Install round and flat-oval ducts in lengths not less than 12 feet unless interrupted by fittings.
- C. Install ducts with fewest possible joints.
- D. Install fabricated fittings for changes in directions, size, and shape and for connections.
- E. Install couplings tight to duct wall surface with a minimum of projections into duct. Secure couplings with sheet metal screws. Install screws at intervals of 12 inches, with a minimum of 3 screws in each coupling.
- F. Install ducts, unless otherwise indicated, vertically and horizontally and parallel and perpendicular to building lines; avoid diagonal runs.
- G. Install ducts close to walls, overhead construction, columns, and other structural and permanent enclosure elements of building.
 - 1. Offsets and transitions as required to coordinate with other trades and equipment are the responsibility of the contractor.
- H. Install ducts with a clearance of 1 inch, plus allowance for insulation thickness.
- I. Conceal ducts from view in finished spaces. Do not encase horizontal runs in solid partitions unless specifically indicated.
- J. Coordinate layout with suspended ceiling, fire- and smoke-control dampers, lighting layouts, and similar finished work.
 - 1. Where ducts pass over light fixtures, maintain a minimum elevation of 6-inches above finish ceiling, or more as required by the light fixtures.
- K. Seal all joints and seams. Apply sealant to male end connectors before insertion, and afterward to cover entire joint and sheet metal screws.
- L. Electrical Equipment Spaces: Route ducts to avoid passing through transformer vaults and electrical equipment spaces and enclosures.
- M. Non-Fire-Rated Partition Penetrations: Where ducts pass through interior partitions and exterior walls and are exposed to view, conceal spaces between construction openings and ducts or duct insulation with sheet metal flanges of same metal thickness as ducts. Overlap

openings on 4 sides by at least 1-1/2 inches. Provide sheet metal flanges on both sides of walls, exposed or concealed for sound sensitive walls.

- N. Protect duct interiors from the elements and foreign materials until building is enclosed.
- O. Paint interiors of metal ducts, that do not have duct liner, for 24 inches upstream of registers and grilles where line of sight permits view of ducts. Apply one coat of flat, black, latex finish coat over a compatible galvanized-steel primer. Paint materials and application requirements are specified in Division 9 painting Sections.
- P. Connections to existing equipment: Duct connections to equipment shall be full size to match the specific equipment used.
 - 1. Provide tapered transitions to equipment.
 - 2. Adjust ductwork configuration to match equipment used on project.

3.3 SEAM AND JOINT SEALING

- A. Seal duct seams and joints according to SMACNA's "HVAC Duct Construction Standards--Metal and Flexible" for duct pressure class indicated.
 - 1. For pressure classes lower than 2-inch wg, seal transverse joints.
- B. Seal ducts before external insulation is applied.

3.4 HANGING AND SUPPORTING

- A. Support horizontal ducts within 24 inches of each elbow and within 48 inches of each branch intersection.
- B. Support vertical ducts at maximum intervals of 16 feet and at each floor.
- C. Install concrete inserts before placing concrete.
- D. Install powder-actuated concrete fasteners after concrete is placed and completely cured.
 - 1. Do not use powder-actuated concrete fasteners for lightweight-aggregate concretes or for slabs less than 4 inches thick.

3.5 CONNECTIONS

- A. Make connections to equipment with flexible connectors according to Division 23 Section "Duct Accessories."
- B. Comply with SMACNA's "HVAC Duct Construction Standards--Metal and Flexible" for branch, outlet and inlet, and terminal unit connections.

3.6 FIELD QUALITY CONTROL

- A. Perform the following field tests and inspections according to SMACNA's "HVAC Air Duct Leakage Test Manual" and prepare test reports:
1. Disassemble, reassemble, and seal segments of systems to accommodate leakage testing and for compliance with test requirements.
 2. Conduct tests at static pressures equal to maximum design pressure of system or section being tested. If pressure classes are not indicated, test entire system at maximum system design pressure. Do not pressurize systems above maximum design operating pressure. Give seven days' advance notice for testing.
 3. Determine leakage from entire system or section of system by relating leakage to surface area of test section.
 - a. Allowable Leakage, Supply Duct Systems: 1 percent of design airflow.
 - b. Allowable Leakage, Return Duct Systems: 2 percent of design airflow.
 - c. Allowable Leakage, Supply Duct Systems, Terminals to Air Outlets: 2 percent of design airflow.
 4. Maximum Allowable Leakage: Comply with requirements for Leakage Class 3 for round and flat-oval ducts, Leakage Class 12 for rectangular ducts in pressure classes lower than and equal to 2-inch wg (both positive and negative pressures), and Leakage Class 6 for pressure classes from 2- to 10-inch wg.
 5. Remake leaking joints and retest until leakage is equal to or less than maximum allowable.

END OF SECTION 233113

SECTION 233300 – AIR DUCT ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
1. Manual-volume dampers.
 2. Turning vanes.
 3. Duct-mounted access doors and panels.
 4. Flexible connectors.
 5. Flexible ducts.
 6. Duct accessory hardware.
 7. Motorized Control Dampers.

1.2 SUBMITTALS

- A. Product Data: For each manufactured product indicated, and indicate dimensions, required clearances, method of field assembly, components, location, and size of each field connection.

1.3 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. NFPA Compliance:
1. NFPA 90A, "Installation of Air Conditioning and Ventilating Systems."
 2. NFPA 90B, "Installation of Warm Air Heating and Air Conditioning Systems."

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Galvanized, Sheet Steel: Lock-forming quality; ASTM A 653/A 653M, G90 coating designation; mill-phosphatized finish for surfaces of ducts exposed to view.
- B. Reinforcement Shapes and Plates: Galvanized steel reinforcement where installed on galvanized, sheet metal ducts; compatible materials for aluminum and stainless-steel ducts.
- C. Tie Rods: Galvanized steel, 1/4-inch minimum diameter for 36-inch length or less; 3/8-inch minimum diameter for lengths longer than 36 inches.

2.2 DAMPERS

- A. Manual-Volume Dampers: Factory fabricated with required hardware and accessories. Stiffen damper blades for stability. Include locking device to hold single-blade dampers in a fixed position without vibration. Close duct penetrations for damper components to seal duct consistent with pressure class.
1. Standard Volume Dampers: Multiple- or single-blade, parallel- or opposed-blade design as indicated, standard leakage rating, with linkage outside airstream, and suitable for horizontal or vertical applications.
 2. Steel Frames: Hat-shaped, galvanized, steel-sheet channels, minimum of 0.064 inch thick, with mitered and welded corners; frames with flanges where indicated for attaching to walls; and flangeless frames where indicated for installing in ducts.
 3. Roll-Formed Steel Blades: 0.064-inch- thick, galvanized, sheet steel.
 4. Blade Axles: Galvanized steel.
 5. Tie Bars and Brackets: Galvanized steel.
 6. Jackshaft: 1-inch- diameter, galvanized steel pipe rotating within a pipe-bearing assembly mounted on supports at each mullion and at each end of multiple-damper assemblies.
 7. Damper Hardware: Zinc-plated, die-cast core with dial and handle made of 3/32-inch-thick zinc-plated steel, and a 3/4-inch hexagon locking nut. Include center hole to suit damper operating-rod size. Include elevated platform for insulated duct mounting.

2.3 MOTORIZED CONTROL DAMPERS

- A. Frame: 4x1 extruded aluminum hot section with 0.081-inch minimum wall thickness, and mounting flanges.
- B. Blades: 4-inch wide, 6063T5 heavy gage extruded aluminum, airfoil shaped, and with concealed linkage.
- C. Axles: ½-inch plated steel hex, molded synthetic bearings.
- D. Seals extruded TPR blade edge seal and flexible metal compression type jamb seals.
- E. Control Shaft: ½-inch diameter with jackshaft for field mounted actuator.
- F. Actuator: Belimo.
1. Microprocessor-controlled brushless DC motor.
 2. Overload-proof.
 3. Built-in mechanical stops.
 4. Spring return.
 5. Auxiliary switch.
 6. Double-insulated, 120 VAC, max 27 VA.
 7. Select size and accessories per Belimo selection guide.
 8. Multi-function Control: On/off or floating point as required.
- G. Basis-of-Design: Ruskin Model CD40.

2.4 TURNING VANES

- A. Fabricate to comply with SMACNA's "HVAC Duct Construction Standards--Metal and Flexible."
- B. Manufactured Turning Vanes: Fabricate of 1-1/2-inch- wide, curved blades set 3/4 inch o.c.; support with bars perpendicular to blades set 2 inches o.c.; and set into side strips suitable for mounting in ducts.

2.5 DUCT-MOUNTED ACCESS DOORS AND PANELS

- A. Fabricate doors and panels airtight and suitable for duct pressure class.
 - 1. Frame: Galvanized, sheet steel, with bend-over tabs and foam gaskets.
 - 2. Door: Double-wall, galvanized, sheet metal construction with insulation fill and thickness, and number of hinges and locks as indicated for duct pressure class. Include vision panel where indicated. Include 1-by-1-inch butt or piano hinge and cam latches.
 - 3. Seal around frame attachment to duct and door to frame with neoprene or foam rubber.
 - 4. Insulation: 1-inch- thick, fibrous-glass or polystyrene-foam board.

2.6 FLEXIBLE CONNECTORS

- A. Flame-retarded or noncombustible fabrics, coatings, and adhesives complying with UL 181, Class 1.
 - 1. Factory fabricate with a strip of fabric 3-1/2 inches wide attached to two strips of 2-3/4-inch- wide, 0.028-inch- thick, galvanized, sheet steel or 0.032-inch aluminum sheets.
 - 2. Conventional, Indoor System Flexible Connector Fabric: Glass fabric double coated with polychloroprene.
 - a. Minimum Weight: 26 oz./sq. yd..
 - b. Tensile Strength: 480 lbf/inch in the warp, and 360 lbf/inch in the filling.

2.7 FLEXIBLE DUCTS

- A. Uninsulated: Comply with UL 181, Class 1, spiral-wound steel spring with flameproof vinyl sheathing or corrugated aluminum.
 - 1. Pressure Rating: 6-inch wg positive, 1/2-inch wg negative.
- B. Insulated: Factory-fabricated, insulated, round duct, with an outer jacket enclosing 1-1/2-inch-thick, glass-fiber insulation around a continuous inner liner.
 - 1. Reinforcement: Steel-wire helix encapsulated in inner liner.
 - 2. Outer Jacket: Polyethylene film.
 - 3. Inner Liner: Polyethylene film.
 - 4. Pressure Rating: 6-inch wg positive, 1/2-inch wg negative.

2.8 ACCESSORY HARDWARE

- A. Instrument Test Holes: Cast iron or cast aluminum to suit duct material, including screw cap and gasket. Size to allow insertion of pitot tube and other testing instruments, and length to suit duct insulation thickness.
- B. Flexible Duct Clamps: Stainless-steel band with cadmium-plated hex screw to tighten band with a worm-gear action, in sizes 3 to 18 inches to suit duct size.
- C. Adhesives: High strength, quick setting, neoprene based, waterproof, and resistant to gasoline and grease.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install duct accessories according to applicable details shown in SMACNA's "HVAC Duct Construction Standards--Metal and Flexible."
- B. Install volume dampers in lined duct; avoid damage to and erosion of duct liner.
- C. Provide test holes at fan inlet and outlet and elsewhere as indicated.
- D. Install duct access panels for access to both sides of duct coils. Install duct access panels downstream from volume dampers, fire dampers, turning vanes, and equipment.
 - 1. Install duct access panels to allow access to interior of ducts for cleaning, inspecting, adjusting, and maintaining accessories and terminal units.
 - 2. Install access panels on side of duct where adequate clearance is available.
- E. Label access doors.
- F. Install balance dampers on all branch ducts serving diffusers and grilles.

END OF SECTION 233300

SECTION 233600 – AIR TERMINAL UNITS

PART 1 - GENERAL

1.1 SUBMITTALS

- A. Product Data: Include rated capacities; furnished specialties; and accessories for each model indicated. Include a schedule showing drawing designation, room location, number furnished, model number, size, and accessories furnished.
- B. Shop Drawings: Detail equipment assemblies and indicate dimensions, weights, loadings, required clearances, method of field assembly, components, and location and size of each field connection.
 - 1. Wiring Diagrams: Detail wiring for power, signal, and control systems and differentiate between manufacturer-installed and field-installed wiring.
- C. Maintenance Data: List of parts for each type of air terminal and troubleshooting maintenance guide to include in the maintenance manuals.

1.2 QUALITY ASSURANCE

- A. Listing and Labeling: Provide electrically operated air terminals specified in this Section that are listed and labeled.
- B. NFPA Compliance: Install air terminals according to NFPA 90A, "Standard for the Installation of Air Conditioning and Ventilating Systems."
- C. Comply with NFPA 70 for electrical components and installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide air terminals by one of the following:
 - 1. Price.
 - 2. Titus.
 - 3. Trane Co. (The).

2.2 SINGLE-DUCT AIR TERMINALS

- A. Configuration: Volume-damper assembly inside unit casing. Locate control components inside protective metal shroud.
- B. Casings: Steel or aluminum sheet metal of the following minimum thicknesses:
 - 1. Upstream Pressure Side: 0.0239-inch steel.
 - 2. Downstream Pressure Side: 0.0179-inch steel.
 - 3. Upstream Pressure Side: 0.032-inch aluminum.
 - 4. Downstream Pressure Side: 0.025-inch aluminum.
- C. Casing Lining: Minimum of 1/2-inch-thick, neoprene- or vinyl-coated, fibrous-glass insulation; 1.5-lb/cu. ft. density, complying with NFPA 90A requirements and UL 181 erosion requirements. Secure lining to prevent delamination, sagging, or settling.
 - 1. Coat liner surfaces and edges with erosion-resistant coating or cover with perforated metal.
 - 2. Cover liner with perforated metal.
 - 3. Cover liner with Mylar or Tedlar film.
- D. Plenum Air Inlets: Round stub connections or S-slip and drive connections for duct attachment.
- E. Plenum Air Outlets: S-slip and drive connections.
- F. Access: Removable panels to permit access to dampers and other parts requiring service, adjustment, or maintenance; with airtight gasket and quarter-turn latches.
- G. Volume Damper: Construct of galvanized steel with peripheral gasket and self-lubricating bearings.
 - 1. Maximum Damper Leakage: 2 percent of nominal airflow at 3-inch wg inlet static pressure.
 - 2. Damper Position: Normally open.
- H. Attenuator Section: Line with 2-inch-thick, neoprene- or vinyl-coated, fibrous-glass insulation.
- I. Electric resistance heating Coil.
- J. Controls: Damper operator and controls shall be provided by controls contractor and mounted in field. VAV Boxes shall be set up for easy installation of actuators and controls. Other devices compatible with temperature controls specified in other Division 23 Sections.
- K. Flow Sensing Device: Averaging flow sensing ring to measure primary airflow within +/- 5 percent of unit rated airflow.

2.3 SOURCE QUALITY CONTROL

- A. Testing Requirements: Test and rate air terminals according to ARI 880, "Industry Standard for Air Terminals."
- B. Identification: Label each air terminal with plan number, nominal airflow, maximum and minimum factory-set airflows, coil type, and ARI certification seal.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install air terminals level and plumb, according to manufacturer's written instructions, rough-in drawings, original design, and referenced standards; and maintain sufficient clearance for normal service and maintenance.
- B. Connect ductwork to air terminals according to Division 23 ductwork Sections.

3.2 CONNECTIONS

- A. Install piping adjacent to air terminals to allow service and maintenance.

3.3 FIELD QUALITY CONTROL

- A. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.4 CLEANING

- A. After completing system installation, including outlet fittings and devices, inspect exposed finish. Remove burrs, dirt, and construction debris, and repair damaged finishes.

3.5 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel as specified below:
 - 1. Train Owner's maintenance personnel on procedures and schedules related to startup and shutdown, troubleshooting, servicing, and preventive maintenance.
 - 2. Review data in the maintenance manuals. Refer to Division 1 Section "Contract Closeout."
 - 3. Review data in the maintenance manuals. Refer to Division 1 Section "Operation and Maintenance Data."
 - 4. Schedule training with Owner, through Architect, with at least 7 days' advance notice.

END OF SECTION 233600

SECTION 233713 – DIFFUSERS, REGISTERS AND GRILLES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes ceiling- and wall-mounted diffusers, registers, grilles, and louvers.

1.2 DEFINITIONS

- A. Diffuser: Circular, square, or rectangular air distribution outlet, generally located in the ceiling and comprised of deflecting members discharging supply air in various directions and planes and arranged to promote mixing of primary air with secondary room air.
- B. Grille: A louvered or perforated covering for an opening in an air passage, which can be located in a sidewall, ceiling, or floor.
- C. Register: A combination grille and damper assembly over an air opening.

1.3 SUBMITTALS

- A. Product Data: For each model indicated, include the following:
 - 1. Data Sheet: For each type of air outlet and inlet, and accessory furnished; indicate construction, finish, and mounting details.
 - 2. Performance Data: Include throw and drop, static-pressure drop, and noise ratings for each type of air outlet and inlet.
 - 3. Schedule of diffusers, registers, and grilles indicating drawing designation, room location, quantity, model number, size, and accessories furnished.
 - 4. Assembly Drawing: For each type of air outlet and inlet; indicate materials and methods of assembly of components.
 - 5. Wiring diagrams and accessories.
- B. Color samples for louver finishes.

1.4 QUALITY ASSURANCE

- A. Product Options: Drawings and schedules indicate specific requirements of diffusers, registers, and grilles and are based on the specific requirements of the systems indicated. Other manufacturers' products with equal performance characteristics may be considered. Refer to Division 1 Section "Substitutions."
- B. NFPA Compliance: Install diffusers, registers, and grilles according to NFPA 90A, "Standard for the Installation of Air-Conditioning and Ventilating Systems."

- C. NEC Compliance: Install electrical devices in accordance with the National Electrical Code.
- D. UL Compliance: Provide electrical components tested and labeled by UL.

1.5 SOURCE QUALITY CONTROL

- A. Testing: Test performance according to ASHRAE 70, "Method of Testing for Rating the Performance of Air Outlets and Inlets."

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with specifications, provide products manufactured as follows:
 - 1. Diffusers, Registers and Grilles:
 - a. Carnes.
 - b. Hart and Cooley.
 - c. Krueger.
 - d. Anemostat.
 - e. Titus.
 - f. Nailer.
 - g. Price.

2.2 MANUFACTURED UNITS

- A. Diffusers, registers, and grilles are scheduled on Drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas where diffusers, registers, and grilles are to be installed for compliance with requirements for installation tolerances and other conditions affecting performance of equipment. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install diffusers, registers, and grilles level and plumb, according to manufacturer's written instructions, Coordination Drawings, original design, and referenced standards.

- B. Ceiling-Mounted Outlets and Inlets: Drawings indicate general arrangement of ducts, fittings, and accessories. Air outlet and inlet locations have been indicated to achieve design requirements for air volume, noise criteria, airflow pattern, throw, and pressure drop. Make final locations where indicated, as much as practicable. For units installed in lay-in ceiling panels, locate units in the center of the panel. Where architectural features or other items conflict with installation, notify Architect for a determination of final location.
- C. Install diffusers, registers, and grilles with airtight connection to ducts and to allow service and maintenance of dampers, air extractors, and fire dampers.
- D. Provide dampers on all diffusers and grilles accessible from the face of the unit wherever duct mounted balance dampers are inaccessible.
- E. After installation, adjust diffusers, registers, and grilles to air patterns indicated, or as directed, before starting air balancing. Adjust all slot diffusers to not blow downward.
- F. After installation of diffusers, registers, and grilles, inspect exposed finish. Clean exposed surfaces to remove burrs, dirt, and smudges. Replace diffusers, registers, and grilles that have damaged finishes.

END OF SECTION 233713

SECTION 260010 - BASIC ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Work includes all electrical items and systems shown on the contract drawings and specified herein.
- B. Unless specifically dimensioned, the work shown on the drawings is diagrammatic, and is intended only to show general arrangement.
- C. Include in the work all accessories and devices necessary for the intended operation of any system, whether or not specifically shown or specified.

1.2 STANDARDS OF QUALITY

- A. The specifications establish the standard of quality required, either by description of by references to brand name, name of manufacturers or manufacturer's model number.
- B. Where one product only is specifically identified by name of manufacturer's model number, the Contractor shall base his bid on the use of the name product. Where multiple names are used, the Contractor shall base his bid on the use of any of those products named.
- C. The Contractor may submit with his bid, the names of products which are proposed as substitutions for products named in specifications. Each proposed substitution shall be accompanied by a written sum of money to be added or deducted from his bid. The Owner reserves the sole right to accept or reject said substitutions with or without cause.
- D. When equipment and/or materials are proposed to be purchased from a manufacturer other than those specified, the Contractor shall provide complete data adequate for the Engineer's evaluation of the proposed substitution.
- E. When the equipment other than that specified is used, the Contractor shall be responsible for any extra cost of required revisions such as structural steel, concrete, electrical, piping, etc. Such additional costs shall be identified at the time such substitutions are proposed.

1.3 SUMMARY

- A. This Section includes general administrative and procedural requirements for electrical installations.
 - 1. Submittals
 - 2. Maintenance Manuals
 - 3. Rough-ins
 - 4. Electrical Installations

1.4 SUBMITTALS

- A. The Contractor shall review, approve and submit shop drawings, with promptness so as to cause no delay in his work or in that of others. No submissions will be accepted by the Engineer without the signed review and approval of the Contractor.
- B. The Contractor shall check and verify pertinent field measurements, quantities of equipment and materials required.
- C. Submittals shall be identified by reference to the drawings, sections of specifications, or equipment symbols to which they relate.
- D. Shop drawings, when required, shall include:
 - 1. Verification of information given in Contract Documents such as performance, dimensions, weight, materials, construction, types, models, manufacturer, etc.
 - 2. Equipment layouts drawn to scale as may be required.
 - 3. Wiring diagrams and schematics for equipment.
 - 4. Any special construction conditions.
 - 5. Other information/data as may be requested.
- E. All submittals shall identify the specific details of the product or assembly. All optional features being proposed shall be so noted, or the submittal will be rejected.
- F. Review is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specification. Contractor is responsible for dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and the satisfactory performance of his work.
- G. For items being resubmitted, clearly identify changes made from the initial submittal requested by the Engineer. The Engineer will review only those changes requested and identified by the Contractor.

1.5 MAINTENANCE MANUALS

- A. Prepare maintenance manuals including the following information for equipment items:
 - 1. Description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of replacement parts.
 - 2. Manufacturer's printed operating procedures to include start-up, break-in, and routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; and summer and winter operating instructions.
 - 3. Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions.
 - 4. Servicing instructions and lubrication charts and schedules.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to the project properly identified with names, model numbers, types, grades, compliance labels, and other information needed for identification.

1.7 PERMITS, FEES, AND CERTIFICATES OF APPROVAL

- A. Contractor shall acquire all permits and certificates.
- B. Contractor shall provide all labor and instruments required for tests and cleaning of systems.
- C. Whenever tests are required, three (3) copies of the test reports shall be submitted to the Engineer.
- D. Tests may be observed by the Engineer or his representative. Notify the Engineer a minimum of three weeks in advance of the test dates.

1.8 COMPLIANCE WITH CODES, STANDARDS AND REGULATIONS

- A. In the absence of specific instruction in the technical specifications, equipment and installation shall conform to the following applicable codes, standards and regulations, latest editions:
 - 1. American Society for Testing Materials (ASTM).
 - 2. American National Standard Institute (ANSI).
 - 3. Underwriter's Laboratories, Inc. (UL).
 - 4. American Welding Society Code (AWSC).
 - 5. Local Building, Electrical, and Fire Codes.
 - 6. National Electrical Code (NEC).
 - 7. Service Rules and Regulations of Local Electrical Utility Company.
 - 8. National Electrical Manufacturer's Association (NEMA).
 - 9. U.S. Department of Health & Human Services "HRS-M-HF" 84-1.
 - 10. Occupational Safety and Health Act (OSHA).
 - 11. National Fire Protection Association (NFPA).
 - 12. Americans with Disabilities Act (ADA).

PART 2 - PRODUCTS - Not Used.

PART 3 - EXECUTION

3.1 ROUGH-IN

- A. Verify final locations for rough-ins with field measurements and with requirements of the actual equipment to be connected.

3.2 ELECTRICAL INSTALLATIONS

- A. General: Sequence, coordinate, and integrate the various elements of electrical systems, materials, and equipment. Comply with the following requirements:
1. Coordinate electrical systems, equipment, and materials installation with other building components.
 2. Verify all dimensions by field measurements.
 3. Arrange for chases, slots, and openings in other building components during progress of construction, to allow for electrical installations.
 4. Coordinate the installation of required supporting devices and sleeves to be set in poured-in-place concrete and other structural components, as they are constructed.
 5. Sequence, coordinate, and integrate installations of electrical materials and equipment for efficient flow of the work. Give particular attention to large equipment requiring positioning prior to closing in the building.
 6. Where mounting heights are not detailed or dimensioned, install systems, materials, and equipment to provide the maximum headroom possible.
 7. Install systems, materials, and equipment to conform with approved submittal data, including coordination drawings, to greatest extent possible. Conform to arrangements indicated by the Contract Documents, recognizing that portions of the Work are shown only in diagrammatic form. Where coordination requirements conflict with individual system requirements, refer conflict to the Engineer.
 8. Install systems, materials, and equipment level and plumb, parallel and perpendicular to other building systems and components, where installed exposed in finished spaces.
 9. Install electrical equipment to facilitate servicing, maintenance, and repair or replacement of equipment components. As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations.
 10. Install access panel or doors where units are concealed behind finished surfaces.
 11. Install systems, material, and equipment giving right-of-way priority to systems required to be installed at a specified slope.
 12. Coordinate all electrical requirements with other trades and their shop drawings prior to installing conduit, wire, switches and breakers. Notify engineer of any discrepancies between document and actual supplied equipment.

3.3 CUTTING AND PATCHING

- A. General: Performing cutting and patching in accordance with the following requirements:
1. Perform cutting, fitting, and patching of electrical equipment and materials required to:
 - a. Uncover work to provide for installation of ill-timed work.
 - b. Remove and replace defective work.
 - c. Remove and replace work not conforming to requirements of the contract documents.
 - d. Upon written instruction from the Engineer, uncover and restore work to provide for Engineer observation of concealed work.

END OF SECTION 260010

SECTION 260500 - COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Electrical equipment coordination and installation.
2. Common electrical installation requirements.

1.2 COORDINATION

A. Coordinate arrangement, mounting, and support of electrical equipment:

1. To allow maximum possible headroom unless specific mounting heights that reduce headroom are indicated.
2. To provide for ease of disconnecting the equipment with minimum interference to other installations.
3. To allow right of way for piping and conduit installed at required slope.
4. So, connecting raceways, cables, wireways, cable trays, and busways will be clear of obstructions and of the working and access space of other equipment.

B. Coordinate installation of required supporting devices and set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.

C. Coordinate location of access panels and doors for electrical items that are behind finished surfaces or otherwise concealed.

PART 2 - PRODUCTS – Not Used.

PART 3 - EXECUTION

3.1 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

A. Comply with NECA 1.

B. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.

C. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.

- D. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future disconnecting with minimum interference with other items in the vicinity.
- E. Right of Way: Give to piping systems installed at a required slope.

END OF SECTION 260500

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Building wires and cables rated 600 V and less.
2. Connectors, splices, and terminations rated 600 V and less.

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

- A. Copper Conductors: Comply with NEMA WC 70/ICEA S-95-658.
- B. Conductor Insulation: Comply with NEMA WC 70/ICEA S-95-658 for Type THHN-2-THWN-2.

2.2 CONNECTORS AND SPLICES

- A. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

2.3 SYSTEM DESCRIPTION

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with NFPA 70.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Branch Circuits: Copper. Stranded for No. 12 AWG and larger, except VFC cable, which shall be extra flexible stranded.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Exposed Branch Circuits, Including in Crawlspace: Type THHN-2-THWN-2, single conductors in raceway.
- B. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN-2-THWN-2, single conductors in raceway.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.
- B. Complete raceway installation between conductor and cable termination points according to Section 260533 "Raceways and Boxes for Electrical Systems" prior to pulling conductors and cables.
- C. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- D. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- E. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
- F. Support cables according to Section 260529 "Hangers and Supports for Electrical Systems."

3.4 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.
- B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
 - 1. Use oxide inhibitor in each splice, termination, and tap for aluminum conductors.
- C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches of slack.

3.5 IDENTIFICATION

- A. Identify and color-code conductors and cables according to Section 260553 "Identification for Electrical Systems."

- B. Identify each spare conductor at each end with identity number and location of other end of conductor, and identify as spare conductor.

3.6 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 260544 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."

3.7 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

3.8 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections:
 - 1. After installing conductors and cables and before electrical circuitry has been energized, test for compliance with requirements.
 - 2. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
- B. Test and Inspection Reports: Prepare a written report to record the following:
 - 1. Procedures used.
 - 2. Results that comply with requirements.
 - 3. Results that do not comply with requirements and corrective action taken to achieve compliance with requirements.
- C. Cables will be considered defective if they do not pass tests and inspections.

END OF SECTION 260519

SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes grounding and bonding systems and equipment.

1.2 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with UL 467 for grounding and bonding materials and equipment.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with UL 467 for grounding and bonding materials and equipment.

2.2 CONDUCTORS

- A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.
- B. Bare Copper Conductors:
 - 1. Solid Conductors: ASTM B 3.
 - 2. Stranded Conductors: ASTM B 8.
 - 3. Tinned Conductors: ASTM B 33.
 - 4. Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG conductor, 1/4 inch in diameter.
 - 5. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.
 - 6. Bonding Jumper: Copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches wide and 1/16 inch thick.
 - 7. Tinned Bonding Jumper: Tinned-copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches wide and 1/16 inch thick.

2.3 CONNECTORS

- A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.
- B. Bolted Connectors for Conductors and Pipes: Copper or copper alloy.
- C. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.

PART 3 - EXECUTION

3.1 APPLICATIONS

- A. Conductors: Install stranded conductors for No. 8 AWG and larger unless otherwise indicated.
- B. Conductor Terminations and Connections:
 - 1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.

3.2 EQUIPMENT GROUNDING

- A. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:
 - 1. Feeders and branch circuits.
 - 2. Lighting circuits.
 - 3. Receptacle circuits.
 - 4. Single-phase motor and appliance branch circuits.
 - 5. Flexible raceway runs.

3.3 INSTALLATION

- A. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
- B. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.
 - 1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
 - 2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.

3.4 FIELD QUALITY CONTROL

A. Tests and Inspections:

1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
2. Inspect physical and mechanical condition. Verify tightness of accessible, bolted, electrical connections with a calibrated torque wrench according to manufacturer's written instructions.

B. Grounding system will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports.

D. Report measured ground resistances that exceed the following values:

1. Power and Lighting Equipment or System with Capacity of 500 kVA and Less: 10 ohms.

E. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Architect promptly and include recommendations to reduce ground resistance.

END OF SECTION 260526

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Hangers and supports for electrical equipment and systems.

1.2 PERFORMANCE REQUIREMENTS

- A. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.
- B. Rated Strength: Adequate in tension, shear, and pullout force to resist maximum loads calculated or imposed for this Project, with a minimum structural safety factor of five times the applied force.

1.3 QUALITY ASSURANCE

- A. Welding: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.
 - 1. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
 - 2. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.
 - 3. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
 - 4. Channel Dimensions: Selected for applicable load criteria.
- B. Nonmetallic Slotted Support Systems: Structural-grade, factory-formed, glass-fiber-resin channels and angles with 9/16-inch- diameter holes at a maximum of 8 inches o.c., in at least 1 surface.

1. Fittings and Accessories: Products of channel and angle manufacturer and designed for use with those items.
 2. Fitting and Accessory Materials: Same as channels and angles, except metal items may be stainless steel.
 3. Rated Strength: Selected to suit applicable load criteria.
- C. Raceway and Cable Supports: As described in NECA 1 and NECA 101.
- D. Conduit and Cable Support Devices: Steel hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- E. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
- F. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
 2. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.
 3. Concrete Inserts: Steel or malleable-iron, slotted support system units similar to MSS Type 18; complying with MFMA-4 or MSS SP-58.
 4. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.
 5. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
 6. Toggle Bolts: All-steel springhead type.
 7. Hanger Rods: Threaded steel.

2.2 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

- A. Description: Welded or bolted, structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.
- B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT, IMC, and RMC as required by NFPA 70. Minimum rod size shall be 1/4 inch in diameter.

- C. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.

3.2 SUPPORT INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.
- B. Raceway Support Methods: In addition to methods described in NECA 1, EMT may be supported by openings through structure members, as permitted in NFPA 70.
- C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb.
- D. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:
 - 1. To Wood: Fasten with lag screws or through bolts.
 - 2. To New Concrete: Bolt to concrete inserts.
 - 3. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
 - 4. To Existing Concrete: Expansion anchor fasteners.
 - 5. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inches thick.
 - 6. To Steel: Beam clamps (MSS Type 19, 21, 23, 25, or 27) complying with MSS SP-69.
 - 7. To Light Steel: Sheet metal screws.
 - 8. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate.
- E. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

- A. Comply with installation requirements in Section 055000 "Metal Fabrications" for site-fabricated metal supports.
- B. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.
- C. Field Welding: Comply with AWS D1.1/D1.1M.

END OF SECTION 260529

SECTION 260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Metal conduits, tubing, and fittings.
2. Boxes, enclosures, and cabinets.

PART 2 - PRODUCTS

2.1 METAL CONDUITS, TUBING, AND FITTINGS

- A. Listing and Labeling: Metal conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. EMT: Comply with ANSI C80.3 and UL 797.
- C. FMC: Comply with UL 1; zinc-coated steel or aluminum.
- D. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.
 1. Fittings for EMT:
 - a. Material: Steel.
 - b. Type: Setscrew.

2.2 BOXES, ENCLOSURES, AND CABINETS

- A. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.
- B. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.
- C. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- D. Box extensions used to accommodate new building finishes shall be of same material as recessed box.
- E. Device Box Dimensions: 4 inches square by 2-1/8 inches deep.
- F. Gangable boxes are prohibited.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

- A. Indoors: Apply raceway products as specified below unless otherwise indicated:
 - 1. Exposed, Not Subject to Physical Damage: EMT.
 - 2. Concealed in Ceilings and Interior Walls and Partitions: EMT.
 - 3. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
 - 4. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4 stainless steel in institutional and commercial kitchens and damp or wet locations.
- B. Minimum Raceway Size: 3/4-inch trade size.
- C. Raceway Fittings: Compatible with raceways and suitable for use and location.
 - 1. EMT: Use setscrew, fittings. Comply with NEMA FB 2.10.
 - 2. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.
- D. Install nonferrous conduit or tubing for circuits operating above 60 Hz. Where aluminum raceways are installed for such circuits and pass through concrete, install in nonmetallic sleeve.
- E. Do not install aluminum conduits, boxes, or fittings in contact with concrete or earth.
- F. Install surface raceways only where indicated on Drawings.
- G. Do not install nonmetallic conduit where ambient temperature exceeds 120 deg F.

3.2 INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NECA 102 for aluminum conduits. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.
- B. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- C. Complete raceway installation before starting conductor installation.
- D. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.

- E. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches of changes in direction.
- F. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
- G. Support conduit within 12 inches of enclosures to which attached.
- H. Stub-ups to Above Recessed Ceilings:
 - 1. Use EMT, IMC, or RMC for raceways.
 - 2. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.
- I. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch trade size and insulated throat metal bushings on 1-1/2-inch trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.
- J. Install raceways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.
- K. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to assure a continuous ground path.
- L. Cut conduit perpendicular to the length. For conduits 2-inch trade size and larger, use roll cutter or a guide to make cut straight and perpendicular to the length.
- M. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.
- N. Install raceway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings according to NFPA 70.
- O. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 72 inches of flexible conduit for recessed equipment subject to vibration, noise transmission, or movement; and for transformers and motors.
 - 1. Use LFMC in damp or wet locations subject to severe physical damage.
 - 2. Use LFMC or LFNC in damp or wet locations not subject to severe physical damage.
- P. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to bottom of box unless otherwise indicated.

- Q. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.
- R. Locate boxes so that cover or plate will not span different building finishes.
- S. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.
- T. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.

3.3 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 260544 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."

3.4 FIRESTOPPING

- A. Install firestopping at penetrations of fire-rated floor and wall assemblies.

END OF SECTION 260533

SECTION 260544 - SLEEVES AND SLEEVE SEALS FOR ELECTRICAL RACEWAYS AND CABLING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Sleeves for raceway and cable penetration of non-fire-rated construction walls and floors.
2. Sleeve-seal systems.
3. Sleeve-seal fittings.
4. Grout.
5. Silicone sealants.

B. Related Requirements:

1. Section 078400 "Penetration Firestopping" for penetration firestopping installed in fire-resistance-rated walls, horizontal assemblies, and smoke barriers, with and without penetrating items.

PART 2 - PRODUCTS

2.1 SLEEVES

A. Wall Sleeves:

1. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, zinc coated, plain ends.

B. Sleeves for Conduits Penetrating Non-Fire-Rated Gypsum Board Assemblies: Galvanized-steel sheet; 0.0239-inch minimum thickness; round tube closed with welded longitudinal joint, with tabs for screw-fastening the sleeve to the board.

2.2 SLEEVE-SEAL FITTINGS

A. Description: Manufactured plastic, sleeve-type, waterstop assembly made for embedding in concrete slab or wall. Unit shall have plastic or rubber waterstop collar with center opening to match piping OD.

2.3 GROUT

A. Description: Nonshrink; recommended for interior and exterior sealing openings in non-fire-rated walls or floors.

- B. Standard: ASTM C 1107/C 1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
- C. Design Mix: 5000-psi, 28-day compressive strength.
- D. Packaging: Premixed and factory packaged.

2.4 SILICONE SEALANTS

- A. Silicone Sealants: Single-component, silicone-based, neutral-curing elastomeric sealants of grade indicated below.
 - 1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces that are not fire rated.
 - 2. Sealant shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- B. Silicone Foams: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.

PART 3 - EXECUTION

3.1 SLEEVE INSTALLATION FOR NON-FIRE-RATED ELECTRICAL PENETRATIONS

- A. Comply with NECA 1.
- B. Comply with NEMA VE 2 for cable tray and cable penetrations.
- C. Sleeves for Conduits Penetrating Above-Grade Non-Fire-Rated Concrete and Masonry-Unit Floors and Walls:
 - 1. Interior Penetrations of Non-Fire-Rated Walls and Floors:
 - a. Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint.
 - b. Seal space outside of sleeves with mortar or grout. Pack sealing material solidly between sleeve and wall so no voids remain. Tool exposed surfaces smooth; protect material while curing.
 - 2. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
 - 3. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and raceway or cable unless sleeve seal is to be installed.
 - 4. Install sleeves for wall penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of walls. Cut sleeves to length for mounting flush with both surfaces of walls. Deburr after cutting.

5. Install sleeves for floor penetrations. Extend sleeves installed in floors 2 inches above finished floor level. Install sleeves during erection of floors.

D. Sleeves for Conduits Penetrating Non-Fire-Rated Gypsum Board Assemblies:

1. Use circular metal sleeves unless penetration arrangement requires rectangular sleeved opening.
2. Seal space outside of sleeves with approved joint compound for gypsum board assemblies.

3.2 SLEEVE-SEAL-SYSTEM INSTALLATION

- A. Install type and number of sealing elements recommended by manufacturer for raceway or cable material and size. Position raceway or cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway or cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.3 SLEEVE-SEAL-FITTING INSTALLATION

- A. Install sleeve-seal fittings in new walls and slabs as they are constructed.
- B. Assemble fitting components of length to be flush with both surfaces of concrete slabs and walls. Position waterstop flange to be centered in concrete slab or wall.
- C. Secure nailing flanges to concrete forms.
- D. Using grout, seal the space around outside of sleeve-seal fittings.

END OF SECTION 260544

SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Identification for raceways.
2. Identification of power and control cables.
3. Identification for conductors.
4. Equipment identification labels.

1.2 QUALITY ASSURANCE

- A. Comply with ANSI A13.1 and IEEE C2.
- B. Comply with NFPA 70.
- C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
- D. Comply with ANSI Z535.4 for safety signs and labels.
- E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

1.3 COORDINATION

- A. Coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual; and with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project.
- B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- C. Coordinate installation of identifying devices with location of access panels and doors.
- D. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 POWER AND CONTROL RACEWAY IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway size.
- B. Colors for Raceways Carrying Circuits at 600 V or Less:
 - 1. Black letters on an orange field.
 - 2. Legend: Indicate voltage and system or service type.
- C. Vinyl Labels for Raceways Carrying Circuits at 600 V or Less: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing ends of legend label.
- D. Snap-Around, Color-Coding Bands for Raceways Carrying Circuits at 600 V or Less: Slit, pretensioned, flexible, solid-colored acrylic sleeve, 2 inches long, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.

2.2 POWER AND CONTROL CABLE IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each cable size.
- B. Write-On Tags: Polyester tag, 0.015 inch thick, with corrosion-resistant grommet and cable tie for attachment to conductor or cable.
 - 1. Marker for Tags: Permanent, waterproof, black ink marker recommended by tag manufacturer.
 - 2. Marker for Tags: Machine-printed, permanent, waterproof, black ink marker recommended by printer manufacturer.
- C. Snap-Around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeve, 2 inches long, with diameter sized to suit diameter of cable it identifies and to stay in place by gripping action.

2.3 CONDUCTOR IDENTIFICATION MATERIALS

- A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils thick by 1 to 2 inches wide.
- B. Self-Adhesive, Self-Laminating Polyester Labels: Preprinted, 3-mil- thick flexible label with acrylic pressure-sensitive adhesive that provides a clear, weather- and chemical-

resistant, self-laminating, protective shield over the legend. Labels sized to fit the conductor diameter such that the clear shield overlaps the entire printed legend.

- C. Snap-Around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeve with diameter sized to suit diameter of conductor it identifies and to stay in place by gripping action.
- D. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.
- E. Write-On Tags: Polyester tag, 0.015 inch thick, with corrosion-resistant grommet and cable tie for attachment to conductor or cable.
 - 1. Marker for Tags: Permanent, waterproof, black ink marker recommended by tag manufacturer.
 - 2. Labels for Tags: Self-adhesive label, machine-printed with permanent, waterproof, black ink recommended by printer manufacturer, sized for attachment to tag.

2.4 EQUIPMENT IDENTIFICATION LABELS

- A. Self-Adhesive, Engraved, Laminated Acrylic or Melamine Label: Adhesive backed, with white letters on a dark-gray background. Minimum letter height shall be 3/8 inch.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Verify identity of each item before installing identification products.
- B. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.
- C. Apply identification devices to surfaces that require finish after completing finish work.
- D. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
- E. Attach plastic raceway and cable labels that are not self-adhesive type with clear vinyl tape with adhesive appropriate to the location and substrate.
- F. System Identification Color-Coding Bands for Raceways and Cables: Each color-coding band shall completely encircle cable or conduit. Place adjacent bands of two-color markings in contact, side by side. Locate bands at changes in direction, at

penetrations of walls and floors, at 50-foot maximum intervals in straight runs, and at 25-foot maximum intervals in congested areas.

- G. Aluminum Wraparound Marker Labels and Metal Tags: Secure tight to surface of conductor or cable at a location with high visibility and accessibility.
- H. Cable Ties: For attaching tags. Use general-purpose type, except as listed below:
 - 1. In Spaces Handling Environmental Air: Plenum rated.

3.2 IDENTIFICATION SCHEDULE

- A. Accessible Raceways and Metal-Clad Cables, 600 V or Less, for Service, Feeder, and Branch Circuits More Than 30 A, and 120 V to ground: Identify with self-adhesive vinyl label. Install labels at 30-foot maximum intervals.
- B. Accessible Raceways and Cables within Buildings: Identify the covers of each junction and pull box of the following systems with self-adhesive vinyl labels with the wiring system legend and system voltage. System legends shall be as follows:
 - 1. Emergency Power.
 - 2. Power.
- C. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and handholes, use color-coding conductor tape to identify the phase.
 - 1. Color-Coding for Phase and Voltage Level Identification, 600 V or Less: Use colors listed below for ungrounded branch-circuit conductors.
 - a. Color shall be factory applied or field applied for sizes larger than No. 8 AWG, if authorities having jurisdiction permit.
 - b. Colors for 208/120-V Circuits:
 - 1) Phase A: Black.
 - 2) Phase B: Red.
 - 3) Phase C: Blue.
 - c. Colors for 480/277-V Circuits:
 - 1) Phase A: Brown.
 - 2) Phase B: Orange.
 - 3) Phase C: Yellow.
 - d. Colors for 240/120-V Three Phase Circuits:

- 1) Phase A: Black.
 - 2) Phase B (Hi leg): Orange.
 - 3) Phase C: Blue.
- e. Colors for 240/120-V Single Phase Circuits:
- 1) Phase A: Black.
 - 2) Phase C: Red.
- f. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.
- D. Conductors to Be Extended in the Future: Attach write-on tags to conductors and list source.
- E. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.
1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.
 2. Use system of marker tape designations that is uniform and consistent with system used by manufacturer for factory-installed connections.
 3. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual.
- F. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and the Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.
1. Labeling Instructions:
 - a. Indoor Equipment: Self-adhesive, engraved, laminated acrylic or melamine label. Unless otherwise indicated, provide a single line of text with 1/2-inch- high letters on 1-1/2-inch- high label; where two lines of text are required, use labels 2 inches high.
 - b. Elevated Components: Increase sizes of labels and letters to those appropriate for viewing from the floor.
 - c. Unless provided with self-adhesive means of attachment, fasten labels with appropriate mechanical fasteners that do not change the NEMA or NRTL rating of the enclosure.

2. Equipment to Be Labeled:
 - a. Enclosures and electrical cabinets.
 - b. Access doors and panels for concealed electrical items.
 - c. Enclosed switches.

END OF SECTION 260553

SECTION 260923 - LIGHTING CONTROL DEVICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
- B. Photoelectric switches.
- C. Indoor occupancy sensors.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Show installation details for occupancy and light-level sensors.
 - 1. Interconnection diagrams showing field-installed wiring.
 - 2. Include diagrams for power, signal, and control wiring.

1.3 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For each type of lighting control device to include in emergency, operation, and maintenance manuals.

PART 2 - PRODUCTS

2.1 OUTDOOR PHOTOELECTRIC SWITCHES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Acuity Brands nLight
 - 2. Or approved equal.
- B. Description: Solid state, with SPST dry contacts rated for 1800-VA tungsten or 1000-VA inductive, to operate connected relay, contactor coils, or microprocessor input; complying with UL 773A.
- C. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

1. Light-Level Monitoring Range: 1.5 to 10 fc, with an adjustment for turn-on and turn-off levels within that range, and a directional lens in front of the photocell to prevent fixed light sources from causing turn-off.
2. Time Delay: Fifteen second minimum, to prevent false operation.
3. Surge Protection: Metal-oxide varistor.
4. Mounting: Twist lock complies with NEMA C136.10, with base-and-stem mounting or stem-and-swivel mounting accessories as required to direct sensor to the north sky exposure.

2.2 INDOOR OCCUPANCY SENSORS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Acuity brands – nLight or approved equal
 2. General Requirements for Sensors: Wall- or ceiling-mounted, solid-state indoor occupancy sensors with a separate power pack.
 3. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 4. Operation: Unless otherwise indicated, turn lights on when coverage area is occupied, and turn them off when unoccupied; with a time delay for turning lights off, adjustable over a minimum range of 1 to 15 minutes.
 5. Sensor Output: Contacts rated to operate the connected relay, complying with UL 773A. Sensor is powered from the power pack.
 6. Power Pack: Dry contacts rated for 20-A ballast load at 120- and 277-V ac, for 13-A tungsten at 120-V ac, and for 1 hp at 120-V ac. Sensor has 24-V dc, 150-mA, Class 2 power source, as defined by NFPA 70.
 7. Mounting:
 8. Sensor: Suitable for mounting in any position on a standard outlet box.
 - a. Relay: Externally mounted through a 1/2-inch knockout in a standard electrical enclosure.
 - b. Time-Delay and Sensitivity Adjustments: Recessed and concealed behind hinged door.
 - c. Indicator: Digital display, to show when motion is detected during testing and normal operation of sensor.
 9. Bypass Switch: Override the "on" function in case of sensor failure.
 10. Automatic Light-Level Sensor: Adjustable from 2 to 200 fc; turn lights off when selected lighting level is present.
- B. PIR Type: Ceiling mounted; detect occupants in coverage area by their heat and movement.
- C. Detector Sensitivity: Detect occurrences of 6-inch- minimum movement of any portion of a human body that presents a target of not less than 36 sq. in..
1. Detection Coverage (Room): Detect occupancy anywhere in a circular area of 1000 sq. ft. when mounted on a 96-inch- high ceiling.

2. Detection Coverage (Corridor): Detect occupancy within 90 feet when mounted on a 10-foot- high ceiling.
 3. Ultrasonic Type: Ceiling mounted; detect occupants in coverage area through pattern changes of reflected ultrasonic energy.
- D. Detector Sensitivity: Detect a person of average size and weight moving not less than 12 inches in either a horizontal or a vertical manner at an approximate speed of 12 inches/s.
1. Detection Coverage (Small Room): Detect occupancy anywhere within a circular area of 600 sq. ft. when mounted on a 96-inch- high ceiling.
 2. Detection Coverage (Standard Room): Detect occupancy anywhere within a circular area of 1000 sq. ft. when mounted on a 96-inch- high ceiling.
 3. Detection Coverage (Large Room): Detect occupancy anywhere within a circular area of 2000 sq. ft. when mounted on a 96-inch- high ceiling.
 4. Detection Coverage (Corridor): Detect occupancy anywhere within 90 feet when mounted on a 10-foot- high ceiling in a corridor not wider than 14 feet.
 5. Dual-Technology Type: Ceiling mounted; detect occupants in coverage area using PIR and ultrasonic detection methods. The particular technology or combination of technologies that control on-off functions is selectable in the field by operating controls on unit.
- E. Sensitivity Adjustment: Separate for each sensing technology.
1. Detector Sensitivity: Detect occurrences of 6-inch- minimum movement of any portion of a human body that presents a target of not less than 36 sq. in., and detect a person of average size and weight moving not less than 12 inches in either a horizontal or a vertical manner at an approximate speed of 12 inches/s.
 2. Detection Coverage (Standard Room): Detect occupancy anywhere within a circular area of 1000 sq. ft. when mounted on a 96-inch- high ceiling.

2.3 SWITCHBOX-MOUNTED OCCUPANCY SENSORS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Acuity Brands - nLight.
 2. Or approved equal.
- B. General Requirements for Sensors: Automatic-wall-switch occupancy sensor, suitable for mounting in a single gang switchbox.
- C. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
1. Operating Ambient Conditions: Dry interior conditions, 32 to 120 deg F.
 2. Switch Rating: Not less than 800-VA fluorescent at 120 V, 1200-VA fluorescent at 277 V, and 800-W incandescent.
- D. Wall-Switch Sensor Tag OC:

- E. Standard Range: 180-degree field of view, field adjustable from 180 to 40 degrees; with a minimum coverage area of 900 sq. ft.
 - 1. Sensing Technology: Dual technology - PIR and ultrasonic.
 - 2. Switch Type: SP, field selectable automatic "on," or manual "on" automatic "off."
 - 3. Voltage: Match the circuit voltage.
 - 4. Ambient-Light Override: Concealed, field-adjustable, light-level sensor from 10 to 150 fc. The switch prevents the lights from turning on when the light level is higher than the set point of the sensor.
 - 5. Concealed, field-adjustable, "off" time-delay selector at up to 30 minutes.
 - 6. Concealed "off" time-delay selector at 30 seconds, and 5, 10, and 20 minutes.
 - 7. Adaptive Technology: Self-adjusting circuitry detects and memorizes usage patterns of the space and helps eliminate false "off" switching.

F. Wall-Switch Sensor Tag OC2:

- G. Standard Range: 210-degree field of view, with a minimum coverage area of 900 sq. ft.
 - 1. Sensing Technology: Dual technology.
 - 2. Switch Type: SP, field selectable automatic "on," or manual "on" automatic "off."
 - 3. Voltage: Match the circuit voltage.
 - 4. Ambient-Light Override: Concealed, field-adjustable, light-level sensor from 10 to 150 fc. The switch prevents the lights from turning on when the light level is higher than the set point of the sensor.
 - 5. Concealed, field-adjustable, "off" time-delay selector at up to 30 minutes.
 - 6. Concealed "off" time-delay selector at 30 seconds, and 5, 10, and 20 minutes.
 - 7. Adaptive Technology: Self-adjusting circuitry detects and memorizes usage patterns of the space and helps eliminate false "off" switching.
 - 8. Provide second relay for exhaust fan control.

2.4 CONDUCTORS AND CABLES

- A. Power Wiring to Supply Side of Remote-Control Power Sources: Not smaller than No. 12 AWG. Comply with requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables."
- B. Classes 2 and 3 Control Cable: Multiconductor cable with stranded-copper conductors not smaller than No. 18 AWG. Comply with requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables."
- C. Class 1 Control Cable: Multiconductor cable with stranded-copper conductors not smaller than No. 14 AWG. Comply with requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

PART 3 - EXECUTION

3.1 SENSOR INSTALLATION

- A. Coordinate layout and installation of ceiling-mounted devices with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, smoke detectors, fire-suppression systems, and partition assemblies.
- B. Install and aim sensors in locations to achieve not less than 90 percent coverage of areas indicated. Do not exceed coverage limits specified in manufacturer's written instructions.

3.2 WIRING INSTALLATION

- A. Wiring Method: Comply with Section 260519 "Low-Voltage Electrical Power Conductors and Cables." Minimum conduit size is 1/2 inch.
- B. Wiring within Enclosures: Comply with NECA 1. Separate power-limited and nonpower-limited conductors according to conductor manufacturer's written instructions.
- C. Size conductors according to lighting control device manufacturer's written instructions unless otherwise indicated.
- D. Splices, Taps, and Terminations: Make connections only on numbered terminal strips in junction, pull, and outlet boxes; terminal cabinets; and equipment enclosures.

3.3 IDENTIFICATION

- A. Identify components and power and control wiring according to Section 260553 "Identification for Electrical Systems."

3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- B. Perform the following tests and inspections:
- C. Operational Test: After installing time switches and sensors, and after electrical circuitry has been energized, start units to confirm proper unit operation.
 - 1. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Lighting control devices will be considered defective if they do not pass tests and inspections.
- E. Prepare test and inspection reports.

3.5 ADJUSTING

- A. Occupancy Adjustments: When requested within 12 months from date of Substantial Completion, provide on-site assistance in adjusting sensors to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.
- B. For occupancy and motion sensors, verify operation at outer limits of detector range. Set time delay to suit Owner's operations.
 - 1. For daylighting controls, adjust set points and deadband controls to suit Owner's operations.

3.6 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain lighting control devices.

END OF SECTION 260923

SECTION 262726 - WIRING DEVICES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Receptacles, receptacles with integral GFCI, and associated device plates.
2. Snap switches and wall-box dimmers.
3. Floor service outlets, poke-through assemblies, service poles, and multioutlet assemblies.

1.2 DEFINITIONS

- A. EMI: Electromagnetic interference.
- B. Pigtail: Short lead used to connect a device to a branch-circuit conductor.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: List of legends and description of materials and process used for premarking wall plates.

1.4 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For wiring devices to include in all manufacturers' packing-label warnings and instruction manuals that include labeling conditions.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 1. Poke-Through, Fire-Rated Closure Plugs: One for every five floor service outlets installed, but no fewer than two.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
1. Cooper Wiring Devices; Division of Cooper Industries, Inc. (Cooper).
 2. Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
 3. Leviton Mfg. Company Inc. (Leviton).
 4. Pass & Seymour/Legrand (Pass & Seymour).
- B. Source Limitations: Obtain each type of wiring device and associated wall plate from single source from single manufacturer.

2.2 GENERAL WIRING-DEVICE REQUIREMENTS

- A. Wiring Devices, Components, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with NFPA 70.
- C. Devices that are manufactured for use with modular plug-in connectors may be substituted under the following conditions:
1. Connectors shall comply with UL 2459 and shall be made with stranding building wire.
 2. Devices shall comply with the requirements in this Section.

2.3 STRAIGHT-BLADE RECEPTACLES

- A. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 Configuration 5-20R, UL 498, and FS W-C-596.
1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Cooper; 5351 (single), CR5362 (duplex).
 - b. Hubbell; HBL5351 (single), HBL5352 (duplex).
 - c. Leviton; 5891 (single), 5352 (duplex).
 - d. Pass & Seymour; 5361 (single), 5362 (duplex).

2.4 TOGGLE SWITCHES

- A. Comply with NEMA WD 1, UL 20, and FS W-S-896.
- B. Switches, 120/277 V, 20 A:
1. Products: Subject to compliance with requirements, provide one of the following:

- 1) Single Pole:
 - a) Cooper; AH1221.
 - b) Hubbell; HBL1221.
 - c) Leviton; 1221-2.
 - d) Pass & Seymour; CSB20AC1.
- 2) Three Way:
 - a) Cooper; AH1223.
 - b) Hubbell; HBL1223.
 - c) Leviton; 1223-2.
 - d) Pass & Seymour; CSB20AC3.
- 3) Four Way:
 - a) Cooper; AH1224.
 - b) Hubbell; HBL1224.
 - c) Leviton; 1224-2.
 - d) Pass & Seymour; CSB20AC4.

2.5 WALL PLATES

- A. Single and combination types shall match corresponding wiring devices.
 1. Plate-Securing Screws: Metal with head color to match plate finish.
 2. Material for Finished Spaces: 0.035-inch- thick, satin-finished, Type 302 stainless steel.

2.6 POKE-THROUGH ASSEMBLIES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. Hubbell Incorporated; Wiring Device-Kellems.
 2. Pass & Seymour/Legrand.
 3. Square D/Schneider Electric.
 4. Thomas & Betts Corporation.
 5. Wiremold/Legrand.
- B. Description:
 1. Factory-fabricated assembly of below-floor junction box with multichanneled, through-floor raceway/firestop unit and detachable matching floor service-outlet assembly.
 2. Comply with UL 514 scrub water exclusion requirements.
 3. Service-Outlet Assembly: As noted on drawings.
 4. Size: Selected to fit nominal 3-inch or 4-inch cored holes in floor and matched to floor thickness. Refer to drawings for poke-thru specified.
 5. Fire Rating: Unit is listed and labeled for fire rating of floor-ceiling assembly.

6. Closure Plug: Arranged to close unused 3-inch or 4-inch cored openings and reestablish fire rating of floor.
7. Wiring Raceways and Compartments: For a minimum of four No. 12 AWG conductors and a minimum of four, four-pair Cat 6 cables.

2.7 FINISHES

- A. Device Color: Stainless steel, black covers.
 1. Wiring Devices Connected to Normal Power System: As selected by Architect unless otherwise indicated or required by NFPA 70 or device listing.
- B. Wall Plate Color: Stainless steel, black covers.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with NECA 1, including mounting heights listed in that standard, unless otherwise indicated.
- B. Coordination with Other Trades:
 1. Protect installed devices and their boxes. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of boxes.
 2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
 3. Install wiring devices after all wall preparation, including painting, is complete.
- C. Conductors:
 1. Do not strip insulation from conductors until right before they are spliced or terminated on devices.
 2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
 3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
 4. Existing Conductors:
 - a. Cut back and pigtail, or replace all damaged conductors.
 - b. Straighten conductors that remain and remove corrosion and foreign matter.
 - c. Pigtailling existing conductors is permitted, provided the outlet box is large enough.
- D. Device Installation:

1. Replace devices that have been in temporary use during construction and that were installed before building finishing operations were complete.
2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
4. Connect devices to branch circuits using pigtails that are not less than 6 inches in length.
5. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, two-thirds to three-fourths of the way around terminal screw.
6. Use a torque screwdriver when a torque is recommended or required by manufacturer.
7. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
8. Tighten unused terminal screws on the device.
9. When mounting into metal boxes, remove the fiber or plastic washers used to hold device-mounting screws in yokes, allowing metal-to-metal contact.

E. Receptacle Orientation:

1. Install ground pin of vertically mounted receptacles down, and on horizontally mounted receptacles to the right.

F. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.

G. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.

H. Adjust locations of floor service outlets and service poles to suit arrangement of partitions and furnishings.

3.2 IDENTIFICATION

A. Comply with Section 260553 "Identification for Electrical Systems."

B. Identify each receptacle with panelboard identification and circuit number. Use hot, stamped, or engraved machine printing with black-filled lettering on face of plate, and durable wire markers or tags inside outlet boxes.

3.3 FIELD QUALITY CONTROL

A. Tests for Convenience Receptacles:

1. Line Voltage: Acceptable range is 105 to 132 V.
2. Percent Voltage Drop under 15-A Load: A value of 6 percent or higher is unacceptable.
3. Ground Impedance: Values of up to 2 ohms are acceptable.
4. GFCI Trip: Test for tripping values specified in UL 1436 and UL 943.

5. Using the test plug, verify that the device and its outlet box are securely mounted.
 6. Tests shall be diagnostic, indicating damaged conductors, high resistance at the circuit breaker, poor connections, inadequate fault current path, defective devices, or similar problems. Correct circuit conditions, remove malfunctioning units and replace with new ones, and retest as specified above.
- B. Wiring device will be considered defective if it does not pass tests and inspections.
- C. Prepare test and inspection reports.

END OF SECTION 262726

SECTION 262813 - FUSES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Cartridge fuses rated 600 V and less for use in switches, switchboards, controllers and motor-control centers.

1.2 SUBMITTALS

A. Product Data: Include the following for each fuse type indicated:

1. Dimensions and manufacturer's technical data on features, performance, electrical characteristics, and ratings.
2. Let-through current curves for fuses with current-limiting characteristics.
3. Time-current curves, coordination charts and tables, and related data.
4. Fuse size for elevator feeders and elevator disconnect switches.

B. Ambient Temperature Adjustment Information: If ratings of fuses have been adjusted to accommodate ambient temperatures, provide list of fuses with adjusted ratings.

1. For each fuse having adjusted ratings, include location of fuse, original fuse rating, local ambient temperature, and adjusted fuse rating.
2. Provide manufacturer's technical data on which ambient temperature adjustment calculations are based.

C. Operation and Maintenance Data: For fuses to include in emergency, operation, and maintenance manuals.

1. In addition to items specified in Division 01 Section "Operation and Maintenance Data," include the following:
 - a. Let-through current curves for fuses with current-limiting characteristics.
 - b. Time-current curves, coordination charts and tables, and related data.
 - c. Ambient temperature adjustment information.

1.3 QUALITY ASSURANCE

A. Source Limitations: Obtain fuses from a single manufacturer.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

- C. Comply with NEMA FU 1.
- D. Comply with NFPA 70.

1.4 PROJECT CONDITIONS

- A. Where ambient temperature to which fuses are directly exposed is less than 40 deg F or more than 100 deg F, apply manufacturer's ambient temperature adjustment factors to fuse ratings.

1.5 COORDINATION

- A. Coordinate fuse ratings with utilization equipment nameplate limitations of maximum fuse size.

1.6 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Fuses: Quantity equal to 10 percent of each fuse type and size, but no fewer than three of each type and size.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Cooper Bussman, Inc.
 - 2. Eagle Electric Mfg. Co., Inc.; Cooper Industries, Inc.
 - 3. Ferraz Shawmut, Inc.
 - 4. Tracor, Inc.; Littelfuse, Inc. Subsidiary.

2.2 CARTRIDGE FUSES

- A. Characteristics: NEMA FU 1, nonrenewable cartridge fuse; class and current rating indicated; voltage rating consistent with circuit voltage.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine utilization equipment nameplates and installation instructions. Install fuses of sizes and with characteristics appropriate for each piece of equipment.
- B. Evaluate ambient temperatures to determine if fuse rating adjustment factors must be applied to fuse ratings.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 FUSE APPLICATIONS

- A. Motor Branch Circuits: Class RK5, time delay.

3.3 INSTALLATION

- A. Install fuses in fusible devices. Arrange fuses so rating information is readable without removing fuse.

3.4 IDENTIFICATION

- A. Install labels indicating fuse replacement information on inside door of each fused switch.

END OF SECTION 262813

SECTION 262816 - ENCLOSED SWITCHES AND CIRCUIT BREAKERS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following individually mounted, enclosed switches and circuit breakers:
1. Fusible switches.
 2. Enclosures.

1.2 SUBMITTALS

- A. Product Data: For each type of enclosed switch, circuit breaker, accessory, and component indicated. Include dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.
1. Enclosure types and details for types other than NEMA 250, Type 1.
 2. Current and voltage ratings.
 3. Short-circuit current rating.
 4. UL listing for series rating of installed devices.
 5. Features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
- B. Shop Drawings: Diagram power, signal, and control wiring.
- C. Field quality-control test reports including the following:
1. Test procedures used.
 2. Test results that comply with requirements.
 3. Results of failed tests and corrective action taken to achieve test results that comply with requirements.
- D. Manufacturer's field service report.
- E. Operation and Maintenance Data: For enclosed switches and circuit breakers to include in emergency, operation, and maintenance manuals. Include the following:
1. Manufacturer's written instructions for testing and adjusting enclosed switches and circuit breakers.
 2. Time-current curves, including selectable ranges for each type of circuit breaker.

1.3 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

1.4 COORDINATION

- A. Coordinate layout and installation of switches, circuit breakers, and components with other construction, including conduit, piping, equipment, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

PART 2 - PRODUCTS

2.1 FUSIBLE SWITCHES

- A. Available Manufacturers:
 - 1. Eaton Corporation; Cutler-Hammer Products.
 - 2. Siemens Energy & Automation, Inc.
 - 3. Square D/Group Schneider.
- B. Fusible Switch, 1200 A and Smaller: NEMA KS 1, Type HD, with clips or bolt pads to accommodate specified fuses, lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.
- C. Accessories:
 - 1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
 - 2. Neutral Kit: Internally mounted; insulated, capable of being grounded, and bonded; and labeled for copper and aluminum neutral conductors.
 - 3. Auxiliary Contact Kit: Auxiliary set of contacts arranged to open before switch blades open.

2.2 ENCLOSURES

- A. NEMA AB 1 and NEMA KS 1 to meet environmental conditions of installed location.
 - 1. Outdoor Locations: NEMA 250, Type 3R.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 CONCRETE BASES

- A. Coordinate size and location of concrete bases. Verify structural requirements with structural engineer.
- B. Concrete base is specified in Division 26 Section "Hangers and Supports for Electrical Systems," and concrete materials and installation requirements are specified in Division 03.

3.3 INSTALLATION

- A. Comply with applicable portions of NECA 1, NEMA PB 1.1, and NEMA PB 2.1 for installation of enclosed switches and circuit breakers.
- B. Mount individual wall-mounting switches and circuit breakers with tops at uniform height, unless otherwise indicated. Anchor floor-mounting switches to concrete base.
- C. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.

3.4 IDENTIFICATION

- A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs as specified in Division 26 Section "Identification for Electrical Systems."
- B. Enclosure Nameplates: Label each enclosure with engraved metal or laminated-plastic nameplate as specified in Division 26 Section "Identification for Electrical Systems."

3.5 FIELD QUALITY CONTROL

- A. Prepare for acceptance testing as follows:
 - 1. Inspect mechanical and electrical connections.
 - 2. Verify switch and relay type and labeling verification.
 - 3. Verify rating of installed fuses.
 - 4. Inspect proper installation of type, size, quantity, and arrangement of mounting or anchorage devices complying with manufacturer's certification.

- B. Perform the following field tests and inspections and prepare test reports:
 - 1. Perform each electrical test and visual and mechanical inspection stated in NETA ATS, Section 7.5 for switches and Section 7.6 for molded-case circuit breakers. Certify compliance with test parameters.
 - 2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.

3.6 CLEANING

- A. On completion of installation, vacuum dirt and debris from interiors; do not use compressed air to assist in cleaning.
- B. Inspect exposed surfaces and repair damaged finishes.

END OF SECTION 262816

SECTION 265100 - INTERIOR LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Interior lighting fixtures, lamps, and ballasts.
 2. Exit signs.
 3. Lighting fixture supports.

1.2 DEFINITIONS

- A. BF: Ballast factor.
- B. CCT: Correlated color temperature.
- C. CRI: Color-rendering index.
- D. LER: Luminaire efficacy rating.
- E. Lumen: Measured output of lamp and luminaire, or both.
- F. Luminaire: Complete lighting fixture, including ballast housing if provided.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of lighting fixture, arranged in order of fixture designation. Include data on features, accessories, finishes, and the following:
1. Physical description of lighting fixture including dimensions.
 2. Ballast, including BF.
 3. Energy-efficiency data.
 4. Life, output (lumens, CCT, and CRI), and energy-efficiency data for lamps.
- B. Shop Drawings: For nonstandard or custom lighting fixtures. Include plans, elevations, sections, details, and attachments to other work.
1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 2. Wiring Diagrams: For power, signal, and control wiring.
- C. Installation instructions.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For lighting equipment and fixtures to include in emergency, operation, and maintenance manuals.
 - 1. Provide completed schedule attached at end of specification.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Lamps: 10 for every 100 of each type and rating installed. Furnish at least one of each type.
 - 2. Plastic Diffusers and Lenses: One for every 100 of each type and rating installed. Furnish at least one of each type.
 - 3. Ballasts: One for every 100 of each type and rating installed. Furnish at least one of each type.
 - 4. LED Modules: 1 for every 25 of each type and rating installed. Furnish at least one of each type.

1.6 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with NFPA 70.

1.7 COORDINATION

- A. Coordinate layout and installation of lighting fixtures and suspension system with other construction that penetrates ceilings or is supported by them, including HVAC equipment, fire-suppression system, and partition assemblies.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide product indicated on Drawings.

2.2 GENERAL REQUIREMENTS FOR LIGHTING FIXTURES AND COMPONENTS

- A. Recessed Fixtures: Comply with NEMA LE 4 for ceiling compatibility for recessed fixtures.

- B. Fluorescent Fixtures: Comply with UL 1598. Where LER is specified, test according to NEMA LE 5 and NEMA LE 5A as applicable.
- C. Metal Parts: Free of burrs and sharp corners and edges.
- D. Sheet Metal Components: Steel unless otherwise indicated. Form and support to prevent warping and sagging.
- E. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position.
- F. Diffusers and Globes:
 - 1. Acrylic Lighting Diffusers: 100 percent virgin acrylic plastic. High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
 - a. Lens Thickness: At least 0.125 inch minimum unless otherwise indicated.
 - b. UV stabilized.
- G. Factory-Applied Labels: Comply with UL 1598. Include recommended lamps and ballasts. Labels shall be located where they will be readily visible to service personnel, but not seen from normal viewing angles when lamps are in place.
 - 1. Label shall include the following lamp and ballast characteristics:
 - a. "USE ONLY" and include specific lamp type.
 - b. Lamp diameter code (T-4, T-5, T-8, T-12, etc.), tube configuration (twin, quad, triple, etc.), base type, and nominal wattage for fluorescent and compact fluorescent luminaires.
 - c. Start type (preheat, rapid start, instant start, etc.) for fluorescent and compact fluorescent luminaires.
 - d. ANSI ballast type (M98, M57, etc.) for HID luminaires.
 - e. CCT and CRI for all luminaires.

2.3 BALLASTS FOR LINEAR FLUORESCENT LAMPS

- A. General Requirements for Electronic Ballasts:
 - 1. Comply with UL 935 and with ANSI C82.11.
 - 2. Designed for type and quantity of lamps served.
 - 3. Ballasts shall be designed for full light output unless another BF, dimmer, or bi-level control is indicated.
 - 4. Sound Rating: Class A.
 - 5. Total Harmonic Distortion Rating: Less than 20 percent.
 - 6. Transient Voltage Protection: IEEE C62.41.1 and IEEE C62.41.2, Category A or better.
 - 7. Operating Frequency: 42 kHz or higher.
 - 8. Lamp Current Crest Factor: 1.7 or less.

9. BF: 0.88 or higher.
10. Power Factor: 0.95 or higher.
11. Parallel Lamp Circuits: Multiple lamp ballasts shall comply with ANSI C82.11 and shall be connected to maintain full light output on surviving lamps if one or more lamps fail.

B. luminaires controlled by occupancy sensors shall have programmed-start ballasts.

2.4 FLUORESCENT LAMPS

- A. T8 rapid-start lamps, rated 32 W maximum, nominal length of 48 inches, 2800 initial lumens (minimum), CRI 75 (minimum), color temperature 4100 K, and average rated life 20,000 hours unless otherwise indicated.

2.5 LEDs

- A. High-brightness LEDs mounted to a metal core circuit board.
- B. Provide color temperature to match existing, unless otherwise noted on drawings.
- C. Provide color accuracy (CRI) 80.

2.6 LIGHTING FIXTURE SUPPORT COMPONENTS

- A. Comply with Section 260529 "Hangers and Supports for Electrical Systems" for channel- and angle-iron supports and nonmetallic channel and angle supports.
- B. Single-Stem Hangers: 1/2-inch steel tubing with swivel ball fittings and ceiling canopy. Finish same as fixture.
- C. Twin-Stem Hangers: Two, 1/2-inch steel tubes with single canopy designed to mount a single fixture. Finish same as fixture.
- D. Wires: ASTM A 641/A 641M, Class 3, soft temper, zinc-coated steel, 12 gage.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Lighting fixtures:
 1. Set level, plumb, and square with ceilings and walls unless otherwise indicated.
 2. Install lamps in each luminaire.
- B. Lay-in Ceiling Lighting Fixtures Supports: Use grid as a support element.

1. Install ceiling support system rods or wires, independent of the ceiling suspension devices, for each fixture. Locate not more than 6 inches from lighting fixture corners.
 2. Support Clips: Fasten to lighting fixtures and to ceiling grid members at or near each fixture corner with clips that are UL listed for the application.
 3. Install at least one independent support rod or wire from structure to a tab on lighting fixture. Wire or rod shall have breaking strength of the weight of fixture at a safety factor of 3.
- C. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

3.2 IDENTIFICATION

- A. Install labels with panel and circuit numbers on concealed junction and outlet boxes. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.3 FIELD QUALITY CONTROL

- A. Test for Emergency Lighting: Interrupt power supply to demonstrate proper operation. Verify transfer from normal power to battery and retransfer to normal.
- B. Verify that self-luminous exit signs are installed according to their listing and the requirements in NFPA 101.
- C. Prepare a written report of tests, inspections, observations, and verifications indicating and interpreting results. If adjustments are made to lighting system, retest to demonstrate compliance with standards.

3.4 STARTUP SERVICE

- A. Burn-in all lamps that require specific aging period to operate properly, prior to occupancy by Owner. Burn-in fluorescent and compact fluorescent lamps intended to be dimmed, for at least 100 hours at full voltage.

END OF SECTION 265100

