

**AHERA 3-YEAR RE-INSPECTION REPORT
AND MANAGEMENT PLAN UPDATE
of
ASBESTOS CONTAINING MATERIALS**

Performed at:

**WHITE PLAINS HIGH SCHOOL
W.P.M.S. - HIGHLAND CAMPUS
W.P.M.S. - EASTVIEW CAMPUS
ROCHAMBEAU ALTERNATIVE HIGH SCHOOL
CHURCH STREET ELEMENTARY SCHOOL
GEORGE WASHINGTON ELEMENTARY SCHOOL
MAMARONECK AVENUE ELEMENTARY SCHOOL
RIDGEWAY ELEMENTARY SCHOOL
EDUCATION HOUSE
POST ROAD ELEMENTARY SCHOOL**

Performed for:



**White Plains Public Schools
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1.0 SCOPE OF WORK

On October 30, 1987, the U.S. Government issued a final rule under Section 203 of Title II of the Toxic Substances Control Act (TSCA) entitled Asbestos Containing Materials in Schools, 40 CFR 763 (as amended through December 31, 2002). The Environmental Protection Agency (EPA) was charged with enforcing this ruling, which was the result of federal legislation known as the Asbestos Hazard Emergency Response Act (AHERA). This action represented a substantial expansion of the 1982 version of 40 CFR 763, and placed following additional burdens on the Local Education Agency (LEA):

- All local education agencies (LEAs) identify ACBM in their school buildings. Once doing so, the LEAs must submit a Management Plan to the State Education Department by October 12, 1988.
- At least once every six months after the Management Plan is in effect; the LEA Designee shall conduct a periodic surveillance in each school building containing ACBM. Non-accredited personnel may perform the periodic surveillance. The surveillance requires that a visual inspection of all areas that have been identified in the Management Plan as ACBM be conducted and any changes in the condition of the ACBM be noted. This information shall be recorded as well as the date and the name of the person performing the surveillance. This information should be submitted to Designated Person to be included in the Management Plan.
- At least once every three years, the Local Education Agency must have a re-inspection of its building. The re-inspection must be performed by an accredited inspector who should recheck all ACBM or assumed ACBM and reassess any changes in its condition. This information should be included within the Management Plan.

The White Plains Public Schools completed the AHERA inspection and management plan for asbestos containing building materials in each of its school buildings. Louis Berger performed the 2013 AHERA 3-year re-inspection.

Louis Berger has been retained by White Plains Public Schools to perform the 2016 AHERA 3 year re-inspection of their school district. The re-inspection process consists of four phases prior to final submission. The four phases are: 1) management plan review, 2) field inspection, 3)



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update of the original management plan, and 4) review of the new, updated management plan with the LEA Designee of the school district.

1.1 ORIGINAL MANAGEMENT PLAN REVIEW

The initial phase requires the accredited inspector and/or management planner to review the original management plan. The inspector ascertains for each school building in the district, all the materials that were assumed or confirmed to contain asbestos through bulk sample analysis. The locations, material type (surfacing, thermal system insulation (TSI), and miscellaneous), and quantities for each homogeneous area are identified.

Based on the information compiled during the management plan review provided by the school district, the inspector then develops a field re-inspection form which will be utilized in phase 2 (field inspection).

1.2 FIELD INSPECTION

The second phase is the actual inspection of the materials assumed or confirmed to contain asbestos in the original management plan for each building. The inspector enters a space, which was shown to contain asbestos during the original inspection. The inspector determines if the ACM(s) is still present in the room or if it has been abated. If the ACM(s) is still present, the inspector confirms the quantity of material(s), checks to see if the material(s) is friable and observes the condition of the material(s) for damage. This information is then recorded on the field inspection forms. Additionally, any useful information, which may be used in updating the management plan, is noted. The inspector continues the process throughout each school building.

If during the inspection the inspector observes any previously unidentified suspect materials, a bulk sample may be collected to determine if the material contains asbestos. Bulk samples are taken only with the approval of the LEA Designee of the school district. If bulk samples are not collected the material is assumed to contain asbestos.

From January 5, 2016 through January 13, 2016 and June 3, 2016 an AHERA re-inspection of the White Plains Public schools was performed by the following NYS/AHERA accredited inspector(s).

Name	NYSDOL #	Exp. Date
Jeff Leed	09-00446	8/31/16

The management plan was developed by the following NYS/AHERA accredited Management Planner(s):

Name	NYSDOL #	Exp. Date
Andrew Cheskin	05-04280	9/30/16



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Note: Copies of current certificates are included in Appendix 6.

This inspection report updates the information and conditions on all ACBM described and assessed in the original report(s). In addition, any ACBM which was not identified in the original inspection but was discovered during this survey has been included in this report.

1.3 UPDATE OF THE ORIGINAL MANAGEMENT PLAN

The third phase of the re-inspection is updating the original management plan. The management plan is written by a state certified management planner. The inspector sorts the data collected during the actual inspection into tabulated forms based on the space I.D. # and the type of material. The Management Planner then determines the necessary response actions required to be taken by the school district in order to maintain the ACBM and develops the new, updated management plan.

1.4 UPDATE MANAGEMENT PLAN REVIEW WITH DISTRICT LEA DESIGNEE

The fourth phase of the re-inspection is a review of the updated management plan with the school district's LEA Designee in order to familiarize the LEA Designee with the information contained in the management plan. The Management Planner and the LEA Designee review the data collected and the response actions recommended. Any appropriate recommendations made by the LEA Designee are incorporated into the management plan before final submission. The LEA Designee then signs the final copy of the management plan.

In the future, the Management Plan must be updated whenever an abatement of ACBMs is performed. The six-month periodic surveillance of the school district is still required after the re-inspection.

In New York State, the School Asbestos Safety Act (SASA) located in the New York State Education Law Sections 430 thru 437, also requires the LEA for the District to re-inspect the buildings for ACBM every three years. SASA requires the LEA to submit the AHERA 3-year re-inspection data to the New York State Education Department on forms, which they provide. These forms are generally supplied to the District at the beginning of the re-inspection with dates when the re-inspection must be completed and submitted by. A copy of the completed forms has been included at the end of this report.

This 3-year re-inspection cannot accurately determine all ACM that may be present in or behind walls, ceilings and floors. Before the start of any renovation project, existing plans and specifications regarding the building materials used in construction (i.e. plaster materials, sheetrock, pipe insulation, etc.) should be reviewed. If necessary, access holes may be made in the walls, ceilings and/or floor to look for ACM pipe insulation. Properly trained personnel should perform this work. If a suspect material is found, bulk sampling should be conducted prior to construction



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to protect workers from possible contamination. Licensed inspectors should collect bulk samples. An accredited laboratory should perform bulk sample analysis.

During the original inspection not all varieties of floor tiles used in the buildings were sampled and analyzed. Some floor tiles were assumed to contain asbestos. These tiles are non-friable as long as they remain in good condition. The floor tile, floor tile mastic, and/or the under lying felt paper must be sampled prior to any renovation or removal project which will disturb the materials.

Fire doors have also been assumed to contain asbestos in the core as a fire retardant. If the doors are to be removed, drilled or affected where the interior would be exposed, the necessary precautions should be taken.

Roofing materials, which are not covered by the 3-year re-inspection, should be considered as suspect materials. Core samples down to the substrate of all homogeneous roofing materials should be collected and analyzed for asbestos before the start of any renovation project.

The Operations and Maintenance Plan found in Section 4.0 of the management plan must be kept up to date. It contains important information for working with and maintaining materials that contain asbestos.



2.0 SITE DESCRIPTION



White Plains High School

550 North Street

White Plains, New York 10605

Number of Levels: Three (3) Levels

Re-inspection Date(s): January 11, 2016 and June 3, 2016

Building Contains: Non-Friable



White Plains Middle School Highland Campus

128 Grandview Avenue

White Plains, New York 10605

Number of Levels: Four (4) Levels

Re-inspection Date(s): January 6, 2016 and June 3, 2016

Building Contains: Friable and Non-Friable



White Plains Middle School Eastview Campus

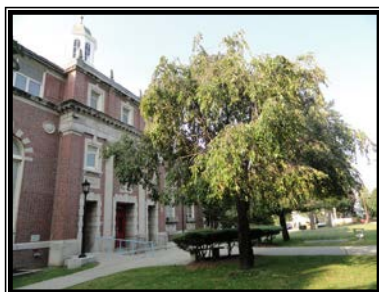
350 Main Street

White Plains, New York 10601

Number of Levels: Five (5) Levels

Re-inspection Date(s): January 5, 2016 and June 3, 2016

Building Contains: Friable and Non-Friable



Rochambeau Alternative High School

228 Fisher Avenue

White Plains, New York 10606

Number of Levels: Five (5) Levels

Re-inspection Date(s): January 13, 2016 and June 3, 2016

Building Contains: Friable and Non-Friable



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Church Street Elementary School

295 Church Street

White Plains, New York 10604

Number of Levels: Two (2) Levels

Re-inspection Date(s): January 5, 2016 and June 3, 2016

Building Contains: Friable and Non-Friable



George Washington Elementary School

100 Orchard Street

White Plains, New York 10604

Number of Levels: Three (3) Levels

Re-inspection Date(s): January 12, 2016 and June 3, 2016

Building Contains: Friable and Non-Friable



Mamaroneck Avenue Elementary School

7 Nosband Avenue

White Plains, New York 10605

Number of Levels: Three (3) Levels

Re-inspection Date(s): January 12, 2016 and June 3, 2016

Building Contains: Non-Friable



Ridgeway Elementary School

225 Ridgeway

White Plains, New York 10605

Number of Levels: One (1) Level

Re-inspection Date(s): January 13, 2016 and June 3, 2016

Building Contains: Non-Friable



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Education House

5 Homeside Lane

White Plains, New York 10605

Number of Levels: Four (4) Levels

Re-inspection Date(s): January 13, 2016 and June 3, 2016

Building Contains: Friable and Non-Friable

Post Road Elementary School is a New Building Construction. No AHERA re-inspection was performed at this school.



3.0 ASSESSMENT OF ACBM

3.1 ACBM CATEGORIES

The ACBM's at the school were inspected and described in each building space accessible by nondestructive means. The inspector(s) assessed all friable known or assumed ACBM in the school building in accordance with 40 CFR 763.88. In addition, all other non-friable ACBM were also assessed. Hazardous Assessment form, which is located in Appendix 3, lists a space by space description of the ACBM and their appropriate response actions.

The ACBM and assumed ACBM were classified according to these categories in 40 CFR 763.88:

- 1. DAMAGED OR SIGNIFICANTLY DAMAGED THERMAL SYSTEM INSULATION (TSI).** Plumbing and HVAC mechanical equipment insulation with greater than 1 percent damage;
- 2. DAMAGED FRIABLE SURFACING ACBM.** Sprayed or trowelled on coating material applied to interior structural components. Damaged less than 10 percent (evenly distributed throughout the material) or 25 percent (localized);
- 3. SIGNIFICANTLY DAMAGED FRIABLE SURFACING ACBM.** Same description as No. 2 with damage extent greater than 10 percent (distributed) or 25 percent (localized);
- 4. DAMAGED OR SIGNIFICANTLY DAMAGED FRIABLE MISCELLANEOUS ACBM.** Friable ACBM, excluding thermal system insulation or surfacing material with damage greater than 1 percent;
- 5. ACBM WITH POTENTIAL FOR DAMAGE.** Material susceptible to physical, water or other damages;
- 6. ACBM WITH THE POTENTIAL FOR SIGNIFICANT DAMAGE.** Material easily susceptible to physical, water or other damages;
- 7. ANY REMAINING FRIABLE ACBM OR FRIABLE SUSPECTED ACBM.**

The ACBM's in each functional space were assessed as to the location and amount of material, friability, damage, severity of damage (percentage of total amount), extent of damage (scattered or localized), and type of damage (flaking, blistering, water damage or other signs of physical damage). Other considerations that were taken into account included whether the material was accessible, the material's potential for disturbance, known or suspected causes of damage (e.g., air erosion, vandalism, vibration, water, etc.), and preventive measures which might eliminate the reasonable likelihood of undamaged ACM from becoming significantly damaged.



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3.2 RESPONSE ACTIONS

According to 40 CFR 763.88(d), the LEA shall select a person fully accredited to develop management plans. NYS and AHERA accredited personnel reviewed the results of the inspection and assessment for the facility. When choosing among the various response actions, a number of factors were taken into consideration including, but not limited to, damage, potential for damage, type of material, and any planned renovations or change of use for the building area. The response actions were planned following a 2 fold strategy. First, in order to eliminate any imminent health risk, all areas which contain significantly damaged ACBM will be abated in a timely fashion. The second series of response actions are to repair, or abate where repair is not feasible, damaged ACBM. The final series of response actions are primarily precautionary steps to insure that damage is not inflicted upon ACBM which currently exists in an intact state. The specific action taken will depend upon accessibility of the area, current occupancy, and the degree of any possible air erosion. These areas, as well as all remaining ACBM, shall be under constant surveillance until the material is ultimately removed.

Hazardous Assessment Form identifies the recommended appropriate response actions on a space by space basis. At a minimum, the response actions conform with 40 CFR 763.90. These response actions are consistent with the assessments and are intended to protect human health and the environment.

Hazardous Assessment Form, found in Appendix 4 of this report, list the response actions in the form of these three response action codes:

- 1. REMOVAL**
- 2. REPAIR**
- 3. OPERATIONS & MAINTENANCE (O&M)**

Combinations of response action codes for each functional space represent the recommended actions to be performed in order to comply with minimum responses outlined under 40 CFR 763.90. It is the LEA's responsibility to ensure implementation of the appropriate response action consistent with the assessment findings. The LEA shall arrange to have the actions designed and completed by NYS and EPA accredited persons. The LEA shall select those response actions which protect human health and the environment, according to the least burdensome method.

If damaged or significantly damaged asbestos containing TSI is present, the LEA must at least clean the area surrounding the damage and repair the damage points. It is recommended that all TSI be included in an Operations and Maintenance (O&M) program according to 40 CFR 763.91 and as part of the management plan. Removal of asbestos containing TSI is recommended whenever economically feasible or when school renovation and/or demolition may impact on the material.

If damaged friable surfacing ACBM or damaged friable miscellaneous ACBM has been identified, the LEA may choose encapsulation, enclosure, removal or repair of the damaged material. The AHERA regulation requires the LEA to determine which of the appropriate response actions best



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protects human health and the environment. The LEA may then determine the least burdensome response action based on local circumstances such as building occupancy and use patterns and economic concerns such as short and long term costs. Wherever this material has been repaired, encapsulated or enclosed, the LEA should implement an O&M program until the material has been removed.

If significantly damaged friable surfacing or miscellaneous ACBM is present, the LEA shall determine whether there is a need to isolate and/or restrict access to the functional space. The LEA must then encapsulate, enclose or remove as necessary to protect human health and the environment. Where material has been repaired, encapsulated or enclosed, the LEA shall implement an O&M program until the material has been removed.

If any surfacing, thermal system or miscellaneous ACBM that has the potential for damage is present in the school building, the LEA shall implement an O&M program. The LEA should take preventative measures as part of the management plan to eliminate the likelihood that the ACBM or its protective cover shall be disturbed, damaged, deteriorated or delaminated.

If any surfacing, thermal or miscellaneous ACBM that has the potential for significant damage is present in the school building, the LEA shall implement an O&M program. The LEA should take preventative measures as part of the management plan to eliminate the likelihood that the ACBM or its protective coating shall be disturbed, damaged, deteriorated or delaminated. These measures must remain in place until the material has been removed.

If the appropriate preventative measures cannot be effectively implemented, the LEA should determine whether there is a need for the functional space to be isolated and access to it restricted. The ACBM should be removed, or other acceptable abatement action taken, as soon as possible to protect human health and the environment.

Asbestos abatement actions other than small scale, short duration repairs as defined under AHERA and according to New York State requirements must be designed by persons accredited to design response actions. All asbestos abatement activities shall be performed according to federal, state and local regulations.

3.3 ADDITIONAL INSPECTION AND ASSESSMENT CONDITIONS

In addition to the information included in this report, the LEA should be aware of the following:

- A. Any building materials on the exterior of the building, structural building materials, such as cinderblock, and undiscovered materials are not part of this AHERA inspection. Prior to any disturbance of the above materials, samples shall be collected and analyzed for asbestos content by an accredited inspector and laboratory. Materials defined as undiscovered shall include all suspected ACBM in concealed spaces and those not identified in the functional spaces inspected.



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- B.** All future building materials -- mastics, adhesives, building components -- to become part of the building structure should be checked for asbestos content.
- C.** All materials in the AHERA survey which were assumed to contain asbestos should be re-sampled and analyzed by an accredited inspector and laboratory prior to any disturbance thereof.
- D.** The descriptions of homogenous material types and colors of the materials found in this survey are subjective. Notify the inspector in writing with any questions concerning these descriptions.
- E.** Square footages, lengths and other dimensional descriptions are approximate and should be verified prior to designing or scheduling any abatement activity.
- F.** All actions pursuant to AHERA and to all other applicable regulations should be kept up to date at all times within the management plan.

3.4 RE-INSPECTION FINDINGS

A. White Plains High School

The following is a listing of priority areas for the school with recommended response actions. A complete listing of the conditions of all ACM reassessed in the building during inspection can be found in appendix 3.

1.

Location:	Space I.D # B2033 – Classroom B219
ACM:	9”x9” Floor Tile/Mastic
Homogeneous Material:	01
Condition:	Minor Distribute Damage
Recommended Response Action:	Repair
2.

Location:	Space I.D # C1003 – Main elec. C031
ACM:	9”x9” Floor Tile/Mastic
Homogeneous Material:	01
Condition:	Minor Distribute Damage
Recommended Response Action:	Repair



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3.

Location:	Space I.D # C1008 – Teacher's Photo Copy
ACM:	9"x9" Floor Tile/Mastic
Homogeneous Material:	01
Condition:	Minor Damage
Recommended Response Action:	Repair
4.

Location:	Space I.D # C1024 – Janitor's Closet A003A
ACM:	9"x9" Floor Tile/Mastic
Homogeneous Material:	01
Condition:	Minor Damage
Recommended Response Action:	Repair
5.

Location:	Space I.D # C1031 – Comp. Graph C006
ACM:	9"x9" Floor Tile/Mastic
Homogeneous Material:	01
Condition:	Minor Distribute Damage
Recommended Response Action:	Repair
6.

Location:	Space I.D # C2084 – Elec. C115
ACM:	9"x9" Floor Tile/Mastic
Homogeneous Material:	01
Condition:	Minor Damage
Recommended Response Action:	Repair
7.

Location:	Space I.D # C2105 – Janitor's Closet C148A
ACM:	9"x9" Floor Tile/Mastic
Homogeneous Material:	01
Condition:	Minor Damage
Recommended Response Action:	Repair



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8.	Location:	Space I.D # D2016 – Storage D108B
	ACM:	9”x9” Floor Tile/Mastic
	Homogeneous Material:	01
	Condition:	Minor Distribute Damage
	Recommended Response Action:	Repair

All other areas which contains assumed or confirmed asbestos containing building materials should be maintained under operations and maintenance (O&M) procedures, unless otherwise noted.

B. White Plains Middle School (W.P.M.S.) Highland Campus

The following is a listing of priority areas for the school with recommended response actions. A complete listing of the conditions of all ACM reassessed in the building during inspection can be found in appendix 3.

1.	Location:	Space I.D # 2001 – Suspension Room 147
	ACM:	9”x9” Floor Tile/Mastic
	Homogeneous Material:	01
	Condition:	Minor Distribute Damage
	Recommended Response Action:	Repair

All other areas which contains assumed or confirmed asbestos containing building materials should be maintained under operations and maintenance (O&M) procedures, unless otherwise noted.

C. White Plains Middle School (W.P.M.S.) Eastview Campus

No priority areas were found for this building. All areas which contains assumed or confirmed asbestos containing building materials should be maintained under operations and maintenance (O&M) procedures, unless otherwise noted.



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D. Rochambeau Alternative High School

The following is a listing of priority areas for the school with recommended response actions. A complete listing of the conditions of all ACM reassessed in the building during inspection can be found in appendix 3.

1.	Location:	Space I.D # 3001 – Classroom 202
	ACM:	9”x9” Floor Tile/Mastic
	Homogeneous Material:	01
	Condition:	Minor Distribute Damage
	Recommended Response Action:	Repair
32	Location:	Space I.D # 3005 – Vestibule
	ACM:	9”x9” Floor Tile/Mastic
	Homogeneous Material:	01
	Condition:	Minor Damage
	Recommended Response Action:	Repair

All other areas which contains assumed or confirmed asbestos containing building materials should be maintained under operations and maintenance (O&M) procedures, unless otherwise noted.

E. Church Street Elementary School

No priority areas were found for this building. All areas which contains assumed or confirmed asbestos containing building materials should be maintained under operations and maintenance (O&M) procedures, unless otherwise noted.

F. George Washington Elementary School

No priority areas were found for this building. All areas which contains assumed or confirmed asbestos containing building materials should be maintained under operations and maintenance (O&M) procedures, unless otherwise noted.



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G. Mamaroneck Avenue Elementary School

No priority areas were found for this building. All areas which contains assumed or confirmed asbestos containing building materials should be maintained under operations and maintenance (O&M) procedures, unless otherwise noted.

H. Ridgeway Elementary School

No priority areas were found for this building. All areas which contains assumed or confirmed asbestos containing building materials should be maintained under operations and maintenance (O&M) procedures, unless otherwise noted.

I. Education House

No priority areas were found for this building. All areas which contains assumed or confirmed asbestos containing building materials should be maintained under operations and maintenance (O&M) procedures, unless otherwise noted.

J. Post Road Elementary School

NEW BUILDING.

4.0 OPERATIONS AND MAINTENANCE PROGRAM

O&M REQUIREMENTS FOR SCHOOL PERSONNEL AND/OR CUSTODIAL STAFF:

In case of an episode where asbestos is damaged or disturbed, the school personnel and/or custodial staff shall contact Buildings & Grounds office at (914) 422-2050 or District LEA Mr. Frank Stefanelli at (914) 422-2050.

O&M REQUIREMENTS FOR ASBESTOS CONTRACTOR PERFORMING O&M WORK:

The asbestos contractor performing O&M work shall adhere to the following program.

The asbestos management program has been revised for the school based on the inspection results. The revised management plan must be kept on school premises and be readily available during normal business hours without cost or other restriction, for inspection by the EPA, state representatives and the general public which includes teachers, other school personnel and their representatives, and parents. The LEA shall adhere to these as well as all other applicable regulatory requirements. The LEA shall initiate an operations and maintenance program whenever ACBM is present in a regulated building (40 CFR 763.91). An O&M program outlines the series of work practices required to maintain friable ACBM in good condition, to insure clean up of asbestos fibers previously released, and to prevent further release by minimizing and controlling damage to the ACBM. The elements of an O&M program include notification and labeling,



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employee training, worker protection and medical surveillance, cleaning and maintenance operations, fiber release episode management, periodic surveillance and record keeping.

The New York State regulations adopted in Title 12 of the Official Compilation of Codes, Rules, and Regulations, Part 56 has been adopted to require appropriate training and certification for those persons employed or contracted to handle asbestos, including the supervision of such actions. The guidelines have set forth standards and procedures that shall be followed when removal, enclosure, encapsulation, repair or disruption of asbestos or asbestos containing materials has occurred. An inspection and enforcement program within the New York State Department of Labor has been established to address such actions. Since Industrial Code Rule 56 applies to public authorities, i.e. the LEA's, it is recommended that a full understanding of the rule be obtained prior to the implementation of the O&M program.

4.1 DEFINITIONS

Abatement: Procedures to control fiber release from asbestos material. This includes removal, encapsulation, enclosure, repair, disturbance of friable asbestos or any handling of asbestos material that may result in the release of asbestos fiber.

Accessible: When referring to ACM, the material is subject to disturbance by school building occupants or custodial or maintenance personnel in the course of their normal activities.

Asbestos Containing Material (ACM): In reference to school buildings, any material containing more than one percent asbestos.

Asbestos Containing Building Material (ACBM): Surfacing ACM, thermal insulation or miscellaneous ACM found in or on interior structural members or other parts of a building.

Asbestos Debris: Fragments of ACBM that can be identified by color, texture or composition. This may include dust if confirmed by an accredited inspector.

ACBM Condition:

Good: No visible damage or deterioration, or showing only very limited damage or deterioration.

Damaged: Physical injury or deterioration such that the internal structure of the material is inadequate, material which has delaminated such that its bond to the substrate is inadequate, or which lacks fiber cohesion or adhesion properties for any other reason. Thermal system insulation (TSI) is considered damaged when it is lacking part or all of its covering. Such damage may be shown by the separation of ACM into layers; flaking,



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blistering, or crumbling; water damage or stains; scrapes, mars or gouges; exposed TSI beneath its covering.

Significantly Damaged: Damage that is extensive and severe.

Action Level: An airborne concentration of asbestos of 0.1 fibers per cubic centimeter of air calculated as an 8 hour TWA (Time Weighted Average).

AHERA: The Asbestos Hazard Emergency Response Act. Signed into law on October 22, 1986 by former President Ronald Reagan. It required schools to identify asbestos containing materials in buildings, institute programs aimed at minimizing the risk of asbestos exposure in those buildings, and re-inspect those materials at least every three years.

Amosite: (Brown Asbestos) an asbestiform mineral of the amphibole group. It is the second most commonly used form of asbestos used in the U.S.

Asbestos: A naturally occurring fibrous incombustible mineral, which is known to be carcinogenic when, inhaled or ingested.

Assessment: Evaluation of the physical condition and potential for damage of all friable ACBM and asbestos-containing thermal system insulation. AHERA requires classification of each ACBM assessed into one of seven categories based on material type and damage/potential for damage.

Bulk Sample: A small portion of a suspect asbestos containing building material collected by the inspector for laboratory analysis to determine asbestos content.

Chrysotile: (White Asbestos) the only asbestos form mineral of the serpentine group. It is the most common form of asbestos used in buildings.

Contractor: A public authority or any other governmental agency or instrumentality thereof, self employed person, company, unincorporated association, firm, partnership or corporation and any owner or operator thereof, which engages in an asbestos project or employs persons engaged in any phase of an asbestos project.



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Encapsulant: A liquid material which can be applied to asbestos material and which prevents the release of asbestos fibers from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant).

Encapsulation: The treatment of ACBM with a material that surrounds or embeds asbestos fibers in an adhesive matrix to prevent the release of fibers. Two common types of encapsulant are bridging (surface binding) and penetrating.

Enclosure: An airtight, impermeable, permanent barrier around ACBM to prevent the release of fibers.

EPA: The United States Environmental Protection Agency, Region II, Air and Hazardous Material Division. As of 1995, located at 26 Federal Plaza, New York, N.Y. 10278.

Fiber Release Episode: Any uncontrolled or unintentional disturbance of ACBM resulting in visible emissions.

Friable: Material that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. This includes previously non-friable material that after becoming damaged to the extent that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

Functional Space: Room or group of rooms, or homogenous area.

High Efficiency Particulate Absolute (HEPA): Refers to a mechanical filtration system capable of trapping and retaining at least 99.97% of all non-dispersed particles 0.3 microns in equivalent diameter or larger.

Homogeneous Area: An area of surfacing material, thermal system insulation material, or miscellaneous material that is uniform in color and texture.

Inspector: Any person who performs the limited tasks involved in the survey, identification, and assessment of the condition of asbestos and asbestos material and the recording and reporting thereof, or who is involved in the collection of bulk samples of asbestos material or suspected asbestos material for laboratory analysis.



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LEA: Local Education Agency, the governing authority of a school.

Management Plan: A document that describes all activities planned and undertaken to comply with all regulations, such as building inspections to identify asbestos -containing materials, response actions, and operations and maintenance programs to minimize the risk of exposure to asbestos.

Management Planner: Any person who assesses the hazard posed by the presence of asbestos or asbestos containing material and/or who recommends appropriate response actions and a schedule for such response actions.

Miscellaneous Material: Interior building material on structural components or fixtures such as floor or ceiling tiles.

NESHAP: The National Emission Standards for Hazardous Air Pollutants, EPA rules under the Clean Air Act.

NYS DOL: The New York State Department of Labor.

OSHA: The Occupational Safety and Health Administration. As of 1990, located at 200 Constitution Avenue, N.W., Washington, D.C. 20210.

Operations and Maintenance Program: A program of work practices to maintain ACBM in good condition, to insure clean up of asbestos fibers previously released, and to further prevent fiber release by minimizing and controlling damage to ACBM.

Periodic Surveillance: A visual examination for any change in material condition of ACBM and assumed ACBM in a building.

Personal Protective Equipment: Clothing, head gear, eye protection, footwear and gloves as required.

PLM: Polarized Light Microscopy.



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Re-inspection: The re-examination, by an accredited inspector, of a building for which an original inspection was previously performed, including a re-evaluation and response action recommendations by an accredited management planner.

Removal: The taking out or stripping of ACBM from a functional space or substrate.

Repair: A corrective action using specified work practices to return damaged ACBM to an undamaged condition to prevent fiber release.

Response Action: Methods including removal, encapsulation, enclosure, repair, and operations and maintenance that protect human health and the environment from friable ACBM.

Restricted Handler: Any person performing any limited or special tasks in preparation for or ancillary to an asbestos project, such as a carpenter, electrician, plumber, or similar occupation, or any other person who may incidentally disturb asbestos during the course of any employment.

Routine Maintenance: An area, such as a boiler room or mechanical room, that is not normally frequented by students and in which maintenance employees or contract workers regularly conduct maintenance activities.

Space I.D.: Number assigned to a room or space during the original inspection.

Surfacing Material: A material that is sprayed-on, troweled-on, or otherwise applied to surfaces (e.g. acoustical plaster or fireproofing materials on structural members).

Suspect Material: Building material suspected to contain asbestos because of past practices in its manufacture and use.

Thermal System Insulation (TSI): Material applied to pipes, fittings, boilers, breeching, tanks, ducts, etc. generally to prevent heat loss or gain.

4.2 WORKER PROTECTION

A. PROTECTIVE CLOTHING AND DECONTAMINATION PROCEDURES

USEPA regulation 40 CFR 763.91(b) serves to extend the protection provided by 40 CFR 763.121 (school employee protection during asbestos related projects) to any employees performing O&M and repair activities on ACM not covered by OSHA's 29 CFR 1910.1001 and 29 CFR 1926.1101



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(General Industry and Construction Standards for Asbestos). These standards shall be adhered to where applicable during all O&M operations involving the disturbance of ACBM.

The employees of the LEA who clean up, repair or otherwise disturb ACBM are required to wear protective clothing and respirators. The protective clothing shall consist of full body disposable coveralls (Tyvek or equivalent). The worker shall remove all street clothes, undergarments, jewelry, watches, etc. before putting on protective clothing. A respirator shall be put on under the hood or head covering and will be the last item removed during decontamination.

Upon completion of the work, workers shall HEPA vacuum and wet wipe the outside of the protective clothing, including the respirator. The protective coveralls shall be removed and placed in 6 mil plastic bags and discarded as asbestos waste. The worker shall shower after removing protective clothing. Workers shall not remove the respirator until they are in the shower and have thoroughly wet their hair and body and washed the exterior of the respirator. Respirator cartridges shall be removed and disposed of as asbestos waste. Protective boots or shoes shall be HEPA vacuumed and wet wiped during decontamination and stored in a 6 mil polyethylene disposable bag and used only for asbestos work. A shower filtration system to filter asbestos fibers from the water shall be used and shall conform with all applicable regulations. Portable shower units are readily available, inexpensive and easy to install and transport.

If showering facilities are not available and if allowable by federal, state and local regulations, the workers shall proceed to remove all street clothing, as described above, and wear two sets of protective clothing. Gloves shall be worn in addition to the respirator. The workers shall duct tape all openings or potential openings to keep out asbestos fibers. Upon completion of the work, workers shall HEPA vacuum and wet wipe the outer layer of coveralls, including the respirator. Upon removal, the outer layer of protective coveralls shall be placed in 6 mil plastic bags and discarded as asbestos waste. With the respirator still on and wearing the second layer, the worker shall proceed to the nearest shower. The workers shall then remove the coveralls and take a complete shower or wash the outside of the respirator, hands, face and arms. The coveralls and respirator cartridges shall be disposed of as asbestos waste. The workers may then re-dress in street clothing.

B. MEDICAL MONITORING PROGRAM

EPA's Worker Protection Rule, 40 CFR 763.121, has been set forth to apply to maintenance staff at schools whose activities include operations and maintenance on or around ACBM. Medical monitoring has been specified where ACM exposure is likely to exceed the OSHA Permissible Exposure Level of 0.1 fibers per cubic centimeter of air (f/cc) calculated as an 8 hour Time Weighted Average (TWA) during the course of work. The program must be provided at the cost of the LEA and consist of the following elements:

i. Preplacement Examination [40 CFR 763.121(f)(2)]

To be provided within 30 days of employment and shall include medical history, chest x-ray, and pulmonary function test (PFT).



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- ii. Annual Examination [40 CFR 763.121(j)(3)]
To include an update of the medical history, chest x-ray, (at minimum every five years 29 CFR 1910.1001, Table 2) and PFT.
- iii. Termination Examination [40 CFR 763.121(j)(4)]
To be provided within 30 days pre- or post- termination date and will include medical history, chest x-ray and PFT.
- iv. Medical Records [40 CFR 763.121(j)(6)]
Records of employees shall be maintained complete and accurate for at least 20 years. Medical examination records shall be made available for inspection and copying to the EPA, Assistant Secretary of Labor for Occupational Safety and Health, the Director of National Institute for Occupational Safety and Health (NIOSH) and their physicians and medical consultants, and upon the request of an employee or former employee to the physician.

The physician who conducts the medical examination shall provide the required information to the employer along with any other medical information related to occupational exposure to asbestos fibers as per the regulatory requirements.

4.3 RESPIRATORY PROTECTION PROGRAM

Information on the use of respiratory protection as contained in the EPA/NIOSH "Guide to Respiratory Protection for the Asbestos Abatement Industry" (September 1986, EPA 560/OPHS-86-001), available from TSCA Assistance office (T5-799), Office of Toxic Substances, EPA rm E-543, 401 M Street, S.W., Washington DC, 20460.

Respirators shall be provided to all workers performing asbestos related activities. The respirator will be appropriately fit-tested to ensure that it functions effectively for that individual. Each respirator will be supplied with disposable cartridges approved for asbestos dust by NIOSH and will be worn at all times during abatement activities.

A physician must determine that workers are physically fit to wear the respirator while working. A physical exam should be performed and should include complete work history, pulmonary function exam with full chest x-ray in addition to full physical. This procedure is repeated annually thereafter and also within 30 days of an employee's termination. The x-rays administered during the course of this medical exam shall be interpreted by a NIOSH certified B-Reader.

Respirators used shall be approved jointly by NIOSH and Mine Safety and Health Administration (MSHA) as well as all other federal, state and local agencies governing this type of work. All filters shall be purple or magenta colored canisters with HEPA filters. Respirator filters and any replacement parts must be purchased from the manufacturer. At no time can parts from different



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respirators be interchanged. The instructions and recommendations of the respirator manufacturer shall be followed concerning decontamination, removal and filter replacement.

Respirators should be inspected before and after each use. Specific items to check during these inspections will depend on the type and manufacturer of the respirator (see owners instruction booklet for proper procedures). Examples of what to inspect include checking the silicone rubber face pieces, straps, flexible hose, intake and exhaust valves, etc.

Each respirator should be cleaned and sanitized after each use. A mild disinfectant soap and water may be used or any other type of product designed for respirator cleaning. After cleaning the respirator should be hung and allowed to air dry before being used again. Respirators should not be stored in a manner that will disfigure or damage the unit. Storage of the unit near corrosive chemicals or strong sunlight will accelerate the deterioration of the face piece.

Each worker who wears a respirator shall be fit tested to ensure a tight seal where the face comes in contact with the mask. Workers who have beards or excessive facial hair will not be able to carry out asbestos related work. One example of a fit test is the qualitative check of the respirator to face seal using a chemical smoke irritant, saccharin or banana oil every six months for each brand and size respirator an employee shall wear. This testing should be carried out by a qualified health/safety professional.

4.4 WORKER TRAINING

The LEA must provide awareness training of at least two hours to maintenance engineers and custodial workers who are employed by the LEA and work in buildings that contain ACBM. This awareness training is required whether or not these individuals work with ACBM. New employees shall be trained within 60 days after they begin work. The training shall include, at a minimum, information about asbestos and its different uses and forms, background concerning health effects associated with asbestos exposure, the locations of ACBM as identified throughout each school building, the recognition of damage, deterioration and delamination which is related to exposure potentials, the name and phone number of the individual who has been designated as the LEA Asbestos Coordinator, and the location of the management plan.

The LEA is also required to provide in depth training to those employees who conduct any activity which will result in the disturbance of ACBM. The training shall include the previously described two hour awareness as well as 14 additional hours. The additional 14 hours shall include, at minimum, descriptions in the proper methods of handling ACBM; proper use of protective equipment such as respirators, disposable clothing, HEPA vacuums, etc.; complete description of the requirements of AHERA and other federal, state and local regulations; and hands-on training in the use of personal, protective equipment and work procedures.

All forms of training provided shall emphasize the necessity to not disturb ACBM during routine maintenance activities. Employees shall be instructed at a minimum to follow these standards:



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- i. Avoid performing any activities on ACM that may cause abrasion or physical deterioration of the material. This includes sanding, nailing, drilling, cutting or otherwise damaging the material.
- ii. Avoid damaging the ACM during maintenance activities **NOT** directly involving the ACM such as installing drapes, carpets, moving furniture, etc.
- iii. Always use a HEPA vacuum and the wet method to clean asbestos dust or debris.

NEVER USE A REGULAR VACUUM OR DRY METHOD.

- iv. Avoid any activity that may inadvertently release asbestos fibers into the air such as removing contaminated or potentially contaminated ventilation filters, drying and/or shaking the filters, or removing suspended ceiling tiles below ACM without taking the proper precautions and using the proper personal protective equipment.

4.5 PERSONAL AND AREA AIR MONITORING

A requirement of 40 CFR 763.91 is that the LEA ascertain, through monitoring or historical data, the airborne concentration of asbestos fibers during all maintenance and repair activities involving ACBM or assumed ACBM. Coverage of EPA's worker protection rule under 40 CFR 763.121 is directed to maintenance staff at schools who perform O&M activities.

OSHA has established and EPA has adopted a Permissible Exposure Limit (PEL) of 0.1 f/cc over an 8 hour time weighted average (TWA) for asbestos exposure. As previously stated, once this level is met or exceeded, a number of required work practices must be implemented, including air monitoring, regulated work areas, engineering and work practice controls, respiratory protection, protective clothing, hygiene facilities and practices, training, medical surveillance and record keeping.

As a means for compliance to those regulations, 8 hour TWA air sampling shall be conducted during any small-scale, short duration maintenance activities involving ACM. It is recommended that air monitoring be performed as follows:

- i. Personal samples should be collected at the breathing zone of employee(s) performing a particular asbestos related activity.
- ii. It is also recommended that area samples be collected in the vicinity of the maintenance activity to determine the expected level of air contamination in the surrounding areas as a result of the activity.



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All air monitoring will be done in accordance with OSHA (29 CFR 1910.1001 and 1926.1101) and EPA's 40 CFR 763.121. Sample collection and analysis shall be conducted according to NIOSH methodology. The samples will be taken to determine the 8 hour time weighted average concentrations and ceiling concentrations of asbestos fibers.

Results of all analysis will be posted in the buildings maintenance office and in the office of the LEA's asbestos coordinator. The air analysis report shall be included in the building's management plan as part of the permanent record.

In addition to the above, it should be noted that in response to a U.S. Court of Appeals order, OSHA issued a short term permissible exposure limit designed to protect workers from "bursts" of exposure to asbestos. The limit, referred to as the Excursion Limit (EL), was announced on September 14, 1988 (53 FR 35610) and went into effect on October 14, 1988. This limit amended OSHA's asbestos regulations for general industry and construction industry. The EL limits the exposure of unprotected workers to one fiber per cubic centimeter (f/cc) averaged over a period of 30 minutes. It is advisable that a copy of this ruling be obtained and added to the permanent record.

4.6 CLEANING PROCEDURES

Cleaning procedures described herein describe semiannual cleaning required under AHERA in any area where damaged ACM and/or asbestos containing debris has been identified. All cleaning must conform with requirements set forth in NYS Industrial Code Rule 56.

No initial cleaning records were identified by the AHERA inspector during the review of the original management plan. Initial cleaning requirements under 40 CFR 763.91(c) must be met and the appropriate records kept with the management plan.

A. SURFACING MATERIALS

ACM that has been sprayed or troweled onto ceilings and walls are often the main source of airborne asbestos fibers in a building. Areas covered by surfacing ACM tend to be large and, if the material is friable, fibers are gradually released as it ages. Spray any debris found near surfacing ACM with amended water and place the debris in 6 mil polyethylene bags using a wet cloth and pan. Rinse the pan into the bag. Report the presence of debris immediately to the LEA. HEPA vacuum all carpets; no normal vacuums are allowed. Dispose of all debris, filters, mop heads, and cloths in 6 mil polyethylene bags according to EPA regulations for disposal of asbestos waste.

B. THERMAL SYSTEM INSULATION

Cleaning procedures shall be performed in an expedient manner and thereafter on a semiannual basis for all areas where damaged thermal ACM has been located within the building. Once this damage has been abated, the asbestos coordinator shall ensure that the material remains intact. If further deterioration or delamination exists, the findings can be documented during the periodic surveillance and the appropriate response actions shall then be implemented.



C. MISCELLANEOUS MATERIALS

Miscellaneous ACM such as floor tiles, transite board and asbestos containing cement are non-friable forms of asbestos. The potential for fiber release episodes are therefore relatively low. Because of their low friability, a cleaning program is not suggested for these materials unless they have been damaged. For all other miscellaneous materials the cleaning procedures of surfacing materials should be followed.

4.7 OPERATIONS, MAINTENANCE AND REPAIR PROCEDURES

The AHERA regulation defines those activities which LEA employees are allowed to conduct as "small scale, short duration." The definition is ambiguous but can be interpreted as: a) removal of small quantities of ACBM only if required in the performance of other maintenance and not intended as asbestos abatement; b) removal of thermal insulation in amounts not greater than that which can be contained in a single glove bag; and c) minor patching and repair to surfacing or thermal insulation which does not include removal. New York State Industrial Code Rule 56 clearly defines asbestos related activities, how they to be performed, and the worker qualifications required to perform them. The requirements under this regulation represent the most stringent applicable regulations. Therefore this regulation shall be adhered to strictly during applicable operations.

A. ROUTINE MAINTENANCE

All maintenance and renovation activities must be approved by the LEA to ensure that ACBM is not inadvertently disturbed. This includes work that is performed by in-house personnel, such as maintenance of mechanical systems, as well as by outside vendors, such as telephone, computer or HVAC contractors. All outside contractors/short-term workers who may come in contact with ACM must check the Management Plan for information regarding the locations of known, suspected & assumed ACBM.

Routine activities which directly impact ACBM are prohibited. These include hanging, taping or tacking objects from ceiling acoustical plaster; storing tools and materials near or against thermal insulation; and sanding or drilling asbestos floor tiles.

Routine activities which may disturb ACBM must be strictly controlled to prevent fiber release. Changing light bulbs in an acoustical plaster ceiling, working on equipment near surfacing or thermal insulation, or replacing floor tiles should be done during off hours by trained staff with appropriate equipment.

All maintenance activities which will disturb ACBM, such as replacing insulation valves or cleaning out insulated flue or boiler equipment, must be performed under the procedures described in federal, state and local regulations. **DRY SWEEPING ACBM DEBRIS IS STRICTLY PROHIBITED.**



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B. PERIODIC SURVEILLANCE

At least once every six months after implementing the management plan, the LEA shall conduct periodic surveillance in each functional space that contains ACBM. Inspections of ACBM must be performed as part of the on-going O&M program in order to comply with AHERA. Each person performing periodic surveillance shall:

- i. Visually inspect all areas identified in the management as ACBM or assumed ACBM.
- ii. Record the date of the surveillance, the inspector's name and any changes in the condition of the ACBM, i.e. water damage, debris, changes in the patterns of use, air erosion or delamination. This information will then be incorporated into AHERA 3 Year Re-Inspection Form, which is located in Appendix 4.
- iii. Maintenance personnel should inform the asbestos coordinator when debris has been cleaned up. The cleaning procedures shall be conducted according to section 7.6 of this report and all other applicable regulations.

The maintenance staff should make routine visual inspections of all surfacing materials, thermal insulation and miscellaneous materials. If the inspections reveal a change in the condition of the ACBM the staff shall report their findings to the LEA. The following techniques shall be used:

1. Periodic Surveillance for Surfacing Materials:

- All material is free from any water damage, discoloration or contact damage.
- Inspect vents for signs of air erosion.
- Check horizontal surfaces for visible debris.

2. Periodic Surveillance for Thermal System Materials:

- All wrapping, lagging and protective jackets are intact.
- All material is free from punctures, rips, tears, gashes, gouges and/or water damage. Seams and exposed ends of TSI sections are particularly susceptible to physical damage and should be referred to within the surveillance report.
- Any debris from damaged TSI must be picked up immediately following procedures identified in section 7.6 of this report and all applicable regulations.

3. Periodic Surveillance for Miscellaneous Materials:

- All material is free from contact damage, discoloration or water damage.
- Check horizontal surfaces for visible debris.



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Once every three years, or until all of the ACBM is removed, an AHERA accredited inspector must re-inspect the school for the presence of ACBM.

The periodic surveillance and re-inspection shall follow the schedule outlined below:

1st	_	January 2017	2nd	_	July 2017
3rd	_	January 2018	4th	_	July 2018
5th	_	January 2019	Re-inspection	_	July 2019

C. EMERGENCY EVENTS

Minor Fiber Release Episode

The USEPA defines a minor fiber release episode as visible emissions or debris from disturbed or damaged ACM which dislodges less than three square feet of surfacing ACM or three linear feet of thermal insulation. When a minor fiber release episode occurs, the asbestos coordinator shall direct work as follows:

1. Restrict access and isolate area during the cleaning process.
2. Apply amended water to the debris, mist air in the area and remove and dispose of the ACM according to federal, state and local regulations.
3. Wet wipe and HEPA vacuum all surfaces potentially contaminated with asbestos fibers.
4. Remove, repair, encapsulate or enclose the ACM fiber release source as per federal, state and local regulations.
5. Dispose of all asbestos waste according to EPA and other applicable regulations.
6. Document the fiber release episode as part of the management plan.

Major Fiber Release Episode

The USEPA defines a major fiber release episode as visible emissions or debris from disturbed or damaged ACM which dislodges greater than three square feet of surfacing ACM or three linear feet of thermal ACM. When a major fiber release episode occurs, the asbestos coordinator shall:

1. Restrict and isolate the affected areas and post warning signs.
2. Use trained and protected workers to lock out HVAC systems to the area.
3. Notify the appropriate regulatory agency as required under NESHAPS.



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4. Execute appropriate response actions with accredited abatement designers and contractors.
5. Document the fiber release episode as part of the management plan.

D. REPAIR PROCEDURES

Repair Procedures for Surfacing ACM

All personnel who disturb ACBM must be provided with the proper protective equipment. This shall include, but is not limited to, disposable protective overalls, HEPA vacuums, respirators, high quality duct tape, 6 mil fire retardant polyethylene sheeting, glovebags, spray adhesive, "DANGER ASBESTOS" signs, surfactants, encapsulants, asbestos repair materials, and other appropriate tools.

To repair damaged surfacing materials follow these procedures:

1. Repair work must be performed by qualified, trained individuals according to all federal, state and local regulations.
2. Personal protective equipment and respiratory protection must be worn as per all applicable regulations.
3. "Caution hazard" signs shall be posted at all work entrances and along perimeter of the work site. If necessary, rope off the area with barrier tape.
4. All vents, lighting fixtures, desks and equipment in the proximity of the work area shall be covered with 6 mil fire retardant polyethylene sheeting.
5. Lock out all ventilation heating and cooling systems to avoid fiber release to areas of the building which are unaffected.
6. Mist air at the location where the repair will be performed.
7. Pick up and dispose of any debris found on surfaces.
8. Wet wipe and HEPA vacuum all horizontal and vertical surfaces potentially contaminated with asbestos fibers. Take down two layers of 6 mil polyethylene sheeting on horizontal and vertical surfaces in the area.
9. After all affected surfaces are free from asbestos debris, lay down two (2) layers of 6 mil fire retardant polyethylene sheeting on horizontal and vertical surfaces in the area.
10. Gently mist the damaged material with amended water and carefully remove loose pieces of ACM.



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11. If necessary fill the damaged areas with a non-asbestos containing plaster or other patch material that will adhere to both the substrate and the adjoining ACM.
12. Encapsulate using a low pressure sprayer.
13. When the repair is complete, remove polyethylene sheeting and dispose of as asbestos contaminated waste.
14. Re-clean the area using wet wiping and HEPA vacuuming techniques.
15. Dispose of cloths, respirator filter cartridges, coveralls, etc. as asbestos contaminated waste.
16. Record activities as part of the management plan and repeat periodic surveillance and cleaning as part of the on going O&M program.

Patch and Repair Techniques for Thermal System Insulation

The following procedures shall be executed:

1. Repair work shall be performed by individuals qualified and trained according to federal, state and local regulations.
2. Personal protective equipment and respiratory protection must be worn as per all applicable regulations.
3. "Caution hazard" signs shall be posted at all work entrances and along perimeter of the work site. If necessary, rope off the area with barrier tape.
4. All vents, lighting fixtures, desks and equipment in the proximity of the work area shall be covered with 6 mil fire retardant polyethylene sheeting.
5. Lock out all ventilation heating and cooling systems to avoid fiber release to areas of the building which are unaffected.
6. Wet wipe and HEPA vacuum all surfaces in the area potentially contaminated with asbestos fibers.
7. Horizontal and vertical surfaces in the vicinity shall be covered with two layers of 6 mil fire retardant polyethylene sheeting.
8. Gently mist the damaged area with amended water.
9. Remove all loose and damaged debris.



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10. HEPA vacuum the substrate and surface area.
11. Repair surfaces with an appropriate patching material.
12. Encapsulate the repaired area with an approved encapsulant.
13. Apply fiberglass cloth to wet encapsulant by wrapping around the surface, covering twice with overlapping seams. Smooth out all areas of cloth.
14. Re-encapsulate fiberglass cloth. Use thick, even coats.
15. Wet wipe or HEPA vacuum affected areas.
16. Double bag and dispose of asbestos waste and all debris contaminated plastic, cloths, respirator filter cartridges and disposable clothing.
17. Record all abatement/patch and repair activities as part of the management plan.

E. MINOR THERMAL INSULATION REMOVAL BY GLOVEBAG METHODS

The glovebag method is for removal of damaged insulation on pipes and pipe fittings. A minimum of two people is required to perform a glovebag removal. Repair work shall be performed by qualified individuals, trained according to all federal, state and local regulations. Personal protective equipment and respiratory protection must be worn as per all applicable regulations.

1. This method shall be optional only in areas not scheduled for gross removal operations.
2. Glovebags may only be used on piping and after approval from the asbestos coordinator.
3. The workers shall be required to protect equipment by cleaning and wrapping it with polyethylene sheeting, tape and/or adhesive.
4. Workers shall clean and protect as necessary all floors and walls within the work area with 6 mil fire retardant polyethylene sheeting, tape and/or adhesives. As a minimum, extend polyethylene one foot horizontally in all directions for each foot of vertical height from the floor to the material.
5. If fiber levels found on personal samples during glovebag removal exceed 0.01 f/cc and methods to reduce the levels prove futile, the workers shall remove the insulation according to more stringent requirements such as NYS Industrial Code Rule 56 and other applicable guidelines.



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6. Using approved glovebags in strict accordance with applicable regulations and the manufacturer's instructions, workers in full protective body clothing and appropriate respirators shall begin removal of pipe insulation as per the following minimum procedures. In case of conflict the more stringent provisions of the applicable regulations shall apply.
7. Cut the sides of the glovebag to fit the size of the pipe to be worked on and insert the needed tools into the attached pocket.
8. Seal the glovebag by folding the open edges, then staple and tape. Provide any additional precautions necessary to support the weight of the debris.
9. Tightly seal the edges of the glovebag around the working area with tape. Slice open the side port to allow entry of the wetting tube and HEPA vacuum hose. Insert the nozzle from the portable sprayer. Seal around with tape and thoroughly wet the area to be removed. Insert the vacuum hose and seal accordingly.
10. Before removal work procedures the glovebag must pass a smoke test as follows:
 - i. Aspirate the contents of a smoke tube through the water port access of the bag.
 - ii. After twist sealing the access port the bag shall be squeezed gently and checked for any leakage points so they can be taped air tight.
 - iii. Replace the spray nozzle in the bag and seal with tape.
11. Upon approval of the glovebag attachment, insert arms into the armholes and gloves and wet the material to be removed. Proceed to remove the elbow, valve fitting or pipe. At locations where insulation rests directly on pipe hangers or supports, the worker shall re-support the pipe by shimming with wood blocks or other suitable materials. Continue wetting the material as required. Once all insulation materials have been removed, thoroughly wet the pipe and remaining insulation and wash down the inside of the glovebag.
12. Scrub or brush any visible, remaining insulation material from the pipe or fitting. Rinse and wet pipe again. Seal the exposed insulation edges with the proper encapsulant. When the job is complete remove the spray nozzle and turn on the HEPA vacuum to remove air from the bag.
13. When the air is removed from the bag, squeeze the bag tightly as close to the top as possible. Twist and tape to keep the asbestos material safely at the bottom of the bag. Turn off the HEPA vacuum. Remove the hose from the side port and seal the side port with tape.
14. Place a 6 mil plastic bag around the glovebag. Cut and remove the glovebag from the pipe. Twist and seal. Place it into another plastic bag and seal. Move bags to holding area or the disposal storage area.



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15. Mist surface of protective polyethylene and carefully fold inward. Proceed to HEPA vacuum the work area for any residual materials. Reseal the exposed edges and piping with the proper encapsulant if needed.
16. The testing shall be in accordance to AHERA and other federal, state and local regulations.
17. Reestablish objects moved to temporary locations in the course of work to their proper positions.

F. REPAIR OF NONFRIABLE MISCELLANEOUS ASBESTOS CONTAINING MATERIALS

If a situation such as a damaged floor tile exists, the best possible response action is replacement. If this cannot be done, the following is recommended:

1. Repair work must be performed by qualified individuals, trained according to all federal, state and local regulations.
2. Personal protective equipment and respiratory protection must be worn as per all applicable regulations.
3. Post hazard signs and restrict access to the area.
4. Prohibit access of unauthorized personnel.
5. Clean up debris from surfaces via wet wipe/HEPA vacuum methods. No drilling, cutting with power tools or sanding is permitted.
6. Cut all floor tiles with a utility knife.
7. Fill all holes and cracks with an equivalent non-ACM and/or plaster. Apply a thick coating of bridging encapsulant at full strength. This form of encapsulant differs from a penetrating encapsulant in that it forms a surface layer of "skin" over non-friable, impenetrable forms of asbestos. Allow to dry and apply a second coat.
8. Record activities as part of the management plan and repeat periodic cleaning and surveillance as part of the on-going O&M program.

4.8 WASTE DISPOSAL

All ACM shall be double bagged in 6 mil polyethylene plastic bags. These bags shall be preprinted as per OSHA and Federal DOT requirements to show they contain ACM. Asbestos waste shall be kept in a secured and controlled location such as a routine and maintenance area of the facility. Filled bags of waste are carried to this area and placed in sealable metal or fiber 55 gallon drums, labeled as per applicable regulations. When the drums are full, they shall be sealed, labeled and



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transported to a landfill site approved for asbestos by EPA and all other federal, state and local requirements.

The waste containers shall be transported to the landfill site in a covered, lockable vehicle. All transported containers shall be accompanied by a proper chain of custody (manifest) form that details the origin of the material, date and quantities of transport, types of containers and their destinations. If transported by a third party hauler, information on the form is signed at each transfer point and, after final transport to the landfill site, a copy of the form shall be maintained in the management plan.

4.9 WARNING LABELS

Warning labels shall be attached immediately adjacent to any friable and non-friable ACM located in routine maintenance areas as per 40 CFR 763.95. The labels must be of a size, print and color easily visible to persons entering an area containing ACM. The labels will read:

**CAUTION ASBESTOS, HAZARDOUS
DO NOT DISTURB
WITHOUT PROPER TRAINING AND EQUIPMENT**

Warning labels and signs must remain in place until the asbestos containing material(s) is/are removed.

4.10 NOTIFICATIONS OF AFFECTED PARTIES

AHERA requires that steps be taken to inform workers and building occupants, or their legal guardians, about inspections, re-inspections, response actions, and post-response action activities, including periodic re-inspection and surveillance activities which are planned or in progress. At a minimum, these notifications must occur on a yearly basis following the initial notification. Notifications of the various parties can be accomplished in two ways:

1. Distributing notices; and
2. Holding awareness and/or informational seminars.

The distribution of notices is an effective means of alerting occupants about the presence of asbestos. Memorandums or letters tailored to specific parties provide excellent documentation along with verification that the notification was furnished. The AHERA Management Plan must be made available for review by the public, including but not limited to parents, teachers and other school personnel and their representatives, without cost or restriction. The school, however, may charge a reasonable fee to make copies.

Awareness and/or information seminars can follow written notification. These serve to expand upon the information given in the written form. They also serve as a question and answer period for anyone with questions regarding asbestos. Copies of notification memos, attendance lists at any



AHERA 3-YEAR RE-INSPECTION REPORT AND MANAGEMENT PLAN UPDATE

awareness seminars, hand-outs provided, and the name of the person or persons providing the seminars should be filed.

4.11 SUGGESTED OPERATIONS AND MAINTENANCE EQUIPMENT

1. Disposable coveralls
2. Rubber or latex gloves
3. Half face, dual cartridge negative pressure respirators with NIOSH and MSHA approved cartridges
4. Safety goggles
5. Surfactant
6. Misting spray bottle
7. Misting spray tank
8. Dust mop/broom
9. Polyethylene sheeting (6 mil)
10. Asbestos disposal bags (6 mil)
11. HEPA vacuum with attachments
12. Duct tape
13. Hand tools
14. Warning signs and labels
15. Scrim cloth and/or foil tape for pipe wrap
16. Encapsulant bridging and penetrating
17. Smoke tube kit
18. Glovebag

4.12 DOCUMENTATION AND RECORD KEEPING

As part of the management plan, the LEA must maintain all records required by AHERA in a central file at the administrators office, which is currently the district office, located at 5 Homeside Lane, White Plains, New York, as well as in individual buildings as per 40 CFR 763.94. These records shall include documentation of all ACBM locations, conditions, response actions and activities in addition to training, medical records and personnel updates.

A list of items to be included in this file is:

1. All abatement activity and related documents and test results until (1) the entire homogeneous area has been removed and (2) for at least three years after the next re-inspection. This information must be comprehensive and complete.
2. For each response action or preventive maintenance procedure: (a) detailed description of work, (b) methods used, (c) location of action, (d) reasons for selecting action, (e) start and completion dates, (f) names and addresses of all contractors used, their state of accreditation and accreditation numbers, (g) name and location or storage or disposal site for ACBM which was removed, (h) names and signatures of persons collecting air samples, (i)



AHERA 3-YEAR RE-INSPECTION REPORT AND MANAGEMENT PLAN UPDATE

locations where air samples were collected, (j) date of sample collection, (k) name/address of lab analyzing the samples, (l) date of analysis, (m) results of analysis, (n) method of analysis, (o) name/signature of analyst, and (p) statement that the lab meets requirements.

3. Documentation of the LEA's employee training program with: (a) an updated list of personnel involved, (b) date and location of the training, and (c) number of training hours completed.
4. Periodic surveillance results including: (a) the inspector's name, (b) date of the surveillance, (c) findings of the surveillance, and (d) remedial action taken, if any.
5. For each O&M procedure: (a) the person's name who did the O&M, (b) start and completion dates, (c) locations of the activity, (d) description of the activity/ preventative measures, and (e) ACBM storage or disposal site.
6. For each fiber release episode under 40 CFR 763.91(f): (a) date and location of the episode, (b) method of repair, (c) preventative measure or response action taken, (d) the name of each individual involved and their activity and, if applicable, (e) the storage or disposal site for the ACM removed.
7. For each major asbestos activity performed: (a) name, signature, State of accreditation, and accreditation number of each person performing the activity, (b) locations of the activity, (c) description of the activity/preventative measure, and, if applicable, (d) the storage or disposal site for the ACM removed.

5.0 LEA DESIGNATED PERSON

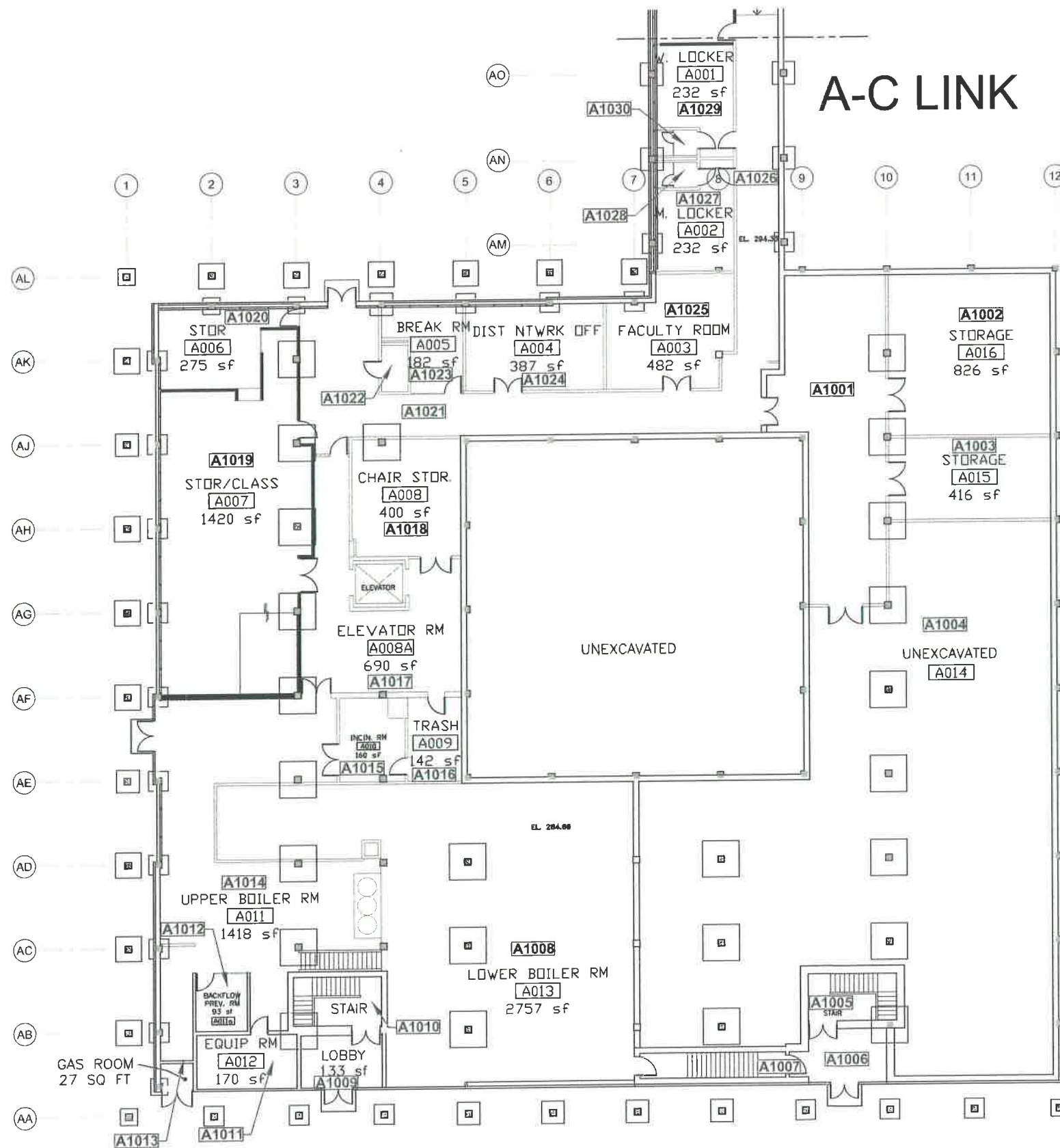
As stated in the AHERA regulations, each LEA must designate a competent person to be responsible for implementing the Management Plan for each school. For the White Plains Public Schools, the designated person as of the start of this inspection is:

Frank Stefanelli
Director of Facilities
508 North Street
White Plains, NY 10605

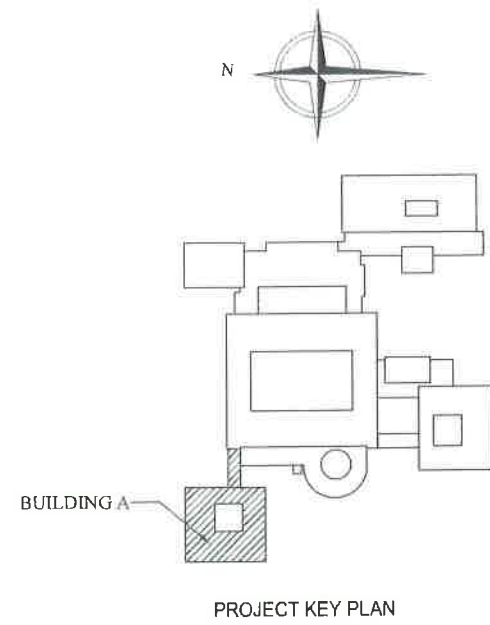
APPENDIX 1:

SITE PLANS

WHITE PLAINS HIGH SCHOOL



A-C LINK



**WHITE PLAINS
PUBLIC SCHOOLS**
WHITE PLAINS HIGH SCHOOL
550 NORTH STREET
WHITE PLAINS, NY 10605

AHERA SITE PLAN

Louis Berger & Assoc. PC
565 Taylor Road
Elmsford, NY 10523
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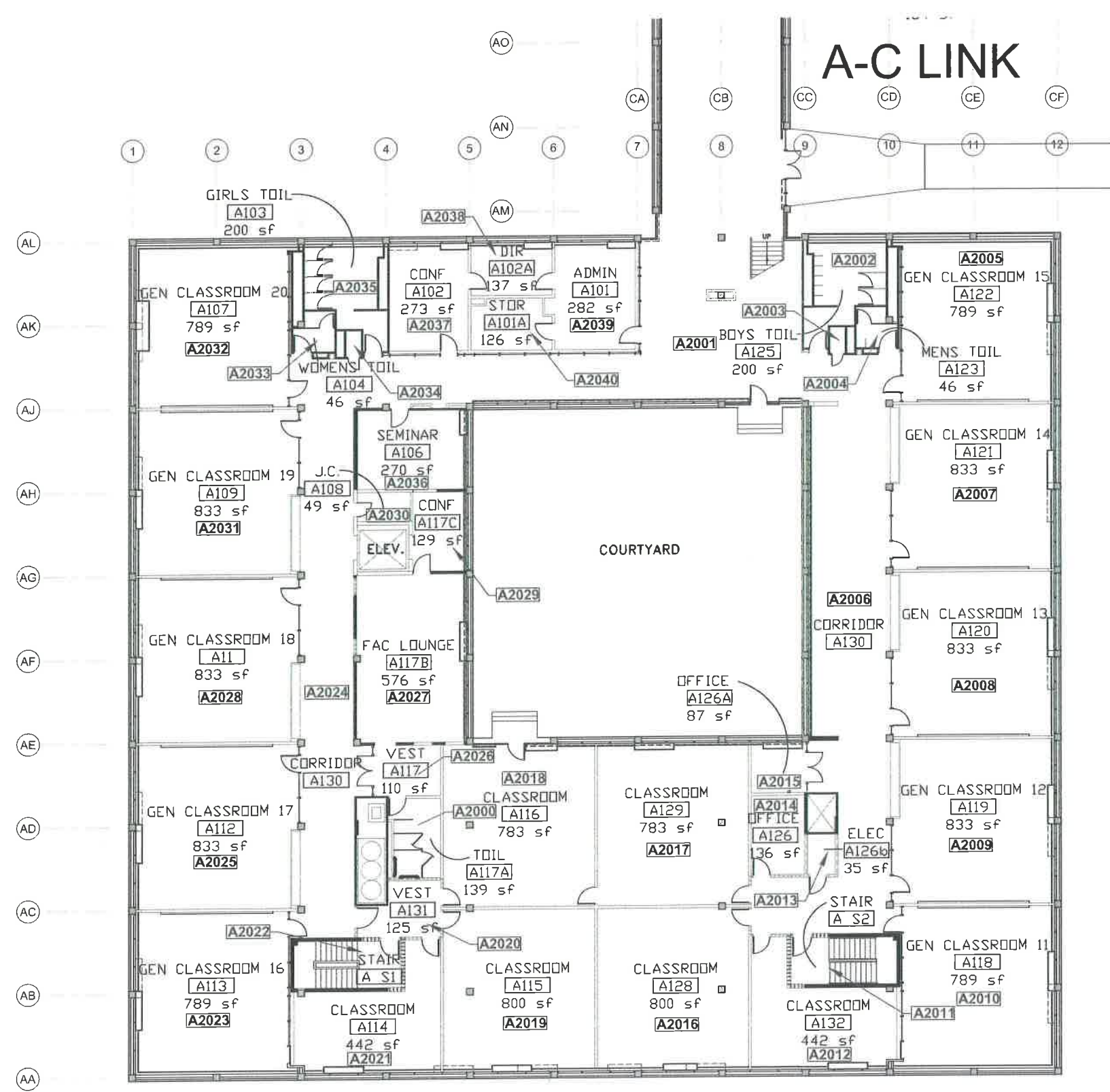
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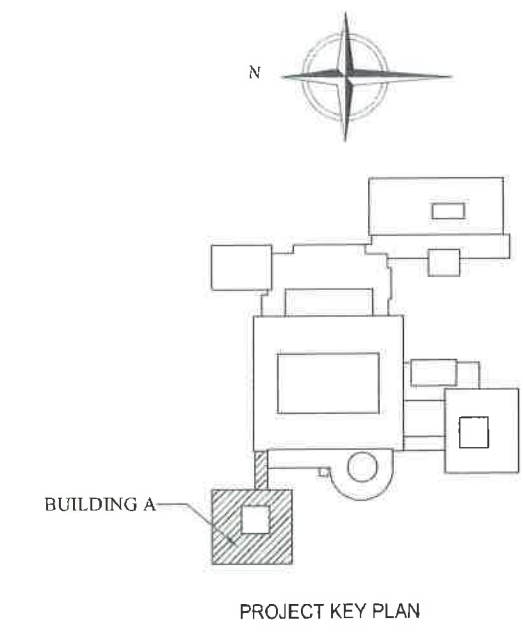
SITE PLAN BUILDING A GROUND FLOOR PARTIAL

No.	Date	Issue
1	NOVEMBER 2013	
Drawn by	J. Jones	
Checked by	J. Jones	
Sheet No.	SP-001	
	1 of 18	

1 BUILDING A - GROUND FLOOR PARTIAL PLAN
SCALE: NTS



1 BUILDING A - FIRST FLOOR PARTIAL PLAN
SCALE: NTS



WHITE PLAINS PUBLIC SCHOOLS
WHITE PLAINS HIGH SCHOOL
550 NORTH STREET
WHITE PLAINS, NY 10605

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KEY PLAN:

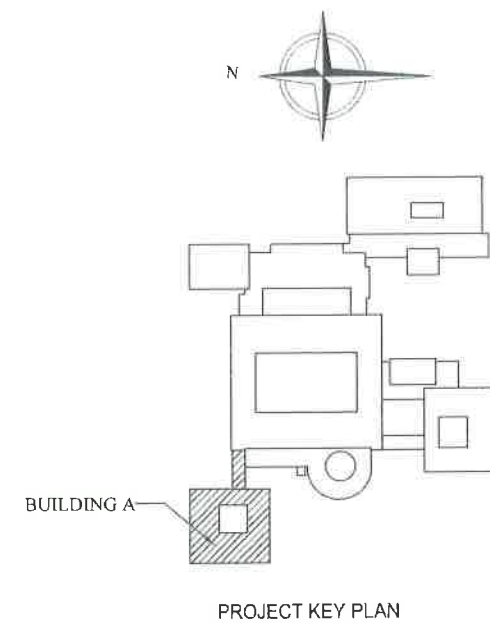


No.	Date	Issue
Sheet	Title	
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3000664 00	Job No.	Sheet No.
NOVEMBER 2013		
Drawn by	Checked by	
J. BERGER	J. BERGER	
		SP-002
		2 of 18



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KEY PLAN



SITE PLAN
BUILDING A
SECOND FLOOR
PARTIAL

3GCC864 00

Job 11a)

NOVEMBER 2015

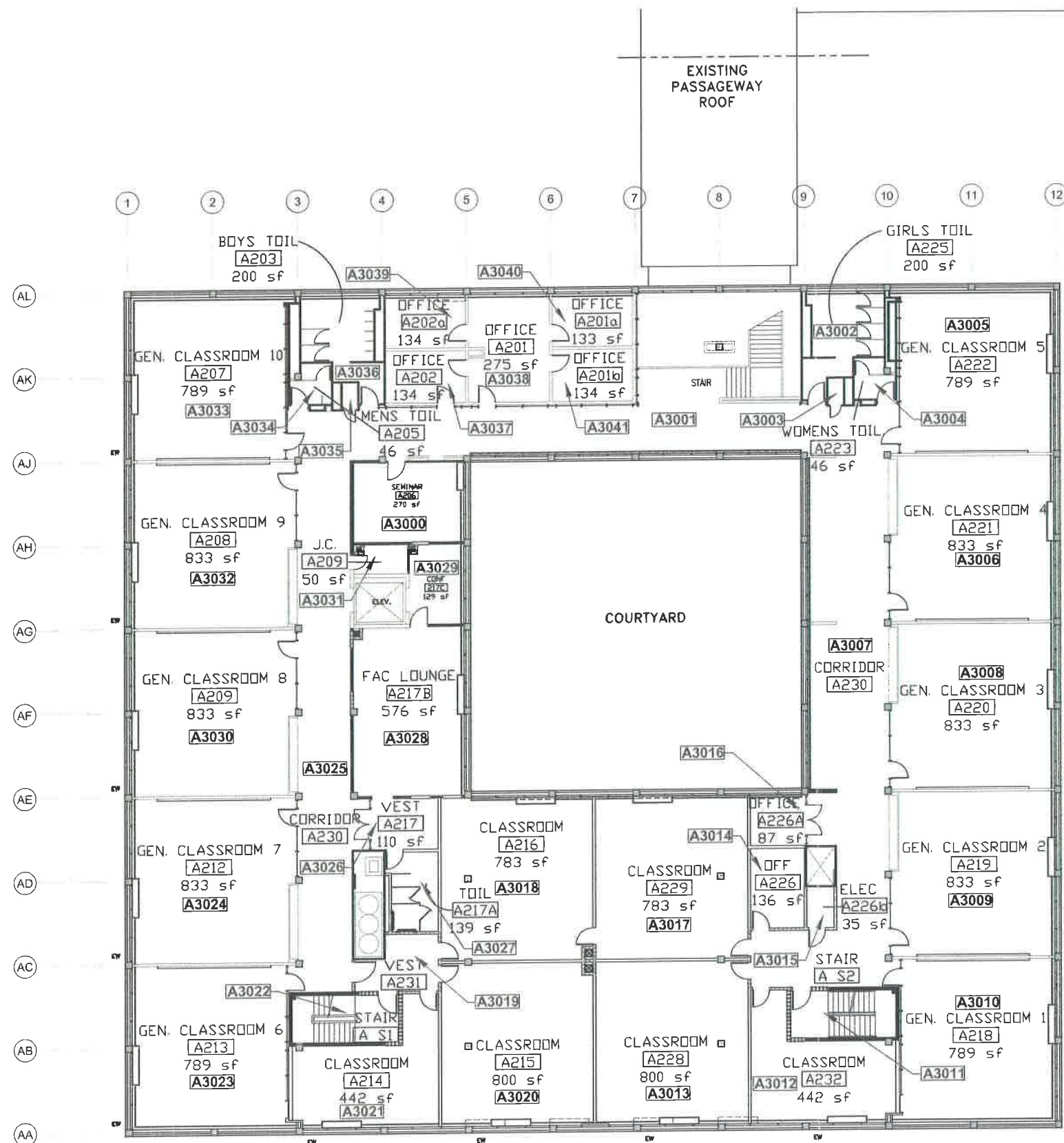
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J. H. H. H.

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SP-003

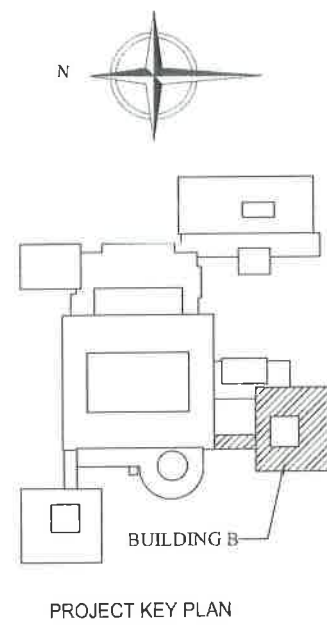
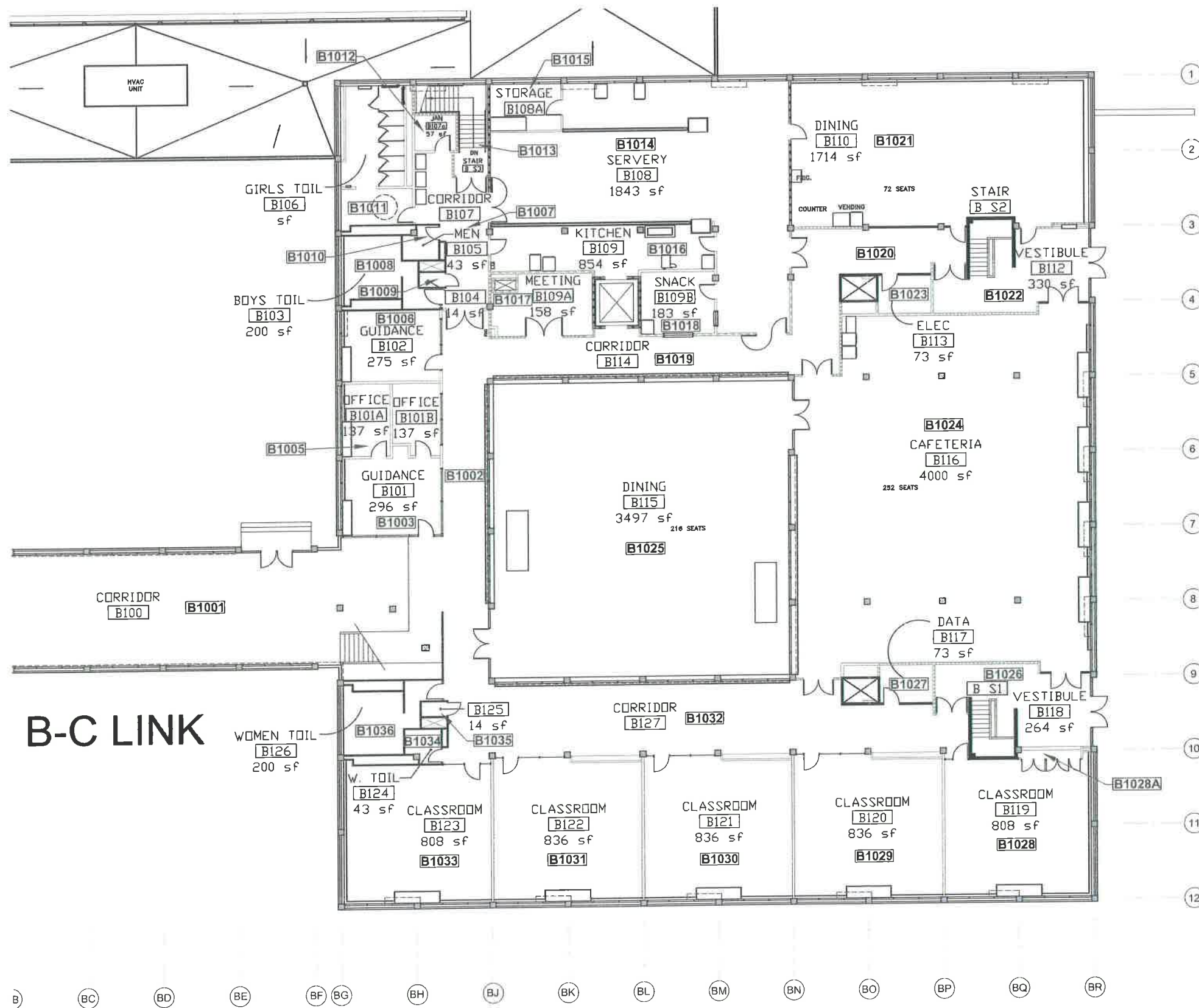
of 18



BUILDING A - SECOND FLOOR PARTIAL PLAN

SCALE: NTS

1



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 WHITE PLAINS HIGH SCHOOL
 550 NORTH STREET
 WHITE PLAINS, NY 10605

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KEY PLAN:



**SITE PLAN
 BUILDING B
 FIRST FLOOR
 PARTIAL**

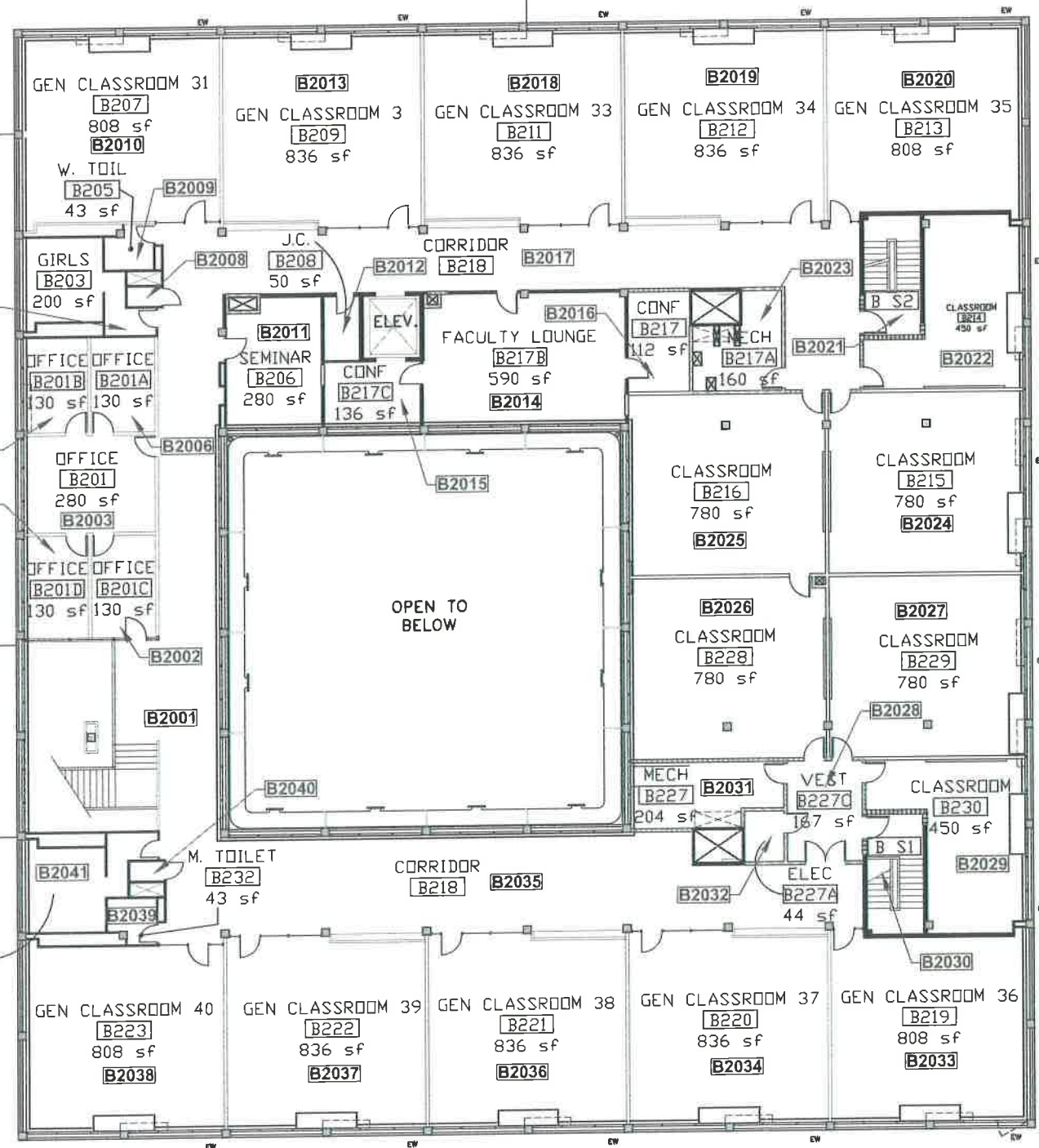
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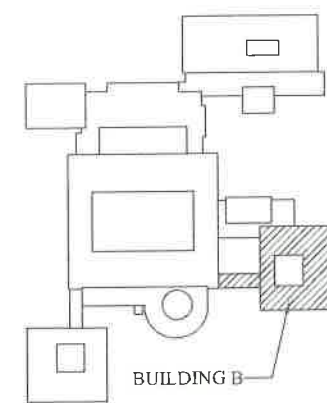
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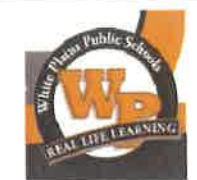
BOYS TOILET
B231
200 sf



BG BH BJ BK BL BM BN BO BP BQ BR



PROJECT KEY PLAN



WHITE PLAINS PUBLIC SCHOOLS
WHITE PLAINS HIGH SCHOOL
550 NORTH STREET
WHITE PLAINS, NY 10605

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KEY PLAN:



**SITE PLAN
BUILDING B
SECOND FLOOR
PARTIAL**

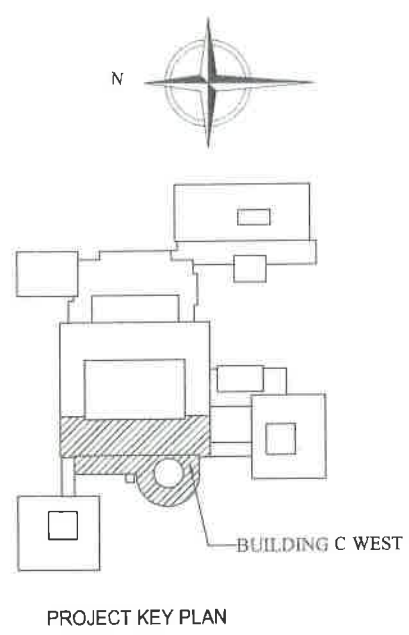
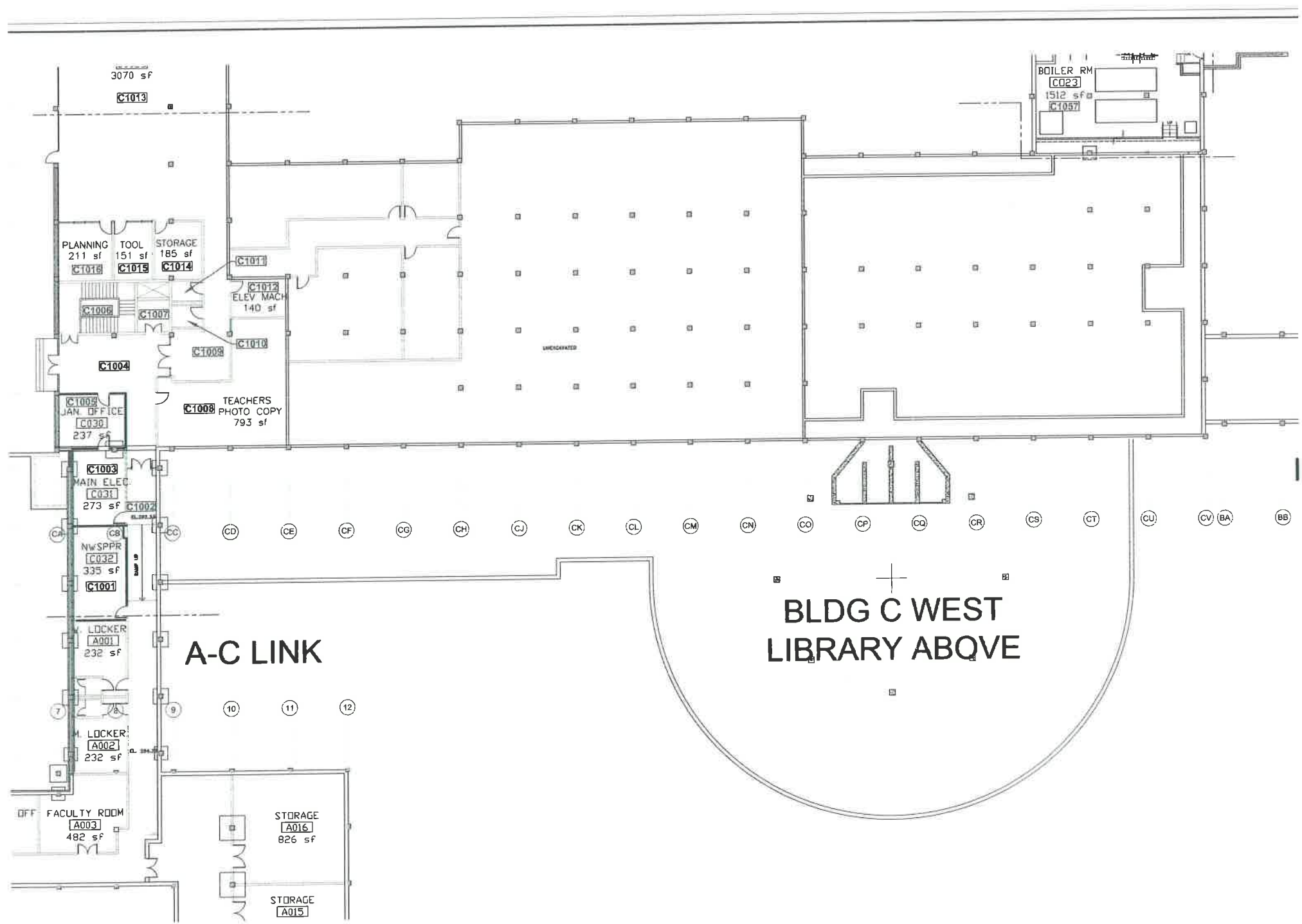
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Job No.
NOVEMBER 2013
Drawn by
Checked by

Sheet 169

SP-005

1 BUILDING B - SECOND FLOOR PARTIAL PLAN
SCALE: NTS



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PUBLIC SCHOOLS**
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KEY PLAN:



**SITE PLAN
BUILDING C WEST
GROUND FLOOR
PARTIAL**

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Job No.
NOVEMBER 2015
Sheet No.
SP-006
6 of 18

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SCALE: NTS



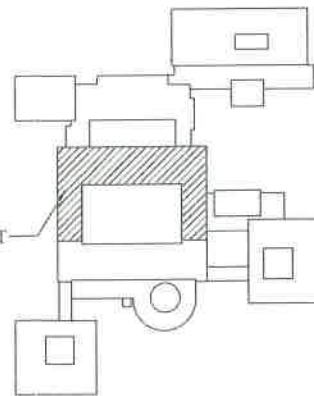
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PUBLIC SCHOOLS

WHITE PLAINS HIGH SCHOOL
550 NORTH STREET
WHITE PLAINS, NY 10605

AHERA SITE PLAN

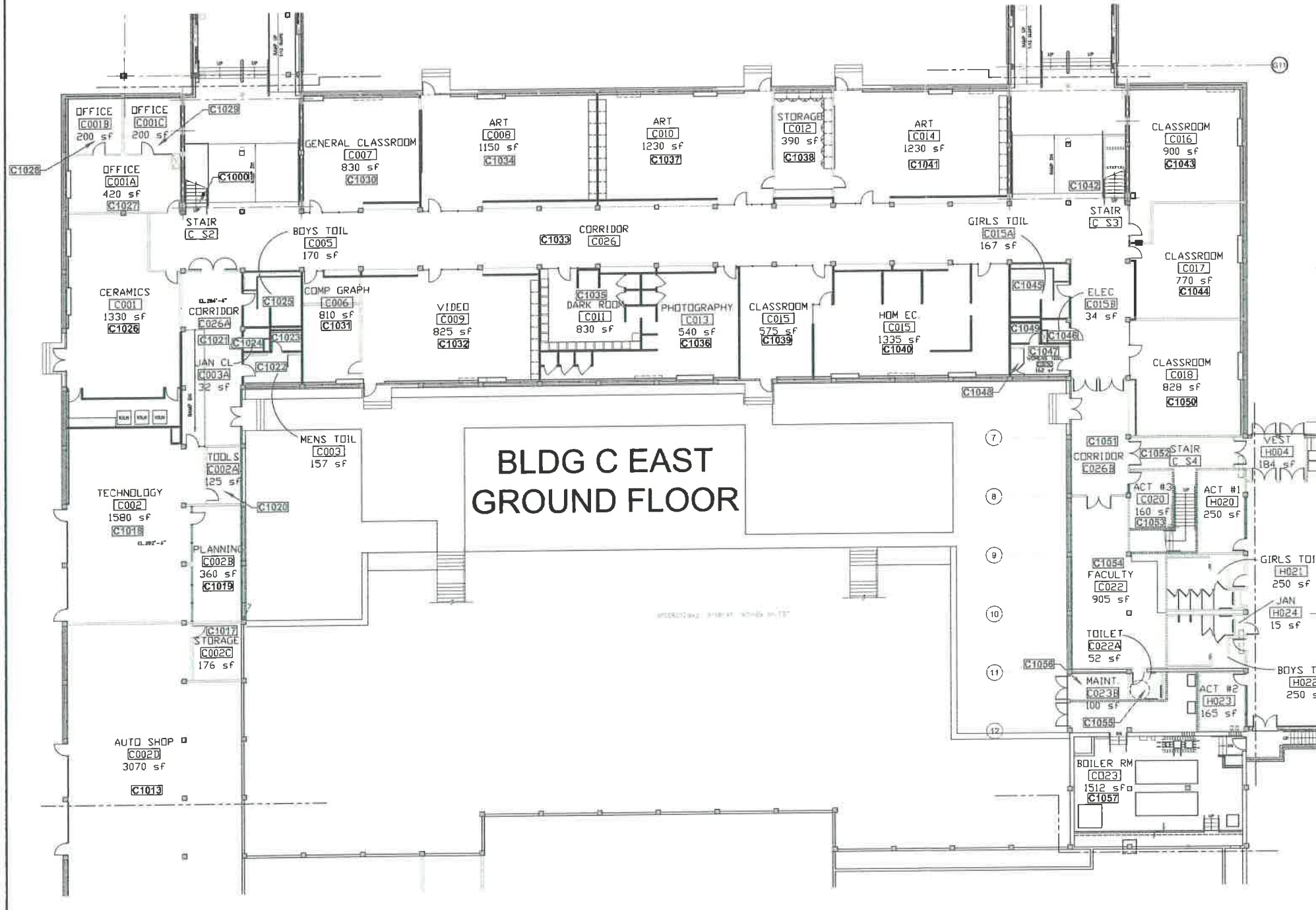
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PROJECT KEY PLAN

BUILDING C EAST



BLDG C EAST
GROUND FLOOR

BUILDING C EAST- GROUND FLOOR PARTIAL PLAN

1 SCALE: NTS

KEY PLAN:



SITE PLAN
BUILDING C EAST
GROUND FLOOR
PARTIAL

3000854-00

Job No.
NOVEMBER 2013

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J. P. 2013
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J. P. 2013

SP-007

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WHITE PLAINS
PUBLIC SCHOOLS

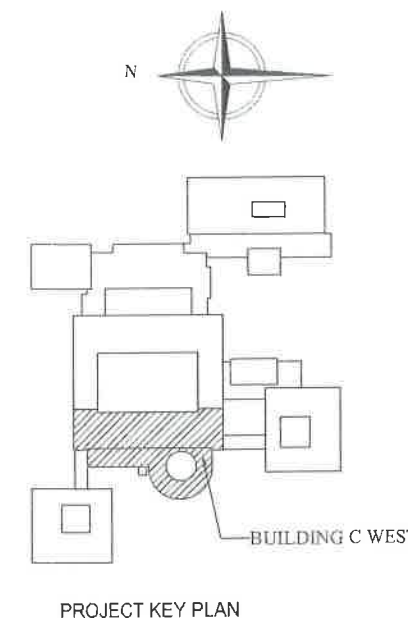
WHITE PLAINS HIGH SCHOOL
550 NORTH STREET
WHITE PLAINS, NY 10605

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PROJECT KEY PLAN

KEY PLAN:



SITE PLAN
BUILDING C WEST
FIRST FLOOR
PARTIAL

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Job No. 19001864-00

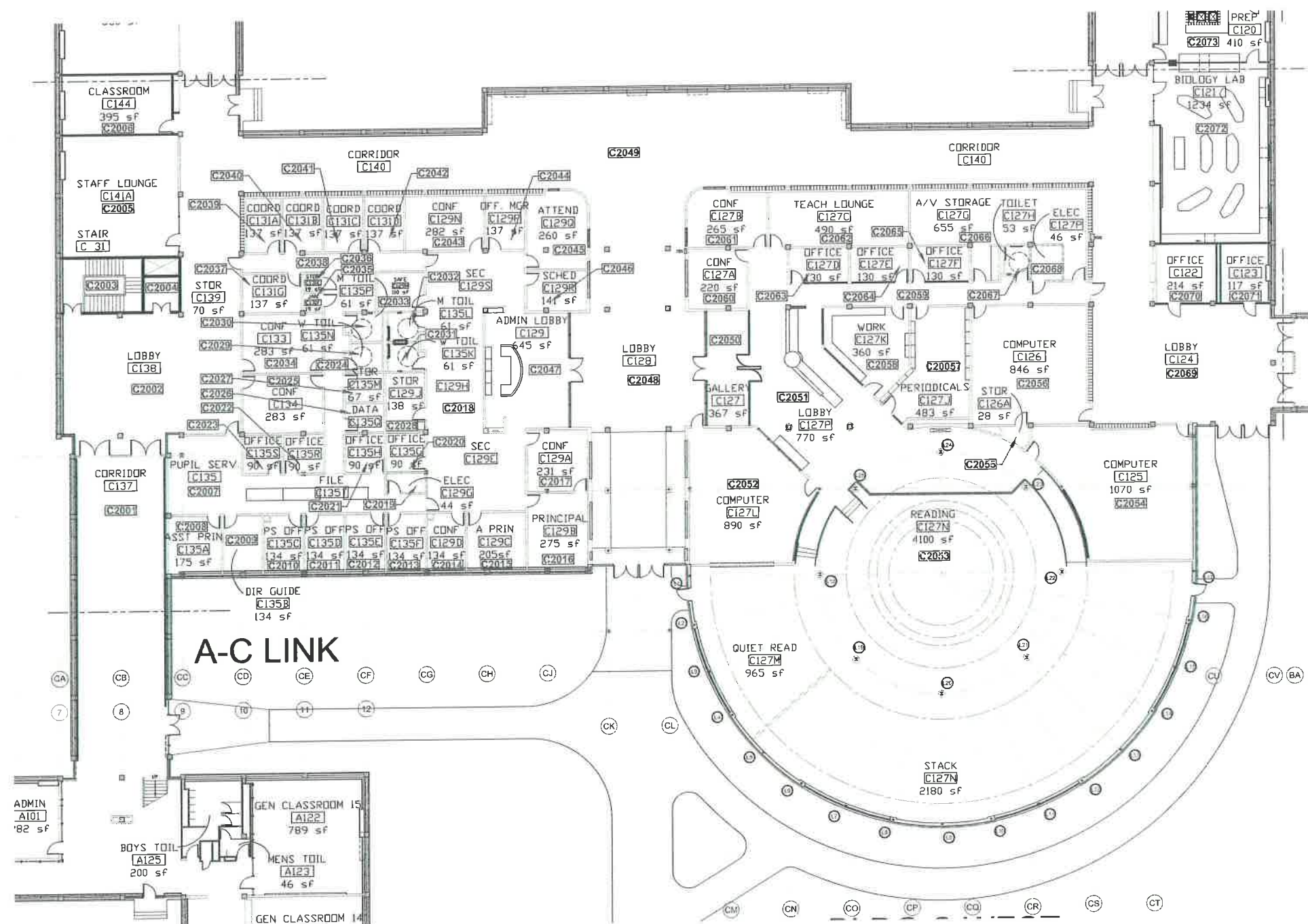
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SP-008

8 of 18



1

BUILDING C WEST- FIRST FLOOR PARTIAL PLAN

SCALE: NTS

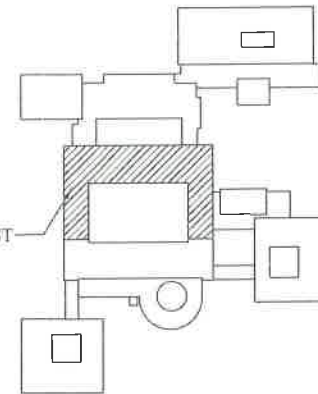


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550 NORTH STREET
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PROJECT KEY PLAN

KEY PLAN:



No. Date Issue

Sheet Title:

SITE PLAN
BUILDING C EAST
FIRST FLOOR
PARTIAL

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Job No.

NOVEMBER 2013

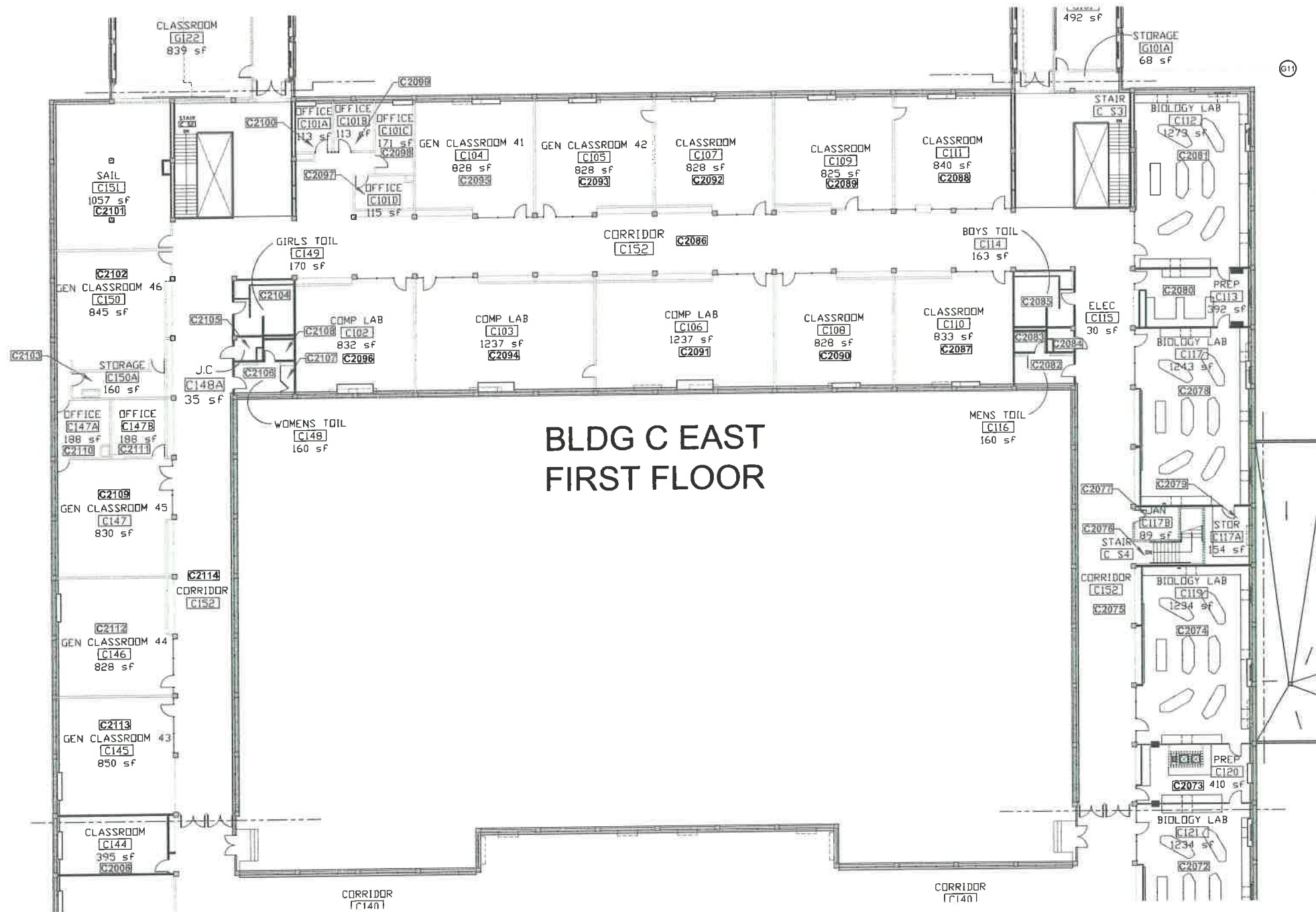
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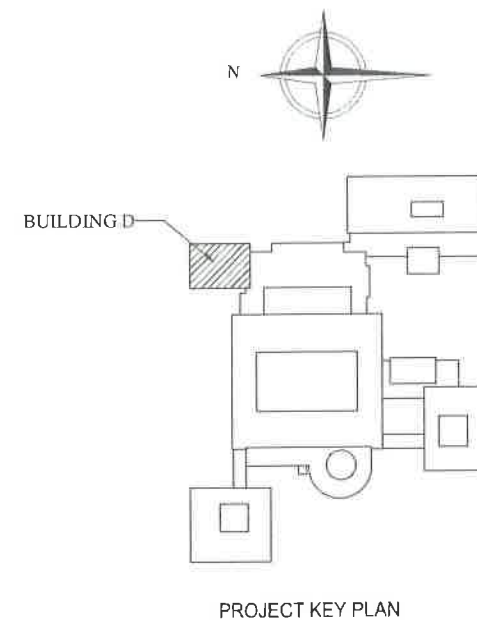
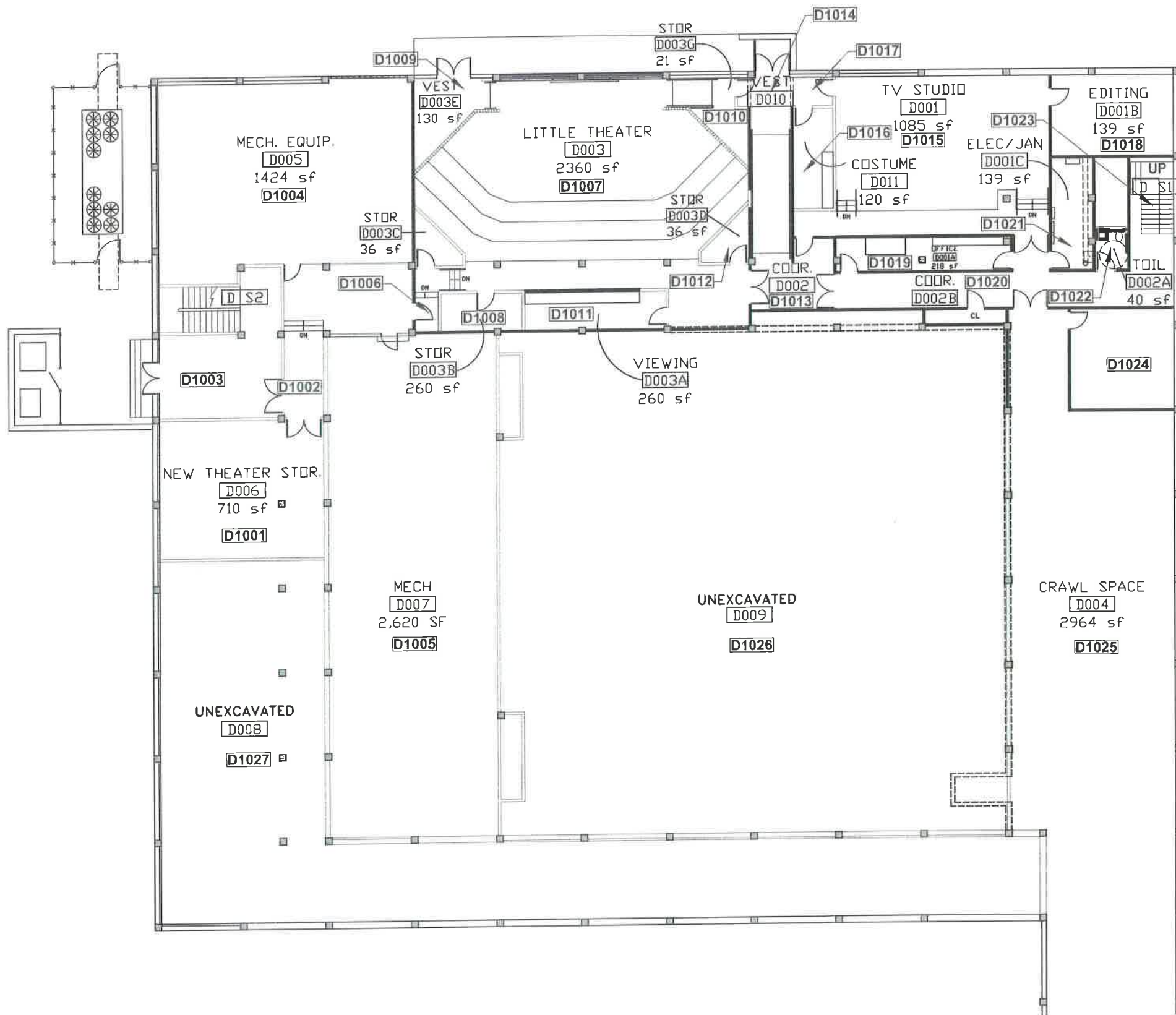
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1 BUILDING C EAST- FIRST FLOOR PARTIAL PLAN
SCALE: NTS



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KEY PLAN:



No.	Date	Issue

SITE PLAN BUILDING D LOWER FLOOR PARTIAL

3002864.D03
Job No.
11/07/2013
Drawn by
checked by

Sheet No.
SP-010
10 of 18

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SCALE: NTS



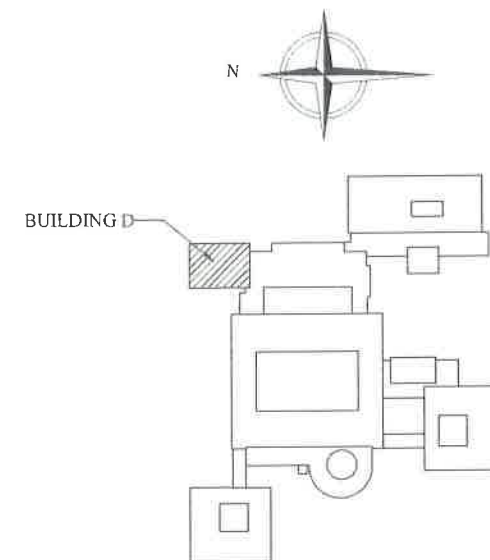
WHITE PLAINS
PUBLIC SCHOOLS

WHITE PLAINS HIGH SCHOOL
550 NORTH STREET
WHITE PLAINS, NY 10605

AHERA SITE PLAN

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PROJECT KEY PLAN

KEY PLAN:



SITE PLAN
BUILDING D
GROUND FLOOR
PARTIAL

3000864-00

Job No.

NOVEMBER 2013

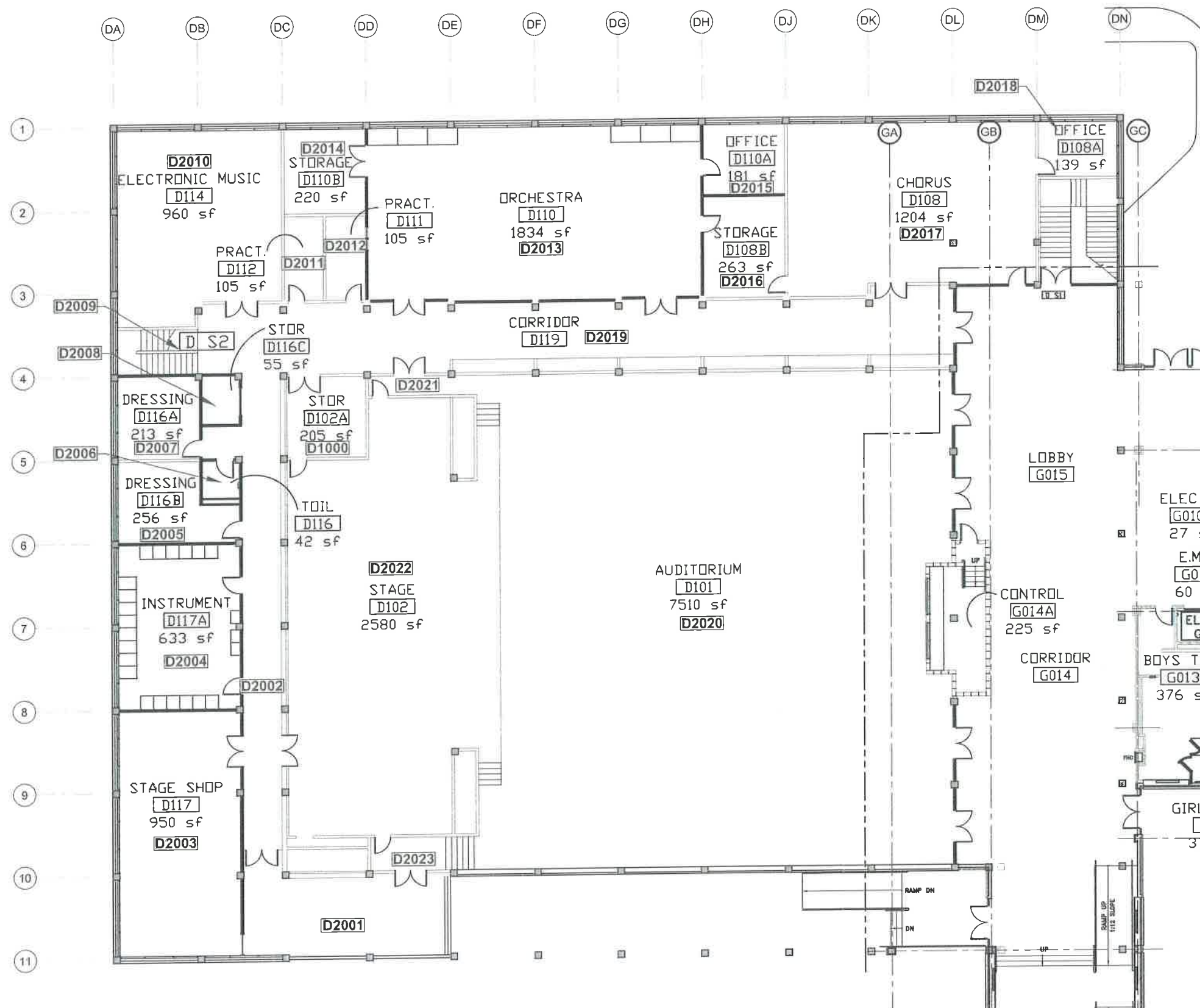
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SP-011

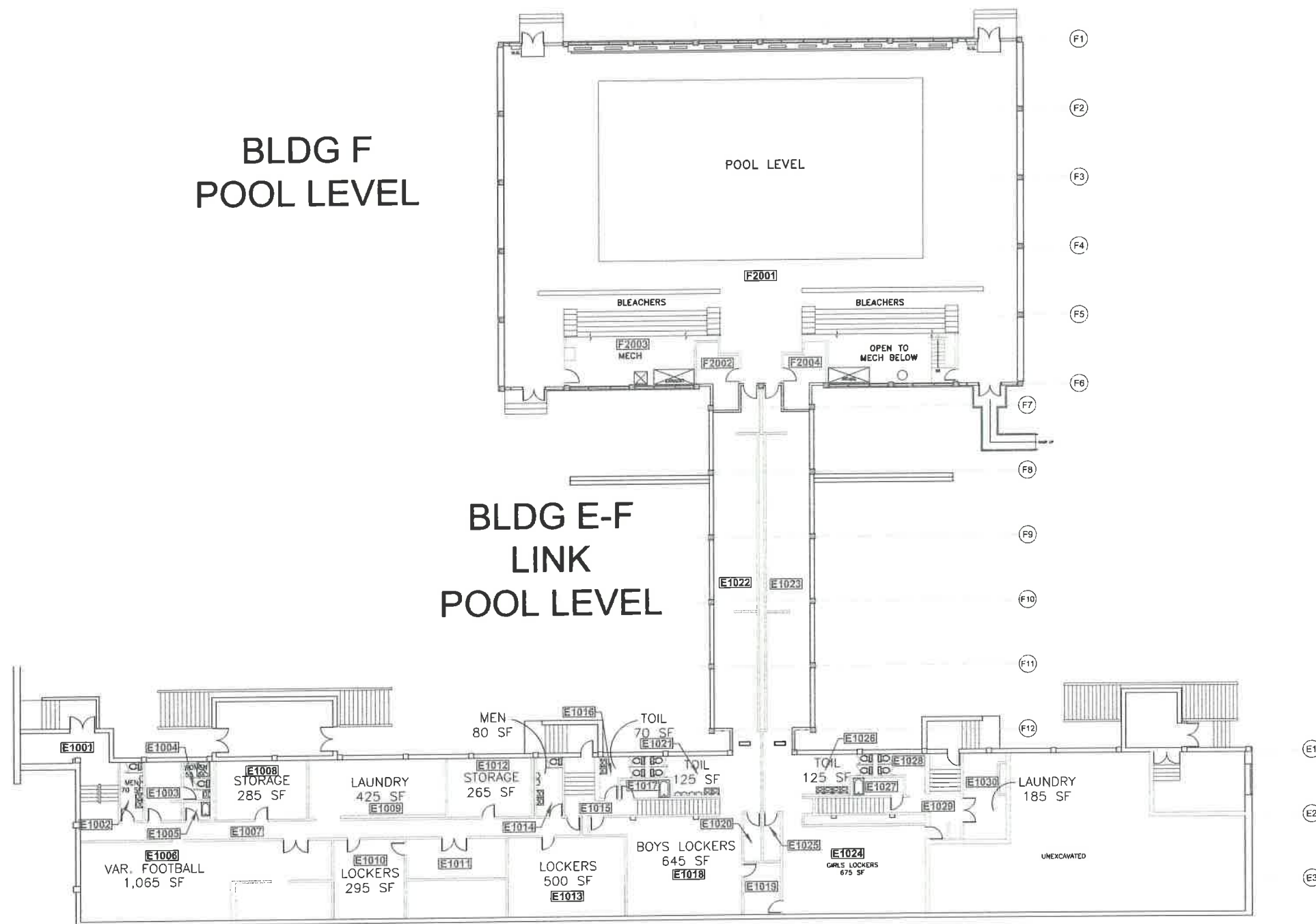
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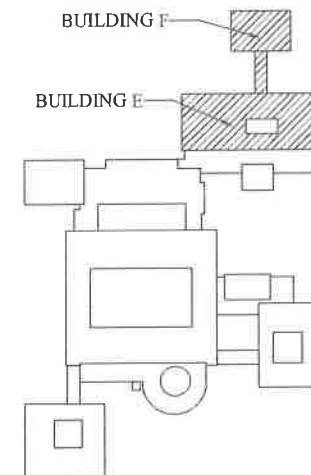
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SCALE: NTS

BLDG F POOL LEVEL

BLDG E-F LINK POOL LEVEL



1 BUILDING E & F - POOL LEVEL PARTIAL PLAN
SCALE: NTS



PROJECT KEY PLAN



WHITE PLAINS PUBLIC SCHOOLS

WHITE PLAINS HIGH SCHOOL
550 NORTH STREET
WHITE PLAINS, NY 10605

AHERA SITE PLAN

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KEY PLAN:



No. Date Issue
Sheet Title

SITE PLAN BUILDING E & F POOL LEVEL PARTIAL

300,786.4 00

Job No.

NOVEMBER 2013

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J. SOROKA

Sheet No.

12 of 18

SP-012

12 of 18

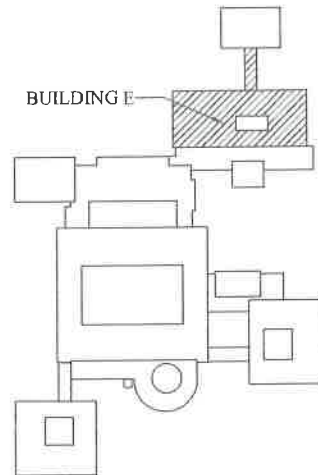


WHITE PLAINS
PUBLIC SCHOOLS

WHITE PLAINS HIGH SCHOOL
550 NORTH STREET
WHITE PLAINS, NY 10605

AHERA SITE PLAN

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PROJECT KEY PLAN

KEY PLAN:



No. Date Issue
Sheet Title

SITE PLAN
BUILDING E
GROUND FLOOR
PARTIAL

3000664.00

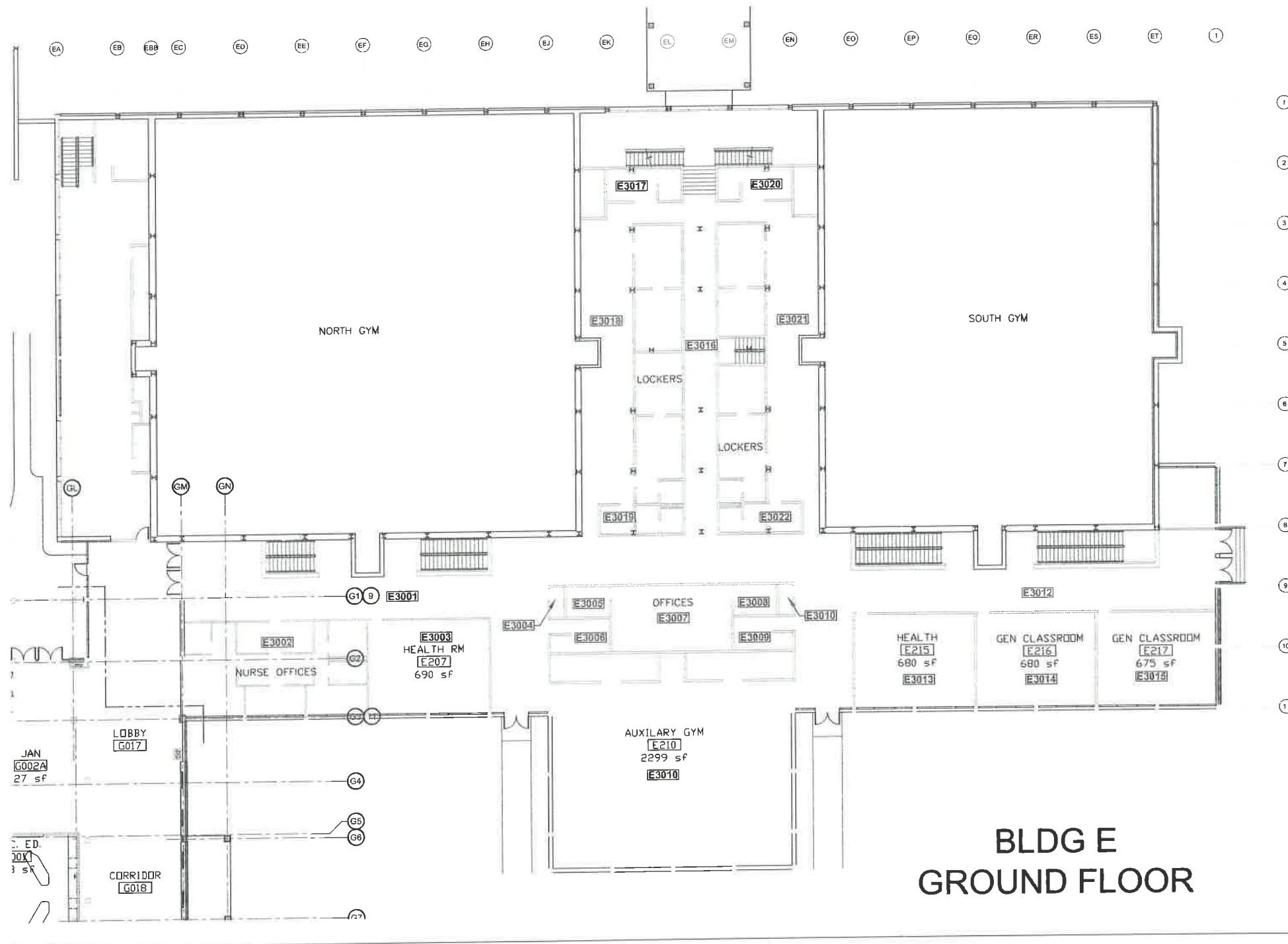
Job No.
NOVEMBER 2013

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SP-014

14 of 18



1 BUILDING E - GROUND FLOOR PARTIAL PLAN
SCALE: NTS



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KEY PLAN:



SITE PLAN
BUILDING F
BASEMENT LEVEL 3
PARTIAL

3000864 00

Job No	511
NOVEMBER 2013	

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Checked by: 00

SP-015

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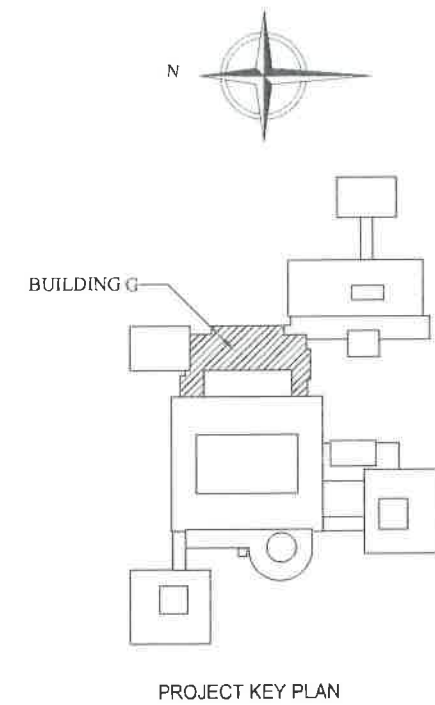


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PUBLIC SCHOOLS

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550 NORTH STREET
WHITE PLAINS, NY 10605

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KEY PLAN:



SITE PLAN
BUILDING G
GROUND FLOOR
PARTIAL

3002864.00

Job No.

NOVEMBER 2013

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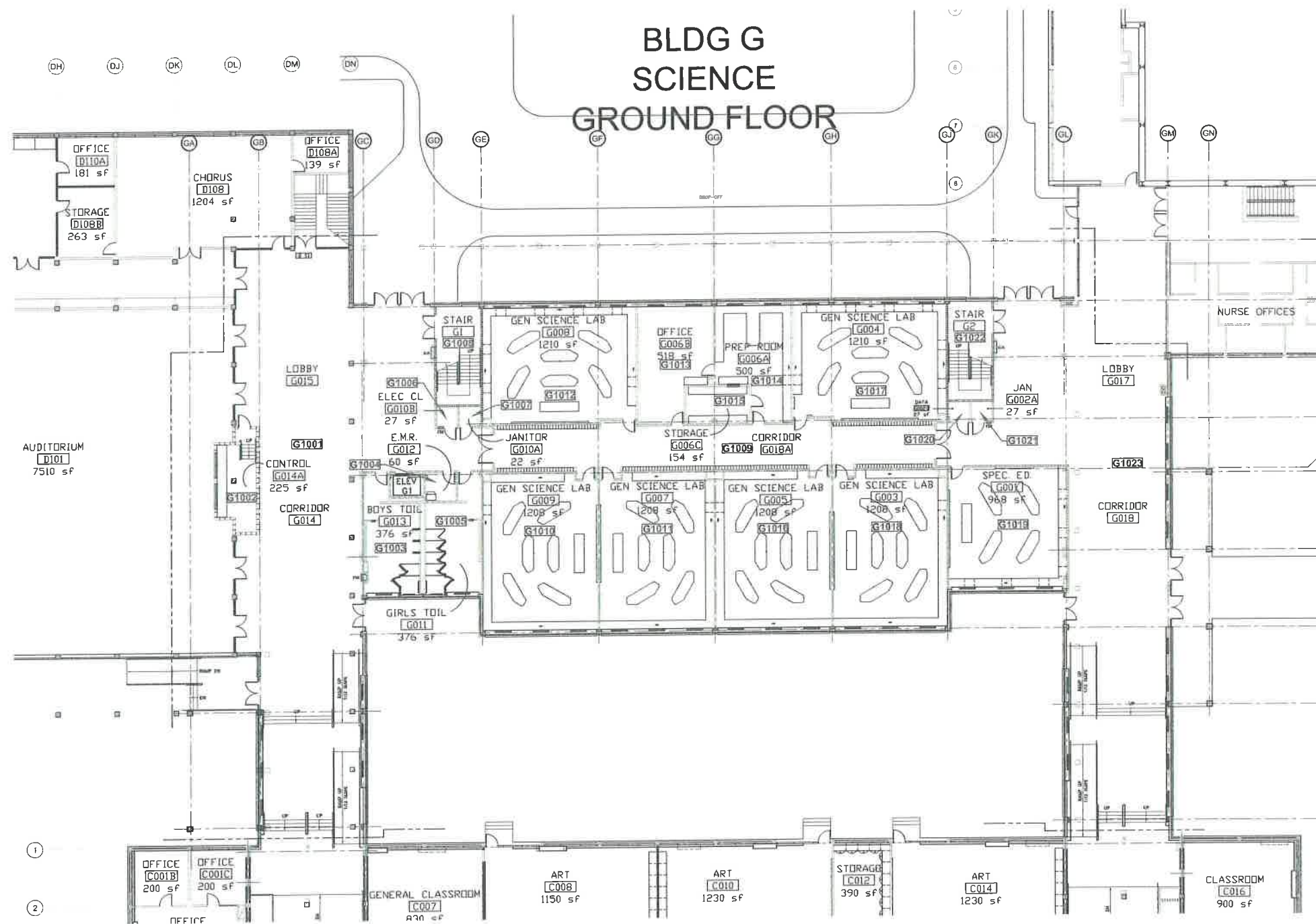
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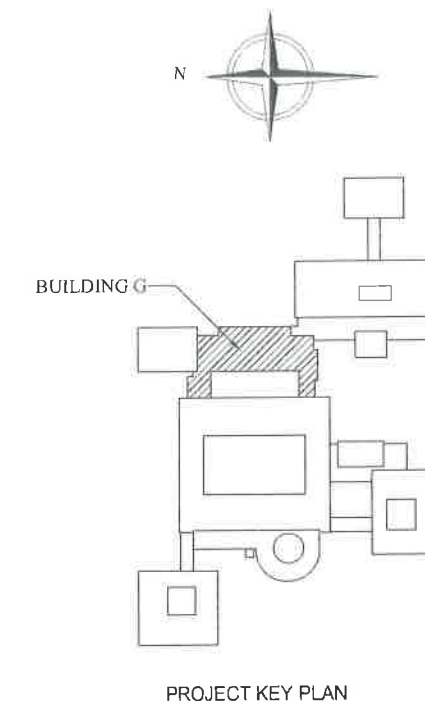
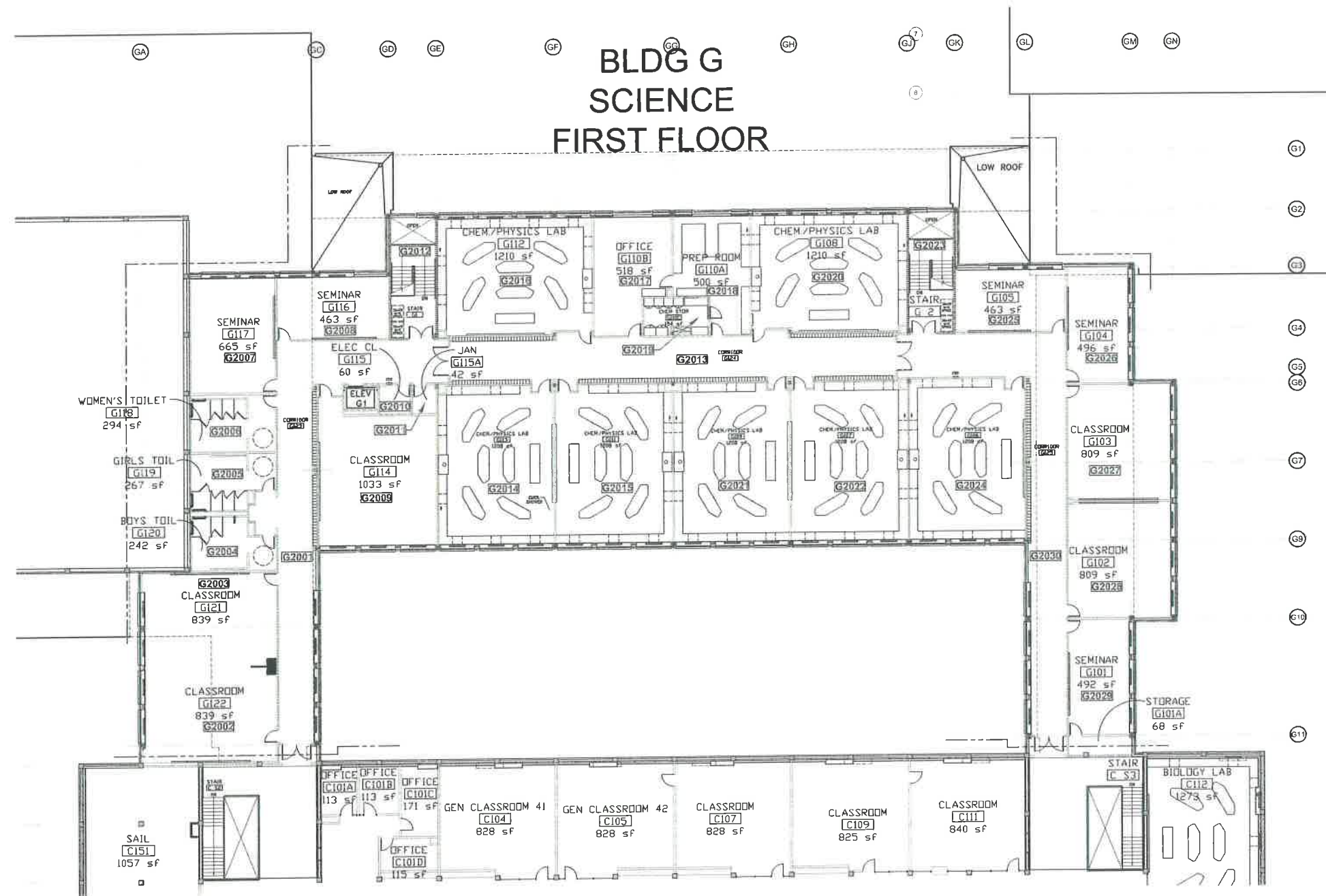
BLDG G
SCIENCE
GROUND FLOOR



1

BUILDING G -GROUND FLOOR PARTIAL PLAN

SCALE: NTS



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KEY PLAN:



No.	Date	Issue

**SITE PLAN
BUILDING G
FIRST FLOOR
PARTIAL**

3000864-00

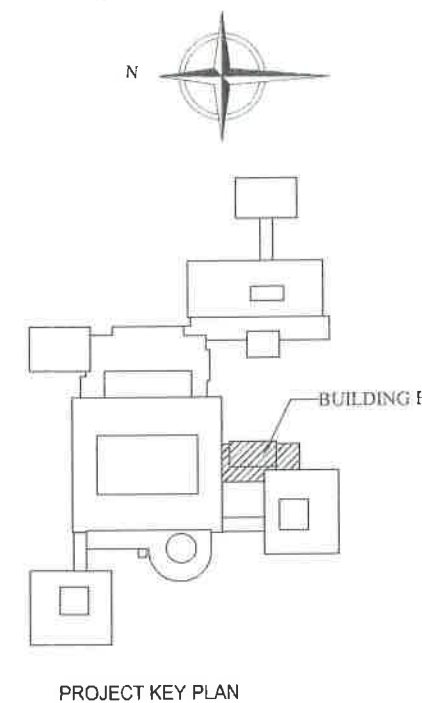
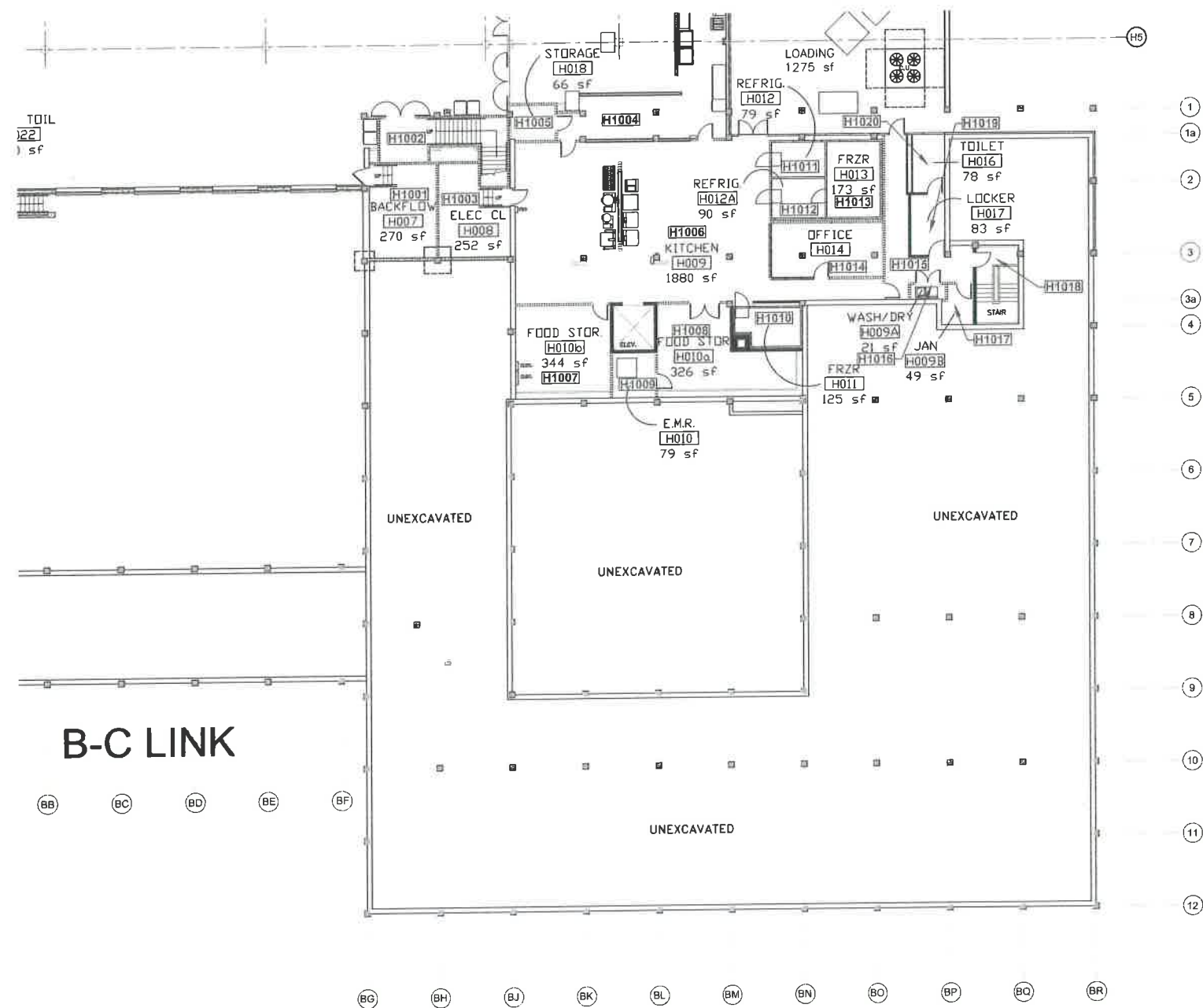
Job No.
NOVEMBER 2013

Sheet No.
SP-017

Drawn by
AHERA
Checked by
AHERA

17 of 13

1 BUILDING G -FIRST FLOOR PARTIAL PLAN
SCALE: NTS



WHITE PLAINS PUBLIC SCHOOLS

WHITE PLAINS HIGH SCHOOL
550 NORTH STREET
WHITE PLAINS, NY 10605

AHERA SITE PLAN

Louis Berger & Assoc. PC
565 Taylor Road
Elmsford, NY 10523
TEL: 914.798.3719 FAX: 212.353.4341 WWW.LOUIBERGER.COM

KEY PLAN:



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SITE PLAN BUILDING H GROUND FLOOR PARTIAL

3600561.00

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NOVEMBER 2013

Sheet No.

Drawn by
Checked by

SP-018

18 of 18

1 BUILDING H - GROUND FLOOR PARTIAL PLAN
SCALE: NTS

W.P.M.S. - HIGHLAND CAMPUS



WHITE PLAINS
PUBLIC SCHOOLS

WHITE PLAINS MIDDLE SCHOOL
(W.P.M.S.) - HIGHLAND CAMPUS
128 GRANDVIEW AVENUE
WHITE PLAINS, NY 10605

AMERA SITE PLAN

Louis Berger & Assoc. PC

565 Tuxter Road
Elmsford, NY 10523
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SITE PLAN
BASEMENT

3000664.00

Job No.
11/06/2013

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J.P.B.

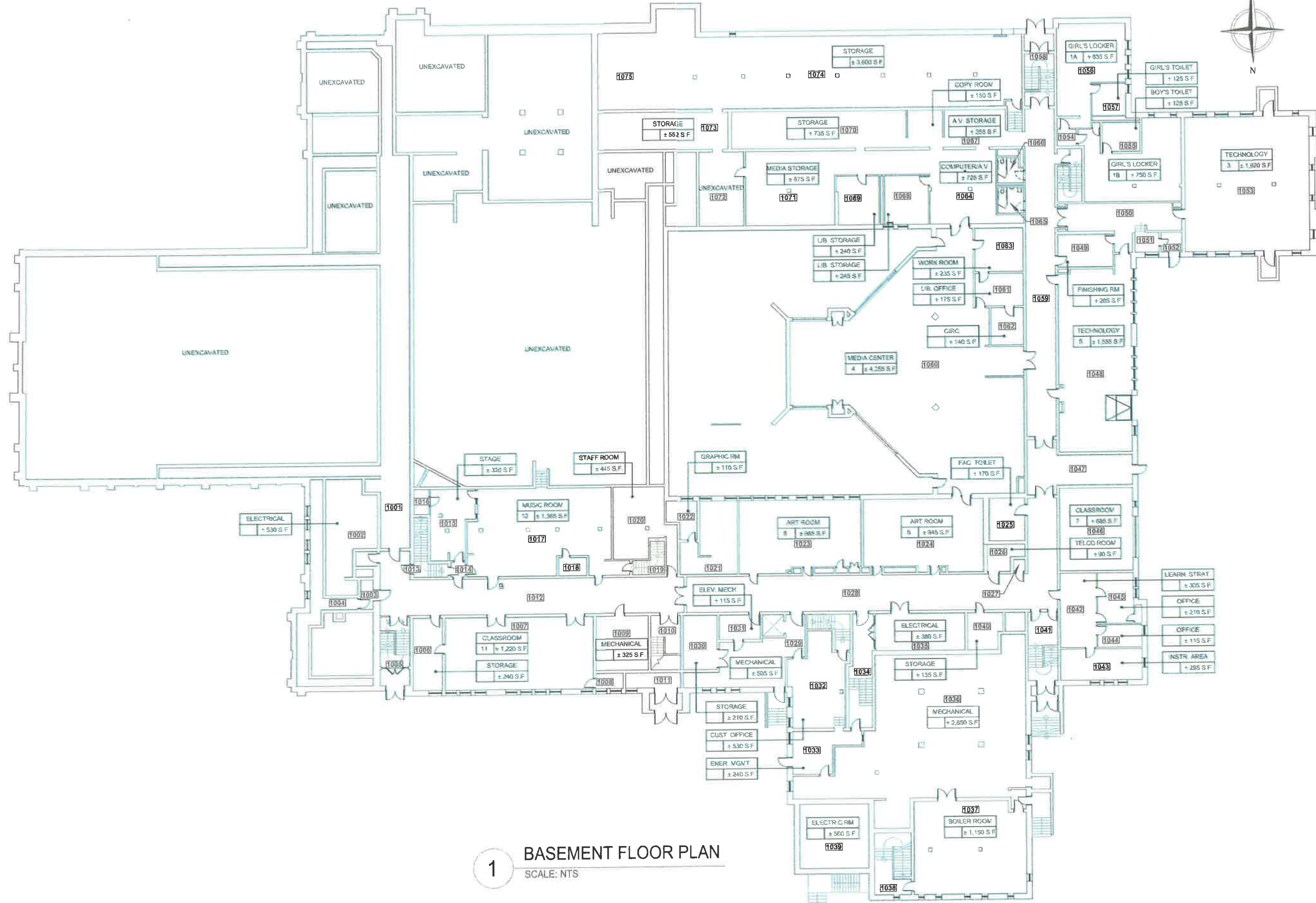
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J.P.B.

Sheet No.

SP-001

1 of 4

1 BASEMENT FLOOR PLAN
SCALE: NTS





WHITE PLAINS
PUBLIC SCHOOLS

WHITE PLAINS MIDDLE SCHOOL
(W.P.M.S.) - HIGHLAND CAMPUS
128 GRANDVIEW AVENUE
WHITE PLAINS, NY 10605

AHERA SITE PLAN



Louis Berger & Assoc. PC

365 Taylor Road
Elmsford, NY 10523
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No. Date
Sheet Title

SITE PLAN
FIRST FLOOR

3000864 00

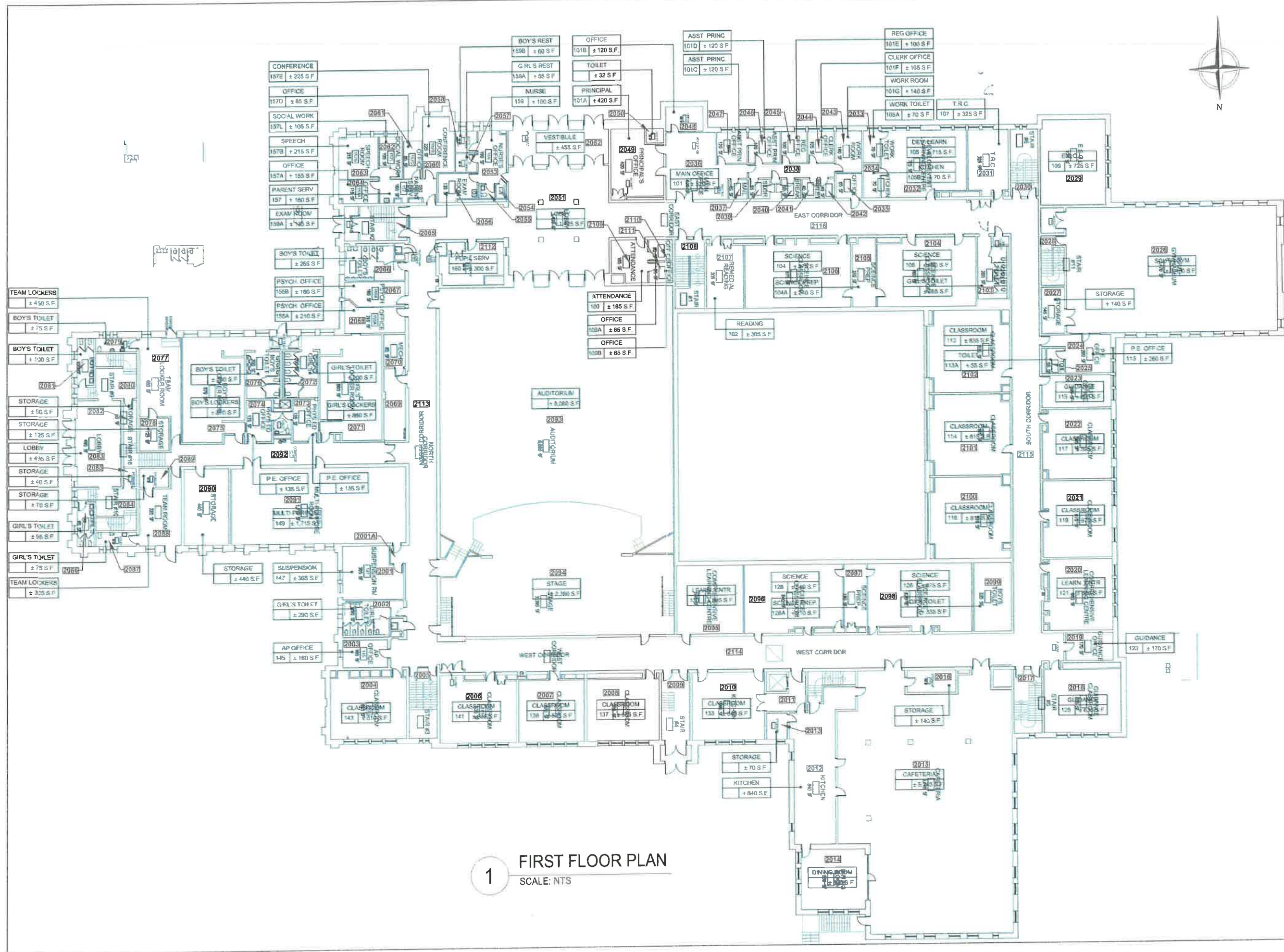
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NOVEMBER 2013

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J. J. J.

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J. J. J.

SP-002

2 of 4





WHITE PLAINS
PUBLIC SCHOOLS

WHITE PLAINS MIDDLE SCHOOL
(W.P.M.S) - HIGHLAND CAMPUS
128 GRANDVIEW AVENUE
WHITE PLAINS, NY 10605

AHERA SITE PLAN



Louis Berger & Assoc. PC

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Elmsford, NY 10523
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Sheet Title		

SITE PLAN
THIRD FLOOR

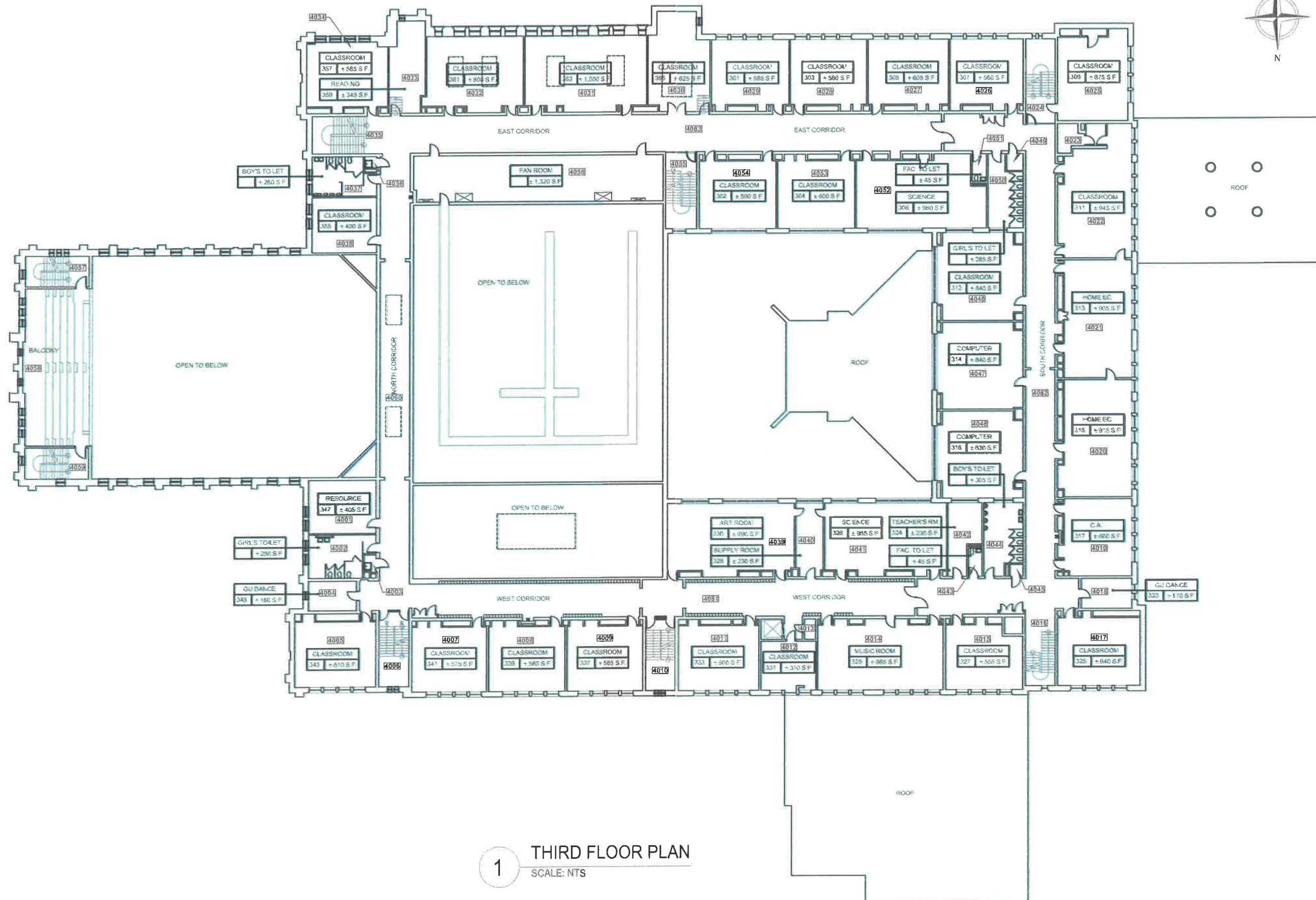
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1 of 4



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THIRD FLOOR PLAN

SCALE: NTS

W.P.M.S. - EASTVIEW CAMPUS



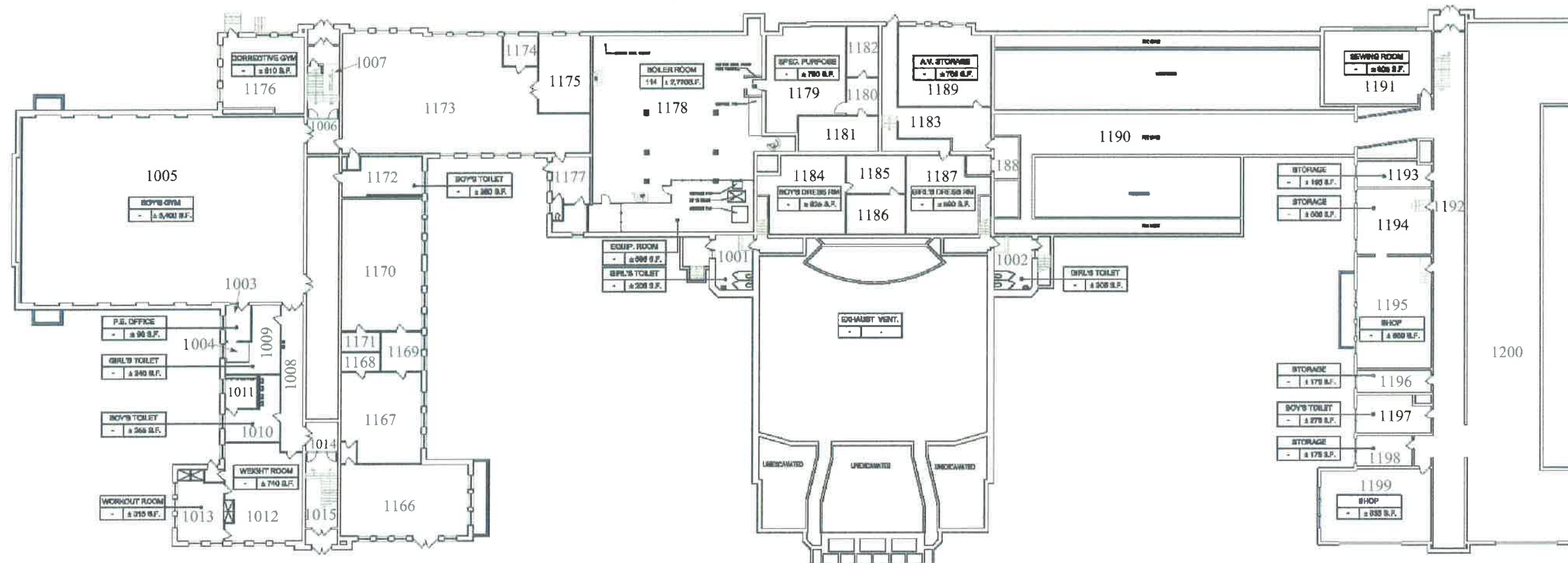
**WHITE PLAINS
PUBLIC SCHOOLS**

WHITE PLAINS MIDDLE SCHOOL
(W.P.M.S.) - EASTVIEW CAMPUS
350 MAIN STREET
WHITE PLAINS, NY 10601

AHERA SITE PLAN

 **Louis Berger & Assoc. PC**

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Elmsford, NY 10523
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1 BASEMENT FLOOR PLAN
SCALE: NTS

KEY PLAN:



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Sheet Title: _____

**SITE PLAN
BASEMENT FLOOR**

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NOVEMBER 2013

Sheet No:

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+ PAREZ
Checked by:
+ SARGA

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1 of 5



WHITE PLAINS
PUBLIC SCHOOLS

WHITE PLAINS MIDDLE SCHOOL
(W.P.M.S.) - EASTVIEW CAMPUS
350 MAIN STREET
WHITE PLAINS, NY 10601

AHERA SITE PLAN

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Elmsford, NY 10523
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KEY PLAN:



SITE PLAN
FIRST FLOOR

300064-00

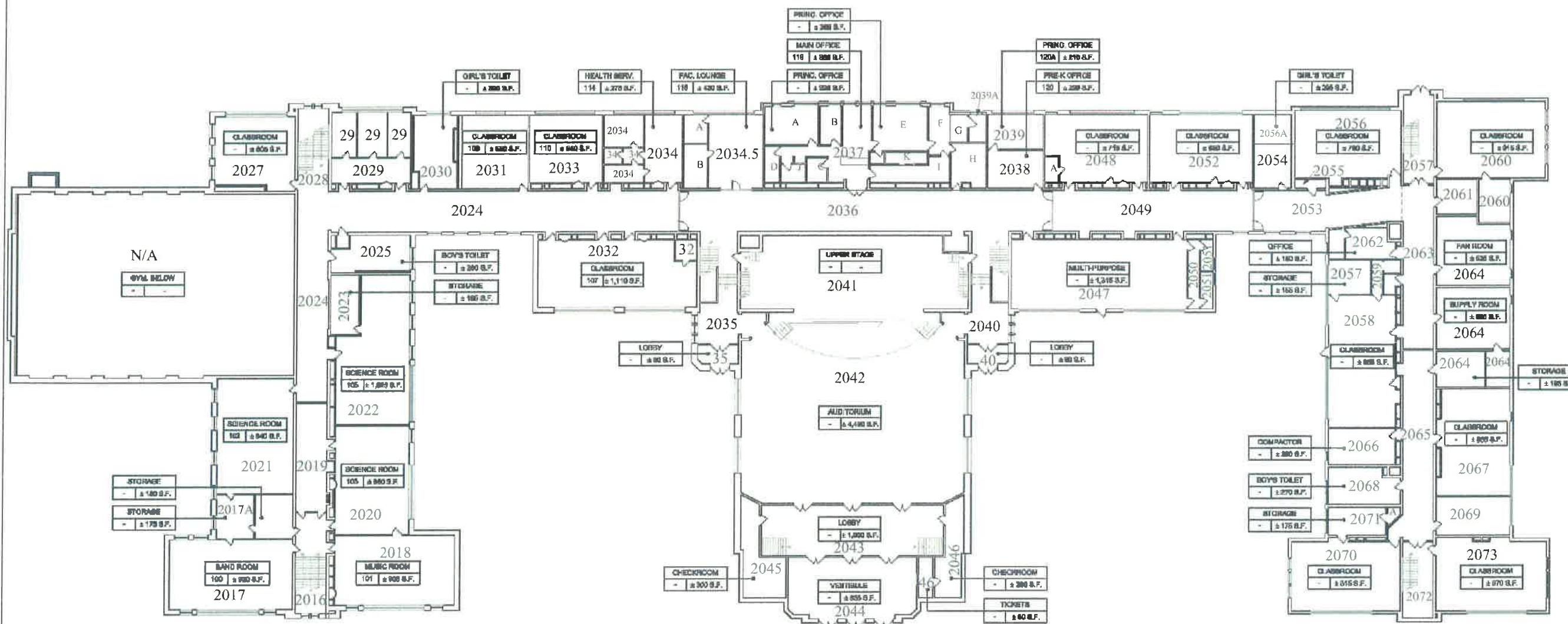
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NOVEMBER 2013

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J. PEREZ
Checked by
J. DARGA

SP-002

2 of 5

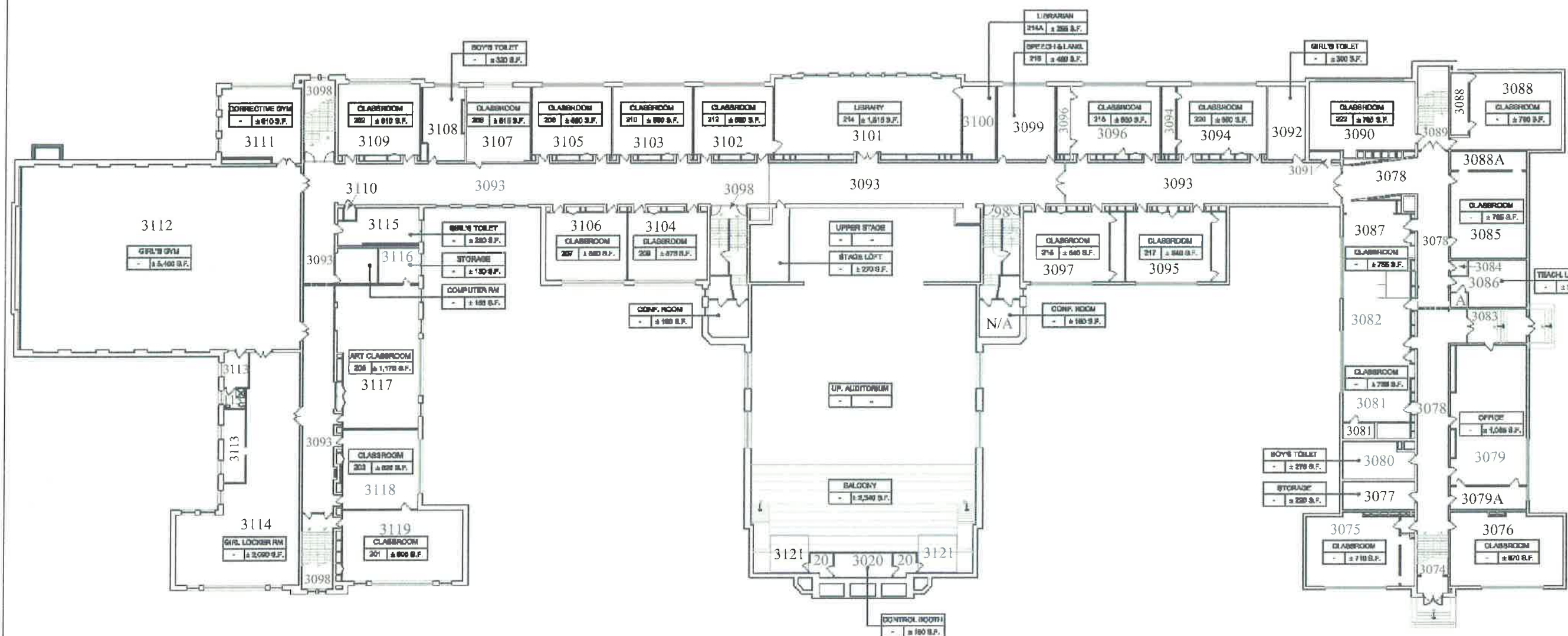
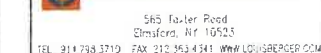


1 FIRST FLOOR PLAN
SCALE: NTS



WHITE PLAINS MIDDLE SCHOOL
(W.P.M.S.) - EASTVIEW CAMPUS
350 MAIN STREET
WHITE PLAINS, NY 10601

AHERA SITE PLAN



121 - Bathrooms at Stair Landing Level

1 SECOND FLOOR PLAN
SCALE: NTS

KEY PLAN:



No.	Date	ISSN
Sheet Title		

SITE PLAN
SECOND FLOOR

3000864 00

Job No
NOVEMBER 2011

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Checked by:	

SP-003

3 of 5



WHITE PLAINS
PUBLIC SCHOOLS

WHITE PLAINS MIDDLE SCHOOL
(W.P.M.S.) - EASTVIEW CAMPUS
350 MAIN STREET
WHITE PLAINS, NY 10601

ASHERA SITE PLAN

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No. Date Revision
Sheet Title

SITE PLAN
THIRD FLOOR

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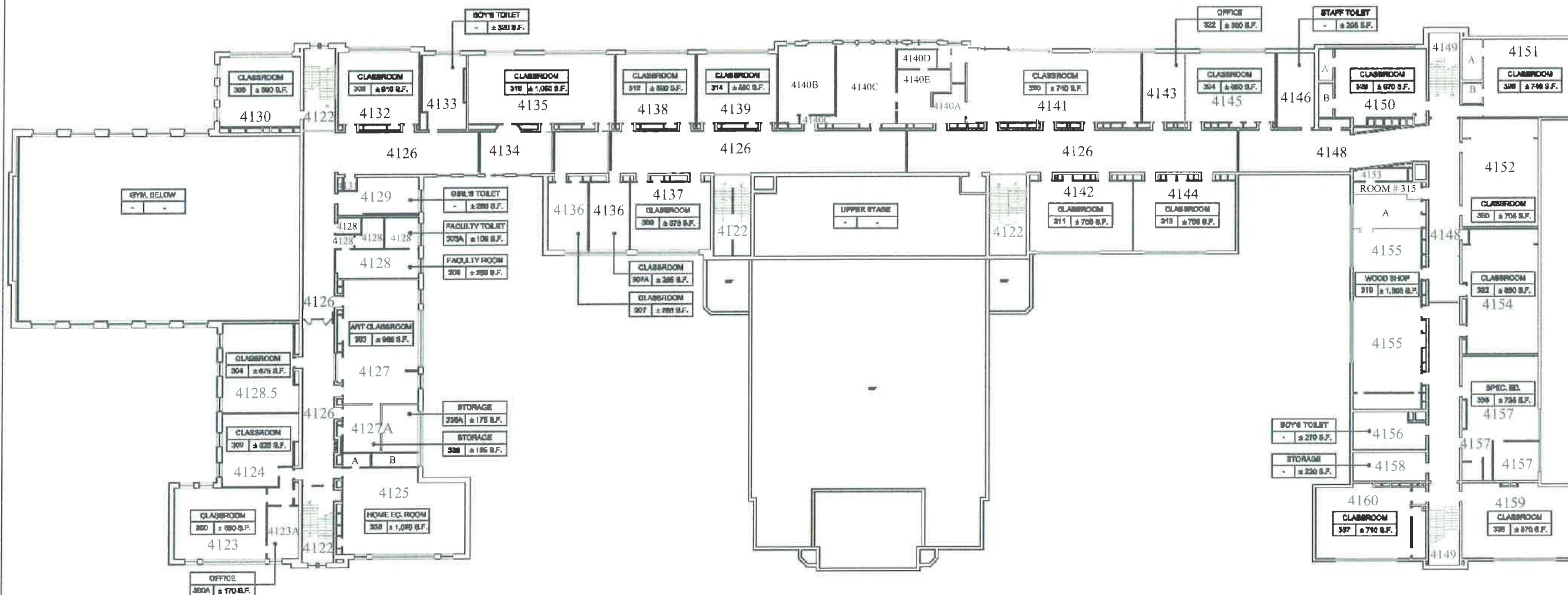
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NOVEMBER 2013

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Checked by

SP-004

4 of 5



1 THIRD FLOOR PLAN
SCALE: NTS



**WHITE PLAINS
PUBLIC SCHOOLS**

WHITE PLAINS MIDDLE SCHOOL
(W.P.M.S.) - EASTVIEW CAMPUS
350 MAIN STREET
WHITE PLAINS, NY 10601

AHERA SITE PLAN

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KEY PLAN:



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**SITE PLAN
FOURTH FLOOR**

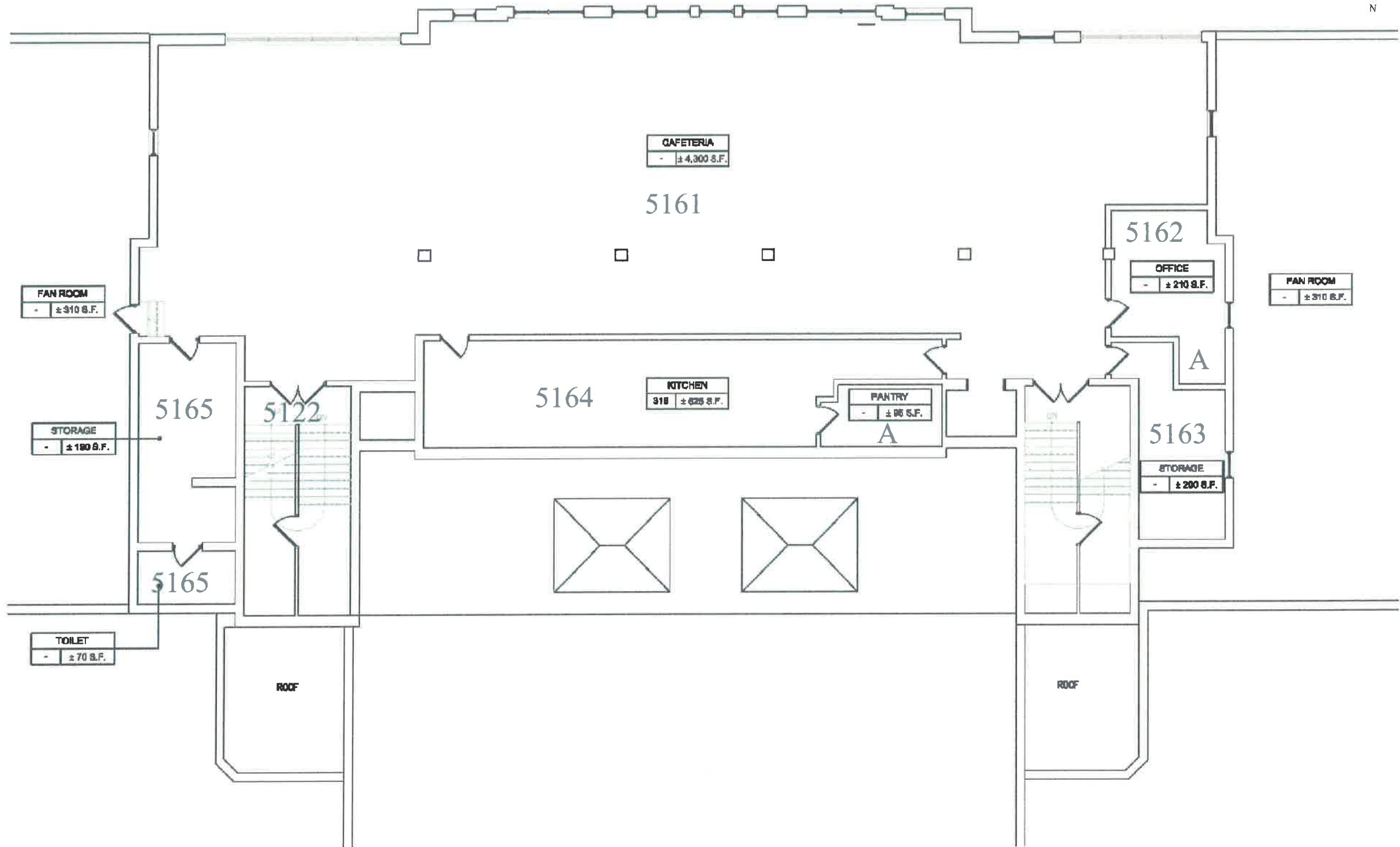
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Job No.
NOVEMBER 2013

Sheet No.

SP-005

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1 **FOURTH FLOOR PLAN**
SCALE: NTS

**ROCHAMBEAU ALTERNATIVE
HIGH SCHOOL**



**WHITE PLAINS
PUBLIC SCHOOLS**
ROCHAMBEAU ALTERNATIVE
HIGH SCHOOL
228 FISHER AVENUE
WHITE PLAINS, NY 10606

AHERA SITE PLAN

 **Louis Berger & Assoc., PC**
565 Taylor Road
Elmsford, NY 10523
TEL: 914 738 3719 FAX: 212 363 4341 WWW.LOUIBERGER.COM

KEY PLAN:



**SITE PLAN
BASEMENT**

3000664.00

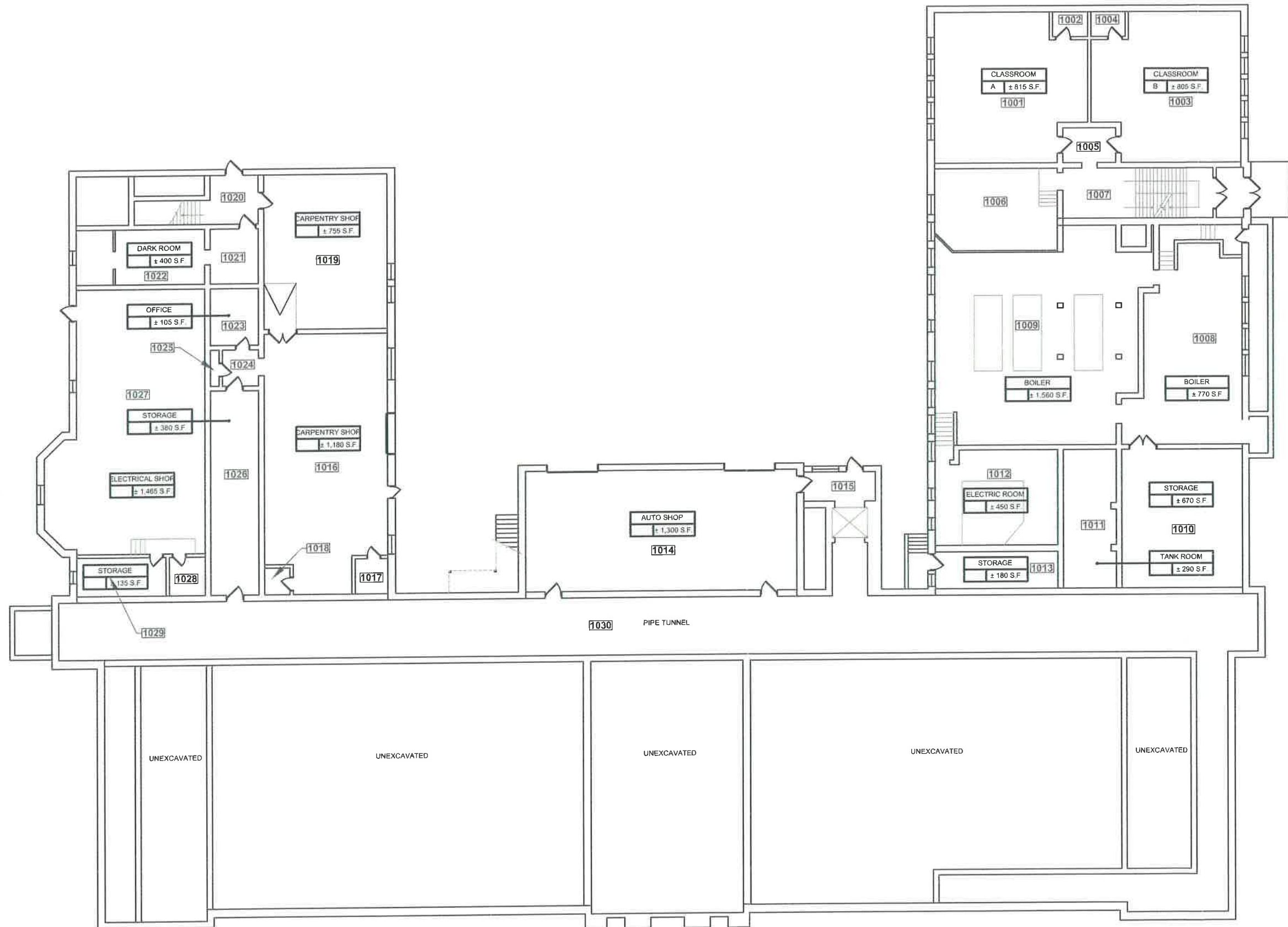
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11/09/2013

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1 of 5



1 BASEMENT PLAN
SCALE: NTS



WHITE PLAINS
PUBLIC SCHOOLS
ROCHAMBEAU ALTERNATIVE
HIGH SCHOOL
228 FISHER AVENUE
WHITE PLAINS, NY 10606

AHERA SITE PLAN

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565 Taylor Road
Elmsford, NY 10523
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KEY PLAN:

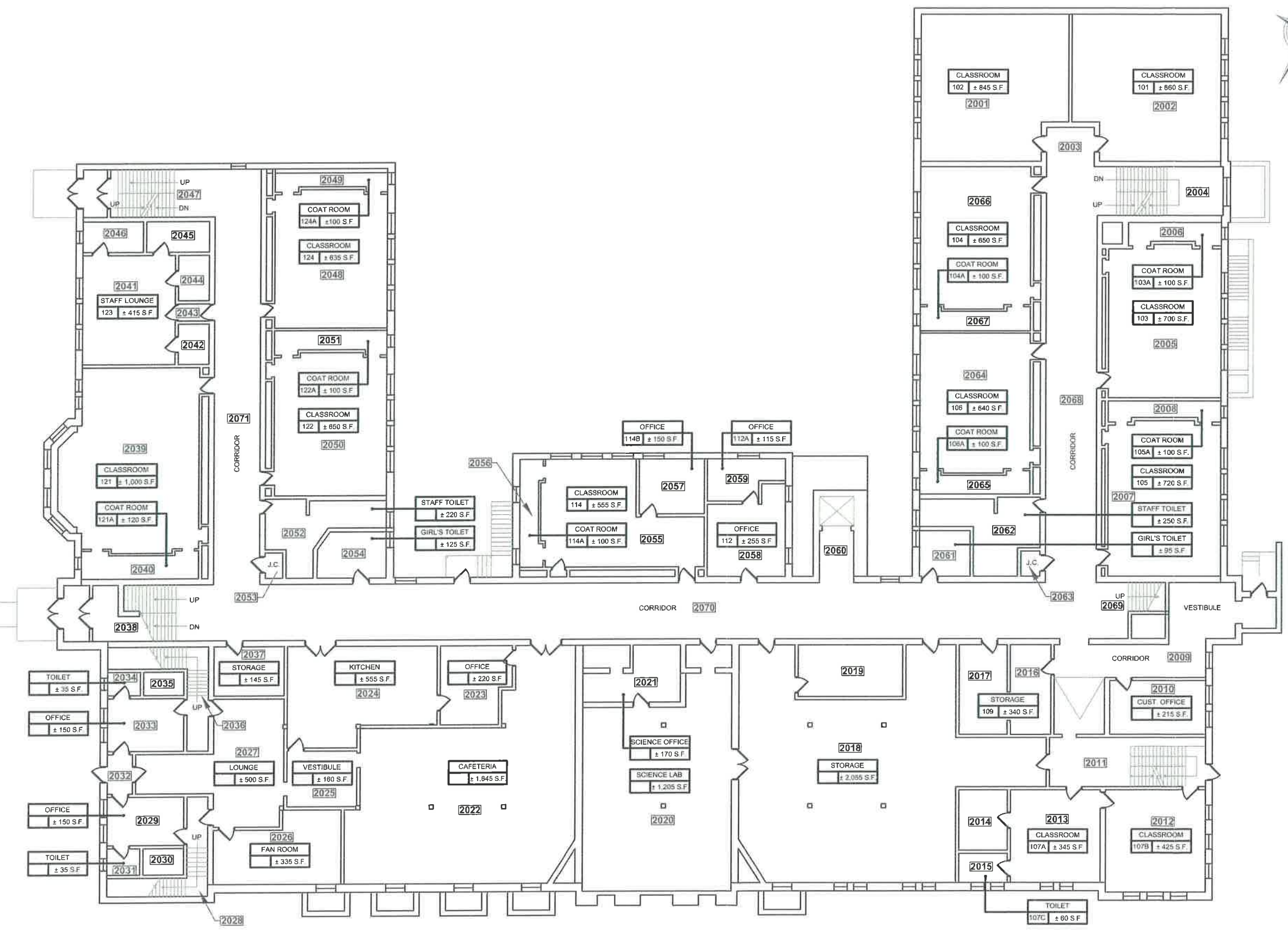


SITE PLAN
GROUND FLOOR

3000864.00

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NOVEMBER 2013
Drawn by
Checked by

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SP-002
2 of 5




1 GROUND FLOOR PLAN
SCALE: NTS



WHITE PLAINS
PUBLIC SCHOOLS
ROCHAMBEAU ALTERNATIVE
HIGH SCHOOL
228 FISHER AVENUE
WHITE PLAINS, NY 10606

ASHERA SITE PLAN

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565 Taxler Road
Dressford, NY 10523
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KEY PLAN:



SITE PLAN
FIRST FLOOR

3000864 00

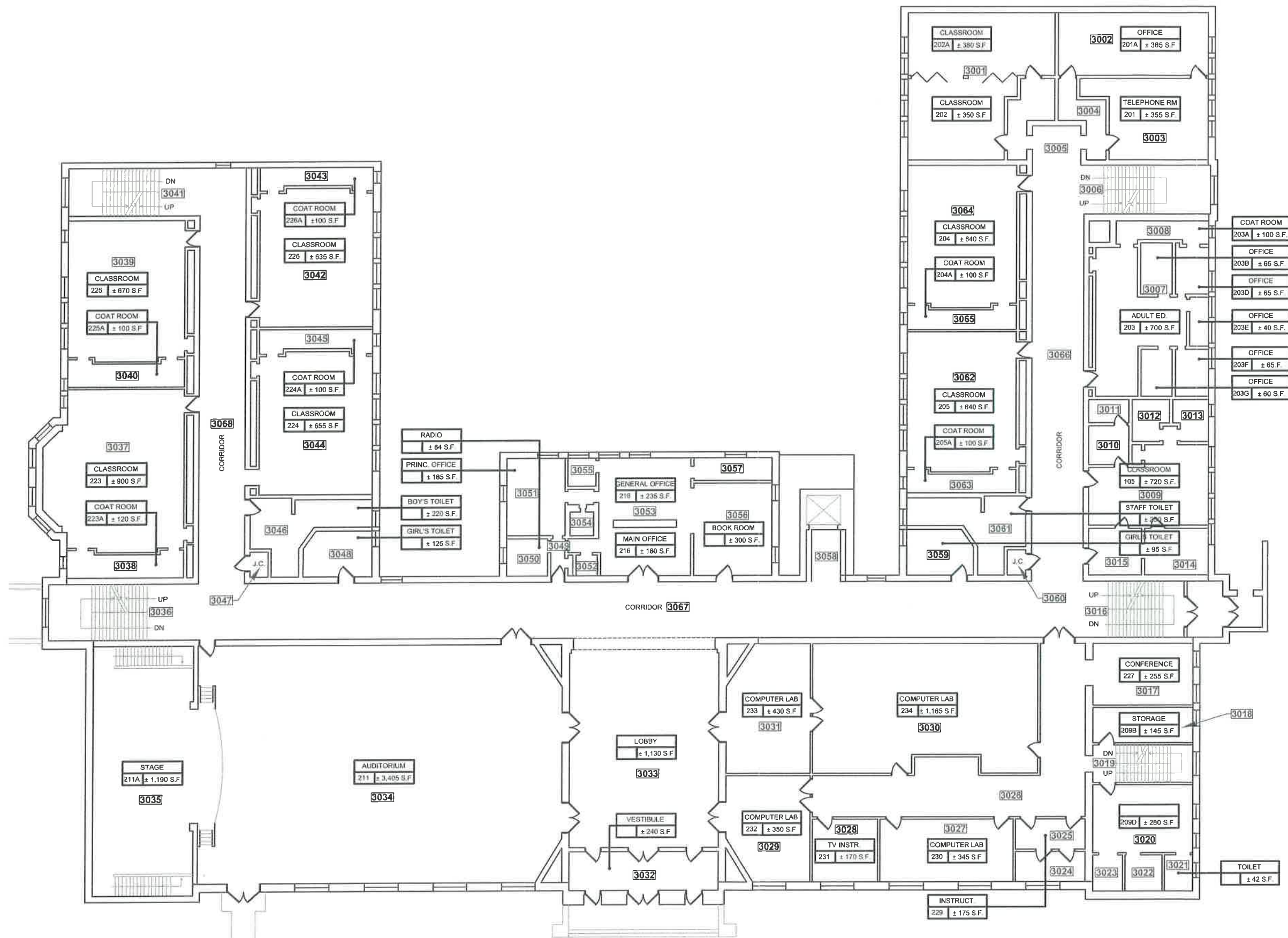
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NOVEMBER 2013

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SP-003

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3 of 5



1 FIRST FLOOR PLAN
SCALE: NTS



WHITE PLAINS
PUBLIC SCHOOLS
ROCHAMBEAU ALTERNATIVE
HIGH SCHOOL
228 FISHER AVENUE
WHITE PLAINS, NY 10606

ASHERA SITE PLAN

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KEY PLAN:



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Sheet Title

SITE PLAN
SECOND FLOOR

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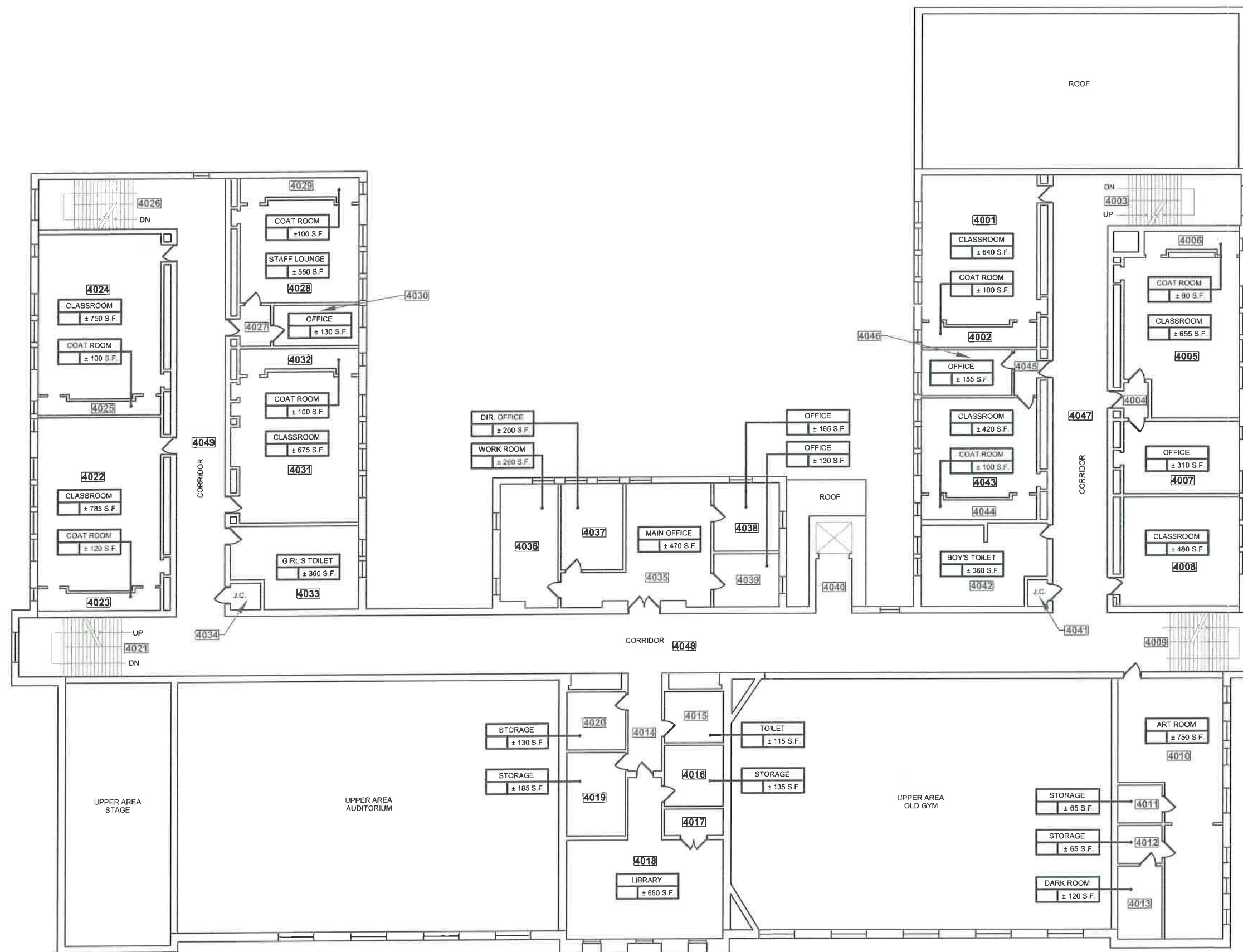
Job No.
NOVEMBER 2013

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J. HARRIS
Checked by
J. HARRIS

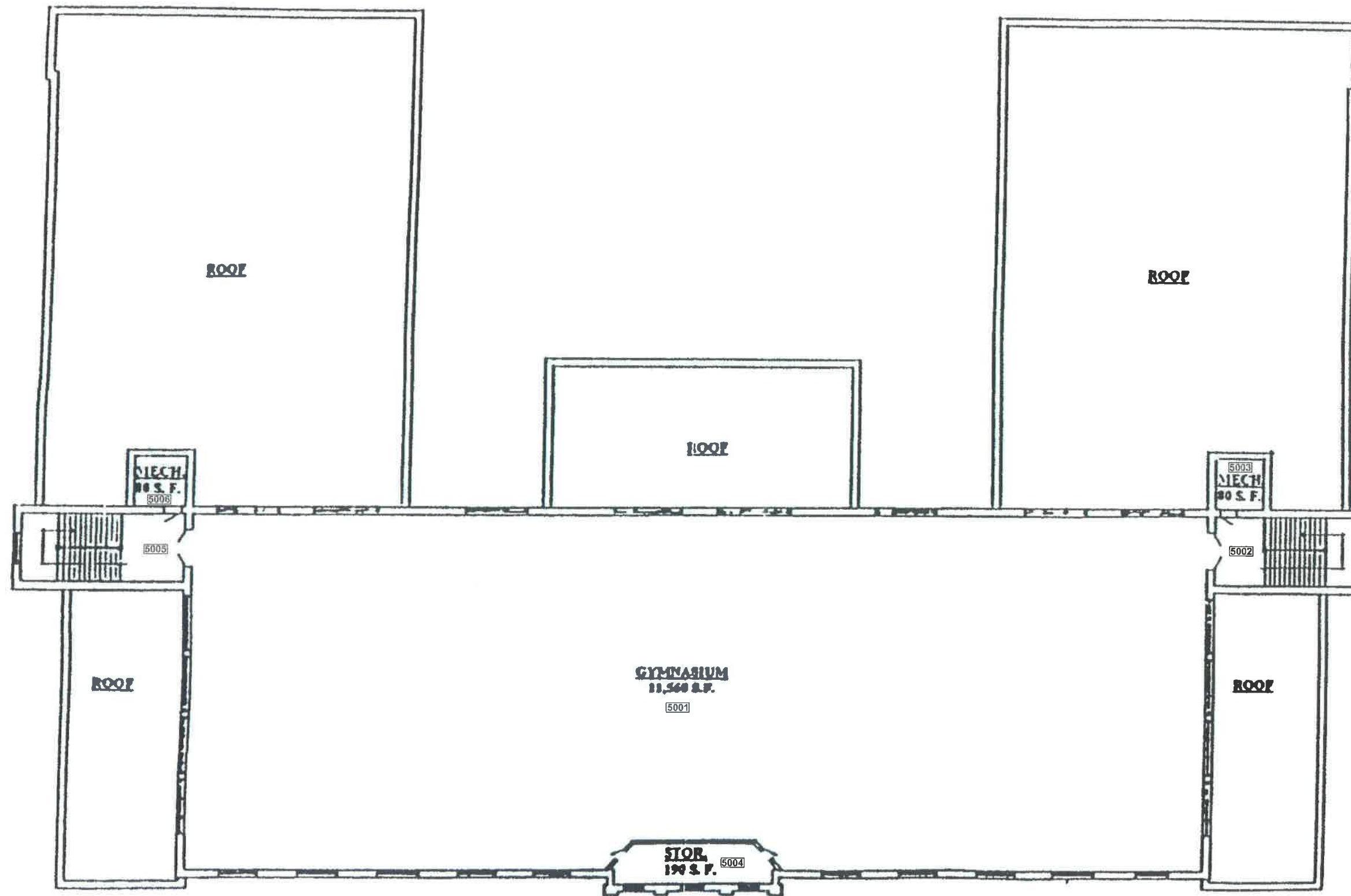
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SP-004

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1 SECOND FLOOR PLAN
SCALE: NTS



WHITE PLAINS
PUBLIC SCHOOLS
ROCHAMBEAU ALTERNATIVE
HIGH SCHOOL
228 FISHER AVENUE
WHITE PLAINS, NY 10606

AHERA SITE PLAN

 **Louis Berger & Assoc., PC**

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KEY PLAN:



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SITE PLAN
THIRD FLOOR

3000861-00

Job No.
16 NOVEMBER 2013

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SP-005

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1 THIRD FLOOR PLAN
SCALE: NTS

**CHURCH STREET
ELEMENTARY SCHOOL**



**WHITE PLAINS
PUBLIC SCHOOLS**

CHURCH STREET
ELEMENTARY SCHOOL
295 CHURCH STREET
WHITE PLAINS, NY 10604

AHERA SITE PLAN

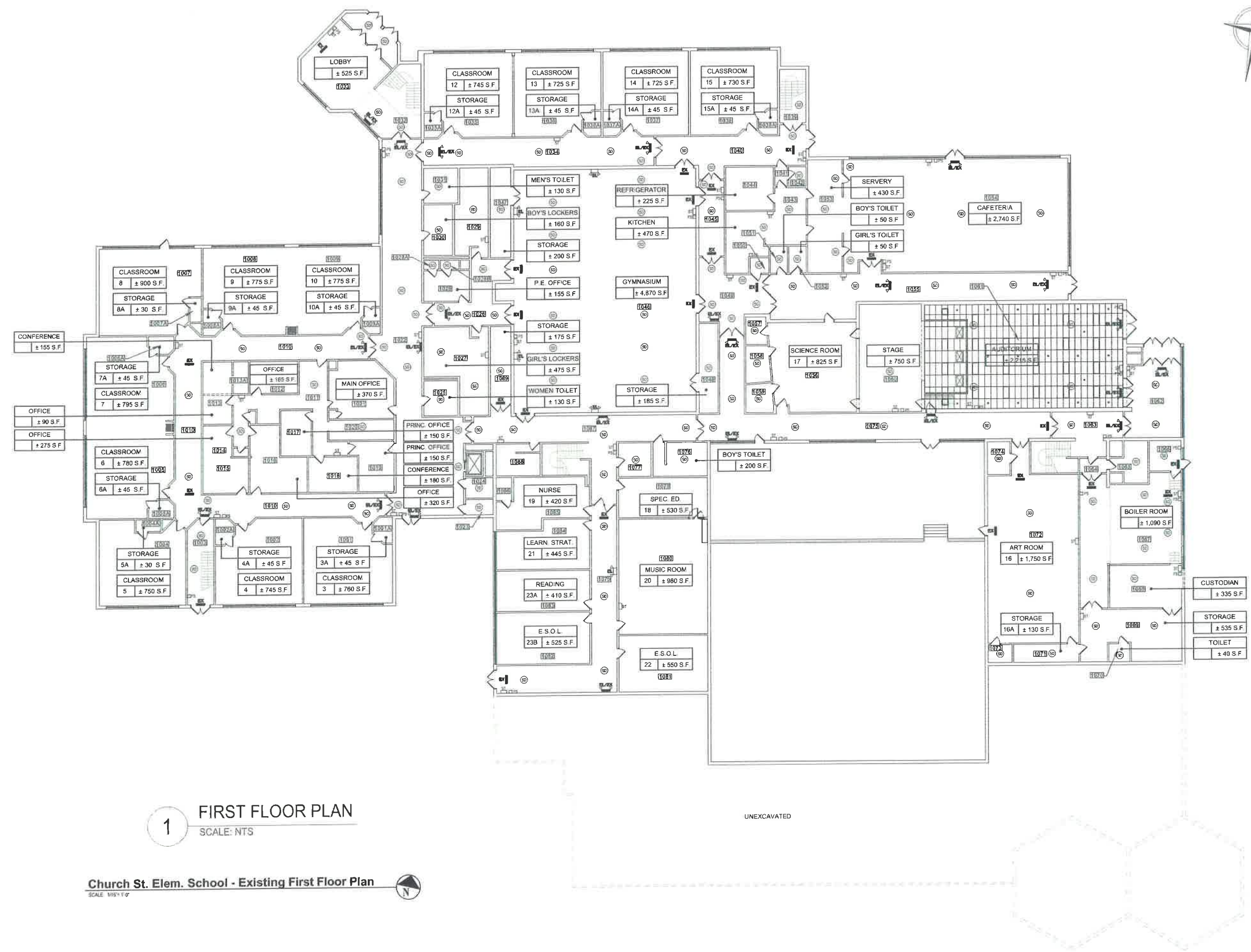
Louis Berger & Assoc. PC
565 Taylor Road
Elmwood, NY 10523
TEL: 914.799.3710 FAX: 212.353.4341 WWW.LBERGERPC.COM

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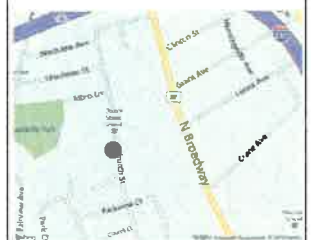


1 FIRST FLOOR PLAN
SCALE: NTS

Church St. Elem. School - Existing First Floor Plan
SCALE: 1/8" = 1'-0"



KEY PLAN:

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No	Date	Issue
Sheet Title		

SITE PLAN
SECOND FLOOR

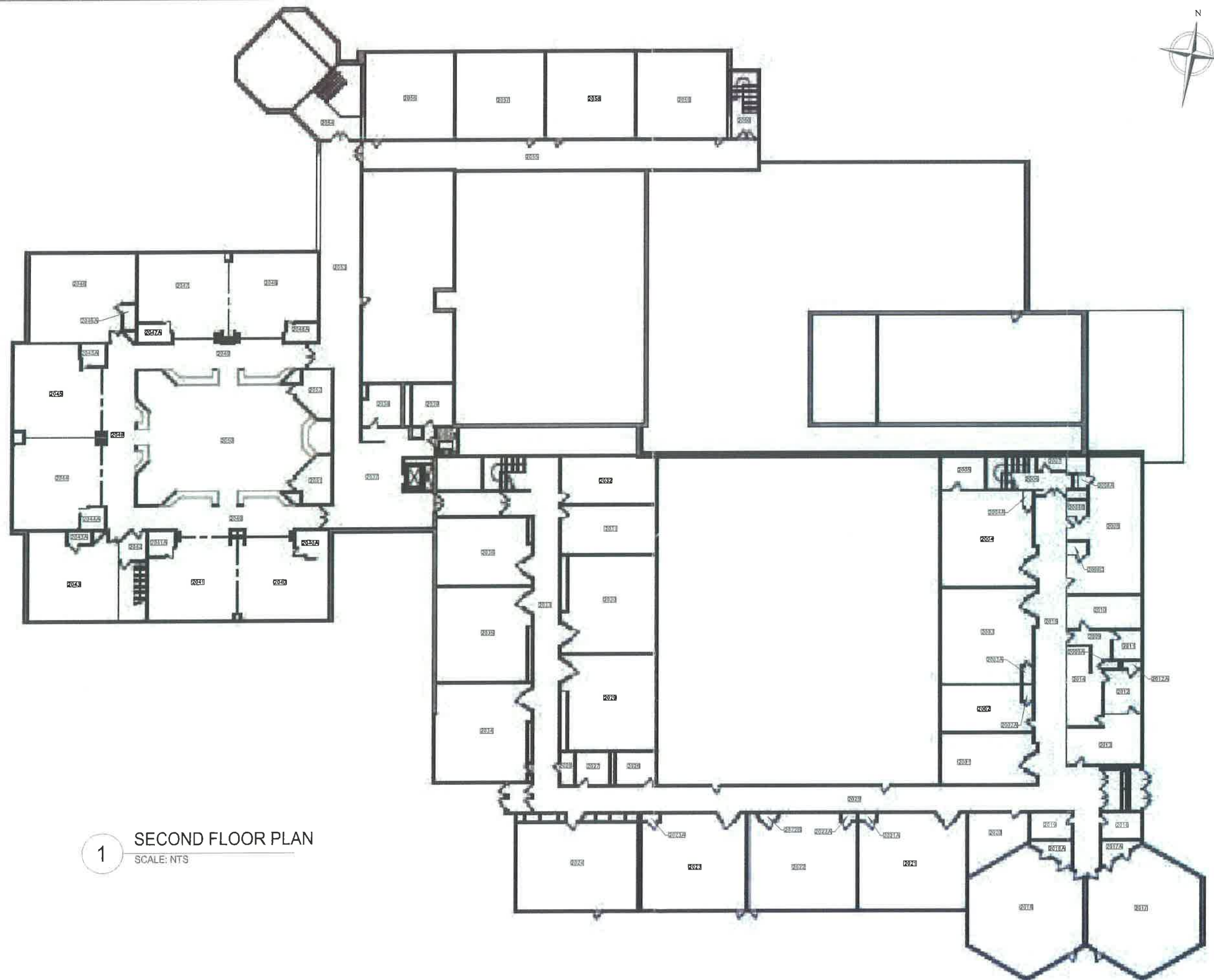
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NOVEMBER 2013	

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SP-002

2 of 2



1

SECOND FLOOR PLAN

SCALE: NTS

**GEORGE WASHINGTON
ELEMENTARY SCHOOL**

AHERA SITE PLAN



Louis Berger & Assoc., PC

565 Taster Road
Elmsford, NY 10523
TEL 914.798.3710 FAX 212.363.4341 WWW.LOUISEERGER.COM

KEY PLAN:



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Sheet	File	

SITE PLAN
FIRST FLOOR

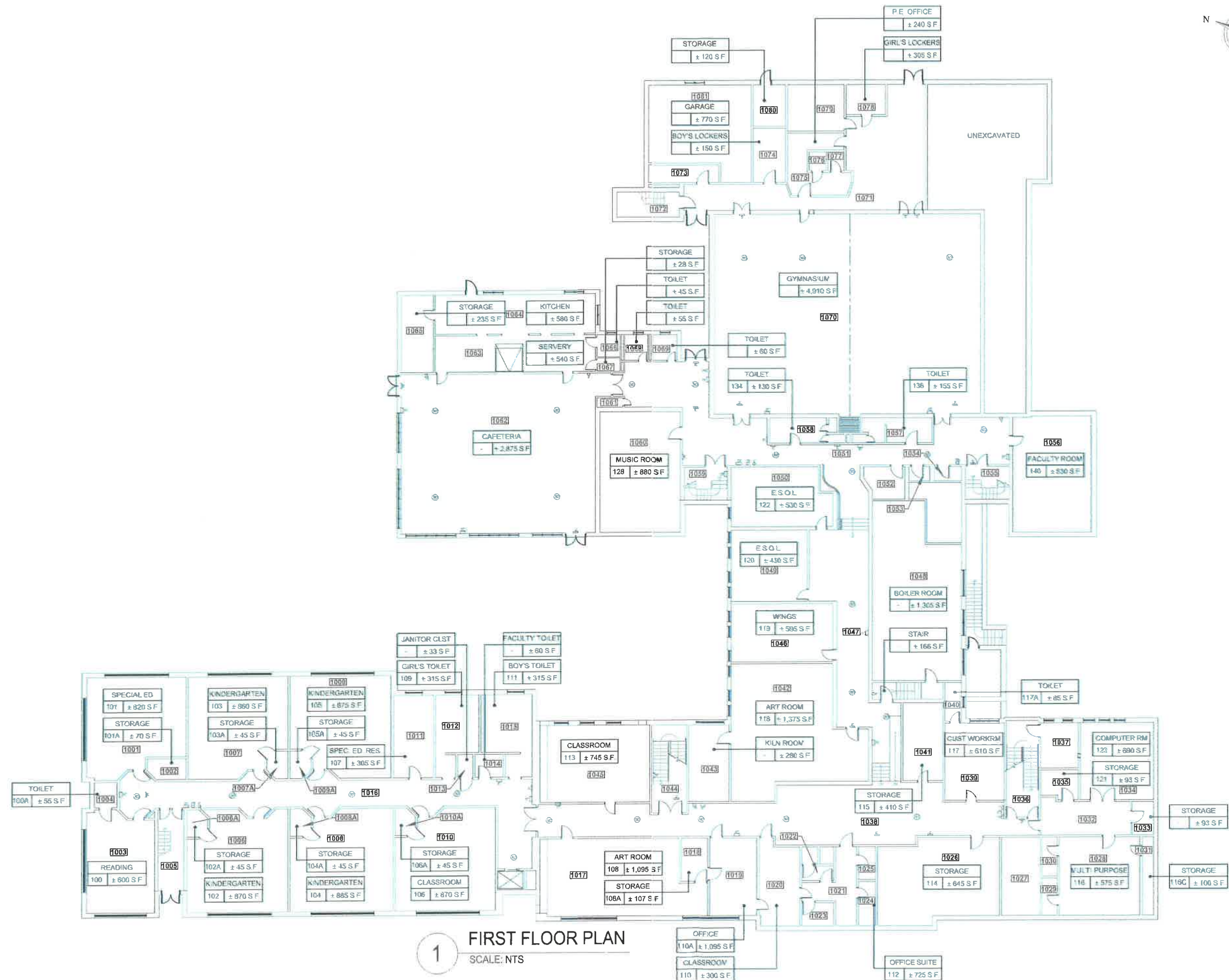
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Job: 10
NOVEMBER 2013

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SP-001

of 3





WHITE PLAINS
PUBLIC SCHOOLS

GEORGE WASHINGTON
ELEMENTARY SCHOOL
100 ORCHARD STREET
WHITE PLAINS, NY 10604

ASHERA SITE PLAN

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Elmsford, NY 10523
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No.	Date	Issue

SITE PLAN
SECOND FLOOR

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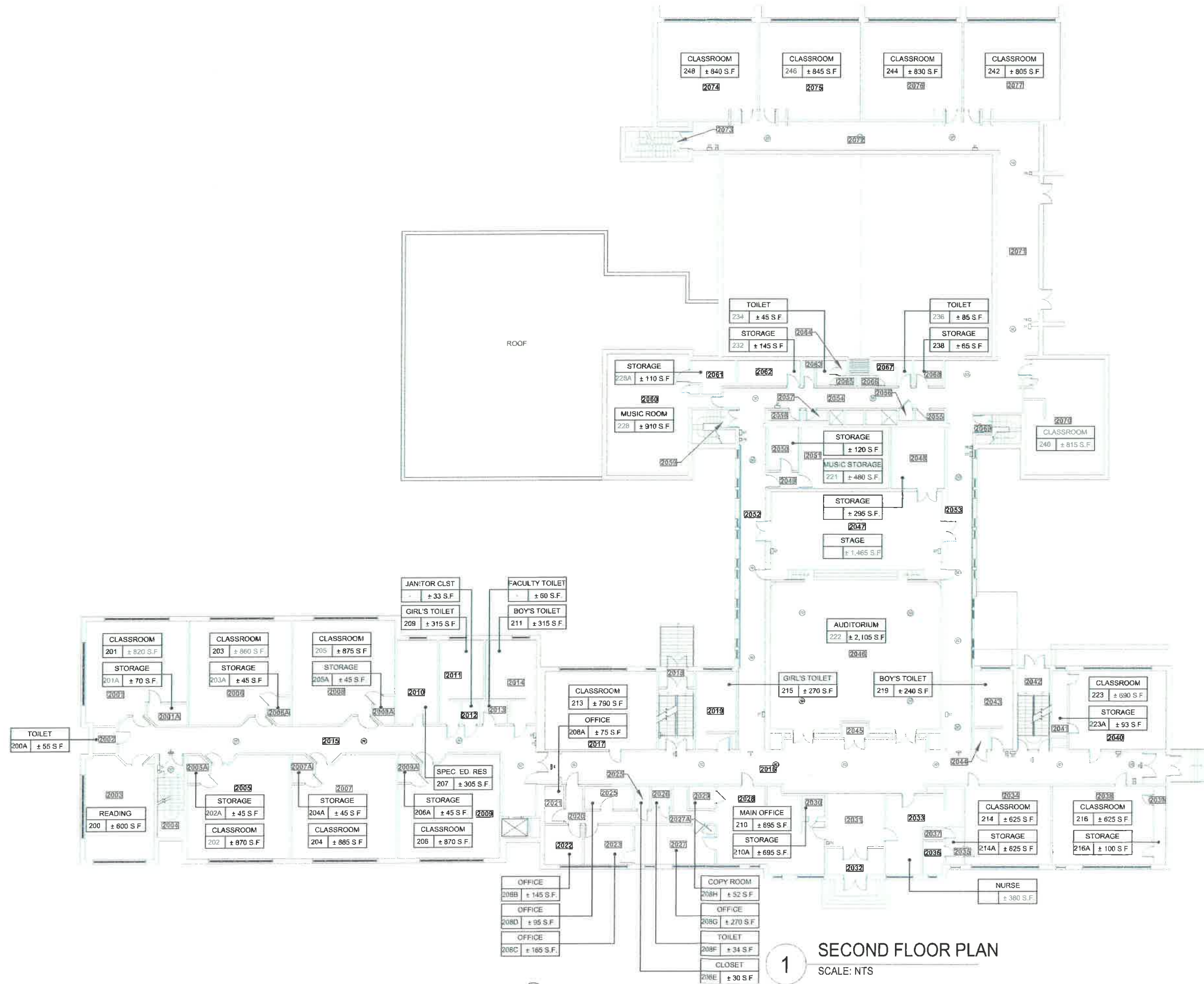
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NOVEMBER 2013

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WHITE PLAINS
PUBLIC SCHOOLS

GEORGE WASHINGTON
ELEMENTARY SCHOOL
100 ORCHARD STREET
WHITE PLAINS, NY 10604

AHERA SITE PLAN

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Elmsford, NY 10523
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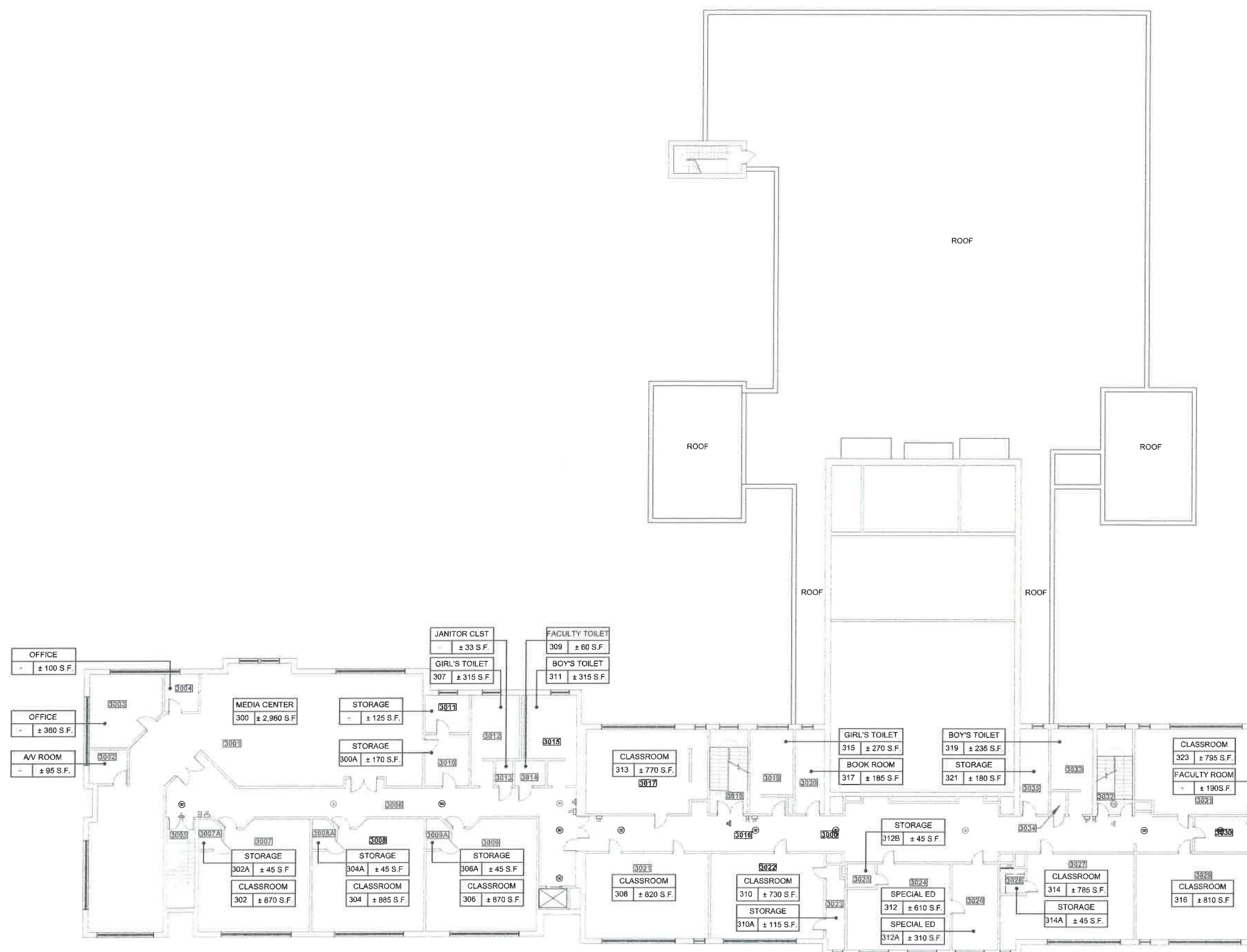
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Sheet Title

SITE PLAN
THIRD FLOOR

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Job No. NOVEMBER 2013
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Checked by J. GREEK
Sheet No.
SP-003
3 of 3



1 **THIRD FLOOR PLAN**
SCALE: NTS

**MAMARONECK AVENUE
ELEMENTARY SCHOOL**



WHITE PLAINS
PUBLIC SCHOOLS

MAMARONECK AVENUE
ELEMENTARY SCHOOL
7 NOSBAND AVENUE
WHITE PLAINS, NY 10605

AMERA SITE PLAN

 **Louis Berger & Assoc., PC**
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Elmsford, NY 10523
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Sheet Title: _____

SITE PLAN
GROUND FLOOR

3000264.00

Issue No:
NOVEMBER 2013

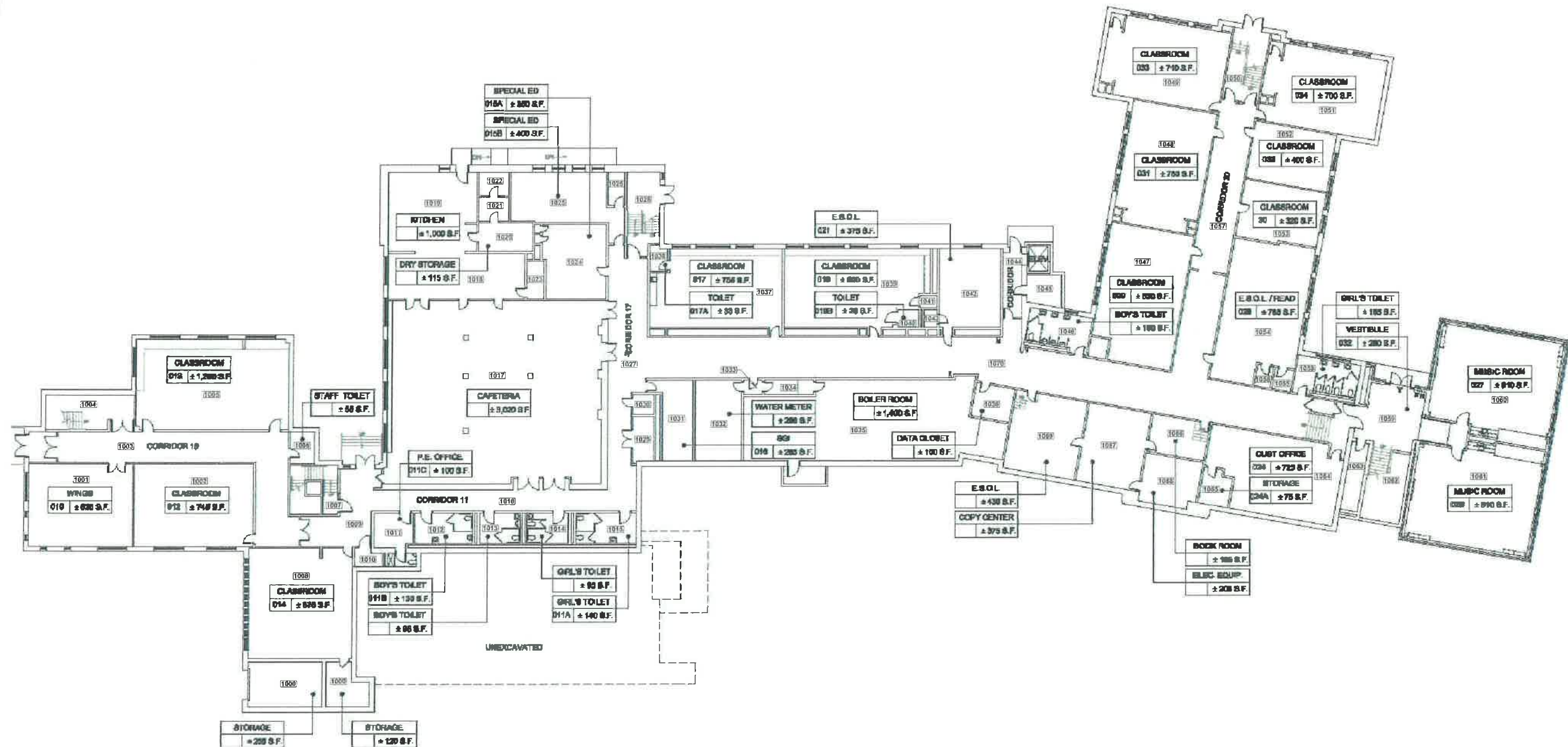
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J. PENEZ

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J. PENEZ

Sheet No:

SP-001

1 of 3



1 GROUND FLOOR PLAN
SCALE: NTS



MAMARONECK AVENUE
ELEMENTARY SCHOOL
7 NOSBAND AVENUE
WHITE PLAINS, NY 10605

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Emsford, NE 68023
TEL 214.758.5710 FAX 214.363.4341 WWW.LOUISBERGER.COM



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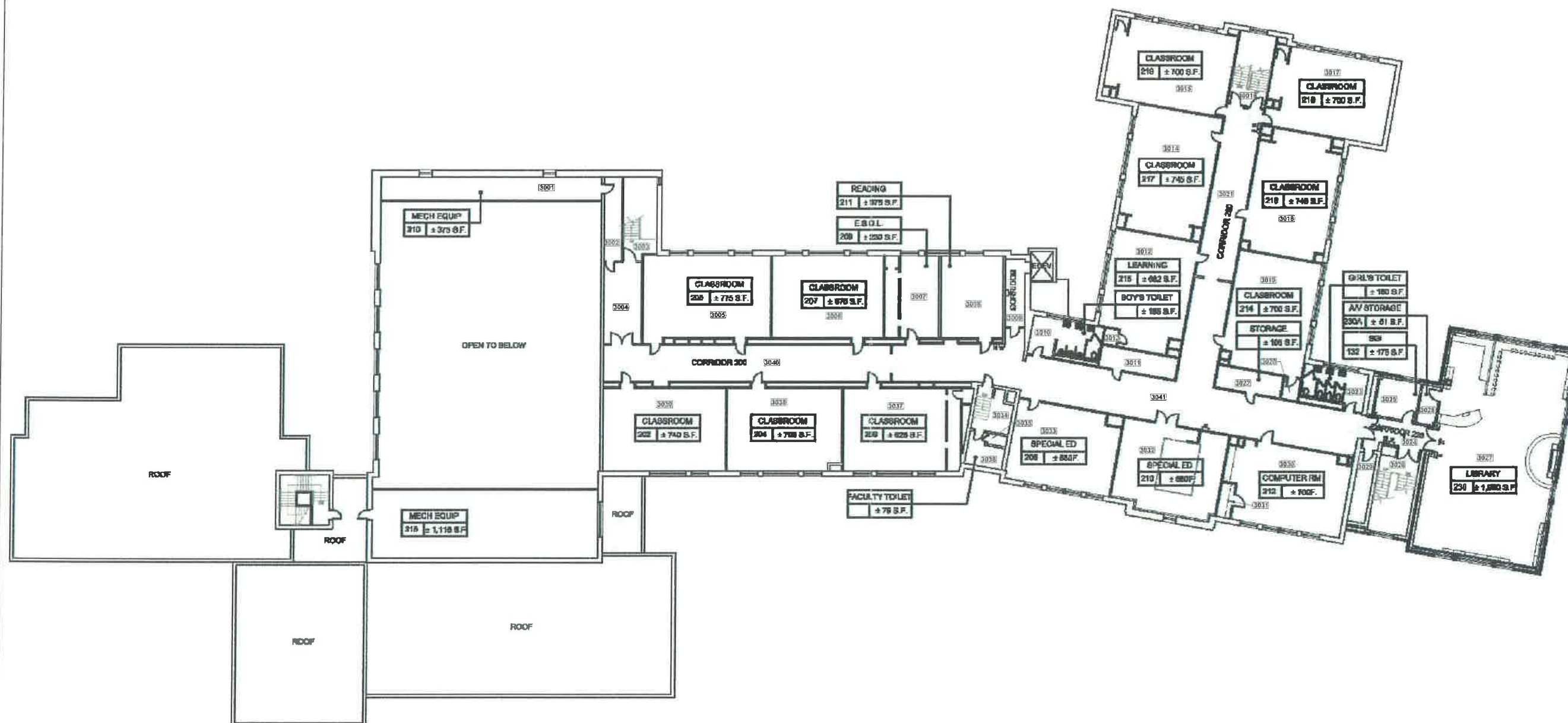
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MAMARONECK AVENUE
ELEMENTARY SCHOOL
7 NOSBAND AVENUE
WHITE PLAINS, NY 10605

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NOVEMBER 2013

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SP-003

3 of 3

1 SECOND FLOOR PLAN
SCALE: NTS

RIDGEWAY ELEMENTARY SCHOOL



WHITE PLAINS
PUBLIC SCHOOLS
RIDGEWAY ELEMENTARY
SCHOOL
225 RIDGEWAY
WHITE PLAINS, NY 10605

ASHERA SITE PLAN

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SITE PLAN
FIRST FLOOR

3001864-00

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NOVEMBER 2013

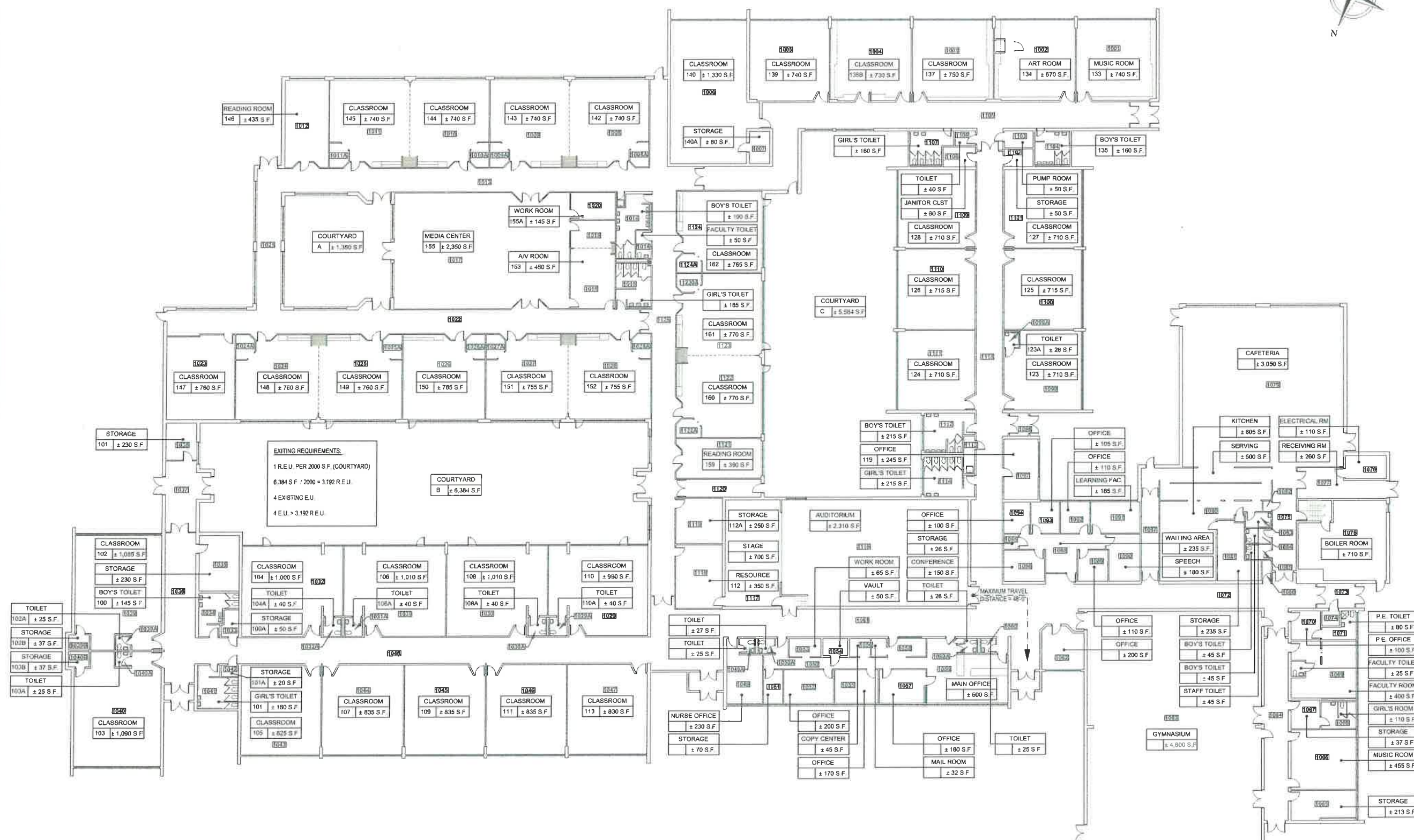
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J. P. BERGER

Checked by
J. P. BERGER

Sheet No.

SP-001

1 of 1



EXITING REQUIREMENTS:
1 R.E.U. PER 2000 S.F. (COURTYARD)
6,384 S.F. / 2000 = 3.192 R.E.U.
4 EXISTING E.U.
4 E.U. > 3.192 R.E.U.

1 FIRST FLOOR PLAN
SCALE: NTS

EDUCATION HOUSE



**WHITE PLAINS
PUBLIC SCHOOLS**

EDUCATION HOUSE
5 HOMESIDE LANE
WHITE PLAINS, NY 10605

AHERA SITE PLAN

 **Louis Berger & Assoc. PC**
565 Tuxter Road
Elmsford, NY 10523
TEL: 914 798 3719 FAX: 212 363 4341 WWW.LOUIBERGER.COM

KEY PLAN:



No.	Date	Issue

**SITE PLAN
FIRST FLOOR**

3900864-00

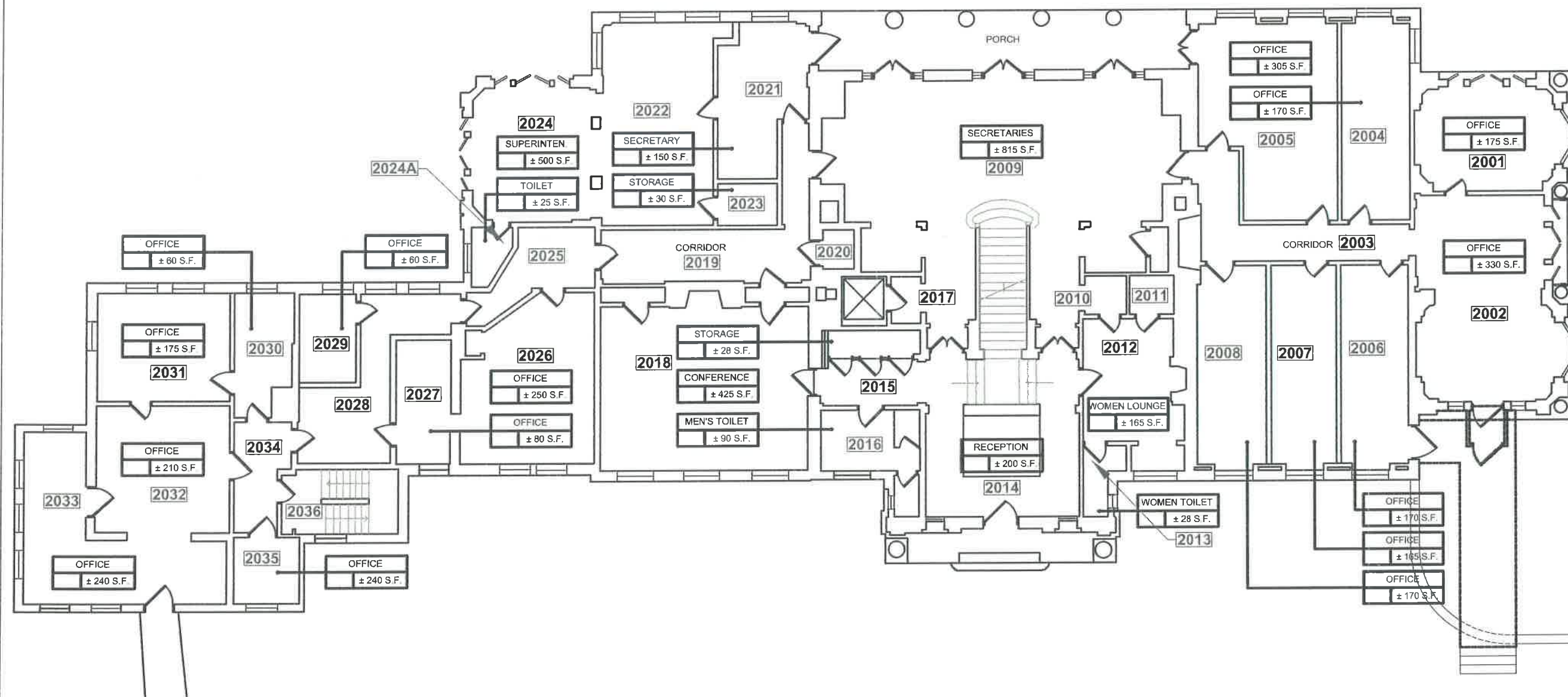
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NOVEMBER 2013

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+PAC
Checked by
J.GRCA

Sheet No.

SP-002

2 of 4



1 FIRST FLOOR PLAN
SCALE: NTS



WHITE PLAINS
PUBLIC SCHOOLS

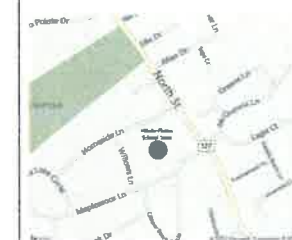
EDUCATION HOUSE
5 HOMESIDE LANE
WHITE PLAINS, NY 10605

AHERA SITE PLAN

Louis Berger & Assoc. PC

565 Taylor Road
Elmsford, NY 10523
TEL: 914.798.3710 FAX: 212.363.4341 WWW.LOUISSBERGER.COM

KEY PLAN:



File Date Issue
Sheet Title

SITE PLAN
SECOND FLOOR

3000864-00

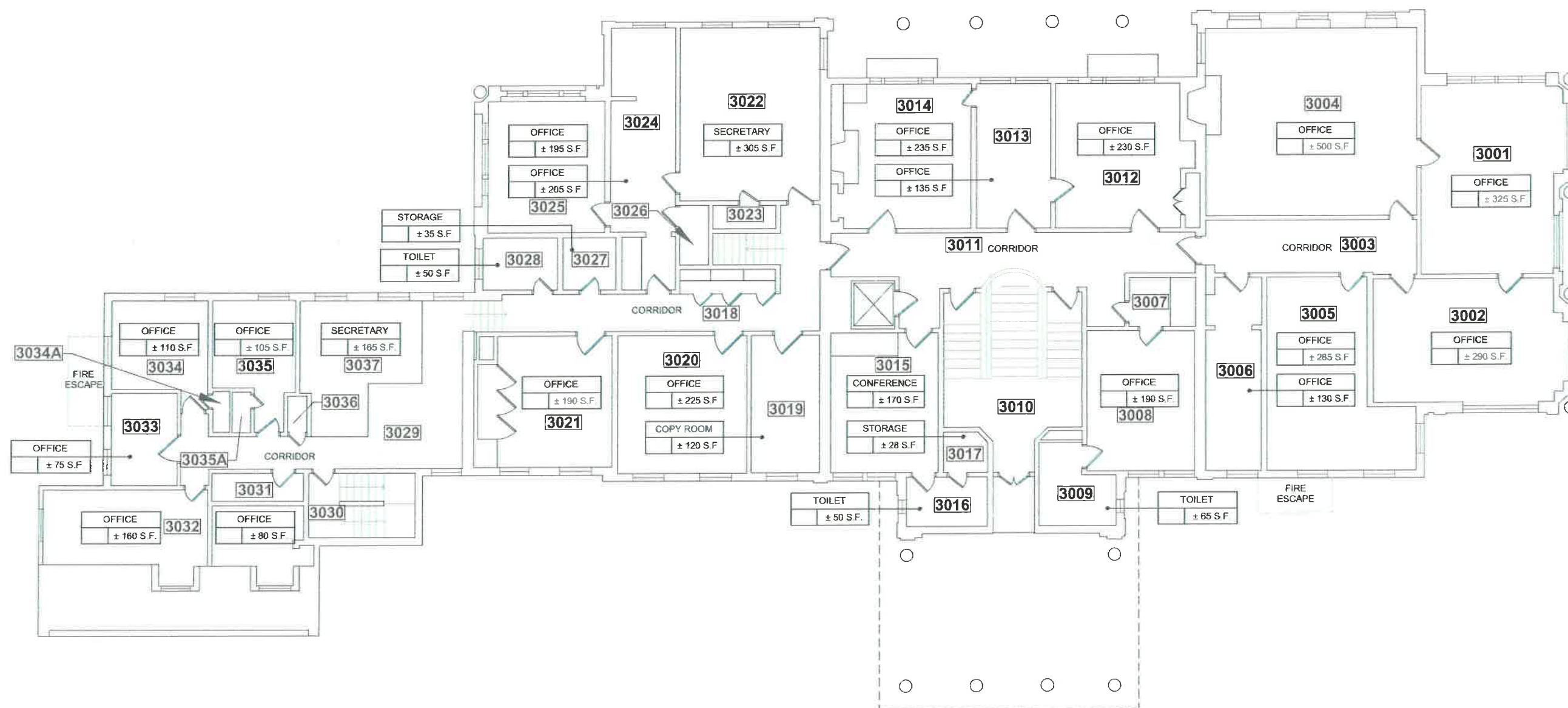
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NOVEMBER 2013

Sheet No

Drawn by
Checked by

SP-003

3 of 4



1 SECOND FLOOR PLAN
SCALE: NTS



**WHITE PLAINS
PUBLIC SCHOOLS**

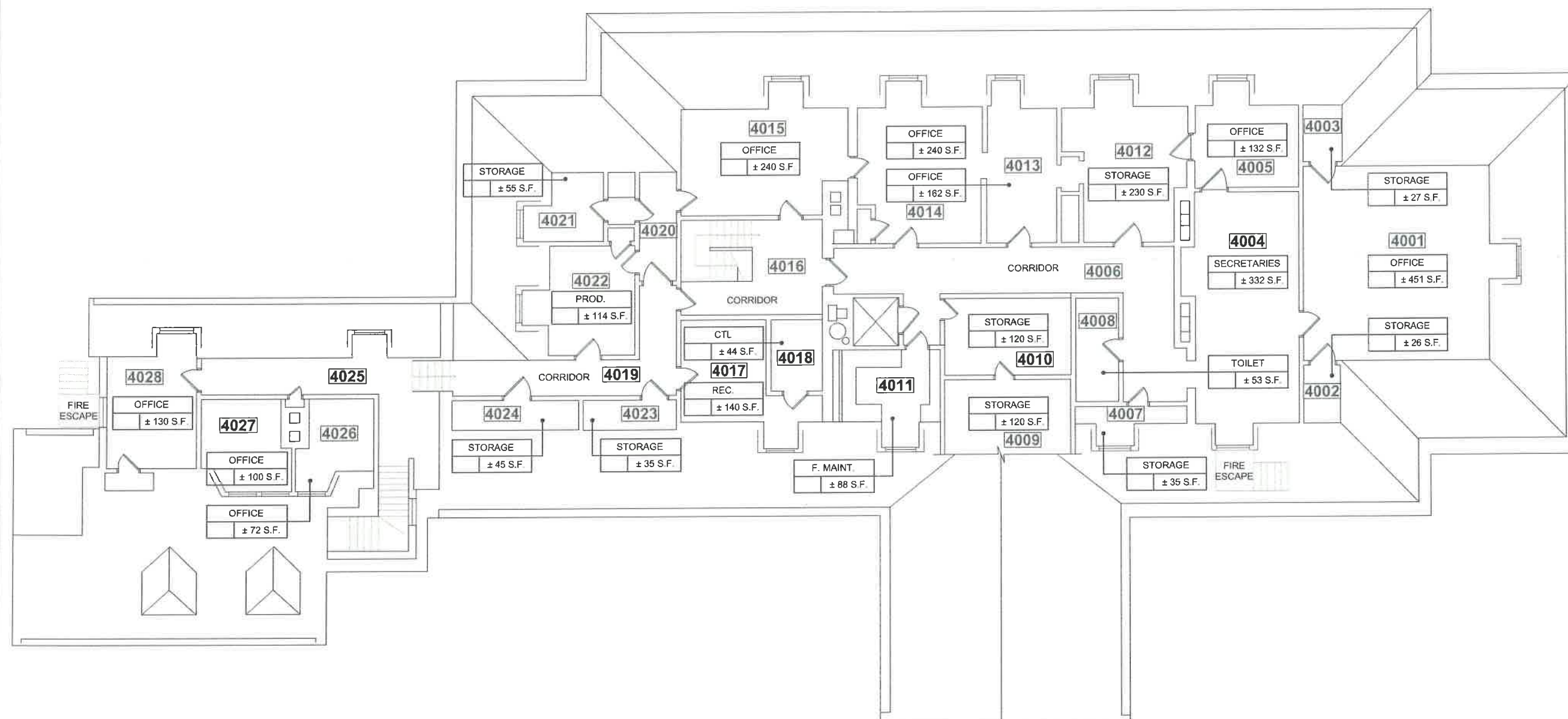
EDUCATION HOUSE
5 HOMESIDE LANE
WHITE PLAINS, NY 10605

AHERA SITE PLAN



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Elmsford, NY 10523
TEL: 914 758 3710 FAX: 212 363 4341 WWW.LOISBERGER.COM



KEY PLAN:



No.	Date	Revised

**SITE PLAN
THIRD FLOOR**

3000864-00

Job No.
NOVEMBER 2013

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J. P. P.

Checked by
J. P. P.

Sheet No.

SP-004

4 of 4

1 THIRD FLOOR PLAN
SCALE: NTS

APPENDIX 2:

HOMOGENEOUS AREA SHEETS

WHITE PLAINS HIGH SCHOOL

**Louis Berger**565 Taxter Road, Suite 510
Elmsford, New York 10523

HOMOGENEOUS AREA SHEET

Client: White Plains Public SchoolsProject Site: White Plains High SchoolInspector(s): Jeff LeedMan. Planner(s): Andrew CheskinProject #: 2011257

HA #	Homogenous Area Description	Material Type	ACM	Friable
01	9"x9" Floor Tile/Mastic	M	YES	NO
02	Transite Soffit	M	Assumed	NO
03	1'x1' Pinhole Pattern Ceiling Tile, White	M	NO	NO
04	2'x4' Fissured Ceiling Tile, White	M	NO	NO
05	1'x1' Gouged Ceiling Tile, White	M	NO	NO
06	2'x4' Small Pinhole Ceiling Tile, White	M	NO	NO
07	1'x1' Fissured Ceiling Tile, White	M	NO	NO
08	2'x4' (2'x2' Design) Ceiling Tile, White	M	NO	NO
09	2'x2' Small Pinhole Ceiling Tile, White	M	NO	NO
10	Baseboard Glue (brown)	M	NO	NO
11	Baseboard Molding (brown)	S	NO	NO
12	Wall Ceramic Tile Grout (white)-Pool	S	NO	YES
13	Floor Ceramic Tile Grout (brown)-Pool	S	NO	YES
14	Glazing at Entrance Aluminum Framing/Panels (white)-Pool	S	NO	NO
15	Interior Brick Mortar (grey)-Pool	M	NO	YES
16	Interior Vertical Expansion Joint Caulking at Brick Curtain Walls (grey)-Pool	M	YES	NO
17	Cinderblock Mortar (grey)	M	NO	YES
18	Mastic assoc. with 1'x1' Pinhole Ceiling Tiles (brown)	M	NO	NO
19	Glazing at Clerestory Glass Panels bet. Rooms and Hallways (grey)	M	NO	NO
20	Fittings Insulation assoc. with Fiberglass Pipe Insulation (grey)	M	NO	YES
21	Wrap around Fiberglass Pipe Insulation (brown)	M	NO	YES
22	Sheetrock Walls (white)	M	NO	YES
23	Joint Compound assoc. with Sheetrock Walls (white)	M	NO	YES

TSI = Thermal System Insulation

S = Surfacing

M = Miscellaneous

W.P.M.S. - HIGHLAND CAMPUS



Louis Berger

565 Taxter Road, Suite 510
Elmsford, New York 10523

HOMOGENEOUS AREA SHEET

Client: White Plains Public Schools

Project Site: White Plains Middle School (W.P.M.S.) Highland Campus

Inspector(s): Jeff Leed

Man. Planner(s): Andrew Cheskin

Project #: 2011257

HA #	Homogenous Area Description	Material Type	ACM	Friable
01	9"x9" Floor Tile/Mastic	M	YES	NO
02	Ceiling Plaster (Auditorium)	S	YES	YES
03	Contaminated Soil (Basement)	M	YES	YES
04	2'x4' (2'x2' Design) Gouged Ceiling Tile, White	M	NO	NO
05	2'x4' Gouged Ceiling Tile, White	M	NO	NO
06	1'x1' Large Pinhole Ceiling Tile, White	M	NO	NO
07	2'x4' Fissured Ceiling Tile, White	M	NO	NO
08	2'x2' Textured Ceiling Tile, White	M	NO	NO
09	2'x2' Small Pinhole Ceiling Tile, White	M	NO	NO
10	2'x4' Large Gouged Ceiling Tile, Beige	M	NO	NO
11	2'x2' Large Pinhole Ceiling Tile, Beige	M	NO	NO
12	2'x2' Fissured Ceiling Tile, White	M	NO	NO
13	Wall Plaster (white and brown coats) - 1st Floor Auditorium	S	NO	YES
14	Sheetrock walls (white)	M	NO	YES
15	Joint Compound assoc. with Sheetrock walls (white)	M	NO	YES
16	Wall Plaster (white and brown coats)	S	NO	YES
17	Brick Mortar (brown) - Hallway	M	NO	YES
18	Dark Brown Brick Mortar (brown) - 1st Floor Gym	M	NO	YES
19	Beige Brick Mortar (brown) - 1st Floor Gym	M	NO	YES
20	Ceiling Plaster (white and brown coats)	S	NO	YES
21	Ceramic Wall Tile Grout (white)	M	NO	YES
22	Ceramic Wall Tile Mortar (grey)	M	NO	YES
23	Urinal Sealant (white)	M	NO	NO



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HA #	Homogenous Area Description	Material Type	ACM	Friable
24	Fire Door Lock Insulation (white) - Toilet Doors	M	NO*	YES
25	Vapor Barrier bet. wood floor and subfloor (black)	M	NO	YES
26	Concrete Fill below wood subfloor (grey)	M	NO	YES
27	Asphalted Sheetrock Ceiling above 2' x2' Ceiling Tiles (beige)	M	NO	YES
28	Beige Brick Mortar (grey) - 2nd Floor Gym	M	NO	YES
29	Brown Brick Mortar (grey) - 2nd Floor Gym	M	NO	YES
30	Fireproofing on Ceilings (white) - Basement Rooms	S	NO	YES
31	Pipe Insulation & Elbows - Bathrooms	TSI	YES	YES

TSI = Thermal System Insulation

S = Surfacing

M = Miscellaneous

* = >10% Vermiculite

W.P.M.S. - EASTVIEW CAMPUS



Louis Berger

565 Taxter Road, Suite 510
Elmsford, New York 10523

HOMOGENEOUS AREA SHEET

Client: White Plains Public Schools

Project Site: White Plains Middle School Eastview Campus

Inspector(s): Jeff Leed

Man. Planner(s): Andrew Cheskin

Project #: 2011257

HA #	Homogenous Area Description	Material Type	ACM	Friable
1925 BUILDING				
01	1" X 1" CERAMIC FLOOR TILE MORTAR (BATHROOMS)	M	NO	NO
02	12" X 12" FLOOR TILE/ DK. & LT. BLUE CAMO. MASTIC	M	NO	NO
03	12" X 12" FLOOR TILE/ DARK BLUE CAMO.	M	NO	NO
04	12" X 12" FLOOR TILE/ LIGHT BLUE CAMO.	M	NO	NO
05	12" X 12" FT/ DULL PURPLE W./ SPOTS & TAN W./ BROWN SPOTS MASTIC	M	NO	NO
06	12" X 12" FLOOR TILE/ DULL PURPLE WITH SPOTS	M	NO	NO
07	12" X 12" FLOOR TILE/ TAN WITH BROWN SPOTS	M	NO	NO
08	12" X 12" FT/ BEIGE W./ BROWN SPOTS & RED W./ SPOTS MASTIC	M	NO	NO
09	12" X 12" FLOOR TILE/ BEIGE WITH BROWN SPOTS	M	NO	NO
10	12" X 12" FLOOR TILE/ RED WITH SPOTS	M	NO	NO
11	12" X 12" FT/ CLOUD WHITE W./ GREEN SPOTS & TURQUOISE W./ GRAY SPOTS MASTIC	M	YES	NO
12	12" X 12" FLOOR TILE/ CLOUD WHITE WITH GREEN SPOTS	M	NO	NO
13	12" X 12" FLOOR TILE/ TURQUOISE WITH GRAY SPOTS	M	NO	NO
14	12" X 12" FT/ DARK BLUE W./ GRAY SPOTS MASTIC	M	NO	NO
15	12" X 12" FLOOR TILE/ DARK BLUE WITH GRAY SPOTS	M	NO	NO
16	12" X 12" FT/ DEEP RED W./ WHITE SPOTS & YELLOW W./ ORANGE SPOTS MASTIC	M	YES	NO
17	12" X 12" FLOOR TILE/ DEEP RED WITH WHITE SPOTS	M	NO	NO
18	12" X 12" FLOOR TILE/ YELLOW WITH ORANGE SPOTS	M	NO	NO
19	12" X 12" FT/ TAN W./ BROWN SPOTS CAMO. MASTIC	M	NO	NO
20	12" X 12" FLOOR TILE/ TAN WITH BROWN SPOTS CAMO.	M	NO	NO
21	12" X 12" FT/ SALMON & BEIGE W./ SPOTS MASTIC	M	NO	NO

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HOMOGENEOUS AREA SHEET

Client: White Plains Public SchoolsProject Site: White Plains Middle School Eastview CampusInspector(s): Jeff LeedMan. Planner(s): Andrew CheskinProject #: 2011257

HA #	Homogenous Area Description	Material Type	ACM	Friable
22	12" X 12" FLOOR TILE/ SALMON	M	NO	NO
24	12" X 12" FT/ SKY BLUE W./ WHITE STREAKS & WHITE WITH MULTI-COLOR SPOTS MASTIC	M	YES	NO
25	12" X 12" FLOOR TILE/ SKY BLUE WITH WHITE STREAKS	M	NO	NO
26	12" X 12" FT/ WHITE W./ MULTI- COLOR SPOTS	M	NO	NO
27	12" X 12" FT/ OFF-WHITE W./ BROWN SPOTS MASTIC	M	NO	NO
28	12" X 12" FLOOR TILE/ OFF-WHITE WITH BROWN SPOTS	M	NO	NO
29	1' X 1' CEILING TILE/ TEXTURE TYPE II MASTIC	M	YES	NO
30	1' X 1' CEILING TILE/ TEXTURED TYPE II	M	NO	NO
31	2' X 2' CEILING TILE/ PLAIN RELIEF	M	NO	NO
32	2' X 4' CEILING TILE/ REGULAR	M	NO	NO
33	2' X 4' CEILING TILE/ SPOTS AND PINHOLES	M	NO	NO
34	2' X 4' CEILING TILE/ TECTUM	M	NO	NO
35	2' X 4' CEILING TILE/ TEXTURED	M	NO	NO
36	3" X 6" CERAMIC (GLOSSY) WALL TILE BACKING (BATHROOMS) OLD	M	NO	NO
37	3" X 6" CERAMIC (GLOSSY) WALL TILE GROUT (BATHROOMS) OLD	M	NO	NO
38	3 X 6" CERAMIC (GLOSSY) WALL TILE BACKING (BATHROOMS) NEW	M	NO	NO
39	3" X 6" CERAMIC (GLOSSY) WALL TILE GROUT (BATHROOMS) NEW	M	NO	NO
40	4" BLACK COVE BASE MASTIC	M	NO	NO
41	4" BROWN COVE BASE MASTIC	M	NO	NO
42	6" BROWN COVE BASE MASTIC	M	NO	NO
43	4" X 4" CERAMIC (GLOSSY) WALL TILE BACKING (BATHROOMS)	M	NO	NO
44	4" X 4" CERAMIC (GLOSSY) WALL TILE GROUT (BATHROOMS)	M	NO	NO
45	9" X 9" FLOOR TILE/ LIGHT BROWN MASTIC	M	YES	NO

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HOMOGENEOUS AREA SHEET

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HA #	Homogenous Area Description	Material Type	ACM	Friable
46	9" X 9" FLOOR TILE/ LIGHT BROWN	M	YES	NO
47	9" X 9" FT/ LT. BROWN W./ DK. BROWN STREAKS & RED W./ BLACK STREAKS MASTIC	M	YES	NO
48	9" X 9" FT/ LIGHT BROWN WITH DARK BROWN STREAKS	M	YES	NO
49	9" X 9" FLOOR TILE/ RED WITH BLACK STREAKS	M	YES	NO
50	9" X 9" FT/ OFF-WHITE W./ BROWN STREAKS MASTIC	M	NO	NO
51	9" X 9" FLOOR TILE/ OFF-WHITE WITH BROWN STREAKS	M	YES	NO
52	BLOCK TILE MORTAR IN STAIRS	M	NO	NO
53	BRICK MORTAR	M	NO	NO
54	CMU MORTAR	M	NO	NO
55	COMPRESSED BOARD IN RADIATOR COVERS	M	NO	NO
56	DUCT SEALANT/ PURPLE	M	NO	NO
57	DUCT SEALANT/ RED	M	NO	NO
58	GLOSSY (GYMNASIUM) BRICK MORTAR	M	NO	NO
59	GYPSUM BOARD	M	NO	NO
60	JOINT COMPOUND	M	NO	NO
61	MASTIC TO FABRIC ACOUSTICAL CEILING/WALL PANELS	M	NO	NO
62	METAL DUCT WORK CAULKING/ BROWN	M	NO	NO
63	METAL DUCT WORK CAULKING/ GRAY	M	NO	NO
64	PINHOLE WALLBOARD	M	NO	NO
65	SINK & TOILET CAULKING (BATHROOMS)	M	NO	NO
66	SINK COUNTERTOP CAULKING	M	NO	NO
67	SINK UNDERCOATING/ BLACK	M	YES	NO
68	SINK UNDERCOATING/ GRAY	M	NO	NO



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HOMOGENEOUS AREA SHEET

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Man. Planner(s): Andrew Cheskin

Project #: 2011257

HA #	Homogenous Area Description	Material Type	ACM	Friable
69	SINK UNDERCOATING/ WHITE	M	NO	NO
70	TERRA COTTA WALL BLOCK MORTAR	M	NO	NO
71	TERRAZZO FLOORING	M	NO	NO
72	PIPE JOINTS TO FIBERGLASS PIPE INSULATION	TSI	NO	NO
72	PIPE JOINTS TO FIBERGLASS PIPE INSULATION	TSI	NO	NO
73	CEILING PLASTER/ WHITE COAT	S	NO	NO
74	CEILING PLASTER/ BROWN COAT	S	NO	NO
75	WALL PLASTER/ WHITE COAT	S	NO	NO
76	WALL PLASTER/ BROWN COAT	S	NO	NO
1930 BUILDING				
77	GLOSSY ("GYMNASIUM") BRICK MORTAR	M	NO	NO
78	TERRAZZO FLOORING	M	NO	NO
79	CEILING PLASTER/ WHITE COAT	S	NO	NO
80	CEILING PLASTER/ BROWN COAT	S	NO	NO
81	WALL PLASTER/ WHITE COAT	S	NO	NO
82	WALL PLASTER/ BROWN COAT	S	NO	NO
83	AIRCELL PIPE INSULATION	TSI	YES	NO
84	TAR PAPER ASSOC. W./ WINDOW FRAME	M	YES	NO
85	CMU MORTAR	M	NO	NO
86	3"X6" CERAMIC (GLOSSY) WALL TILE BACKING	M	NO	NO
87	3"X6" CERAMIC (GLOSSY) WALL TILE GROUT	M	NO	NO
88	PIPE JOINTS TO FIBERGLASS PIPE INSULATION	TSI	NO	NO
89	PIPE JOINTS TO FIBERGLASS PIPE INSULATION	TSI	NO	NO

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HA #	Homogenous Area Description	Material Type	ACM	Friable
90	GLASS BLOCK MORTAR	M	NO	NO
91	MORTAR TO STONE WINDOW FRAMES (GYMS)	M	NO	NO
92	GYPSUM BOARD	M	NO	NO
93	JOINT COMPOUND	M	NO	NO
94	1'X1' CEILING TILE (PINHOLE)	M	NO	NO
95	1'X1' CEILING TILE (PINHOLE) MASTIC	M	NO	NO
96	BLOCK TILE MORTAR (IN STAIRS)	M	NO	NO
97	6" BROWN COVE BASE MASTIC	M	NO	NO
98	METAL DUCT WORK CAULKING/ GREEN	M	NO	NO
99	4"X4" CERAMIC (GLOSSY) WALL TILE BACKING (BATHROOMS)	M	NO	NO
100	4"X4" CERAMIC (GLOSSY) WALL TILE GROUT (BATHROOMS)	M	NO	NO
101	12"X12" FLOOR TILE/ LIGHT BLUE WITH STREAKS	M	NO	NO
102	12"X12" FT MASTIC/ DK. BLUE W./ STREAKS & LT. BLUE W./ STREAKS	M	NO	NO
103	1'X1' CEILING TILE (TEXTURED)	M	NO	NO
104	1'X1' CEILING TILE (TEXTURED) MASTIC	M	NO	NO
105	CAULKING (BROWN)/ ASSOC. W./ DOOR PARTITION	M	NO	NO
106	4" BLACK COVE BASE MASTIC	M	NO	NO
107	12"X12" FLOOR TILE/ RED WITH STREAKS	M	NO	NO
108	12"X12" FLOOR TILE/ DARK SALMON WITH STREAKS	M	NO	NO
109	12"X12" FT MASTIC (TYPE 1)/ RED W./ STREAKS & DK. SALMON W./ STREAKS	M	NO	NO
110	12"X12" FT MASTIC (TYPE 2)/ RED W./ STREAKS & DK. SALMON W./ STREAKS	M	NO	NO
111	2' X 4' CEILING TILE (SLATTED)	M	NO	NO
112	12" X 12" FLOOR TILE/ TAN WITH BROWN STREAKS	M	YES	NO

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HOMOGENEOUS AREA SHEET

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HA #	Homogenous Area Description	Material Type	ACM	Friable
113	12" X 12" FT TAN W./ BROWN STREAKS MASTIC	M	YES	NO
114	2' X 4' CEILING TILE/ REGULAR (TYPE 1)	M	NO	NO
115	2' X 4' CEILING TILE/ REGULAR (TYPE 2)	M	NO	NO
116	BRICK MORTAR	M	NO	NO
117	12"X12" FLOOR TILE/ LT. SALMON W./ SPOTS	M	NO	NO
118	12"X12" FLOOR TILE/ DK. SALMON W./ SPOTS	M	NO	NO
119	12"X12" FT MASTIC/ LT. SALMON WITH SPOTS & DK. SALMON WITH SPOTS	M	NO	NO
120	12"X12" FLOOR TILE/ WHITE WITH SPECS	M	NO	NO
121	12"X12" FLOOR TILE/ WHITE WITH SPECS/ MASTIC (Type I)	M	NO	NO
122	12"X12" FLOOR TILE/ WHITE WITH SPECS/ MASTIC (Type II)	M	YES	NO
123	2'X4' CEILING TILE (HEAVY TEXTURED WITH PINPRICKS)	M	NO	NO
123	6"X6" CERAMIC TILE MORTAR	M	NO	NO
124	6"X6" BLACK COVE BASE MASTIC	M	NO	NO
125	STAGE CURTAINS/ RED	M	NO	NO
126	STAGE CURTAINS/ TAN	M	NO	NO
127	12"X12" FLOOR TILE/ PURPLE	M	NO	NO
128	12"X12" FLOOR TILE/ PURPLE/ MASTIC	M	YES	NO
129	12"X12" FLOOR TILE/ BROWN CAMO.	M	NO	NO
130	12"X12" FLOOR TILE/ BROWN CAMO./ MASTIC	M	NO	NO
131	ACOUSTICAL WALL PLASTER/ WHITE COAT	S	NO	NO
132	ACOUSTICAL WALL PLASTER/ BROWN COAT	S	NO	NO
133	ACOUSTICAL CEILING PLASTER/ WHITE COAT	S	NO	NO
134	ACOUSTICAL CEILING PLASTER/ BROWN COAT	S	NO	NO

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HOMOGENEOUS AREA SHEET

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HA #	Homogenous Area Description	Material Type	ACM	Friable
135	1' X 1' CEILING TILE (ACOUSTICAL)	M	NO	NO
136	1' X 1' CEILING TILE (ACOUSTICAL) MASTIC	M	NO	NO
137	MORTAR FROM POLISHED STONE FLOORING	M	NO	NO
138	9" X 9" FLOOR TILE/ BEIGE WITH STREAKS	M	YES	NO
139	9" X 9" FLOOR TILE/ BEIGE WITH STREAKS/ MASTIC	M	YES	NO
140	WINDOW FRAME CAULKING/ BROWN	M	NO	NO
141	FIREPLACE FLOOR BLOCK MORTAR	M	NO	NO
142	FIREPLACE BRICK MORTAR	M	NO	NO
143	FIREPLACE CERAMIC BLOCK MORTAR	M	NO	NO
144	FIREPLACE MANTLE (ARCH) GROUT	M	NO	NO
145	12"X12" FLOOR TILE/ PINK WITH STREAKS	M	NO	NO
146	12"X12" FLOOR TILE/ VIOLET WITH STREAKS	M	NO	NO
147	12"X12" FT MASTIC/ PINK WITH STREAKS & VIOLET WITH STREAKS	M	NO	NO
148	1' X 1' CEILING TILE (TEXTURED TYPE II)	M	NO	NO
149	1' X 1' CEILING TILE (TEXTURED TYPE II) MASTIC	M	NO	NO
150	SINK AND TOILET CAULKING	M	NO	NO
151	2' X 4' CEILING TILE (TEXTURED)	M	NO	NO
152	CARPET MASTIC	M	NO	NO
153	CARPET TILE MASTIC	M	NO	NO
154	1"X1" CERAMIC FLOOR TILE MORTAR	M	NO	NO
155	4"X4" BROWN CERAMIC WALL TILE BACKING (BATHROOMS)	M	NO	NO
156	4"X4" BROWN CERAMIC WALL TILE GROUT (BATHROOMS)	M	NO	NO
157	12"X12" FLOOR TILE/ DARK BLUE CAMO.	M	NO	NO

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HOMOGENEOUS AREA SHEET

Client: White Plains Public SchoolsProject Site: White Plains Middle School Eastview CampusInspector(s): Jeff LeedMan. Planner(s): Andrew CheskinProject #: 2011257

HA #	Homogenous Area Description	Material Type	ACM	Friable
158	12"X12" FLOOR TILE/ LIGHT BLUE CAMO.	M	NO	NO
159	12"X12" FT MASTIC/ DK. BLUE CAMO & LT. BLUE CAMO	M	NO	NO
160	12"X12" FLOOR TILE/ TAN WITH GREEN STREAKS	M	YES	NO
161	12"X12" FLOOR TILE/ TAN WITH GREEN STREAKS/ MASTIC	M	YES	NO
162	4" BROWN COVE BASE MASTIC	M	NO	NO
163	SINK UNDERCOATING/ WHITE	M	YES	NO
164	SINK UNDERCOATING/ PINK	M	NO	NO
165	SINK UNDERCOATING/ BLACK	M	YES	NO
166	1'X1' CEILING TILE (PATTERNED PINHOLE)	M	NO	NO
167	1'X1' CEILING TILE (PATTERNED PINHOLE) MASTIC	M	NO	NO
168	12"X12" FLOOR TILE/ SKY BLUE WITH WHITE STREAKS	M	YES	NO
169	12"X12" FT/ SKY BLUE WITH WHITE STREAKS/ MASTIC	M	NO	NO
170	9"X9" FLOOR TILE/ RED SPECKLED	M	YES	NO
171	9"X9" FLOOR TILE/ RED SPECKLED/ MASTIC	M	YES	NO
172	9"X9" FLOOR TILE RED SPECKLED PAPER MASTIC	M	NO	NO
173	12"X12" FLOOR TILE/ BABY BLUE WITH GRAY SPECS	M	NO	NO
174	12"X12" FLOOR TILE/ DARK BLUE WITH GRAY SPECS	M	NO	NO
175	12"X12" FLOOR TILE/ SKY BLUE WITH GRAY SPECS	M	NO	NO
176	12" X 12" FT MASTIC/ BABY BLUE W./ GRAY SPECS & DK. BLUE W./ GRAY SPECS/ & SKY BLUE W./ GRAY SPECS	M	NO	NO
177	4" BLUE COVE BASE MASTIC	M	NO	NO
178	1'X1' CEILING TILE ("TRISCUIT")	M	NO	NO
179	1'X1' CEILING TILE ("TRISCUIT") MASTIC	M	NO	NO
180	TERRA COTTA WALL BLOCK MORTAR	M	NO	NO

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HOMOGENEOUS AREA SHEET

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HA #	Homogenous Area Description	Material Type	ACM	Friable
181	2'X2' CEILING TILE (TEXTURED, BEIGE)	M	NO	NO
182	2'X2' CEILING TILE (TEXTURED, WHITE)	M	NO	NO
183	CEILING PLASTER/ TEXTURED/ WHITE COAT	S	YES	NO
184	CEILING PLASTER/ TEXTURED/ BROWN COAT	S	YES	NO
185	WALL PLASTER/ TEXTURED/ WHITE COAT	S	YES	NO
186	WALL PLASTER/ TEXTURED/ BROWN COAT	S	YES	NO
187	12"X12" FLOOR TILE BROWN (SELF-ADHESIVE)	M	NO	NO
188	8" X 8" CERAMIC FLOOR TILE MORTAR	M	NO	NO
189	COMPRESSED BOARD IN RADIATOR COVERS	M	NO	NO
190	12"X12" FLOOR TILE/ OFF-WHITE WITH BROWN SPOTS	M	NO	NO
191	12"X12" FT/ OFF-WHITE WITH BROWN SPOTS/ MASTIC	M	NO	NO
192	12"X12" FT/ LT. BROWN W./ BROWN & WHT. STREAKS	M	NO	NO
193	12"X12" FT/ LT. BRN. W./ BRN. & WHT./ MASTIC	M	NO	NO
194	9"X9" FLOOR TILE/ SPECKLED	M	NO	NO
195	9"X9" FLOOR TILE/ SPECKLED/ MASTIC	M	NO	NO
196	LINOLEUM FLOORING	M	NO	NO
197	LINOLEUM FLOORING/ MASTIC	M	NO	NO
198	CEILING PLASTER, BROWN COAT ONLY	S	NO	NO
199	CEILING PLASTER, BROWN COAT ONLY	S	NO	NO
200	GYPSUM	M	NO	NO
201	JOINT COMPOUND	M	NO	NO
202	1 X 1 PINHOLE CEILING TILE	M	NO	NO
203	MASTIC 1 X 1 PINHOLE CEILING TILE	M	NO	NO



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Man. Planner(s): Andrew Cheskin

Project #: 2011257

HA #	Homogenous Area Description	Material Type	ACM	Friable
204	GYPSUM ASSOC. W/ 1 X 1 PINHOLE CT	M	NO	NO
205	CEILING PLASTER/ BROWN COAT	S	NO	NO
206	COATING ON STRUCTURAL STEEL BEAMS	S	NO	NO
207	CAULKING TO HVAC EQUIPMENT/ GREEN	M	NO	NO
208	TRANSITE PANELS IN RADIATOR ENCLOSURES (INSULATION BOARD ON HEATERS)	M	YES	NO
209	CONTAMINATED SOIL	M	YES	YES
210	DUCT BREECHING INSULATION	TSI	Assumed	YES

TSI = Thermal System Insulation

S = Surfacing

M = Miscellaneous

**ROCHAMBEAU ALTERNATIVE
HIGH SCHOOL**

**Louis Berger**565 Taxter Road, Suite 510
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HOMOGENEOUS AREA SHEET

Client: White Plains Public SchoolsProject Site: Rochambeau Elementary SchoolInspector(s): Jeff LeedMan. Planner(s): Andrew CheskinProject #: 2011257

HA #	Homogenous Area Description	Material Type	ACM	Friable
01	9"x9" Floor Tile/Mastic	M	YES	NO
02	Wall Plaster	S	YES	YES
03	Wire Insulation	M	YES	YES
04	2'x4' Large Gouged Ceiling Tile, White	M	NO	NO
05	2'x4' Fissured Ceiling Tile, White	M	NO	NO
06	1'x1' Gouged Ceiling Tile, Gray	M	NO	NO
07	2'x4' Gouged Ceiling Tile, White	M	NO	NO
08	2'x4' Stripe Design Ceiling Tile, White	M	NO	NO
09	2'x4' Fissured/Pinhole Ceiling Tile, White	M	NO	NO
10	Ceiling Plaster, White Coat	S	NO	YES
11	Ceiling Plaster, Brown Coat	S	NO	YES
12	Wall Plaster, White Coat	S	NO	YES
13	Wall Plaster, Brown Coat	S	NO	YES
14	Ceiling Deck (gymnasium)	M	NO	YES
15	1'x1' Ceiling Tile, Textured	M	NO	NO
16	1'x1' Ceiling Tile, Textured, Mastic	M	NO	NO
17	Terrazzo Flooring	M	NO	YES
18	Interior Brick Mortar	M	NO	YES
19	2'x4' Ceiling Tile, Patterned/Pinhole (old gymnasium)	M	NO	NO
20	1'x1' Ceiling Tile, Pinhole (old gymnasium)	M	NO	NO
21	1'x1' Ceiling Tile, Pinhole, Mastic (old gymnasium)	M	NO	NO
22	Brick Mortar (old gymnasium)	M	NO	YES
23	Interior Window Frame Caulk, Grey	M	NO	NO



Louis Berger

565 Taxter Road, Suite 510
Elmsford, New York 10523

HOMOGENEOUS AREA SHEET

Client: White Plains Public Schools

Project Site: Rochambeau Elementary School

Inspector(s): Jeff Leed

Man. Planner(s): Andrew Cheskin

Project #: 2011257

24	Interior Window Frame Caulk, Beige (to A/C units)	M	NO	NO
25	Wall Plaster, White Coat (Auditorium Stage)	S	NO	YES
26	Wall Plaster, Brown Coat (Auditorium Stage)	S	NO	YES
27	Pipe Joint to Fiberglass Pipe Insulation	TSI	NO	YES
28	Interior Brick Mortar (Foundation Brick)	M	NO	YES
29	Pipe Gasket	M	NO	NO
30	1'x1' Ceiling Tile, Pinhole (Cafeteria)	M	NO	NO
31	1'x1' Ceiling Tile, Pinhole, Mastic (Cafeteria)	M	NO	NO
32	1'x1' Ceiling Tile, Spline	M	NO	NO
33	CMU Mortar	M	NO	YES

TSI = Thermal System Insulation

S = Surfacing

M = Miscellaneous

**CHURCH STREET
ELEMENTARY SCHOOL**



Louis Berger

565 Taxter Road, Suite 510
Elmsford, New York 10523

HOMOGENEOUS AREA SHEET

Client: White Plains Public Schools

Project Site: Church Street Elementary School

Inspector(s): Jeff Leed

Man. Planner(s): Andrew Cheskin

Project #: 2011257

HA #	Homogenous Area Description	Material Type	ACM	Friable
01	9"x9" Floor Tile/Mastic	M	YES	NO
02	2'x4' Stripe Design Ceiling Tile, White	M	NO	NO
03	2'x4' (2'x2' Design) Fissured Ceiling Tile, White	M	NO	NO
04	2'x4' Pinhole Pattern Ceiling Tile, White	M	NO	NO
05	2'x4' Fissured Ceiling Tile, White	M	NO	NO
06	2'x4' (2'x2' Design) Gouged Ceiling Tile, White	M	NO	NO
07	2'x4' Gouged Ceiling Tile, White	M	NO	NO
08	2'x4' Suspended Ceilings Tiles (white)	M	NO	NO
09	Sheetrock Walls (white)	M	NO	YES
10	Joint Compound assoc. with Sheetrock Walls (white)	M	NO	YES
11	Cinderblock Mortar (grey)	M	NO	YES
12	Vapor Barrier under Concrete Roof Deck in Ceiling Plenum (black)	M	NO	YES
13	Acoustical Wall Plaster (white)	S	YES	YES
14	Structural Beam Fireproofing (grey)	S	NO	YES
15	Sheetrock Walls (white)	M	NO	YES
16	Joint Compound assoc. with Sheetrock Walls (white)	M	NO	YES
17	2'x2' Suspended Ceilings Tiles (white)	M	NO	NO
18	2'x4' Suspended Ceilings Tiles (white)	M	NO	NO

TSI = Thermal System Insulation

S = Surfacing

M = Miscellaneous

**GEORGE WASHINGTON
ELEMENTARY SCHOOL**



Louis Berger

565 Taxter Road, Suite 510
Elmsford, New York 10523

HOMOGENEOUS AREA SHEET

Client: White Plains Public Schools

Project Site: George Washington Elementary School

Inspector(s): Jeff Leed

Man. Planner(s): Andrew Cheskin

Project #: 2011257

HA #	Homogenous Area Description	Material Type	ACM	Friable
01	9"x9" Floor Tile/Mastic	M	YES	NO
02	Pipe Insulation	S	YES	YES
03	2'x4' Fissured Ceiling Tile, White	M	NO	NO
04	2'x4' Gouged Ceiling Tile, White	M	NO	NO
05	2'x4' (2'x2' Design) Fissured Ceiling Tile, White	M	NO	NO
06	1'x1' Gouged Ceiling Tile, White	M	NO	NO
07	2'x4' Large Gouged Ceiling Tile, White	M	NO	NO
08	1'x1' Large Gouged Ceiling Tile, Beige	M	NO	NO
09	2'x4' Small Pinhole Ceiling Tile, White	M	NO	NO
10	1'x1' Large Pinhole Ceiling Tile, Beige	M	NO	NO
11	2'x4' Stripe Design Ceiling Tile, Beige	M	NO	NO
12	2'x4' (2'x2' Design) Gouged Ceiling Tile, White	M	NO	NO
13	2'x4' Smooth Ceiling Tile, White	M	NO	NO
14	1' x 1' Ceiling Tile	M	NO	NO
15	Glue Dabs to 1' x 1' Ceiling Tile	M	NO	NO
16	Wall Plaster White Coat	S	NO	YES
17	Wall Plaster Brown Coat	S	NO	YES
18	Ceiling Plaster White Coat	S	NO	YES

TSI = Thermal System Insulation

S = Surfacing

M = Miscellaneous

**MAMARONECK AVENUE
ELEMENTARY SCHOOL**



Louis Berger

565 Taxter Road, Suite 510
Elmsford, New York 10523

HOMOGENEOUS AREA SHEET

Client: White Plains Public Schools

Project Site: Mamaroneck Avenue Elementary School

Inspector(s): Jeff Leed

Man. Planner(s): Andrew Cheskin

Project #: 2011257

HA #	Homogenous Area Description	Material Type	ACM	Friable
01	9"x9" Floor Tile/Mastic	M	YES	NO
02	Wall Mastic	M	YES	NO
03	2'x4' Fissured Ceiling Tile, White	M	NO	NO
04	2'x4' Gouged Ceiling Tile, White	M	NO	NO
05	2'x2' Smooth Ceiling Tile, White	M	NO	NO
06	2'x4' Large Gouged Ceiling Tile, White	M	NO	NO
07	2'x2' (1'x1' Design) Ceiling Tile (First Floor Gym)	M	Assumed	NO
08	Wall Plaster, White Coat	S	NO	YES
09	Wall Plaster, Brown Coat	S	NO	YES
10	1' x 1' Ceiling Tile	M	NO	NO
11	Glue Dabs to 1' x 1' Ceiling Tile	M	NO	NO
12	Gypsum Above 1' x 1' Ceiling Tile	M	NO	NO
13	12" x 12" Floor Tile – White	M	NO	NO
14	12" x 12" Floor Tile – Green	M	NO	NO
15	12" x 12" Floor Tile – Brown Speckle	M	NO	NO
16	12" x 12" Floor Tile – Beige Speckle	M	NO	NO
17	Mastic to 12" x 12" Floor Tile	M	NO	NO
18	Backing on Ceramic Wall Tile	M	NO	YES
19	Floor Coating	M	NO	YES
20	Grout – Ceramic Wall Tile	M	NO	YES
21	Glue – Ceramic Wall Tile	M	NO	NO
22	Mortar – Ceramic Floor Tile	M	NO	YES
23	Gypsum Board (Auditorium Ceiling)	M	NO	YES



Louis Berger

565 Taxter Road, Suite 510
Elmsford, New York 10523

HOMOGENEOUS AREA SHEET

Client: White Plains Public Schools

Project Site: Mamaroneck Avenue Elementary School

Inspector(s): Jeff Leed

Man. Planner(s): Andrew Cheskin

Project #: 2011257

HA #	Homogenous Area Description	Material Type	ACM	Friable
24	Ceiling Plaster, White Coat (Auditorium)	S	NO	YES
25	Ceiling Plaster, White Coat (Auditorium)	S	NO	YES

TSI = Thermal System Insulation

S = Surfacing

M = Miscellaneous

RIDGEWAY ELEMENTARY SCHOOL



Louis Berger

565 Taxter Road, Suite 510
Elmsford, New York 10523

HOMOGENEOUS AREA SHEET

Client: White Plains Public Schools

Project Site: Ridgeway Elementary School

Inspector(s): Jeff Leed

Man. Planner(s): Andrew Cheskin

Project #: 2011257

HA #	Homogenous Area Description	Material Type	ACM	Friable
01	9"x9" Floor Tile/Mastic	M	YES	NO
02	2'x4' (2'x2' Design) Fissured Ceiling Tile, White	M	NO	NO
03	1'x2' Ceiling Tile, Fissured	M	NO	NO
04	2'x4' Ceiling Tile, Fissured	M	NO	NO
05	1'x1' Ceiling Tile, Gouged	M	NO	NO
06	2'x4' (2'x2' Design) Ceiling Tile, Gouged	M	NO	NO
07	White Caulk from Equipment Room	M	NO	NO
08	Boys Bathroom Tile Mud Compound	M	NO	YES
09	Boys Bathroom Yellow Tile & Mastic	M	NO	NO
10	Boys Bathroom Gray Tile & Mastic	M	NO	NO
11	Gym Wall White Caulking	M	NO	NO
12	Auditorium Ceiling	S	NO	YES
13	Ceiling Tile Mastic	M	NO	NO
14	Boys Bathroom Ceiling Cement	M	NO	YES
15	Girl's Bathroom Blue Tile & Mastic	M	NO	NO
16	Girl's Bathroom Beige Tile & Mastic	M	NO	NO
17	Tar Underneath Wood Flooring	M	YES	NO

TSI = Thermal System Insulation

S = Surfacing

M = Miscellaneous

EDUCATION HOUSE



Louis Berger

565 Taxter Road, Suite 510
Elmsford, New York 10523

HOMOGENEOUS AREA SHEET

Client: White Plains Public Schools

Project Site: Education House

Inspector(s): Jeff Leed

Man. Planner(s): Andrew Cheskin

Project #: 2011257

HA #	Homogenous Area Description	Material Type	ACM	Friable
01	9"x9" Floor Tile/Mastic	M	YES	NO
02	Ceiling Material	S	YES	YES
03	1'x1' Pinhole Pattern Ceiling Tile, White	M	NO	NO
04	2'x2' Fissured Ceiling Tile, White	M	NO	NO
05	1'x1' Gouged Ceiling Tile, Beige	M	NO	NO
06	2'x4' (2'x2' Design) Ceiling Tile, White	M	NO	NO
07	1'x1' Large Gouged Ceiling Tile, White	M	NO	NO
08	2'x2' Large Gouged Ceiling Tile, White	M	NO	NO

TSI = Thermal System Insulation

S = Surfacing

M = Miscellaneous

APPENDIX 3:

HAZARDOUS ASSESSMENT FORM

WHITE PLAINS HIGH SCHOOL

SUMMARY OF SPACE



Louis Berger
565 Taxter Road, Suite 510
Elmsford, New York 10523

2016 AHERA 3 YEAR RE-INSPECTION REPORT MANAGEMENT PLAN UPDATE

**WHITE PLAINS PUBLIC SCHOOL
WHITE PLAINS HIGH SCHOOL
550 NORTH STREET, WHITE PLAINS, NY 10605**

Space ID	Description / Common Name	HA	HA Description	Quantity	Assesment	Response Action			Comment
						Remove	Repair	O&M	
A1027	M. Locker A002	1	9"x9" Floor Tile/Mastic	232 SF	X	-	-	232 SF	
A1029	W. Locker A001	1	9"x9" Floor Tile/Mastic	232 SF	X	-	0.5 SF	231.5 SF	1 Cracked Tile
A2005	Classroom A122	1	9"x9" Floor Tile/Mastic	789 SF	X	-	-	789 SF	
A2007	Classroom A121	1	9"x9" Floor Tile/Mastic	833 SF	X	-	-	833 SF	
A2008	Classroom A120	1	9"x9" Floor Tile/Mastic	833 SF	X	-	-	833 SF	
A2009	Classroom A119	1	9"x9" Floor Tile/Mastic	833 SF	X	-	-	833 SF	
A2010	Classroom A118	1	9"x9" Floor Tile/Mastic	789 SF	X	-	-	789 SF	
A2023	Classroom A113	1	9"x9" Floor Tile/Mastic	789 SF	X	-	-	789 SF	
A2025	Classroom A112	1	9"x9" Floor Tile/Mastic	833 SF	X	-	-	833 SF	
A2028	Classroom A111	1	9"x9" Floor Tile/Mastic	833 SF	X	-	-	833 SF	
A2031	Classroom A109	1	9"x9" Floor Tile/Mastic	833 SF	X	-	-	833 SF	
A2032	Classroom A107	1	9"x9" Floor Tile/Mastic	789 SF	X	-	-	789 SF	
A3005	Classroom A222	1	9"x9" Floor Tile/Mastic	789 SF	X	-	-	789 SF	
A3006	Classroom A221	1	9"x9" Floor Tile/Mastic	833 SF	X	-	-	833 SF	
A3008	Classroom A220	1	9"x9" Floor Tile/Mastic	833 SF	X	-	-	833 SF	
A3009	Classroom A219	1	9"x9" Floor Tile/Mastic	833 SF	X	-	-	833 SF	
A3010	Classroom A218	1	9"x9" Floor Tile/Mastic	789 SF	X	-	-	789 SF	
A3023	Classroom A213	1	9"x9" Floor Tile/Mastic	789 SF	X	-	-	789 SF	
A3024	Classroom A212	1	9"x9" Floor Tile/Mastic	833 SF	X	-	-	833 SF	
A3030	Classroom A209	1	9"x9" Floor Tile/Mastic	833 SF	X	-	-	833 SF	
A3032	Classroom A208	1	9"x9" Floor Tile/Mastic	833 SF	X	-	-	833 SF	
A3033	Classroom A207	1	9"x9" Floor Tile/Mastic	789 SF	X	-	-	789 SF	
B1028	Classroom B119	1	9"x9" Floor Tile/Mastic	808 SF	X	-	-	808 SF	
B1028A	Classroom B119 Closet	1	9"x9" Floor Tile/Mastic	45 SF	X	-	-	45 SF	
B1029	Classroom B120	1	9"x9" Floor Tile/Mastic	836 SF	X	-	-	836 SF	
B1030	Classroom B121	1	9"x9" Floor Tile/Mastic	836 SF	X	-	-	836 SF	
B1031	Classroom B122	1	9"x9" Floor Tile/Mastic	836 SF	X	-	-	836 SF	
B1033	Classroom B123	1	9"x9" Floor Tile/Mastic	808 SF	X	-	-	808 SF	

SUMMARY OF SPACE

2016



Louis Berger
565 Taxter Road, Suite 510
Elmsford, New York 10523

AHERA 3 YEAR RE-INSPECTION REPORT MANAGEMENT PLAN UPDATE

**WHITE PLAINS PUBLIC SCHOOL
WHITE PLAINS HIGH SCHOOL
550 NORTH STREET, WHITE PLAINS, NY 10605**

Space ID	Description / Common Name	HA	HA Description	Quantity	Assesment	Response Action			Comment
						Remove	Repair	O&M	
B2010	Classroom B207	1	9"x9" Floor Tile/Mastic	808 SF	X	-	2 SF	806 SF	
B2018	Classroom B211	1	9"x9" Floor Tile/Mastic	836 SF	X	-	-	836 SF	
B2033	Classroom B219	1	9"x9" Floor Tile/Mastic	808 SF	X	-	2 SF	806 SF	
B2034	Classroom B220	1	9"x9" Floor Tile/Mastic	836 SF	X	-	-	836 SF	
B2036	Classroom B221	1	9"x9" Floor Tile/Mastic	836 SF	X	-	-	836 SF	
B2037	Classroom B222	1	9"x9" Floor Tile/Mastic	836 SF	X	-	-	836 SF	
B2038	Classroom B223	1	9"x9" Floor Tile/Mastic	808 SF	X	-	-	808 SF	
C1003	Main Elec. C031	1	9"x9" Floor Tile/Mastic	273 SF	X	-	4 SF	269 SF	
C1005	Janitor's Office C030	1	9"x9" Floor Tile/Mastic	237 SF	X	-	-	237 SF	
		2	Transite Soffit	40 SF	X	-	-	40 SF	
C1008	Teacher's Photo Copy	1	9"x9" Floor Tile/Mastic	793SF	X	-	55 SF	738SF	
C1024	Janitor's Closet A003A	1	9"x9" Floor Tile/Mastic	32 SF	X	-	5 SF	27 SF	Missing Tiles
C1031	Comp. Graph C006	1	9"x9" Floor Tile/Mastic	420 SF	X	-	5 SF	415 SF	
C1032	Video C009	1	9"x9" Floor Tile/Mastic	825 SF	X	-	-	825 SF	
C1039	Classroom C015	1	9"x9" Floor Tile/Mastic	575 SF	X	-	-	575 SF	
C1046	Elec. C015B	1	9"x9" Floor Tile/Mastic	34 SF	X	-	-	34 SF	
C2084	Elec. C115	1	9"x9" Floor Tile/Mastic	30 SF	X	-	2 SF	28 SF	
C2087	Classroom C110	1	9"x9" Floor Tile/Mastic	833 SF	X	-	-	833 SF	
C2088	Classroom C111	1	9"x9" Floor Tile/Mastic	840 SF	X	-	-	840 SF	
C2089	Classroom C109	1	9"x9" Floor Tile/Mastic	825 SF	X	-	-	825 SF	
C2090	Classroom C108	1	9"x9" Floor Tile/Mastic	828 SF	X	-	-	828 SF	
C2092	Classroom C107	1	9"x9" Floor Tile/Mastic	828 SF	X	-	-	828 SF	
C2093	Classroom C105	1	9"x9" Floor Tile/Mastic	828 SF	X	-	-	828 SF	
C2095	Classroom C104	1	9"x9" Floor Tile/Mastic	828 SF	X	-	-	828 SF	
C2105	Janitor's Closet C148A	1	9"x9" Floor Tile/Mastic	35 SF	X	-	2 SF	33 SF	
D2011	Pract. D112	1	9"x9" Floor Tile/Mastic	105 SF	X	-	-	105 SF	
D2012	Pract. D111	1	9"x9" Floor Tile/Mastic	105 SF	X	-	-	105 SF	

SUMMARY OF SPACE



Louis Berger
565 Taxter Road, Suite 510
Elmsford, New York 10523

2016 AHERA 3 YEAR RE-INSPECTION REPORT MANAGEMENT PLAN UPDATE

**WHITE PLAINS PUBLIC SCHOOL
WHITE PLAINS HIGH SCHOOL
550 NORTH STREET, WHITE PLAINS, NY 10605**

Space ID	Description / Common Name	HA	HA Description	Quantity	Assesment	Response Action			Comment
						Remove	Repair	O&M	
D2016	Storage D108B	1	9"x9" Floor Tile/Mastic	263 SF	X	-	5 SF	258 SF	
D2017	Chorus D108	1	9"x9" Floor Tile/Mastic	1,204 SF	X	-	-	1,204 SF	
D2018	Office D108A	1	9"x9" Floor Tile/Mastic	139 SF	X	-	-	139 SF	
E2012	Office	1	9"x9" Floor Tile/Mastic	110 SF	X	-	-	110 SF	
E2014	Office	1	9"x9" Floor Tile/Mastic	95 SF	X	-	-	95 SF	
E2017	Pool Connection Corridor	1	9"x9" Floor Tile/Mastic	1,600 SF	X	-	-	1,600 SF	
E2018	Office	1	9"x9" Floor Tile/Mastic	95 SF	X	-	-	95 SF	
E2022	Office	1	9"x9" Floor Tile/Mastic	110 SF	X	-	-	110 SF	
E3004	Janitor's Closet	1	9"x9" Floor Tile/Mastic	20 SF	X	-	-	20 SF	
E3013	Health E215	1	9"x9" Floor Tile/Mastic	680 SF	X	-	-	680 SF	
E3014	Classroom E216	1	9"x9" Floor Tile/Mastic	680 SF	X	-	-	680 SF	
E3015	Classroom E217	1	9"x9" Floor Tile/Mastic	675 SF	X	-	-	675 SF	
E3017	Office	1	9"x9" Floor Tile/Mastic	100 SF	X	-	-	100 SF	
E3019	Office	1	9"x9" Floor Tile/Mastic	60 SF	X	-	-	60 SF	
E3020	Office	1	9"x9" Floor Tile/Mastic	100 SF	X	-	-	100 SF	
E3022	Office	1	9"x9" Floor Tile/Mastic	100 SF	X	-	-	100 SF	
F2001	Pool	16	Interior Vertical Expansion Joint Caulking at Brick Curtain Walls (grey)	120 LF	X	-	-	120 LF	
H1018	South Stairs	1	9"x9" Floor Tile/Mastic	100 SF	X	-	-	100 SF	

ASSESSMENT CATEGORIES

1. = Damaged or Significantly Damaged TSI ACBM
2. = Damaged Friable Surfacing ACBM
3. = Significantly Damaged Friable Surfacing ACBM
4. = Damaged or Significantly Damaged Friable Miscellaneous ACBM

5. = ACBM with Potential for Damage
6. = ACBM with Potential for Significant Damage
7. = Any Remaining Friable ACBM or Friable Suspect ACBM
- X. = Not Applicable (Material is Nonfriable Surfacing or Miscellaneous Material)

W.P.M.S. - HIGHLAND CAMPUS

SUMMARY OF SPACE



Louis Berger
565 Taxter Road, Suite 510
Elmsford, New York 10523

2016 AHERA 3 YEAR RE-INSPECTION REPORT MANAGEMENT PLAN UPDATE

WHITE PLAINS PUBLIC SCHOOL WHITE PLAINS MIDDLE SCHOOL (W.P.M.S) HIGHLAND CAMPUS 128 GRANDVIEW AVENUE, WHITE PLAINS, NY 10605

Space ID	Description / Common Name	HA	HA Description	Quantity	Assesment	Response Action			Comment
						Remove	Repair	O&M	
1001	Crawl Space	3	Contaminated Soil	1,000 SF	7	-	-	1,000 SF	
1007	Classroom 11	1	9"x9" Floor Tile/Mastic	1,220 SF	X	-	-	1,220 SF	9"x9" Painted Gray
1075	Crawl Space	3	Contaminated Soil	1,000 SF	7	-	-	1,000 SF	
2001	Suspension Room 147	1	9"x9" Floor Tile/Mastic	360 SF	X	-	10 SF	350 SF	9"x9" Brown w/Black & White Spots
2001A	Room 147 Vestible	1	9"x9" Floor Tile/Mastic	30 SF	X	-	-	30 SF	9"x9" Brown w/Black & White Spots
2014	Dining Room	1	9"x9" Floor Tile/Mastic	500 SF	X	-	-	500 SF	9"x9" White w/Gray Spots
2093	Auditorium	2	Ceiling Plaster	8,060 SF	7	-	-	8,060 SF	
2099	Boy's Toilet	31	Pipe Insulation & Elbows	75 LF	7	-	-	75 LF	Concealed in Wall
2103	Girl's Toilet	31	Pipe Insulation & Elbows	75 LF	7	-	-	75 LF	Concealed in Wall
3053	Boy's Toilet	31	Pipe Insulation & Elbows	75 LF	7	-	-	75 LF	Concealed in Wall
3059	Girl's Toilet	31	Pipe Insulation & Elbows	75 LF	7	-	-	75 LF	Concealed in Wall
4044	Boy's Toilet	31	Pipe Insulation & Elbows	75 LF	7	-	-	75 LF	Concealed in Wall
4050	Girl's Toilet	31	Pipe Insulation & Elbows	75 LF	7	-	-	75 LF	Concealed in Wall
4031	Classroom 363	1	9"x9" Floor Tile/Mastic	-	-	-	-	-	New Linoleum and Wood Substrate

ASSESSMENT CATEGORIES

- 1. = Damaged or Significantly Damaged TSI ACBM
- 2. = Damaged Friable Surfacing ACBM
- 3. = Significantly Damaged Friable Surfacing ACBM
- 4. = Damaged or Significantly Damaged Friable Miscellaneous ACBM
- 5. = ACBM with Potential for Damage
- 6. = ACBM with Potential for Significant Damage
- 7. = Any Remaining Friable ACBM or Friable Suspect ACBM
- X. = Not Applicable (Material is Nonfriable Surfacing or Miscellaneous Material)

W.P.M.S. - EASTVIEW CAMPUS

SUMMARY OF SPACE

2016

AHERA 3 YEAR RE-INSPECTION REPORT MANAGEMENT PLAN UPDATE



Louis Berger
565 Taxter Road, Suite 510
Elmsford, New York 10523

WHITE PLAINS PUBLIC SCHOOL WHITE PLAINS MIDDLE SCHOOL (W.P.M.S.) EASTVIEW CAMPUS 350 MAIN STREET, WHITE PLAINS, NY 10601

Space ID	Description / Common Name	HA	HA Description	Quantity	Assesment	Response Action			Comment
						Remove	Repair	O&M	
1001	BOY'S TOILET	83	AIRCELL PIPE INSULATION	10 LF	7	-	-	10 LF	Unable to Locate Material
		84	TAR PAPER ASSOC. W./ WINDOW FRAME	10 SF	X	-	-	10 SF	Unable to Locate Material
1002	GIRL'S TOILET	84	TAR PAPER ASSOC. W./ WINDOW FRAME	10 SF	X	-	-	10 SF	
1178	BOILER ROOM		DUCT BREECHING INSULATION	1,00 SF	7	-	-	1,000 SF	
-	CRAWL SPACE		CONTAMINATED SOIL	500 SF	7	-	-	500 SF	Unable to Locate Material
-	CRAWL SPACE		CONTAMINATED SOIL	1,200 SF	7	-	-	1,200 SF	Unable to Locate Material
-	CRAWL SPACE		CONTAMINATED SOIL	6,000 SF	7	-	-	6,000 SF	Unable to Locate Material
2020	SCIENCE ROOM 103	165	SINK UNDERCOATING/ BLACK	20 SF	X	-	-	20 SF	
2034.5B	FAC. LOUNGE STORAGE	164	SINK UNDERCOATING/ BLACK	10 SF	X	-	-	10 SF	
2037F	MEETING ROOM	112	12" X 12" FLOOR TILE/ TAN WITH BROWN STREAKS	105 SF	X	-	-	105 SF	
		113	12" X 12" FT TAN W./ BROWN STREAKS MASTIC						
2037I	COPY ROOM	112	12" X 12" FLOOR TILE/ TAN WITH BROWN STREAKS	150 SF	X	-	-	150 SF	
		113	12" X 12" FT TAN W./ BROWN STREAKS MASTIC						
2037K	CLOSET	112	12" X 12" FLOOR TILE/ TAN WITH BROWN STREAKS	65 SF	X	-	-	65 SF	
		113	12" X 12" FT TAN W./ BROWN STREAKS MASTIC						
2042	AUDITORIUM	128	12"X12" FLOOR TILE/ PURPLE/ MASTIC	480 SF	X	-	-	480 SF	
2045	CHECKROOM	138	9" X 9" FLOOR TILE/ BEIGE WITH STREAKS	300 SF	X	-	-	300 SF	
		139	9" X 9" FLOOR TILE/ BEIGE WITH STREAKS/ MASTIC						

SUMMARY OF SPACE



Louis Berger
565 Taxter Road, Suite 510
Elmsford, New York 10523

2016 AHERA 3 YEAR RE-INSPECTION REPORT MANAGEMENT PLAN UPDATE

**WHITE PLAINS PUBLIC SCHOOL
WHITE PLAINS MIDDLE SCHOOL (W.P.M.S.) EASTVIEW CAMPUS
350 MAIN STREET, WHITE PLAINS, NY 10601**

Space ID	Description / Common Name	HA	HA Description	Quantity	Assesment	Response Action			Comment
						Remove	Repair	O&M	
2068	CLASSROOM	51	9" X 9" FLOOR TILE/ OFF-WHITE WITH BROWN STREAKS	835 SF	X	-	-	835 SF	
3076	CLASSROOM 232	11	12" X 12" FT/ CLOUD WHITE W./ GREEN SPOTS & TURQUOISE W./ GRAY SPOTS MASTIC	870 SF	X	-	-	870 SF	
		45	9" X 9" FLOOR TILE/ LIGHT BROWN MASTIC						
		46	9" X 9" FLOOR TILE/ LIGHT BROWN						
3085	CLASSROOM	16	12" X 12" FT/ DEEP RED W./ WHITE SPOTS & YELLOW W./ ORANGE SPOTS MASTIC	706 SF	X	-	-	706 SF	Assumed Under 12"x12" Beige & Brown
3086	TEACH. LOUNGE	16	12" X 12" FT/ DEEP RED W./ WHITE SPOTS & YELLOW W./ ORANGE SPOTS MASTIC	320 SF	X	-	-	320 SF	
		67	SINK UNDERCOATING/ BLACK	10 SF	X	-	-	10 SF	
3107	CLASSROOM 206	122	12"X12" FLOOR TILE/ WHITE WITH SPECS/ MASTIC (Type II)	815 SF	X	-	-	815 SF	
4140A	OFFICE	183	CEILING PLASTER/ TEXTURED/ WHITE COAT	125 SF	X	-	-	125 SF	
		184	CEILING PLASTER/ TEXTURED/ BROWN COAT						
		185	WALL PLASTER/ TEXTURED/ WHITE COAT	350 SF	X	-	-	350 SF	
		186	WALL PLASTER/ TEXTURED/ BROWN COAT						
4140B	STORAGE	183	CEILING PLASTER/ TEXTURED/ WHITE COAT	175 SF	X	-	-	175 SF	

SUMMARY OF SPACE



Louis Berger
565 Taxter Road, Suite 510
Elmsford, New York 10523

2016 AHERA 3 YEAR RE-INSPECTION REPORT MANAGEMENT PLAN UPDATE

**WHITE PLAINS PUBLIC SCHOOL
WHITE PLAINS MIDDLE SCHOOL (W.P.M.S.) EASTVIEW CAMPUS
350 MAIN STREET, WHITE PLAINS, NY 10601**

Space ID	Description / Common Name	HA	HA Description	Quantity	Assesment	Response Action			Comment
						Remove	Repair	O&M	
		184	CEILING PLASTER/ TEXTURED/ BROWN COAT	475 SF	X	-	-	475 SF	
		185	WALL PLASTER/ TEXTURED/ WHITE COAT	800 SF	X	-	-	800 SF	
		186	WALL PLASTER/ TEXTURED/ BROWN COAT						
4140C	CLASSROOM	183	CEILING PLASTER/ TEXTURED/ WHITE COAT	600 SF	X	-	-	600 SF	
		184	CEILING PLASTER/ TEXTURED/ BROWN COAT						
		185	WALL PLASTER/ TEXTURED/ WHITE COAT	1,000 SF	X	-	-	1,000 SF	
		186	WALL PLASTER/ TEXTURED/ BROWN COAT						
4140D	OFFICE	183	CEILING PLASTER/ TEXTURED/ WHITE COAT	85 SF	X	-	-	85 SF	
		184	CEILING PLASTER/ TEXTURED/ BROWN COAT						
		185	WALL PLASTER/ TEXTURED/ WHITE COAT	350 SF	X	-	-	350 SF	
		186	WALL PLASTER/ TEXTURED/ BROWN COAT						
4140E	OFFICE	183	CEILING PLASTER/ TEXTURED/ WHITE COAT	250 SF	X	-	-	250 SF	
		184	CEILING PLASTER/ TEXTURED/ BROWN COAT						
		185	WALL PLASTER/ TEXTURED/ WHITE COAT	600 SF	X	-	-	600 SF	
		186	WALL PLASTER/ TEXTURED/ BROWN COAT						

SUMMARY OF SPACE



Louis Berger
565 Taxter Road, Suite 510
Elmsford, New York 10523

2016 AHERA 3 YEAR RE-INSPECTION REPORT MANAGEMENT PLAN UPDATE

WHITE PLAINS PUBLIC SCHOOL WHITE PLAINS MIDDLE SCHOOL (W.P.M.S.) EASTVIEW CAMPUS 350 MAIN STREET, WHITE PLAINS, NY 10601

Space ID	Description / Common Name	HA	HA Description	Quantity	Assesment	Response Action			Comment
						Remove	Repair	O&M	
4150	CLASSROOM 328	16	12" X 12" FT/ DEEP RED W./ WHITE SPOTS & YELLOW W./ ORANGE SPOTS MASTIC	670 SF	X	-	-	670 SF	
4150A	STORAGE	16	12" X 12" FT/ DEEP RED W./ WHITE SPOTS & YELLOW W./ ORANGE SPOTS MASTIC	80 SF	X	-	-	80 SF	
4152	CLASSROOM 330	47	9" X 9" FT/ LT. BROWN W./ DK. BROWN STREAKS & RED W./ BLACK STREAKS MASTIC	705 SF	X	-	-	705 SF	Assumed Under 12"x12" Beige & Brown
		48	9" X 9" FT/ LIGHT BROWN WITH DARK BROWN STREAKS						Assumed Under 12"x12" Beige & Brown
		49	9" X 9" FLOOR TILE/ RED WITH BLACK STREAKS						Assumed Under 12"x12" Beige & Brown
4154	CLASSROOM 332	16	12" X 12" FT/ DEEP RED W./ WHITE SPOTS & YELLOW W./ ORANGE SPOTS MASTIC	890 SF	X	-	-	890 SF	
4159	CLASSROOM	24	12" X 12" FT/ SKY BLUE W./ WHITE STREAKS & WHITE WITH MULTI-COLOR SPOTS MASTIC	870 SF	X	-	-	870 SF	
5164A	PANTRY	83	AIRCELL PIPE INSULATION	30 LF	7	-	-	30 LF	

ASSESSMENT CATEGORIES

1. = Damaged or Significantly Damaged TSI ACBM
2. = Damaged Friable Surfacing ACBM
3. = Significantly Damaged Friable Surfacing ACBM
4. = Damaged or Significantly Damaged Friable Miscellaneous ACBM
5. = ACBM with Potential for Damage
6. = ACBM with Potential for Significant Damage

SUMMARY OF SPACE



Louis Berger
565 Taxter Road, Suite 510
Elmsford, New York 10523

2016 AHERA 3 YEAR RE-INSPECTION REPORT MANAGEMENT PLAN UPDATE

**WHITE PLAINS PUBLIC SCHOOL
WHITE PLAINS MIDDLE SCHOOL (W.P.M.S.) EASTVIEW CAMPUS
350 MAIN STREET, WHITE PLAINS, NY 10601**

Space ID	Description / Common Name	HA	HA Description	Quantity	Assesment	Response Action			Comment
						Remove	Repair	O&M	

7. = Any Remaining Friable ACBM or Friable Suspect ACBM

X. = Not Applicable (Material is Nonfriable Surfacing or Miscellaneous Material)

**ROCHAMBEAU ALTERNATIVE
HIGH SCHOOL**

SUMMARY OF SPACE



Louis Berger
565 Taxter Road, Suite 510
Elmsford, New York 10523

2016 AHERA 3 YEAR RE-INSPECTION REPORT MANAGEMENT PLAN UPDATE

**WHITE PLAINS PUBLIC SCHOOL
ROCHAMBEAU ELEMENTARY SCHOOL
228 FISHER AVENUE, WHITE PLAINS, NY 10606**

Space ID	Description / Common Name	HA	HA Description	Quantity	Assesment	Response Action			Comment
						Remove	Repair	O&M	
1001	Classroom A	1	9"x9" Floor Tile/Mastic	815 SF	X	-	-	815 SF	Under Non-ACM 12"x12" Floor Tile
1003	Classroom B	1	9"x9" Floor Tile/Mastic	805 SF	X	-	-	805 SF	Under Non-ACM 12"x12" Floor Tile
1005	Vestibule	1	9"x9" Floor Tile/Mastic	70 SF	X	-	-	70 SF	Under Non-ACM 12"x12" Floor Tile
1022	Dark Room	1	9"x9" Floor Tile/Mastic	400 SF	X	400 SF	-	-	9"x9" Cream (Significantly Damage)
2011	Hallway	1	9"x9" Floor Tile/Mastic	320 SF	X	-	-	320 SF	Under Non-ACM 12"x12" Floor Tile
2012	Classroom 107B	1	9"x9" Floor Tile/Mastic	425 SF	X	-	-	425 SF	Under Non-ACM 12"x12" Floor Tile
2013	Classroom 107A	1	9"x9" Floor Tile/Mastic	345 SF	X	-	-	345 SF	Under Non-ACM 12"x12" Floor Tile
2027	Walnut Lounge	1	9"x9" Floor Tile/Mastic	500 SF	X	-	-	500 SF	9"x9" Tan w/Brown Specs
3001	Classroom 202	1	9"x9" Floor Tile/Mastic	1,100 SF	X	-	15 SF	1,085 SF	9"x9" Light Brown w/Black-White Stripes
3002	Office 201A	1	9"x9" Floor Tile/Mastic	385 SF	X	-	-	385 SF	9"x9" Beige w/Black-Red Stripes
3003	Telephone Room 201	1	9"x9" Floor Tile/Mastic	355 SF	X	-	-	355 SF	9"x9" Beige w/Black-Red Stripes
3004	Hallway Outside 201	1	9"x9" Floor Tile/Mastic	75 SF	X	-	-	75 SF	9"x9" Beige w/Black-Red Stripes
3005	Vestibule b/w 201 and 202	1	9"x9" Floor Tile/Mastic	55 SF	X	-	4 SF	51 SF	9"x9" Brown w/White Specs
3034	Auditorium	2	Wall Plaster	7,000 SF	7	-	-	7,000 SF	
3035	Stage	3	Wire Insulation	15 LF	7	-	-	15 LF	Unable to Locate Wire Insulation

ASSESSMENT CATEGORIES

- 1. = Damaged or Significantly Damaged TSI ACBM
- 2. = Damaged Friable Surfacing ACBM
- 3. = Significantly Damaged Friable Surfacing ACBM
- 4. = Damaged or Significantly Damaged Friable Miscellaneous ACBM
- 5. = ACBM with Potential for Damage
- 6. = ACBM with Potential for Significant Damage
- 7. = Any Remaining Friable ACBM or Friable Suspect ACBM
- X. = Not Applicable (Material is Nonfriable Surfacing or Miscellaneous Material)

**CHURCH STREET
ELEMENTARY SCHOOL**

SUMMARY OF SPACE



Louis Berger
565 Taxter Road, Suite 510
Elmsford, New York 10523

2016 AHERA 3 YEAR RE-INSPECTION REPORT MANAGEMENT PLAN UPDATE

**WHITE PLAINS PUBLIC SCHOOL
CHURCH STREET ELEMENTARY SCHOOL
295 CHURCH STREET, WHITE PLAINS, NY 10603**

Space ID	Description / Common Name	HA	HA Description	Quantity	Assesment	Response Action			Comment
						Remove	Repair	O&M	
1028	Ground Floor, P.E. Office	1	9"x9" Floor Tile/Mastic	155 SF	X	-	-	155 SF	9"x9" Brown and Light Brown
1028A	Ground Floor, P.E. Office Closet	1	9"x9" Floor Tile/Mastic	25 SF	X	-	-	25 SF	9"x9" Beige under Carpet
1059	Ground Floor, Room 17 Storage	1	9"x9" Floor Tile/Mastic	80 SF	X	-	-	80 SF	9"x9" Gray w/White Stripes
1061	Ground Floor, Auditorium (Back Wall)	13	Acoustical Wall Plaster (white)	450 SF	7	-	-	450 SF	

ASSESSMENT CATEGORIES

- 1. = Damaged or Significantly Damaged TSI ACBM
- 2. = Damaged Friable Surfacing ACBM
- 3. = Significantly Damaged Friable Surfacing ACBM
- 4. = Damaged or Significantly Damaged Friable Miscellaneous ACBM
- 5. = ACBM with Potential for Damage
- 6. = ACBM with Potential for Significant Damage
- 7. = Any Remaining Friable ACBM or Friable Suspect ACBM
- X. = Not Applicable (Material is Nonfriable Surfacing or Miscellaneous Material)

**GEORGE WASHINGTON
ELEMENTARY SCHOOL**

SUMMARY OF SPACE



Louis Berger
565 Taxter Road, Suite 510
Elmsford, New York 10523

2016 AHERA 3 YEAR RE-INSPECTION REPORT MANAGEMENT PLAN UPDATE

**WHITE PLAINS PUBLIC SCHOOL
GEORGE WASHINGTON ELEMENTARY SCHOOL
100 ORCHARD STREET, WHITE PLAINS, NY 10604**

Space ID	Description / Common Name	HA	HA Description	Quantity	Assesment	Response Action			Comment
						Remove	Repair	O&M	
1032	First Floor Southwest Hallway by Room 123	1	9"x9" Floor Tile/Mastic	225 SF	X	-	-	225 SF	9"x9" White w/Green Spots
		2	Pipe Insulation	40 LF	7	-	-	40 LF	
1034	First Floor Room 123	1	9"x9" Floor Tile/Mastic	400 SF	X	-	-	400 SF	9"x9" Blue & Tan
1036	First Floor Southwest Stairs	1	9"x9" Floor Tile/Mastic	180 SF	X	-	-	180 SF	9"x9" White w/Green Spots
1038	First Floor West Hallway South Side	1	9"x9" Floor Tile/Mastic	200 SF	X	-	-	200 SF	9"x9" White w/Green Spots
1039	First Floor Custodial Office 117	1	9"x9" Floor Tile/Mastic	-	-	-	-	-	Concrete Floor
1043	First Floor Kiln Room 118A	1	9"x9" Floor Tile/Mastic	-	-	-	-	-	Removed
1044	First Floor West Stairs	1	9"x9" Floor Tile/Mastic	75 SF	X	-	-	75 SF	9"x9" White w/Green Spots
1055	First Floor South Stairs by Room 140	1	9"x9" Floor Tile/Mastic	20 SF	X	-	-	20 SF	9"x9" Beige
1059	First Floor Center Stairs by Room 128	1	9"x9" Floor Tile/Mastic	20 SF	X	-	-	20 SF	9"x9" Beige
2059	Second Floor Center Stairs by Room 228	1	9"x9" Floor Tile/Mastic	40 SF	X	-	-	40 SF	9"x9" Beige
2069	Second Floor South Stairs by Room 240	1	9"x9" Floor Tile/Mastic	40 SF	X	-	-	40 SF	9"x9" Beige

ASSESSMENT CATEGORIES

- 1. = Damaged or Significantly Damaged TSI ACBM
- 2. = Damaged Friable Surfacing ACBM
- 3. = Significantly Damaged Friable Surfacing ACBM
- 4. = Damaged or Significantly Damaged Friable Miscellaneous ACBM
- 5. = ACBM with Potential for Damage
- 6. = ACBM with Potential for Significant Damage
- 7. = Any Remaining Friable ACBM or Friable Suspect ACBM
- X. = Not Applicable (Material is Nonfriable Surfacing or Miscellaneous Material)

**MAMARONECK AVENUE
ELEMENTARY SCHOOL**

SUMMARY OF SPACE



Louis Berger
565 Taxter Road, Suite 510
Elmsford, New York 10523

2016 AHERA 3 YEAR RE-INSPECTION REPORT MANAGEMENT PLAN UPDATE

**WHITE PLAINS PUBLIC SCHOOL
MAMARONECK AVENUE ELEMENTARY SCHOOL
7 NOSBAND AVENUE, WHITE PLAINS, NY 10605**

Space ID	Description / Common Name	HA	HA Description	Quantity	Assesment	Response Action			Comment
						Remove	Repair	O&M	
1063	Storage	1	9"x9" Floor Tile/Mastic	2 SF	X	-	-	2 SF	9"x9" Beige
-	Office / Storage	1	9"x9" Floor Tile/Mastic	276 SF	X	-	-	276 SF	Unable to Locate Material
		2	Wall Mastic	315 SF	X	-	-	315 SF	Unable to Locate Material
2018	Gym	7	2'x2' (1'x1' Design) Ceiling Tile	4,835 SF	X	-	-	4,835 SF	Assumed ACM
2023	Gym Hallway	1	9"x9" Floor Tile/Mastic	60 SF	X	-	-	60 SF	9"x9" Tan
2024	Gym Storage	1	9"x9" Floor Tile/Mastic	30 SF	X	-	-	30 SF	9"x9" Tan
-	SE Exit under Stairs	1	9"x9" Floor Tile/Mastic	900 SF	X	-	-	900 SF	Unable to Locate Material

ASSESSMENT CATEGORIES

- 1. = Damaged or Significantly Damaged TSI ACBM
- 2. = Damaged Friable Surfacing ACBM
- 3. = Significantly Damaged Friable Surfacing ACBM
- 4. = Damaged or Significantly Damaged Friable Miscellaneous ACBM
- 5. = ACBM with Potential for Damage
- 6. = ACBM with Potential for Significant Damage
- 7. = Any Remaining Friable ACBM or Friable Suspect ACBM
- X. = Not Applicable (Material is Nonfriable Surfacing or Miscellaneous Material)

RIDGEWAY ELEMENTARY SCHOOL

SUMMARY OF SPACE



Louis Berger
565 Taxter Road, Suite 510
Elmsford, New York 10523

2016 AHERA 3 YEAR RE-INSPECTION REPORT MANAGEMENT PLAN UPDATE

**WHITE PLAINS PUBLIC SCHOOL
RIDGEWAY ELEMENTARY SCHOOL
225 RIDGEWAY, WHITE PLAINS, NY 10605**

Space ID	Description / Common Name	HA	HA Description	Quantity	Assesment	Response Action			Comment
						Remove	Repair	O&M	
1001	Music Room 133	1	9"x9" Floor Tile/Mastic	740 SF	X	-	-	740 SF	12"x12" Floor Tile present
1002	Art Room 134	1	9"x9" Floor Tile/Mastic	670 SF	X	-	-	670 SF	12"x12" Floor Tile present
1003	Classroom 137	1	9"x9" Floor Tile/Mastic	750 SF	X	-	-	750 SF	12"x12" Floor Tile present
1004	Classroom 138B	1	9"x9" Floor Tile/Mastic	730 SF	X	-	-	730 SF	12"x12" Floor Tile present
1005	Classroom 139	1	9"x9" Floor Tile/Mastic	740 SF	X	-	-	740 SF	12"x12" Floor Tile present
1006	Classroom 140	1	9"x9" Floor Tile/Mastic	1,330 SF	X	-	-	1,330 SF	under 12"x12" Floor Tile
1007	Storage 140A	1	9"x9" Floor Tile/Mastic	80 SF	X	-	-	80 SF	12"x12" Floor Tile present
1008	Classroom 142	1	9"x9" Floor Tile/Mastic	740 SF	X	-	-	740 SF	12"x12" Floor Tile present
1009	Classroom 143	1	9"x9" Floor Tile/Mastic	740 SF	X	-	-	740 SF	12"x12" Floor Tile present
1010	Classroom 144	1	9"x9" Floor Tile/Mastic	740 SF	X	-	-	740 SF	12"x12" Floor Tile present
1011	Classroom 145	1	9"x9" Floor Tile/Mastic	740 SF	X	-	-	740 SF	12"x12" Floor Tile present
1012	Reading Room 146	1	9"x9" Floor Tile/Mastic	435 SF	X	-	-	435 SF	12"x12" Floor Tile present
1013	Corridor	1	9"x9" Floor Tile/Mastic	1,450 SF	X	-	-	1,450 SF	12"x12" Floor Tile present
1021	Corridor	1	9"x9" Floor Tile/Mastic	375 SF	X	-	-	375 SF	12"x12" Floor Tile present
1022	Corridor	1	9"x9" Floor Tile/Mastic	1,300 SF	X	-	-	1,300 SF	12"x12" Floor Tile present
1023	Classroom 147	1	9"x9" Floor Tile/Mastic	760 SF	X	-	-	760 SF	12"x12" Floor Tile present
1024	Classroom 148	1	9"x9" Floor Tile/Mastic	760 SF	X	-	-	760 SF	12"x12" Floor Tile present
1025	Classroom 149	1	9"x9" Floor Tile/Mastic	760 SF	X	-	-	760 SF	12"x12" Floor Tile present
1026	Classroom 150	1	9"x9" Floor Tile/Mastic	765 SF	X	-	-	765 SF	12"x12" Floor Tile present
1027	Classroom 151	1	9"x9" Floor Tile/Mastic	755 SF	X	-	-	755 SF	12"x12" Floor Tile present
1028	Classroom 152	1	9"x9" Floor Tile/Mastic	755 SF	X	-	-	755 SF	12"x12" Floor Tile present
1033	Storage 100A	1	9"x9" Floor Tile/Mastic	50 SF	X	-	-	50 SF	12"x12" Floor Tile present
1036	Corridor	1	9"x9" Floor Tile/Mastic	330 SF	X	-	-	330 SF	12"x12" Floor Tile present
1037	Storage 101	1	9"x9" Floor Tile/Mastic	230 SF	X	-	-	230 SF	12"x12" Floor Tile present

SUMMARY OF SPACE



Louis Berger
565 Taxter Road, Suite 510
Elmsford, New York 10523

2016 AHERA 3 YEAR RE-INSPECTION REPORT MANAGEMENT PLAN UPDATE

**WHITE PLAINS PUBLIC SCHOOL
RIDGEWAY ELEMENTARY SCHOOL
225 RIDGEWAY, WHITE PLAINS, NY 10605**

Space ID	Description / Common Name	HA	HA Description	Quantity	Assesment	Response Action			Comment
						Remove	Repair	O&M	
1048	Corridor	1	9"x9" Floor Tile/Mastic	1,850 SF	X	-	-	1,850 SF	12"x12" Floor Tile present
1049	Nurse Office	1	9"x9" Floor Tile/Mastic	230 SF	X	-	-	230 SF	Under Carpet
1050	Hallway	1	9"x9" Floor Tile/Mastic	230 SF	X	-	-	230 SF	Under Carpet
1051	Storage	1	9"x9" Floor Tile/Mastic	70 SF	X	-	-	70 SF	Under Carpet
1052	Office	1	9"x9" Floor Tile/Mastic	200 SF	X	-	-	200 SF	Under Carpet
1053	Work Room	1	9"x9" Floor Tile/Mastic	65 SF	X	-	-	65 SF	Under Carpet
1055	Office	1	9"x9" Floor Tile/Mastic	170 SF	X	-	-	170 SF	Under Carpet
1056	Copy Center	1	9"x9" Floor Tile/Mastic	45 SF	X	-	-	45 SF	Under Carpet
1057	Office	1	9"x9" Floor Tile/Mastic	180 SF	X	-	-	180 SF	Under Carpet
1058	Mail Room & Vestibule	1	9"x9" Floor Tile/Mastic	110 SF	X	-	-	110 SF	Under Carpet
1059	Main Office	1	9"x9" Floor Tile/Mastic	600 SF	X	-	-	600 SF	Under Carpet
1061	Corridor	1	9"x9" Floor Tile/Mastic	1,500 SF	X	-	-	1,500 SF	12"x12" Floor Tile present
1063	Gymnasium	17	Tar Underneath Wood Flooring	3,800 SF	X	-	-	3,800 SF	1,000 SF was abated on August 2013
1072	Corridor	1	9"x9" Floor Tile/Mastic	850 SF	X	-	-	850 SF	12"x12" Floor Tile present
1088	Waiting Area	1	9"x9" Floor Tile/Mastic	235 SF	X	-	-	235 SF	Under Carpet
1089	Office	1	9"x9" Floor Tile/Mastic	110 SF	X	-	-	110 SF	Under Carpet
1090	Speech	1	9"x9" Floor Tile/Mastic	180 SF	X	-	-	180 SF	Under Carpet
1091	Learning Fac.	1	9"x9" Floor Tile/Mastic	185 SF	X	-	-	185 SF	Under Carpet
1092	Office	1	9"x9" Floor Tile/Mastic	110 SF	X	-	-	110 SF	Under Carpet
1093	Office	1	9"x9" Floor Tile/Mastic	105 SF	X	-	-	105 SF	Under Carpet
1094	Office	1	9"x9" Floor Tile/Mastic	100 SF	X	-	-	100 SF	Under Carpet
1095	Storage	1	9"x9" Floor Tile/Mastic	26 SF	X	-	-	26 SF	Under Carpet
1096	Conference	1	9"x9" Floor Tile/Mastic	150 SF	X	-	-	150 SF	Under Carpet
1097	Office 119	1	9"x9" Floor Tile/Mastic	245 SF	X	-	-	245 SF	9"x9" and 12"x12" Floor Tile

SUMMARY OF SPACE



Louis Berger

565 Taxter Road, Suite 510
Elmsford, New York 10523

2016 AHERA 3 YEAR RE-INSPECTION REPORT MANAGEMENT PLAN UPDATE

**WHITE PLAINS PUBLIC SCHOOL
RIDGEWAY ELEMENTARY SCHOOL
225 RIDGEWAY, WHITE PLAINS, NY 10605**

Space ID	Description / Common Name	HA	HA Description	Quantity	Assesment	Response Action			Comment
						Remove	Repair	O&M	
1099	Classroom 123	1	9"x9" Floor Tile/Mastic	710 SF	X	-	-	710 SF	12"x12" Floor Tile present
1100	Classroom 125	1	9"x9" Floor Tile/Mastic	715 SF	X	-	-	715 SF	12"x12" Floor Tile present
1101	Classroom 127	1	9"x9" Floor Tile/Mastic	710 SF	X	-	-	710 SF	12"x12" Floor Tile present
1105	Corridor	1	9"x9" Floor Tile/Mastic	1,100 SF	X	-	-	1,100 SF	12"x12" Floor Tile present
1109	Classroom 128	1	9"x9" Floor Tile/Mastic	710 SF	X	-	-	710 SF	12"x12" Floor Tile present
1110	Classroom 126	1	9"x9" Floor Tile/Mastic	715 SF	X	-	-	715 SF	12"x12" Floor Tile present
1111	Classroom 124	1	9"x9" Floor Tile/Mastic	710 SF	X	-	-	710 SF	12"x12" Floor Tile present
1116	Auditorium	1	9"x9" Floor Tile/Mastic	2,310 SF	X	-	-	2,310 SF	12"x12" Floor Tile present
1125	Corridor	1	9"x9" Floor Tile/Mastic	1,100 SF	X	-	-	1,100 SF	12"x12" Floor Tile present

ASSESSMENT CATEGORIES

- 1. = Damaged or Significantly Damaged TSI ACBM
- 2. = Damaged Friable Surfacing ACBM
- 3. = Significantly Damaged Friable Surfacing ACBM
- 4. = Damaged or Significantly Damaged Friable Miscellaneous ACBM
- 5. = ACBM with Potential for Damage
- 6. = ACBM with Potential for Significant Damage
- 7. = Any Remaining Friable ACBM or Friable Suspect ACBM
- X. = Not Applicable (Material is Nonfriable Surfacing or Miscellaneous Material)

EDUCATION HOUSE

SUMMARY OF SPACE



Louis Berger
565 Taxter Road, Suite 510
Elmsford, New York 10523

2016 AHERA 3 YEAR RE-INSPECTION REPORT MANAGEMENT PLAN UPDATE

**WHITE PLAINS PUBLIC SCHOOL
EDUCATION HOUSE
5 HOMESIDE LANE, WHITE PLAINS, NY 10605**

Space ID	Description / Common Name	HA	HA Description	Quantity	Assesment	Response Action			Comment
						Remove	Repair	O&M	
2001	Office	1	9"x9" Floor Tile/Mastic	175 SF	X	-	-	175 SF	Under Carpet
2002	Office 111	1	9"x9" Floor Tile/Mastic	330 SF	X	-	-	330 SF	Under Carpet
2003	Corridor	1	9"x9" Floor Tile/Mastic	150 SF	X	-	-	150 SF	9"x9" Yellow
2004	Office 107	1	9"x9" Floor Tile/Mastic	170 SF	X	-	-	170 SF	Under Carpet
2005	Office 101	1	9"x9" Floor Tile/Mastic	305 SF	X	-	-	305 SF	Under Carpet
2006	Office	1	9"x9" Floor Tile/Mastic	170 SF	X	-	-	170 SF	Under Carpet
2007	Office 105	1	9"x9" Floor Tile/Mastic	165 SF	X	-	-	165 SF	Under Carpet
2008	Office 103	1	9"x9" Floor Tile/Mastic	170 SF	X	-	-	170 SF	Under Carpet
2009	Secretaries Area	1	9"x9" Floor Tile/Mastic	815 SF	X	-	-	815 SF	9"x9" Gray w/Multicolor Specs and 9"x9" Green w/White Specs
2010	Vestibule	1	9"x9" Floor Tile/Mastic	75 SF	X	-	-	75 SF	9"x9" Green w/White Specs
2017	Elevator Lobby	1	9"x9" Floor Tile/Mastic	75 SF	X	-	-	75 SF	9"x9" Green w/White Specs
2018	Conference Room 100	1	9"x9" Floor Tile/Mastic	425 SF	X	-	-	425 SF	9"x9" Gray w/Multicolor Specs
2019	Corridor	1	9"x9" Floor Tile/Mastic	200 SF	X	-	-	200 SF	9"x9" Yellow
2020	Closet	1	9"x9" Floor Tile/Mastic	15 SF	X	-	-	15 SF	9"x9" Yellow
2021	Office 102	1	9"x9" Floor Tile/Mastic	150 SF	X	-	-	150 SF	Under Carpet
3010	Main Stair Landing	1	9"x9" Floor Tile/Mastic	140 SF	X	-	-	140 SF	9"x9" Gray w/Multicolor Specs
-	Attic Storage	2	Ceiling Material	498 SF	7	-	-	498 SF	Unable to Locate Ceiling Material

ASSESSMENT CATEGORIES

- 1. = Damaged or Significantly Damaged TSI ACBM
- 2. = Damaged Friable Surfacing ACBM
- 3. = Significantly Damaged Friable Surfacing ACBM
- 4. = Damaged or Significantly Damaged Friable Miscellaneous ACBM
- 5. = ACBM with Potential for Damage
- 6. = ACBM with Potential for Significant Damage
- 7. = Any Remaining Friable ACBM or Friable Suspect ACBM
- X. = Not Applicable (Material is Nonfriable Surfacing or Miscellaneous Material)

APPENDIX 4:

**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM**

WHITE PLAINS HIGH SCHOOL



Louis Berger

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Elmsford, New York 10523

**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A1027

Space Description: M. Locker A002

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	232 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A1029 **Space Description:** W. Locker A001
School District: White Plains Public Schools
School Name: White Plains High School
Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	232 SF	0.5 SF	1 Cracked Tile

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A2005 **Space Description:** Classroom A122

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	789 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A2007

Space Description: Classroom A121

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	833 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A2008

Space Description: Classroom A120

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	833 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A2009 **Space Description:** Classroom A119
School District: White Plains Public Schools
School Name: White Plains High School
Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	833 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A2010 **Space Description:** Classroom A118
School District: White Plains Public Schools
School Name: White Plains High School
Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	789 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A2023 **Space Description:** Classroom A113
School District: White Plains Public Schools
School Name: White Plains High School
Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	789SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A2025 **Space Description:** Classroom A112
School District: White Plains Public Schools
School Name: White Plains High School
Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	833 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A2028 **Space Description:** Classroom A111
School District: White Plains Public Schools
School Name: White Plains High School
Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	833 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A2031 **Space Description:** Classroom A109
School District: White Plains Public Schools
School Name: White Plains High School
Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	833 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A2032

Space Description: Classroom A107

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	789 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
---	------------------

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A3005 **Space Description:** Classroom A222

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	789 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A3006

Space Description: Classroom A221

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	833 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A3008 **Space Description:** Classroom A220

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	833 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A3009

Space Description: Classroom A219

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	833 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
---	------------------

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A3010 **Space Description:** Classroom A218
School District: White Plains Public Schools
School Name: White Plains High School
Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	789 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A3023 **Space Description:** Classroom A213
School District: White Plains Public Schools
School Name: White Plains High School
Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	789 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A3024 **Space Description:** Classroom A212

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	833 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A3030 **Space Description:** Classroom A209
School District: White Plains Public Schools
School Name: White Plains High School
Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	833 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A3032 **Space Description:** Classroom A208

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	833 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
---	------------------

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: A3033 **Space Description:** Classroom A207
School District: White Plains Public Schools
School Name: White Plains High School
Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	789 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: B1028 **Space Description:** Classroom B119

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	808 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
---	------------------

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: B1028A **Space Description:** Classroom B119 Closet

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	45 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
---	------------------

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: B1029 **Space Description:** Classroom B120
School District: White Plains Public Schools
School Name: White Plains High School
Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	836 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
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4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: B1030

Space Description: Classroom B121

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	836 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
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5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: B1031 **Space Description:** Classroom B122

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	836 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: B1033 **Space Description:** Classroom B123
School District: White Plains Public Schools
School Name: White Plains High School
Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	808 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: B2010 **Space Description:** Classroom B207

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	808 SF	2 SF	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: B2018 **Space Description:** Classroom B211

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	836 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: B2033 **Space Description:** Classroom B219

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	808 SF	2 SF	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: B2034 **Space Description:** Classroom B220

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	836 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: B2036 **Space Description:** Classroom B221

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	836 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: B2037

Space Description: Classroom B222

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	836 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: B2038 **Space Description:** Classroom B223

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	808 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: C1003

Space Description: Main Elec. C031

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	273 SF	4 SF	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: C1005

Space Description: Janitor's Office C030

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	237 SF	0	
02	Transite Soffit	N	40 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
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5				

Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: C1008

Space Description: Teacher's Photo Copy

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	793 SF	55 SF	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
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Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: C1024 **Space Description:** Janitor's Closet A003A

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	32 SF	5 SF	Missing Tiles

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: C1031 **Space Description:** Comp. Graph C006

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	420 SF	5 SF	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: C1032

Space Description: Video C009

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	825 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: C1039 **Space Description:** Classroom C015
School District: White Plains Public Schools
School Name: White Plains High School
Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	575 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: C1046 **Space Description:** Elec. C015B

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	34 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: C2084

Space Description: Elec. C115

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	30 SF	2 SF	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: C2087 **Space Description:** Classroom C110

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	833 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: C2088 **Space Description:** Classroom C111

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	840 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: C2089 **Space Description:** Classroom C109

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	825 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: C2090 **Space Description:** Classroom C108

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	828 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: C2092 **Space Description:** Classroom C107

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	828 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: C2093

Space Description: Classroom C105

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	828 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: C2095 **Space Description:** Classroom C104

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	828 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: C2105

Space Description: Janitor's Closet C148A

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	35 SF	2 SF	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: D2011 **Space Description:** Pract. D112

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	105 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
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Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: D2012 **Space Description:** Pract. D111

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	105 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: D2016 **Space Description:** Storage D108B

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	263 SF	5 SF	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: D2017 **Space Description:** Chorus D108

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	1,204 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: D2018 **Space Description:** Office D108A

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	139 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: E2012 **Space Description:** Office

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	110 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: E2014

Space Description: Office

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	95 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: E2017 **Space Description:** Pool Connection Corridor

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	1,600 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: E2018

Space Description: Office

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	95 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: E2022 **Space Description:** Office

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	110 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: E3004 **Space Description:** Janitor's Closet

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	20 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: E3013

Space Description: Health E215

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	680 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: E3014 **Space Description:** Classroom E216

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	680 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: E3015

Space Description: Classroom E217

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	675 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: E3017 **Space Description:** Office

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	100 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
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5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: E3019

Space Description: Office

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	60 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: E3020

Space Description: Office

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	100 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: E3022 **Space Description:** Office

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	100 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: F2001

Space Description: Pool

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed

Date: January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
16	Interior Vertical Expansion Joint Caulking at Brick Curtain Walls (grey)	N	120 LF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: H1018 **Space Description:** South Stairs

School District: White Plains Public Schools

School Name: White Plains High School

Re-inspected By: Jeff Leed **Date:** January 11, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	100 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.

W.P.M.S. - HIGHLAND CAMPUS



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1001 **Space Description:** Crawl Space

School District: White Plains Public Schools

School Name: White Plains Middle School Highland Campus

Re-inspected By: Jeff Leed **Date:** January 6, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
03	Contaminated Soil	Y	1,000 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1075 **Space Description:** Crawl Space

School District: White Plains Public Schools

School Name: White Plains Middle School Highland Campus

Re-inspected By: Jeff Leed **Date:** January 6, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
03	Contaminated Soil	Y	1,000 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2001

Space Description: Suspension Room 147

School District: White Plains Public Schools

School Name: White Plains Middle School Highland Campus

Re-inspected By: Jeff Leed

Date: January 6, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	360 SF	10 SF	9"x9" Brown w/Black & White Spots

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2001A **Space Description:** Room 147 Vestibule

School District: White Plains Public Schools

School Name: White Plains Middle School Highland Campus

Re-inspected By: Jeff Leed **Date:** January 6, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	30 SF	0	9"x9" Brown w/Black & White Spots

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2014 **Space Description:** Dining Room

School District: White Plains Public Schools

School Name: White Plains Middle School Highland Campus

Re-inspected By: Jeff Leed **Date:** January 6, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	500 SF	0	9"x9" White w/Gray Spots

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2093 **Space Description:** Auditorium

School District: White Plains Public Schools

School Name: White Plains Middle School Highland Campus

Re-inspected By: Jeff Leed **Date:** January 6, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
02	Ceiling Plaster	Y	8,060 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2099 **Space Description:** Boy's Toilet

School District: White Plains Public Schools

School Name: White Plains Middle School Highland Campus

Re-inspected By: Jeff Leed **Date:** January 6, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
31	Pipe Insulation & Elbows	Y	75 LF	0	Concealed in Wall

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2103 **Space Description:** Girl's Toilet

School District: White Plains Public Schools

School Name: White Plains Middle School Highland Campus

Re-inspected By: Jeff Leed **Date:** January 6, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
31	Pipe Insulation & Elbows	Y	75 LF	0	Concealed in Wall

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 3053 **Space Description:** Boy's Toilet

School District: White Plains Public Schools

School Name: White Plains Middle School Highland Campus

Re-inspected By: Jeff Leed **Date:** January 6, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
31	Pipe Insulation & Elbows	Y	75 LF	0	Concealed in Wall

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 3059 **Space Description:** Girl's Toilet

School District: White Plains Public Schools

School Name: White Plains Middle School Highland Campus

Re-inspected By: Jeff Leed **Date:** January 6, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
31	Pipe Insulation & Elbows	Y	75 LF	0	Concealed in Wall

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 4044

Space Description: Boy's Toilet

School District: White Plains Public Schools

School Name: White Plains Middle School Highland Campus

Re-inspected By: Jeff Leed

Date: January 6, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
31	Pipe Insulation & Elbows	Y	75 LF	0	Concealed in Wall

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
---	------------------

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 4050

Space Description: Girl's Toilet

School District: White Plains Public Schools

School Name: White Plains Middle School Highland Campus

Re-inspected By: Jeff Leed

Date: January 6, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
31	Pipe Insulation & Elbows	Y	75 LF	0	Concealed in Wall

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
---	------------------

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 4031

Space Description: Classroom 363

School District: White Plains Public Schools

School Name: White Plains Middle School Highland Campus

Re-inspected By: Jeff Leed

Date: January 6, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	-	-	-	New Linoleum and Wood Substrate

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.

W.P.M.S. - EASTVIEW CAMPUS



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1001

Space Description: Boy's Toilet

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
83	AIRCELL PIPE INSULATION	Y	10 LF	0	Unable to Locate Material
84	TAR PAPER ASSOC. W./ WINDOW FRAME	N	10 SF	0	Unable to Locate Material

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2016

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1002

Space Description: Girl's Toilet

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
84	TAR PAPER ASSOC. W./ WINDOW FRAME	N	10 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2016

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1178

Space Description: Boiler Room

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
210	DUCT BREECHING INSULATION	Y	1,000 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2016

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: ----

Space Description: Crawl Space

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
-	CONTAMINATED SOIL	Y	500 SF	0	Unable to Locate Material

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2016

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: ----

Space Description: Crawl Space

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
-	CONTAMINATED SOIL	Y	1,200 SF	0	Unable to Locate Material

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2016

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: ---- **Space Description:** Crawl Space

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
-	CONTAMINATED SOIL	Y	6,000 SF	0	Unable to Locate Material

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2016**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2020

Space Description: Science Room 103

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
165	SINK UNDERCOATING/ BLACK	N	20 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2016

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2034.5B

Space Description: Fac. Lounge Storage

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
164	SINK UNDERCOATING/ BLACK	N	10 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2016
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2037F **Space Description:** Meeting Room
School District: White Plains Public Schools
School Name: White Plains Middle School Eastview Campus
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
112	12" X 12" FLOOR TILE/ TAN WITH BROWN STREAKS	N	105 SF	0	
113	12" X 12" FT TAN W./ BROWN STREAKS MASTIC				

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2016

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2037I

Space Description: Copy room

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
112	12" X 12" FLOOR TILE/ TAN WITH BROWN STREAKS	N	150 SF	0	
113	12" X 12" FT TAN W./ BROWN STREAKS MASTIC				

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2016

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2037K

Space Description: Closet

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
112	12" X 12" FLOOR TILE/ TAN WITH BROWN STREAKS	N	65 SF	0	
113	12" X 12" FT TAN W./ BROWN STREAKS MASTIC				

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2016

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2042

Space Description: Auditorium

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
128	12"X12" FLOOR TILE/ PURPLE/ MASTIC	N	480 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2016
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2045

Space Description: Checkroom

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
138	9" X 9" FLOOR TILE/ BEIGE WITH STREAKS	N	300 SF	0	
139	9" X 9" FLOOR TILE/ BEIGE WITH STREAKS/ MASTIC				

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2016

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2067

Space Description: Classroom

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
51	9" X 9" FLOOR TILE/ OFF-WHITE WITH BROWN STREAKS	N	835 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2016

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 3076

Space Description: Classroom 232

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
11	12" X 12" FT/ CLOUD WHITE W./ GREEN SPOTS & TURQUOISE W./ GRAY SPOTS MASTIC	N	870 SF	0	
45	9" X 9" FLOOR TILE/ LIGHT BROWN MASTIC				
46	9" X 9" FLOOR TILE/ LIGHT BROWN				

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2016**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 3085

Space Description: Classroom

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
16	12" X 12" FT/ DEEP RED W./ WHITE SPOTS & YELLOW W./ ORANGE SPOTS MASTIC	N	706 SF	0	Assumed Under 12"x12" Beige & Brown

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2016**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 3086

Space Description: Teach. lounge

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
16	12" X 12" FT/ DEEP RED W./ WHITE SPOTS & YELLOW W./ ORANGE SPOTS MASTIC	N	320 SF	0	
67	SINK UNDERCOATING/ BLACK	N	10 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2016**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 3107 **Space Description:** Classroom 206
School District: White Plains Public Schools
School Name: White Plains Middle School Eastview Campus
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
122	12"X12" FLOOR TILE/ WHITE WITH SPECS/ MASTIC (Type II)	N	815 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2016

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 4140A

Space Description: Office

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
183	CEILING PLASTER/ TEXTURED/ WHITE COAT	Y	125 SF	0	
184	CEILING PLASTER/ TEXTURED/ BROWN COAT				
185	WALL PLASTER/ TEXTURED/ WHITE COAT	Y	350 SF	0	
186	WALL PLASTER/ TEXTURED/ BROWN COAT				

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2016

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 4140B

Space Description: Storage

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
183	CEILING PLASTER/ TEXTURED/ WHITE COAT	Y	475 SF	0	
184	CEILING PLASTER/ TEXTURED/ BROWN COAT				
185	WALL PLASTER/ TEXTURED/ WHITE COAT	Y	800 SF	0	
186	WALL PLASTER/ TEXTURED/ BROWN COAT				

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2016

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 4140C

Space Description: Classroom

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
183	CEILING PLASTER/ TEXTURED/ WHITE COAT	Y	600 SF	0	
184	CEILING PLASTER/ TEXTURED/ BROWN COAT				
185	WALL PLASTER/ TEXTURED/ WHITE COAT	Y	1,000 SF	0	
186	WALL PLASTER/ TEXTURED/ BROWN COAT				

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2016

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 4140D

Space Description: Office

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
183	CEILING PLASTER/ TEXTURED/ WHITE COAT	Y	85 SF	0	
184	CEILING PLASTER/ TEXTURED/ BROWN COAT				
185	WALL PLASTER/ TEXTURED/ WHITE COAT	Y	350 SF	0	
186	WALL PLASTER/ TEXTURED/ BROWN COAT				

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2016

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 4140E

Space Description: Office

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
183	CEILING PLASTER/ TEXTURED/ WHITE COAT	Y	250 SF	0	
184	CEILING PLASTER/ TEXTURED/ BROWN COAT				
185	WALL PLASTER/ TEXTURED/ WHITE COAT	Y	600 SF		
186	WALL PLASTER/ TEXTURED/ BROWN COAT				

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2016

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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Elmsford, New York 10523

**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 4150

Space Description: Classroom 328

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
16	12" X 12" FT/ DEEP RED W./ WHITE SPOTS & YELLOW W./ ORANGE SPOTS MASTIC	N	670 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
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Date Next 3 Year Re-inspection is Required	July 2016
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 4150A

Space Description: Storage

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
16	12" X 12" FT/ DEEP RED W./ WHITE SPOTS & YELLOW W./ ORANGE SPOTS MASTIC	N	80 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
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5				

Date Next 3 Year Re-inspection is Required	July 2016
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 4152

Space Description: Classroom 330

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
47	9" X 9" FT/ LT. BROWN W./ DK. BROWN STREAKS & RED W./ BLACK STREAKS MASTIC	N	705 SF	0	Assumed Under 12"x12" Beige & Brown
48	9" X 9" FT/ LIGHT BROWN WITH DARK BROWN STREAKS				Assumed Under 12"x12" Beige & Brown
49	9" X 9" FLOOR TILE/ RED WITH BLACK STREAKS				Assumed Under 12"x12" Beige & Brown

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2016**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 4154

Space Description: Classroom 332

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
16	12" X 12" FT/ DEEP RED W./ WHITE SPOTS & YELLOW W./ ORANGE SPOTS MASTIC	N	890 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2016
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 4159

Space Description: Classroom

School District: White Plains Public Schools

School Name: White Plains Middle School Eastview Campus

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
24	12" X 12" FT/ SKY BLUE W./ WHITE STREAKS & WHITE WITH MULTI-COLOR SPOTS MASTIC	N	870 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2016**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.

**ROCHAMBEAU ALTERNATIVE
HIGH SCHOOL**



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1001 **Space Description:** Classroom A

School District: White Plains Public Schools

School Name: Rochambeau Alternative High School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	815 SF	0	Under Non-ACM 12"x12" Floor Tile

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
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Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1003 **Space Description:** Classroom B

School District: White Plains Public Schools

School Name: Rochambeau Alternative High School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	805 SF	0	Under Non-ACM 12"x12" Floor Tile

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1005 **Space Description:** Vestibule

School District: White Plains Public Schools

School Name: Rochambeau Alternative High School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	70 SF	0	Under Non-ACM 12"x12" Floor Tile

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1022 **Space Description:** Dark Room

School District: White Plains Public Schools

School Name: Rochambeau Alternative High School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	400 SF	200 SF	9"x9" Cream (Significantly Damage)

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2011 **Space Description:** Hallway

School District: White Plains Public Schools

School Name: Rochambeau Alternative High School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	320 SF	0	Under Non-ACM 12"x12" Floor Tile

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
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Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2012 **Space Description:** Classroom 107B

School District: White Plains Public Schools

School Name: Rochambeau Alternative High School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	425 SF	0	Under Non-ACM 12"x12" Floor Tile

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
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Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2013 **Space Description:** Classroom 107A
School District: White Plains Public Schools
School Name: Rochambeau Alternative High School
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	345 SF	0	Under Non-ACM 12"x12" Floor Tile

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
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Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2027

Space Description: Walnut Lounge

School District: White Plains Public Schools

School Name: Rochambeau Alternative High School

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	500 SF	0	9"x9" Tan w/Brown Specs

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
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5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 3001 **Space Description:** Classroom 202

School District: White Plains Public Schools

School Name: Rochambeau Alternative High School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	1,100 SF	15 SF	9"x9" Light Brown w/Black-White Stripes

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 3002 **Space Description:** Office 201A

School District: White Plains Public Schools

School Name: Rochambeau Alternative High School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	385 SF	0	9"x9" Beige w/Black-Red Stripes

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 3003 **Space Description:** Telephone Room 201

School District: White Plains Public Schools

School Name: Rochambeau Alternative High School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	355 SF	0	9"x9" Beige w/Black-Red Stripes

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 3004 **Space Description:** Hallway Outside Room 201

School District: White Plains Public Schools

School Name: Rochambeau Alternative High School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	75 SF	0	9"x9" Beige w/Black-Red Stripes

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 3005 **Space Description:** Vestibule Between Rooms 201 and 202

School District: White Plains Public Schools

School Name: Rochambeau Alternative High School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	55 SF	4 SF	9"x9" Brown w/White Specs

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 3034 **Space Description:** Auditorium

School District: White Plains Public Schools

School Name: Rochambeau Alternative High School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
02	Wall Plaster	N	7,000 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 3035 **Space Description:** Stage

School District: White Plains Public Schools

School Name: Rochambeau Alternative High School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
03	Wire Insulation	Y	15 LF	0	Unable to Locate Wire Insulation

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.

**CHURCH STREET
ELEMENTARY SCHOOL**



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1028 **Space Description:** P.E. Office

School District: White Plains Public Schools

School Name: Church Street Elementary School

Re-inspected By: Jeff Leed **Date:** January 5, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	155 SF	0	9"x9" Brown and Light Brown

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1028A **Space Description:** P.E. Office Closet

School District: White Plains Public Schools

School Name: Church Street Elementary School

Re-inspected By: Jeff Leed **Date:** January 5, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	25 SF	0	9"x9" Beige under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1059 **Space Description:** Room 17 Storage

School District: White Plains Public Schools

School Name: Church Street Elementary School

Re-inspected By: Jeff Leed **Date:** January 5, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	80 SF	0	9"x9" Gray w/White Stripes

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1061 **Space Description:** Auditorium (Back Wall)

School District: White Plains Public Schools

School Name: Church Street Elementary School

Re-inspected By: Jeff Leed **Date:** January 5, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
13	Acoustical Wall Plaster (white)	Y	450 SF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.

**GEORGE WASHINGTON
ELEMENTARY SCHOOL**



Louis Berger

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Elmsford, New York 10523

**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1032 **Space Description:** Southwest Hallway by Room 123

School District: White Plains Public Schools

School Name: George Washington Elementary School

Re-inspected By: Jeff Leed **Date:** January 12, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	225 SF	0	9"x9" White w/Green Spots
02	Pipe Insulation	Y	40 LF	0	

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1034 **Space Description:** Room 123
School District: White Plains Public Schools
School Name: George Washington Elementary School
Re-inspected By: Jeff Leed **Date:** January 12, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	400 SF	0	9"x9" Blue & Tan

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1036 **Space Description:** Southwest Stairs

School District: White Plains Public Schools

School Name: George Washington Elementary School

Re-inspected By: Jeff Leed **Date:** January 12, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	180 SF	0	9"x9" White w/Green Spots

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1038 **Space Description:** West Hallway South Side

School District: White Plains Public Schools

School Name: George Washington Elementary School

Re-inspected By: Jeff Leed **Date:** January 12, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	200 SF	0	9"x9" White w/Green Spots

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1039

Space Description: Custodial Office 117

School District: White Plains Public Schools

School Name: George Washington Elementary School

Re-inspected By: Jeff Leed

Date: January 12, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	-	-	-	Concrete Floor

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
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Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1043 **Space Description:** Kiln Room 118A
School District: White Plains Public Schools
School Name: George Washington Elementary School
Re-inspected By: Jeff Leed **Date:** January 12, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	-	-	-	Removed

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
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4				
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Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1044 **Space Description:** West Stairs

School District: White Plains Public Schools

School Name: George Washington Elementary School

Re-inspected By: Jeff Leed **Date:** January 12, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	75 SF	0	9"x9" White w/Green Spots

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
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Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1055 **Space Description:** South Stairs by Room 140
School District: White Plains Public Schools
School Name: George Washington Elementary School
Re-inspected By: Jeff Leed **Date:** January 12, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	20 SF	0	9"x9" Beige

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1059 **Space Description:** Center Stairs by Room 128
School District: White Plains Public Schools
School Name: George Washington Elementary School
Re-inspected By: Jeff Leed **Date:** January 12, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	20 SF	0	9"x9" Beige

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2059

Space Description: Center Stairs by Room 228

School District: White Plains Public Schools

School Name: George Washington Elementary School

Re-inspected By: Jeff Leed

Date: January 12, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	40 SF	0	9"x9" Beige

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2069 **Space Description:** South Stairs by Room 240

School District: White Plains Public Schools

School Name: George Washington Elementary School

Re-inspected By: Jeff Leed **Date:** January 12, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	40 SF	0	9"x9" Beige

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
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Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.

**MAMARONECK AVENUE
ELEMENTARY SCHOOL**



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1063 **Space Description:** Storage

School District: White Plains Public Schools

School Name: Mamaroneck Avenue Elementary School

Re-inspected By: Jeff Leed **Date:** January 12, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	2 SF	0	9"x9" Beige

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: -- **Space Description:** Office / Storage

School District: White Plains Public Schools

School Name: Mamaroneck Avenue Elementary School

Re-inspected By: Jeff Leed **Date:** January 12, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	276 SF	0	Unable to Locate Material
02	Wall Mastic	N	315 SF	0	Unable to Locate Material

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
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4				
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Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2018 **Space Description:** Gym

School District: White Plains Public Schools

School Name: Mamaroneck Avenue Elementary School

Re-inspected By: Jeff Leed **Date:** January 12, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
07	2'x2' (1'x1' Design) Ceiling Tile	N	4,835 SF	0	Assumed ACM

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
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Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2023 **Space Description:** Gym Hallway

School District: White Plains Public Schools

School Name: Mamaroneck Avenue Elementary School

Re-inspected By: Jeff Leed **Date:** January 12, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	60 SF	0	9"x9" Tan

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
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Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2024 **Space Description:** Gym Storage

School District: White Plains Public Schools

School Name: Mamaroneck Avenue Elementary School

Re-inspected By: Jeff Leed **Date:** January 12, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	30 SF	0	9"x9" Tan

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
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Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: -- **Space Description:** SE Exit Under Stairs

School District: White Plains Public Schools

School Name: Mamaroneck Avenue Elementary School

Re-inspected By: Jeff Leed **Date:** January 12, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	900 SF	0	Unable to Locate Material

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
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Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.

RIDGEWAY ELEMENTARY SCHOOL



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1001 **Space Description:** Music Room 133

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	740 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
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Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1002 **Space Description:** Art Room 134
School District: White Plains Public Schools
School Name: Ridgeway Elementary School
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	670 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
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Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1003 **Space Description:** Classroom 137
School District: White Plains Public Schools
School Name: Ridgeway Elementary School
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	750 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
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Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1004 **Space Description:** Classroom 138B
School District: White Plains Public Schools
School Name: Ridgeway Elementary School
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	730 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
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Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1005 **Space Description:** Classroom 139
School District: White Plains Public Schools
School Name: Ridgeway Elementary School
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	740 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
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Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1006 **Space Description:** Classroom 140
School District: White Plains Public Schools
School Name: Ridgeway Elementary School
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	1,330 SF	0	Under 12"x12" Floor Tile

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
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Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1007 **Space Description:** Storage 140A
School District: White Plains Public Schools
School Name: Ridgeway Elementary School
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	80 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
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Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1008 **Space Description:** Classroom 142
School District: White Plains Public Schools
School Name: Ridgeway Elementary School
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	740 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
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Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1009 **Space Description:** Classroom 143

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	740 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1010 **Space Description:** Classroom 144

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	740 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1011 **Space Description:** Classroom 145

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	740 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
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Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1012 **Space Description:** Reading Room 146
School District: White Plains Public Schools
School Name: Ridgeway Elementary School
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	435 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
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Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1013 **Space Description:** Corridor

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	1,450 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
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Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1021 **Space Description:** Corridor

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	375 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
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Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1022 **Space Description:** Corridor

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	1,300 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1023 **Space Description:** Classroom 147
School District: White Plains Public Schools
School Name: Ridgeway Elementary School
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	760 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1024 **Space Description:** Classroom 148
School District: White Plains Public Schools
School Name: Ridgeway Elementary School
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	760 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1025

Space Description: Classroom 149

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	760 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1026 **Space Description:** Classroom 150

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	765 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1027

Space Description: Classroom 151

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	755 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1028 **Space Description:** Classroom 152

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	755 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1033 **Space Description:** Storage 100A

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	50 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1036 **Space Description:** Corridor

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	330 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1037

Space Description: Storage 101

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	230 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1048

Space Description: Corridor

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	1,850 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1049 **Space Description:** Nurse Office

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	230 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1050 **Space Description:** Hallway

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	230 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1051 **Space Description:** Storage

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	70 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1052 **Space Description:** Office

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	200 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1053 **Space Description:** Work Room

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	65 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1055 **Space Description:** Office

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	170 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1056 **Space Description:** Copy Center

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	45 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1057

Space Description: Office

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	180 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1058 **Space Description:** Mail Room & Vestibule

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	110 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1059 **Space Description:** Main Office

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	600 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1061 **Space Description:** Corridor

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	1,500 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1063 **Space Description:** Gymnasium

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
17	Tar Underneath Wood Flooring	N	3,800 SF	0	1,000 SF was abated on August 2013

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1072 **Space Description:** Corridor

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	850 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1088 **Space Description:** Waiting Area

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	235 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1089 **Space Description:** Office

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	110 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
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Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1090

Space Description: Speech

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	180 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1091 **Space Description:** Learning Fac.

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	185 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1092

Space Description: Office

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	110 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1093 **Space Description:** Office

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	105 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1094

Space Description: Office

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	100 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1095

Space Description: Storage

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	26 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1096

Space Description: Conference

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	150 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1097 **Space Description:** Office 119

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	245 SF	0	9"x9" and 12"x12" Floor Tile

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1099

Space Description: Classroom 123

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	710 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1100 **Space Description:** Classroom 125

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	715 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1101

Space Description: Classroom 127

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed

Date: January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	710 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1105 **Space Description:** Corridor

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	1,100 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1109 **Space Description:** Classroom 128
School District: White Plains Public Schools
School Name: Ridgeway Elementary School
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	710 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1110 **Space Description:** Classroom 126

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	715 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1111 **Space Description:** Classroom 124

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	710 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1116 **Space Description:** Auditorium

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	2,310 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 1125 **Space Description:** Corridor

School District: White Plains Public Schools

School Name: Ridgeway Elementary School

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	1,100 SF	0	12"x12" Floor Tile Present

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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¹ Material Condition, Accessibility to Public, Warning Labels, etc.

EDUCATION HOUSE



Louis Berger

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2001 **Space Description:** Office

School District: White Plains Public Schools

School Name: Education House

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	175 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2002 **Space Description:** Office 111
School District: White Plains Public Schools
School Name: Education House
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	330 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2003 **Space Description:** Corridor

School District: White Plains Public Schools

School Name: Education House

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	150 SF	0	9"x9" Yellow

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2004 **Space Description:** Office 107
School District: White Plains Public Schools
School Name: Education House
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	170 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2005 **Space Description:** Office 101
School District: White Plains Public Schools
School Name: Education House
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	305 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2006 **Space Description:** Office

School District: White Plains Public Schools

School Name: Education House

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	170 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2007 **Space Description:** Office 105
School District: White Plains Public Schools
School Name: Education House
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	165 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2008 **Space Description:** Office 103

School District: White Plains Public Schools

School Name: Education House

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	170 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2009 **Space Description:** Secretaries Area

School District: White Plains Public Schools

School Name: Education House

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	815 SF	0	9"x9" Gray w/Multicolor Specs and 9"x9" Green w/White Specs

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2010 **Space Description:** Vestibule

School District: White Plains Public Schools

School Name: Education House

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	75 SF	0	9"x9" Green w/White Specs

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2017 **Space Description:** Elevator Lobby

School District: White Plains Public Schools

School Name: Education House

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	75 SF	0	9"x9" Green w/White Specs

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required July 2019

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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2018 **Space Description:** Conference Room 100

School District: White Plains Public Schools

School Name: Education House

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	425 SF	0	9"x9" Gray w/Multicolor Specs

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2019 **Space Description:** Corridor

School District: White Plains Public Schools

School Name: Education House

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	200 SF	0	9"x9" Yellow

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
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**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2020 **Space Description:** Closet

School District: White Plains Public Schools

School Name: Education House

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	15 SF	0	9"x9" Yellow

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
---	------------------

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

565 Taxter Road, Suite 510
Elmsford, New York 10523

**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 2021 **Space Description:** Office 102
School District: White Plains Public Schools
School Name: Education House
Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	150 SF	0	Under Carpet

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required **July 2019**

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

565 Taxter Road, Suite 510
Elmsford, New York 10523

**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: 3010 **Space Description:** Main Stair Landing

School District: White Plains Public Schools

School Name: Education House

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
01	9"x9" Floor Tile/Mastic	N	140 SF	0	9"x9" Gray w/Multicolor Specs

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
---	------------------

¹ Material Condition, Accessibility to Public, Warning Labels, etc.



Louis Berger

565 Taxter Road, Suite 510
Elmsford, New York 10523

**AHERA 3 YEAR RE-INSPECTION AND
6 MONTHS PERIODIC SURVEILLANCE FORM
ASBESTOS CONTAINING BUILDING MATERIALS**

Space ID: -- **Space Description:** Attic Storage

School District: White Plains Public Schools

School Name: Education House

Re-inspected By: Jeff Leed **Date:** January 13, 2016 and June 3, 2016

Homogeneous Area #	Homogeneous Area Description	Friable (Yes/No)	Quantity	Damage Quantity	Notes ¹
02	Ceiling Material	Y	498 SF	0	Unable to Locate Ceiling Material

6 MONTHS PERIODIC SURVEILLANCES

No.	Inspection Date	Name of Inspector	Asbestos Containing Building Materials Condition Notes	Fiber Release Episodes (Y/N)
1				
2				
3				
4				
5				

Date Next 3 Year Re-inspection is Required	July 2019
---	------------------

¹ Material Condition, Accessibility to Public, Warning Labels, etc.

APPENDIX 5:

**BULK SAMPLE ANALYSIS RESULTS AND PREVIOUS
SAMPLING DATA**

WHITE PLAINS HIGH SCHOOL

W.P.M.S. - HIGHLAND CAMPUS

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031341169

CustomerID: LOUI56

CustomerPO: 3000865

ProjectID:

Attn: **Craig Napolitano**
The Louis Berger Group, Inc.
48 Wall St.
16th Floor
New York, NY 10005

Phone: (212) 612-7900
 Fax:
 Received: 10/21/13 2:48 PM
 Analysis Date: 10/24/2013
 Collected: 10/17/2013

Project: 3000865/ HIGHLAND MIDDLE SCHOOL/ WHITE PLAINS PUBLIC SCHOOL/ THROUGHOUT BUILDING

Test Report:Asbestos Analysis of Bulk Material

Test		Analyzed Date	Color	Non Asbestos		Asbestos
				Fibrous	Non-Fibrous	
Sample ID	01 031341169-0001		Description Homogeneity	BASEMENT/ CORRIDOR - 2'X4'/ 2'X2' DESIGN/ GOUGED CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White	10.4%	Glass		Inconclusive: None Detected
TEM NYS 198.4 NOB	10/24/2013	White				None Detected
Sample ID	02 031341169-0002		Description Homogeneity	2ND FL./ RM. 261 - 2'X4'/ 2'X2' DESIGN/ GOUGED CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White	11.9%	Glass		Inconclusive: None Detected
TEM NYS 198.4 NOB	10/24/2013	White				None Detected
Sample ID	03 031341169-0003		Description Homogeneity	BASEMENT/ RM. 18 - 2'X4' GOUGED CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White	2.9%	Glass		Inconclusive: None Detected
TEM NYS 198.4 NOB	10/24/2013	White				None Detected
Sample ID	04 031341169-0004		Description Homogeneity	BASEMENT/ RM. 11 - 2'X4' GOUGED CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White	13.6%	Glass		Inconclusive: None Detected
TEM NYS 198.4 NOB	10/24/2013	White				None Detected
Sample ID	05 031341169-0005		Description Homogeneity	1ST FL./ RM. 147 - 1'X1' LARGE PINHOLE CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White				Inconclusive: None Detected
TEM NYS 198.4 NOB	10/24/2013	White				None Detected

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031341169

CustomerID: LOUI56

CustomerPO: 3000865

ProjectID:

Test Report:Asbestos Analysis of Bulk Material

Test		Color	Fibrous	Non-Fibrous	Asbestos
Sample ID	06 031341169-0006	Description Homogeneity	3RD FL./ CORRIDOR - 1'X1' LARGE PINHOLE CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White	Inconclusive: None Detected		
TEM NYS 198.4 NOB	10/24/2013	White	None Detected		
Sample ID	07 031341169-0007	Description Homogeneity	BASEMENT/ STAFF BATHROOM - 2'X4' FISSURED CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White	9.0% Glass	Inconclusive: None Detected	
TEM NYS 198.4 NOB	10/24/2013	White	None Detected		
Sample ID	08 031341169-0008	Description Homogeneity	2ND FL./ GIRLS BATHROOM - 2'X4' FISSURED CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White	5.8% Glass	Inconclusive: None Detected	
TEM NYS 198.4 NOB	10/24/2013	White	None Detected		
Sample ID	09 031341169-0009	Description Homogeneity	BASEMENT/ RM. 6 - 2'X2' TEXTURED CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White	15.0% Glass	Inconclusive: None Detected	
TEM NYS 198.4 NOB	10/24/2013	White	None Detected		
Sample ID	10 031341169-0010	Description Homogeneity	BASEMENT/ MEDIA CENTER/ COMPUTER RM. - 2'X2' TEXTURED CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White	17.8% Glass	Inconclusive: None Detected	
TEM NYS 198.4 NOB	10/24/2013	White	None Detected		
Sample ID	11 031341169-0011	Description Homogeneity	1ST FL./ LOCKER RM. CORRIDOR - 2'X2' SMALL PINHOLE CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White	3.0% Glass	Inconclusive: None Detected	
TEM NYS 198.4 NOB	10/24/2013	White	None Detected		

**EMSL Analytical, Inc.**

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Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031341169

CustomerID: LOUI56

CustomerPO: 3000865

ProjectID:

Test Report:Asbestos Analysis of Bulk Material

		Non Asbestos			
Test		Color	Fibrous	Non-Fibrous	Asbestos
Sample ID	12 031341169-0012	Description Homogeneity	1ST FL./ LOCKER RM. CORRIDOR - 2'X2' SMALL PINHOLE CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White	5.4% Glass	Inconclusive: None Detected	
TEM NYS 198.4 NOB	10/24/2013	White	None Detected		
Sample ID	13 031341169-0013	Description Homogeneity	1ST FL./ CAFETERIA - 2'X4' LARGE GOUGED CEILING TILE/ BEIGE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White	4.9% Glass	Inconclusive: None Detected	
TEM NYS 198.4 NOB	10/24/2013	White	None Detected		
Sample ID	14 031341169-0014	Description Homogeneity	1ST FL./ CAFETERIA - 2'X4' LARGE GOUGED CEILING TILE/ BEIGE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White	19.4% Glass	Inconclusive: None Detected	
TEM NYS 198.4 NOB	10/24/2013	White	None Detected		
Sample ID	15 031341169-0015	Description Homogeneity	3RD FL./ NORTH GYM BALCONY - 2'X2' LARGE PINHOLE CEILING TILE/ BEIGE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White	Inconclusive: None Detected		
TEM NYS 198.4 NOB	10/24/2013	White	None Detected		
Sample ID	16 031341169-0016	Description Homogeneity	3RD FL./ NORTH GYM BALCONY - 2'X2' LARGE PINHOLE CEILING TILE/ BEIGE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White	Inconclusive: None Detected		
TEM NYS 198.4 NOB	10/24/2013	White	None Detected		
Sample ID	17 031341169-0017	Description Homogeneity	3RD FL./ BOOK STORAGE - 2'X2' FISSURED CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White	4.4% Glass	Inconclusive: None Detected	
TEM NYS 198.4 NOB	10/24/2013	White	None Detected		

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031341169

CustomerID: LOUI56

CustomerPO: 3000865

ProjectID:

Test Report: Asbestos Analysis of Bulk Material

Test		Color	Non Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID	18	Description	3RD FL./ BOOK STORAGE - 2'X2' FISSURED CEILING TILE/ WHITE		
	031341169-0018	Homogeneity	Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	10/24/2013	White	1.6% Glass	Inconclusive: None Detected	
TEM NYS 198.4 NOB	10/24/2013	White	None Detected		

Scope: Olympus #9 Ser. 233650

Analyst(s)
Scope: JEOL / JEM-100CX II #03-01(41)Derrick Young

Steve Juszczuk

James Hall, Laboratory Manager
or other approved signatory

NOB = Non Friable Organically Bound N/A = Not Applicable VCM = Vermiculite Containing Material

-In New York State, TEM is currently the only method that can be used to determine if NOB materials can be considered or treated as non-asbestos containing.

All samples examined for the presence of vermiculite when analyzed via NYS 198.1.

-NYS Guidelines for Vermiculite containing samples are available at http://www.wadsworth.org/labcert/elapcert/forms/VermiculiteInterimGuidance_Rev070913.pdf

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples were received in good condition unless otherwise noted.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. This report may contain data that is not covered by the NVLAP accreditation.

Samples analyzed by EMSL Analytical, Inc. New York, NY NYS ELAP 11506



THE LOUIS BERGER
GROUP, INC.

ASBESTOS SURVEY DATA SHEET / CHAIN OF CUSTODY

PAGE 1 OF 2

PROJECT NO.: 3000865

CLIENT: White Plains Public School

PROJECT SITE: Highland Middle School

Project Manager: Craig Napolitano

LOCATION(S) SURVEYED: Throughout Building

DATE(S) OF INSPECTION: 10/17/13

Inspector(s): Josue Garcia

THE LOUIS BERGER GROUP, INC.
TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341
ADDRESS: 48 Wall Street 16th Floor, New York, NY 10005

RESULTS TO: acheskin@louisberger.com
cnapolitano@louisberger.com, jgarcia@louisber.com

TURNAROUND TIME: ☐ 4 HR. ☐ 12 HR.
☐ 24 HR. ☐ 48 HR. ☒ 72 HR.

HA	SAMPLE NO.	MATERIAL DESCRIPTION	SAMPLE LOCATION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
01	01	2'x4' (2'x2 Design) Gouge Ceiling Tile, white	Basement Corridor		
	02	↓	2 nd Floor Room 261		
02	03	2'x4' Gouge Ceiling Tile, white	Basement Room 18		
	04	↓	Room 11		
03	05	1'x1' Large Pinhole Ceiling Tile, white	1 st Floor Room 147		
	06	↓	3 rd Floor Corridor		
04	07	2'x4' Fissured Ceiling Tile, white	Basement Staff Bathroom		
	08	↓	2 nd Floor Girls' Bathroom		
05	09	2'x2' Textured Ceiling Tile, white	Basement Room 6		
	10	↓	Media Center Computer RM		
06	11	2'x2' Small Pinhole Ceiling Tile, white	1 st Floor Locker Room Corridor		
	12	↓	↓		

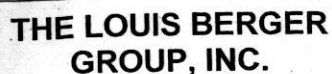
CHAIN OF CUSTODY

Relinquished by:	(Sign)	(Date)	(Time)	Relinquished by:	(Sign)	(Date)	(Time)	Relinquished by:	(Sign)	(Date)	(Time)
J. Garcia		10/21/13	2:00 PM								
Received by:	(Sign)	(Date)	(Time)	Received by:	(Sign)	(Date)	(Time)	Received by:	(Sign)	(Date)	(Time)
L. Andrews		10/21/13	2:48 PM								

General Notes: All inconclusive NOBs to be analyzed by TEM. Please stop at 1st positive in any homogeneous group.

031341169

10/24 3:00 PM
D/G 10/24/13



ASBESTOS SURVEY DATA SHEET / CHAIN OF CUSTODY

PAGE 2 OF 2

PROJECT NO.: 3000865

CLIENT: White Plains Public School

PROJECT SITE: Highland Middle School

Project Manager: Craig Napolitano

LOCATION(S) SURVEYED: Throughout Building

DATE(S) OF INSPECTION: 10/17/13


Inspector(s): Josue Garcia

THE LOUIS BERGER GROUP, INC.
TELEPHONE NO. : (212) 612-7900 FAX NO.: (212) 363-4341
ADDRESS: 48 Wall Street 16th Floor, New York, NY 10005

RESULTS TO: acheskin@louisberger.com
cnapolitano@louisberger.com, jgarcia@louisber.com

TURNAROUND TIME: ☐ 4 HR. ☐ 12 HR☐ 24 HR. ☐ 48 HR. ☒ 72 HR.[illegible]

CHAIN OF CUSTODY

CHAIN OF CUSTODY											
Relinquished by:	(Sign)	(Date)	(Time)	Relinquished by:	(Sign)	(Date)	(Time)	Relinquished by:	(Sign)	(Date)	(Time)
S. Garcia		10/28/13	2:00 PM								
Received by:	(Sign)	(Date)	(Time)	Received by:	(Sign)	(Date)	(Time)	Received by:	(Sign)	(Date)	(Time)

General Notes: All inconclusive NOBs to be analyzed by TEM. Please stop at 1st positive in any homogeneous group.

0.31341169

group. 10/24 305m
278 10/24/13



EMSL Analytical, Inc.

307 West 38th Street New York, NY 10018
 Tel/Fax: (212) 290-0051 / (212) 290-0058
<http://www.EMSL.com / manhattanlab@emsl.com>

EMSL Order: 031615256
 Customer ID: LBAP78
 Customer PO: 3001329.00
 Project ID:

Attention: Louis Berger & Associates, PC
 48 Wall St.
 New York, NY 10005

Phone: (212) 612-7900

Fax:

Received Date: 6/ 1/2016 12:07 PM

Analysis Date: 6/ 4/2016

Collected Date: 5/31/2016

Project: 3001329.00/ WPHS/ 550 NORTH ST/ WHITE PLAINS NY/ THROUGHOUT

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos			Asbestos
			Fibrous	Non-Fibrous		
Sample ID 1 031615256-0001		Description Homogeneity	BLDG A - OUTSIDE SERVER RM A004 - EXTERIOR BRICK MORTAR (GREY) Homogeneous			
PLM NYS 198.1 Friable	6/ 5/2016	Brown		22.00% Ca Carbonate 15.00% Non-fibrous (other) 63.00% Quartz	None Detected	
No Vermiculite Detected.						
PLM NYS 198.6 VCM					Not Analyzed	
PLM NYS 198.6 NOB					Not Analyzed	
TEM NYS 198.4 NOB					Not Analyzed	
Sample ID 2 031615256-0002		Description Homogeneity	BLDG A - AT LOCATION OF NEW GENERATOR - EXTERIOR BRICK MORTAR (GREY) Homogeneous			
PLM NYS 198.1 Friable	6/ 5/2016	Gray		45.00% Non-fibrous (other) 55.00% Quartz	None Detected	
No Vermiculite Detected.						
PLM NYS 198.6 VCM					Not Analyzed	
PLM NYS 198.6 NOB					Not Analyzed	
TEM NYS 198.4 NOB					Not Analyzed	
Sample ID 3 031615256-0003		Description Homogeneity	BLDG E - AUXILARY GYM - TEXTURE CEILING PANELS (GREY) Homogeneous			
PLM NYS 198.1 Friable	6/ 5/2016	Brown	78.00% Cellulose	15.00% Ca Carbonate 7.00% Non-fibrous (other)	None Detected	
No Vermiculite Detected.						
PLM NYS 198.6 VCM					Not Analyzed	
PLM NYS 198.6 NOB					Not Analyzed	
TEM NYS 198.4 NOB					Not Analyzed	
Sample ID 4 031615256-0004		Description Homogeneity	BLDG E - AUXILARY GYM - TEXTURE CEILING PANELS (GREY) Homogeneous			
PLM NYS 198.1 Friable	6/ 5/2016	Brown/Gray	60.00% Cellulose	25.00% Gypsum 15.00% Non-fibrous (other)	None Detected	
No Vermiculite Detected.						
PLM NYS 198.6 VCM					Not Analyzed	
PLM NYS 198.6 NOB					Not Analyzed	
TEM NYS 198.4 NOB					Not Analyzed	



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<http://www.EMSL.com / manhattanlab@emsl.com>

EMSL Order: 031615256

Customer ID: LBAP78

Customer PO: 3001329.00

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 5 031615256-0005		Description Homogeneity	FIELD HOUSE, NORTH SIDE - ASPHALT (BLACK) Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB No Vermiculite detected.	6/ 4/2016	Black			Inconclusive: None Detected
TEM NYS 198.4 NOB	6/ 4/2016	Black			None Detected
Sample ID 6 031615256-0006		Description Homogeneity	FIELD HOUSE, SOUTH SIDE - ASPHALT (BLACK) Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB No Vermiculite detected.	6/ 4/2016	Black			Inconclusive: None Detected
TEM NYS 198.4 NOB	6/ 4/2016	Black			None Detected
Sample ID 7 031615256-0007		Description Homogeneity	FIELD HOUSE, MECHANICAL ROOM - CINDERBLOCK MORTAR (GREY) Homogeneous		
PLM NYS 198.1 Friable No Vermiculite Detected.	6/ 5/2016	Gray		28.00% Ca Carbonate 28.00% Non-fibrous (other) 44.00% Quartz	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 8 031615256-0008		Description Homogeneity	FIELD HOUSE, NORTH SIDE - CINDERBLOCK MORTAR (GREY) Homogeneous		
PLM NYS 198.1 Friable No Vermiculite Detected.	6/ 5/2016	Brown		40.00% Gypsum 15.00% Non-fibrous (other) 45.00% Quartz	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 9 031615256-0009		Description Homogeneity	FIELD HOUSE, MECHANICAL ROOM - CEILING SCRATCH COAT (GREY) Homogeneous		
PLM NYS 198.1 Friable No Vermiculite Detected.	6/ 5/2016	Gray		33.00% Ca Carbonate 27.00% Non-fibrous (other) 40.00% Quartz	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed



EMSL Analytical, Inc.

307 West 38th Street New York, NY 10018
Tel/Fax: (212) 290-0051 / (212) 290-0058
<http://www.EMSL.com / manhattanlab@emsl.com>

EMSL Order: 031615256

Customer ID: LBAP78

Customer PO: 3001329.00

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos			Asbestos
			Fibrous	Non-Fibrous		
Sample ID 10 031615256-0010		Description Homogeneity	FIELD HOUSE, MECHANICAL ROOM - CEILING SCRATCH COAT (GREY) Homogeneous			
PLM NYS 198.1 Friable	6/ 5/2016	Gray		26.00% Ca Carbonate 27.00% Non-fibrous (other) 47.00% Quartz		None Detected
No Vermiculite Detected.						
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB						Not Analyzed
TEM NYS 198.4 NOB						Not Analyzed
Sample ID 11 031615256-0011		Description Homogeneity	FIELD HOUSE, MECHANICAL ROOM - CEILING SCRATCH COAT (GREY) Homogeneous			
PLM NYS 198.1 Friable	6/ 5/2016	Gray		25.00% Ca Carbonate 15.00% Non-fibrous (other) 60.00% Quartz		None Detected
No Vermiculite Detected.						
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB						Not Analyzed
TEM NYS 198.4 NOB						Not Analyzed
Sample ID 12 031615256-0012		Description Homogeneity	FIELD HOUSE, MECHANICAL ROOM - CANVAS WRAP AROUND FIBERGLASS PIPE + FITTING (GREY) Homogeneous			
PLM NYS 198.1 Friable	6/ 5/2016	Gray/Yellow	28.00% Min. Wool	30.00% Gypsum 42.00% Non-fibrous (other)		None Detected
No Vermiculite Detected.						
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB						Not Analyzed
TEM NYS 198.4 NOB						Not Analyzed
Sample ID 13 031615256-0013		Description Homogeneity	FIELD HOUSE, MECHANICAL ROOM - CANVAS WRAP AROUND FIBERGLASS PIPE + FITTING (GREY) Homogeneous			
PLM NYS 198.1 Friable	6/ 5/2016	Brown	40.00% Cellulose	60.00% Non-fibrous (other)		None Detected
No Vermiculite Detected.						
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB						Not Analyzed
TEM NYS 198.4 NOB						Not Analyzed
Sample ID 14 031615256-0014		Description Homogeneity	FIELD HOUSE, MECHANICAL ROOM - CANVAS WRAP AROUND FIBERGLASS PIPE + FITTING (GREY) Homogeneous			
PLM NYS 198.1 Friable	6/ 5/2016	Brown	90.00% Cellulose	10.00% Non-fibrous (other)		None Detected
No Vermiculite Detected.						
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB						Not Analyzed
TEM NYS 198.4 NOB						Not Analyzed



EMSL Analytical, Inc.

307 West 38th Street New York, NY 10018
 Tel/Fax: (212) 290-0051 / (212) 290-0058
<http://www.EMSL.com / manhattanlab@emsl.com>

EMSL Order: 031615256

Customer ID: LBAP78

Customer PO: 3001329.00

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos			Asbestos
			Fibrous	Non-Fibrous		
Sample ID 15 031615256-0015		Description Homogeneity	BLDG D, STAGE STORAGE RM - WALL PLASTER (BROWN COAT) Homogeneous			
PLM NYS 198.1 Friable Surfacing Material containing vermiculite. NYS requires ELAP method 198.8.	6/ 5/2016	Brown		100.00% Non-fibrous (other)		None Detected
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB						Not Analyzed
TEM NYS 198.4 NOB						Not Analyzed
Sample ID 16 031615256-0016		Description Homogeneity	BLDG D, STAGE STORAGE RM - WALL PLASTER (BROWN COAT) Homogeneous			
PLM NYS 198.1 Friable Surfacing Material containing vermiculite. NYS requires ELAP method 198.8.	6/ 5/2016	Brown		100.00% Non-fibrous (other)		
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB						Not Analyzed
TEM NYS 198.4 NOB						Not Analyzed
Sample ID 17 031615256-0017		Description Homogeneity	BLDG D, STAGE STORAGE RM - WALL PLASTER (BROWN COAT) Homogeneous			
PLM NYS 198.1 Friable Surfacing Material containing vermiculite. NYS requires ELAP method 198.8.	6/ 5/2016			100.00% Non-fibrous (other)		
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB						Not Analyzed
TEM NYS 198.4 NOB						Not Analyzed
Sample ID 18 031615256-0018		Description Homogeneity	BLDG D, STAGE STORAGE RM - WALL PLASTER (WHITE COAT) Homogeneous			
PLM NYS 198.1 Friable No Vermiculite Detected.	6/ 5/2016	White		44.00% Ca Carbonate 56.00% Non-fibrous (other)		None Detected
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB						Not Analyzed
TEM NYS 198.4 NOB						Not Analyzed
Sample ID 19 031615256-0019		Description Homogeneity	BLDG D, STAGE STORAGE RM - WALL PLASTER (WHITE COAT) Homogeneous			
PLM NYS 198.1 Friable No Vermiculite Detected.	6/ 5/2016	White		50.00% Ca Carbonate 50.00% Non-fibrous (other)		None Detected
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB						Not Analyzed
TEM NYS 198.4 NOB						Not Analyzed



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EMSL Order: 031615256

Customer ID: LBAP78

Customer PO: 3001329.00

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 20 031615256-0020		Description Homogeneity	BLDG D, STAGE STORAGE RM - WALL PLASTER (WHITE COAT) Homogeneous		
PLM NYS 198.1 Friable	6/ 5/2016	White		50.00% Ca Carbonate 50.00% Non-fibrous (other)	None Detected
No Vermiculite Detected. Inseparable paint / coating layer included in analysis					
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed



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EMSL Order: 031615256

Customer ID: LBAP78

Customer PO: 3001329.00

Project ID:

Test Report: Asbestos Analysis of Bulk Material

Scope: Leica #13 Ser. 9640113941VM0035 Scope: Leica #12 Ser. 9640113941VM0040
Scope: JEOL / JEM-100CX II #03-03

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk Materials via NYS ELAP Approved Methods. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date: 6/1/2016
Analysis Completed Date: 6/5/2016

Sample Receipt Time: 12:07 PM
Analysis Completed Time: 12:03 AM

Analyst(s):

Deen Liang PLM NYS 198.1 Friable (9)

Tiquasha Thompson PLM NYS 198.6 NOB (2)

Yolanda Chow PLM NYS 198.1 Friable (9)

Gerald Iannuzzi TEM NYS 198.4 NOB (2)

Samples reviewed and approved by:

James Hall, Laboratory Manager
or Other Approved Signatory

NOB = Non Friable Organically Bound N/A = Not Applicable VCM = Vermiculite Containing Material

-In New York State, TEM is currently the only method that can be used to determine if NOB materials can be considered or treated as non -asbestos containing.

All samples examined for the presence of vermiculite when analyzed via NYS 198.1.

-NYS Guidelines for Vermiculite containing samples are available at http://www.wadsworth.org/labcert/elapcert/forms/VermiculiteInterimGuidance_Rev070913.pdf EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples were received in good condition unless otherwise noted.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. This report may contain data that is not covered by the NVLAP accreditation.

Samples analyzed by EMSL Analytical, Inc. New York, NY NYS ELAP 11506

Initial Report From: 06/05/2016 11:54:14

ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY

PAGE 2 OF 2

LB PROJ 390/329.00

03/6/5256

CLIENT: WPSD

PROJECT SITE: WPD45, 5520 North St, White Plains, NY

Project Manager: C. Neopolitano

LOUIS BERGER

TELEPHONE NO.: (212) 612-7900
ADDRESS: 48 Wall Street, 16 Floor, New York, NY 10005
FAX NO.: (212) 363-4341

RESULTS TO:

TURNAROUND TIME:

☐ 4 HR. ☐ 24 HRS. ☐ 48 HRS. ☒ 72 HRS.

SAMPLE
NO.

MATERIAL DESCRIPTION

Cement Wrap around
Fiberglass Pipe + Fittings used.

12

13

2

5

91

17

2

59

2

Relinquished by: Carl L. B...

received by: V. C. L.
(print)

(Signature)

(Sign)

Relinquished by: _____
(print)

Received by:
(print)

(Sign)

(Sign)

1	
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Relinquished by
(print)Received by: _____
(print)

(Sign)

(Sign)

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	rpm
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GENERAL NOTES: All inconclusive NOBs to be analyzed by TEM. Please stop at 1st positive in any homogeneous group.

DC 6/4/14
YC 6/5/16
10:28 AM
17:15 AM

Page 1 Of 4

LOUIS BERGER		ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY			
LB PROJ	3051329.00	LOCATION(S) SURVEYED:	Thoroughbred		
CLIENT:	WP5D	PROPOSED PROJECT:	Building Upgrades		
PROJECT SITE:	WP HS, 550 North St., White Plains, NY	DATE(S) OF INSPECTION:	5/31/16		
Project Manager:	C. Napolitano	Inspector(s)	N.S., D.K.		
LOUIS BERGER TELEPHONE NO.: (212) 612-7900 ADDRESS: 48 Wall Street, 16 Floor, New York, NY 10005		RESULTS TO: _____ TURNAROUND TIME: <input type="checkbox"/> 4 HR. <input type="checkbox"/> 24 HRS. <input checked="" type="checkbox"/> 48 HRS. <input type="checkbox"/> 72 HRS.			
HA	SAMPLE NO.	MATERIAL DESCRIPTION	SAMPLE LOCATION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
A	1	Exterior Brick Marker (gray)	Blkg A - outside Server Room Pool		
B	2		" " - at location of new Generator		
C	3	Textured Ceiling Panels (gray)	Blkg E - Auxiliary Gym		
D	4				
E	5	Asphalt (black)	Field House, North side		
F	6		Field House, South side		
G	7	Curbstone Marker (gray)	Field House, Mechanical Room		
H	8		Field House, North side		
I	9	Ceiling scratch Coat (gray)	Field House, Mechanical Room		
J	10				
K	11				

EMSL MANHATTAN LAB
RECEIVED

16 JUN - 1 PM 12:07

CHAIN OF CUSTODY					
Relinquished by:	(Sign)	Relinquished by:	(Sign)	Relinquished by:	(Sign)
(print)		(print)		(print)	
Received by:	(Sign)	Received by:	(Sign)	Received by:	(Sign)
(print)		(print)		(print)	

XC 6/5/16
10:28 AM
12:15 PM

GENERAL NOTES: All inconclusive NOBs to be analyzed by TEM. Please stop at 1st positive in any homogeneous group.

ASBESTOS SURVEY DATA SHEET/CHAIN OF CUSTODY

PAGE 1 OF 2

LOUIS BERGER

LB PROJ 3001329.00

CLIENT: WPSD

031615256

PROJECT SITE: WPHS, 550 NORTH ST., WHITE PLAINS, NY

Project Manager: C. Napolitano

LOCATION(S) SURVEYED: Throughout

PROPOSED PROJECT: Building Upgrades

DATE(S) OF INSPECTION: 5/31/16

Inspector(s): N.G., D.K.

LOUIS BERGER

TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341

ADDRESS: 48 Wall Street, 16 Floor, New York, NY 10005

RESULTS TO:

TURNAROUND TIME:

☐ 4 HR. ☐ 24 HRS. ☒ 48 HRS. ☒ 72 HRS.

HA	SAMPLE NO.	MATERIAL DESCRIPTION	SAMPLE LOCATION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
A	1	Exterior Brick Master (gray)	Bldg A - outside Server Room A004		
	2		" - at location of new Generator		
B	3	Tedrum Ceiling Panels (gray)	Bldg E - Auxiliary Gym		
	4				
C	5	Asphalt (black)	Field House, North side		
	6		South side		
D	7	Cinderblock Master (gray)	Field House, Mechanical Room		
	8		North side		
E	9	Ceiling scratch Coat (gray)	Field House, Mechanical Room		
	10				
	11				

EMSL MANHATTAN LAB
RECEIVED

16 JUN - 1 PM 12:07

CHAIN OF CUSTODY

Relinquished by (Sign)	Relinquished by (print)	Received by (Sign)	Received by (print)
Michael G. Galloway	6/1/16		
Michael G. Galloway	6/1/16		

GENERAL NOTES: All inconclusive NOBs to be analyzed by TEM. Please stop at 1st positive in any homogeneous group.

Requester: 6/1/16 12:27AM
June 6/4/16

LOUIS BERGER

ASBESTOS SURVEY DATA SHEET/CHAIN OF CUSTODY

PAGE 2 OF 2

LB PROJ 3901329.00

CLIENT: WPSD

03/6/5256

PROJECT SITE: WPHS, 550 North St, White Plains, NY

Project Manager: C. Neapolitano

LOCATION(S) SURVEYED: Throughout

PROPOSED PROJECT: Building upgrades

DATE(S) OF INSPECTION: 5/31/16

Inspector(s) M.G., D.V.

LOUIS BERGER

TELEPHONE NO.: (212) 612-7900

FAX NO.: (212) 363-4341

ADDRESS: 48 Wall Street, 16 Floor, New York, NY 10005

RESULTS TO:

TURNAROUND TIME:
☐ 4 HR. ☐ 24 HRS. ☒ 48 HRS. ☒ 72 HRS.

HA

SAMPLE NO.

MATERIAL DESCRIPTION

SAMPLE LOCATION

APPROX. QUANTITY (L/F/SF)

FIELD NOTES

F 12

Canvas wrap around
Fiberglass pipe & fittings used.

Field House, Mechanical Rm.

13

(gray)

14

Wall Plaster (brown sand)

Bibij D, Stage Storage Rm.

16

17

18

Wall Plaster (white sand)

19

20

Stop at 1st positive

EMSL MANHATTAN LAB
RECEIVED
16 JUN - 1 PM 12:07

CHAIN OF CUSTODY

Relinquished by: (print)	Relinquished by: (Sign)	Received by: (print)	Received by: (Sign)	Relinquished by: (print)	Relinquished by: (Sign)	Received by: (print)	Received by: (Sign)
James G. Neapolitano	[Signature]	James G. Neapolitano	[Signature]	James G. Neapolitano	[Signature]	James G. Neapolitano	[Signature]
James G. Neapolitano	[Signature]	James G. Neapolitano	[Signature]	James G. Neapolitano	[Signature]	James G. Neapolitano	[Signature]

GENERAL NOTES: All inconclusive NOBs to be analyzed by TEM. Please stop at 1st positive in any homogeneous group.

Signature of James G. Neapolitano 6/1/16



EMSL Analytical, Inc.

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<http://www.EMSL.com / manhattanlab@emsl.com>

EMSL Order: 031615258
 Customer ID: LBAP78
 Customer PO: 3001329.00
 Project ID:

Attention: Louis Berger & Associates, PC
 48 Wall St.
 New York, NY 10005

Phone: (212) 612-7900

Fax:

Received Date: 6/ 1/2016 12:07 PM

Analysis Date: 6/ 4/2016

Collected Date: 5/31/2016

Project: 3001329.00/ WPSD/ HIGHLANDS MIDDLE SCHOOL/ 128 GRAND VIEW AVE/ WHITE PLAINS NY/
 AUDITORIUM STAGE/ STAGE WALLS

Test Report:Asbestos Analysis of Bulk Material

		Non-Asbestos			
Test	Analyzed Date	Color	Fibrous	Non-Fibrous	Asbestos
Sample ID 1		Description	1ST FL AUDITORIUM STAGE/ SE SIDE OF STAGE/ DEBRIS FROM TOP OF WALL (AT CEILING) - WALL PLASTER (BROWN COAT)		
031615258-0001		Homogeneity	Homogeneous		
PLM NYS 198.1 Friable	6/ 4/2016	Brown	2.00% Cellulose	10.00% Ca Carbonate 22.00% Gypsum 18.00% Non-fibrous (other) 48.00% Quartz	None Detected
No Vermiculite Detected.					
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 2		Description	1ST FL AUDITORIUM STAGE/ SE SIDE OF STAGE/ DEBRIS FROM TOP OF WALL (AT CEILING) - WALL PLASTER (BROWN COAT)		
031615258-0002		Homogeneity	Homogeneous		
PLM NYS 198.1 Friable	6/ 4/2016	Brown		22.00% Gypsum 30.00% Non-fibrous (other) 48.00% Quartz	None Detected
No Vermiculite Detected.					
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 3		Description	1ST FL AUDITORIUM STAGE/ NW SIDE OF STAGE AT 30' HEIGHT - WALL PLASTER (BROWN COAT)		
031615258-0003		Homogeneity	Homogeneous		
PLM NYS 198.1 Friable	6/ 5/2016	Brown	1.00% Cellulose	24.00% Gypsum 37.00% Non-fibrous (other) 38.00% Quartz	None Detected
No Vermiculite Detected.					
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 4		Description	1ST FL AUDITORIUM STAGE/ WEST SIDE OF STAGE AT 12' HEIGHT - WALL PLASTER (BROWN COAT)		
031615258-0004		Homogeneity	Homogeneous		
PLM NYS 198.1 Friable	6/ 5/2016	Brown		15.00% Ca Carbonate 30.00% Gypsum 10.00% Non-fibrous (other) 45.00% Quartz	None Detected
No Vermiculite Detected.					
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed

Initial Report From: 06/05/2016 11:52:18



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EMSL Order: 031615258

Customer ID: LBAP78

Customer PO: 3001329.00

Project ID:

Test Report:Asbestos Analysis of Bulk Material

		Non-Asbestos			
Test	Analyzed Date	Color	Fibrous	Non-Fibrous	Asbestos
Sample ID 5		Description	1ST FL AUDITORIUM STAGE/ NW SIDE OF STAGE AT 10' HEIGHT - WALL PLASTER (BROWN COAT)		
031615258-0005		Homogeneity	Homogeneous		
PLM NYS 198.1 Friable	6/ 5/2016	Brown		40.00% Gypsum 18.00% Non-fibrous (other) 42.00% Quartz	None Detected
No Vermiculite Detected.					
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 6		Description	1ST FL AUDITORIUM STAGE/ SW SIDE OF STAGE AT 6' HEIGHT - WALL PLASTER (BROWN COAT)		
031615258-0006		Homogeneity	Homogeneous		
PLM NYS 198.1 Friable	6/ 5/2016	Brown	1.00% Cellulose	33.00% Gypsum 21.00% Non-fibrous (other) 45.00% Quartz	None Detected
No Vermiculite Detected.					
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 7		Description	1ST FL AUDITORIUM STAGE/ EAST SIDE OF STAGE AT 15' HEIGHT - WALL PLASTER (BROWN COAT)		
031615258-0007		Homogeneity	Homogeneous		
PLM NYS 198.1 Friable	6/ 5/2016	Brown		25.00% Gypsum 30.00% Non-fibrous (other) 45.00% Quartz	None Detected
No Vermiculite Detected.					
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 8		Description	1ST FL AUDITORIUM STAGE/ SE SIDE OF STAGE DEBRIS FROM TOP OF WALL AT CEILING - WALL PLASTER (WHITE COAT)		
031615258-0008		Homogeneity	Homogeneous		
PLM NYS 198.1 Friable	6/ 5/2016	White		53.00% Ca Carbonate 12.00% Gypsum 35.00% Non-fibrous (other)	None Detected
No Vermiculite Detected.					
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 9		Description	1ST FL AUDITORIUM STAGE/ SE SIDE OF STAGE DEBRIS FROM TOP OF WALL AT CEILING - WALL PLASTER (WHITE COAT)		
031615258-0009		Homogeneity	Homogeneous		
PLM NYS 198.1 Friable	6/ 5/2016	White		48.00% Ca Carbonate 52.00% Non-fibrous (other)	None Detected
No Vermiculite Detected.					
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed

Initial Report From: 06/05/2016 11:52:18



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EMSL Order: 031615258

Customer ID: LBAP78

Customer PO: 3001329.00

Project ID:

Test Report:Asbestos Analysis of Bulk Material

		Analyzed Date	Color	Non-Asbestos			Asbestos
Test				Fibrous	Non-Fibrous		
Sample ID	10		Description	1ST FL AUDITORIUM STAGE/ NW SIDE OF STAGE AT 30' - WALL PLASTER (WHITE COAT)			
	031615258-0010		Homogeneity	Homogeneous			
PLM NYS 198.1 Friable	6/ 5/2016	White		46.00% Ca Carbonate		None Detected	
				10.00% Gypsum			
				44.00% Non-fibrous (other)			
No Vermiculite Detected.							
PLM NYS 198.6 VCM						Not Analyzed	
PLM NYS 198.6 NOB						Not Analyzed	
TEM NYS 198.4 NOB						Not Analyzed	
Sample ID	11		Description	1ST FL AUDITORIUM STAGE/ WEST SIDE OF STAGE AT 12' - WALL PLASTER (WHITE COAT)			
	031615258-0011		Homogeneity	Homogeneous			
PLM NYS 198.1 Friable	6/ 5/2016	White		50.00% Ca Carbonate		None Detected	
				50.00% Non-fibrous (other)			
No Vermiculite Detected.							
PLM NYS 198.6 VCM						Not Analyzed	
PLM NYS 198.6 NOB						Not Analyzed	
TEM NYS 198.4 NOB						Not Analyzed	
Sample ID	12		Description	1ST FL AUDITORIUM STAGE/ NW SIDE OF STAGE AT 10' - WALL PLASTER (WHITE COAT)			
	031615258-0012		Homogeneity	Homogeneous			
PLM NYS 198.1 Friable	6/ 5/2016	White		62.00% Ca Carbonate		None Detected	
				38.00% Non-fibrous (other)			
No Vermiculite Detected.							
PLM NYS 198.6 VCM						Not Analyzed	
PLM NYS 198.6 NOB						Not Analyzed	
TEM NYS 198.4 NOB						Not Analyzed	
Sample ID	13		Description	1ST FL AUDITORIUM STAGE/ SW SIDE OF STAGE AT 6' - WALL PLASTER (WHITE COAT)			
	031615258-0013		Homogeneity	Homogeneous			
PLM NYS 198.1 Friable	6/ 5/2016	White		55.00% Ca Carbonate		None Detected	
				13.00% Gypsum			
				32.00% Non-fibrous (other)			
No Vermiculite Detected.							
PLM NYS 198.6 VCM						Not Analyzed	
PLM NYS 198.6 NOB						Not Analyzed	
TEM NYS 198.4 NOB						Not Analyzed	
Sample ID	14		Description	1ST FL AUDITORIUM STAGE/ E SIDE OF STAGE AT 15' - WALL PLASTER (WHITE COAT)			
	031615258-0014		Homogeneity	Homogeneous			
PLM NYS 198.1 Friable	6/ 5/2016	White		60.00% Ca Carbonate		None Detected	
				40.00% Non-fibrous (other)			
No Vermiculite Detected.							
PLM NYS 198.6 VCM						Not Analyzed	
PLM NYS 198.6 NOB						Not Analyzed	
TEM NYS 198.4 NOB						Not Analyzed	

Initial Report From: 06/05/2016 11:52:18



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<http://www.EMSL.com / manhattanlab@emsl.com>

EMSL Order: 031615258

Customer ID: LBAP78

Customer PO: 3001329.00

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Scope: Leica #13 Ser. 9640113941VM0035

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk Materials via NYS ELAP Approved Methods . The reference number for these samples is the EMSL Order ID above . Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date: 6/1/2016
Analysis Completed Date: 6/4/2016

Sample Receipt Time: 12:07 PM
Analysis Completed Time: 11:34 PM

Analyst(s):

Deen Liang PLM NYS 198.1 Friable (12)

Yolanda Chow PLM NYS 198.1 Friable (2)

Samples reviewed and approved by:

James Hall, Laboratory Manager
or Other Approved Signatory

NOB = Non Friable Organically Bound N/A = Not Applicable VCM = Vermiculite Containing Material

-In New York State, TEM is currently the only method that can be used to determine if NOB materials can be considered or treated as non -asbestos containing.

All samples examined for the presence of vermiculite when analyzed via NYS 198.1.

-NYS Guidelines for Vermiculite containing samples are available at http://www.wadsworth.org/labcert/elapcert/forms/VermiculiteInterimGuidance_Rev070913.pdf EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations . Interpretation and use of test results are the responsibility of the client. Samples were received in good condition unless otherwise noted.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. This report may contain data that is not covered by the NVLAP accreditation .

Samples analyzed by EMSL Analytical, Inc. New York, NY NYS ELAP 11506

Initial Report From: 06/05/2016 11:52:18


**THE LOUIS BERGER
GROUP, INC.**
ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODYPAGE 1 OF 2PROJECT NO.: 3001329.00CLIENT: WPSDPROJECT SITE: Hightstown Middle School, 128 Grandview AveProject Manager: C. NeapolitanoLOCATION(S) SURVEYED: Auditorium StagePROPOSED PROJECT: Stage WallsDATE(S) OF INSPECTION: 5/31/16Inspector(s): M.G.D.V.
THE LOUIS BERGER GROUP, INC.
 TELEPHONE NO.: (212) 612-7900 **FAX NO.: (212) 425-1618**
 ADDRESS: 199 Water Street 23rd Floor, New York, NY 10038

RESULTS TO: _____

 TURNAROUND TIME:
☐ 4 HR. ☐ 12 HR. ☒ 24 HR. ☐ 48 HR.

72 hr.

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
		<u>AFA Auditorium Stage:</u>			
A	1	<u>SE side of stage - Debris from top of wall (at ceiling)</u>	<u>Wall Plaster (brown coat)</u>		<u>stop at 1st positive in system</u>
	2	<u>NW side of stage, at 30' height</u>			
	3	<u>West side of stage, at 12' height</u>			
	4	<u>NW side of stage, at 10' height</u>			
	5	<u>SW side of stage, at 6' height</u>			
	6	<u>East side of stage, at 15' height</u>			
	7	<u>SE side of stage - Debris from top of wall (at ceiling)</u>	<u>Wall Plaster (white coat)</u>		
	8	<u>NW side of stage, at 30'</u>			
	9	<u>West side of stage, at 12'</u>			
	10	<u>NW side of stage, at 10'</u>			
	11				
	12				

 ENSL MANHATTAN LAB
 RECEIVED
 16 JUN -1 PM 12:07
CHAIN OF CUSTODY

Relinquished by: (print) <u>Michael G. D'Amico</u>	(Sign) <u>[Signature]</u>	Relinquished by: (print) _____	(Sign) _____	AMPM	AMPM
Received by: (print) <u>Denny Babar</u>	(Sign) <u>[Signature]</u>	Received by: (print) _____	(Sign) _____	AMPM	AMPM

 DE 6/14/16 11:40am
 XC 6/15/16 10:40am

ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY

LOUIS BERGER

PAGE 2 OF 2

LB PROJ 3001329.00

CLIENT: WPSD

031615258

LOCATION(S) SURVEYED: Auditorium Stage

PROPOSED PROJECT: Stage Walls

DATE(S) OF INSPECTION: 5/31/16

Inspector(s) M.G., P.K.

PROJECT SITE: Highlands MS, 128 Grand Ave, White Plains, NY

Project Manager: J. Sbarra C. Napolitano (MC)

LOUIS BERGER

TELEPHONE NO.: (212) 612-7900

FAX NO.: (212) 363-4341

ADDRESS: 48 Wall Street, 16 Floor, New York, NY 10005

TURNAROUND TIME:

☐ 4 HR. ☐ 24 HRS. ☒ 48 HRS. ☐ 72 HRS.

RESULTS TO:

HA

SAMPLE NO.

MATERIAL DESCRIPTION

SAMPLE LOCATION

APPROX. QUANTITY (LF/SF)

FIELD NOTES

B

13

171 Auditorium Stage: SW side of stage of 6'

Wall Plaster (white wood)

14

E side of stage, at 15'

1

 EMSL MANHATTAN LAB
 RECEIVED
 16 JUN -1 PM 12:07

CHAIN OF CUSTODY

Relinquished by: (print)	(Sign)	Relinquished by: (print)	AMPM	Relinquished by: (Sign)	(Sign)	Relinquished by: (print)	AMPM
Michael Refano							
Received by: (print)	(Sign)	Received by: (print)	AMPM	Received by: (Sign)	(Sign)	Received by: (print)	AMPM
6/1/16		6/1/16	11:40 AM				

GENERAL NOTES: All inconclusive NOBs to be analyzed by TEM. Please stop at 1st positive in any homogeneous group.

 gc 6/5/16
 10:40 AM

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (800)220-3675 / (856)786-5974

<http://www.EMSL.com> cinnaslab@EMSL.comEMSL Order #: **041615237**
Customer ID: **LBAP78**
Customer PO: **Not Available**Attn: **Craig Napolitano**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005Phone: **212-612-7900**
Fax: **Not Available**Project: **3001329.00 / WSPD / White Plains High School / 550 North St, White Plains, NY / Throughout /**Date Collected: **05/31/2016**
Date Received: **06/08/2016**
Date Analyzed: **06/14/2016**

Report Date: 06/14/2016

Revision: R0

Asbestos Analysis by NYS ELAP Method 198.8
PLM Analysis for Asbestos in Sprayed-On Fireproofing Containing Vermiculite (SOF-V) Bulk Samples

Lab Number	Client Sample Identification	Appearance	Percentage Matrix Material	Percentage non-Asbestos Fibers	Chrysotile Percentage	Amphibole Percentage	Total Percentage
041615237-0001	15	Tan Non-Fibrous Homogeneous	100	0.0	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
041615237-0002	16	Tan Non-Fibrous Homogeneous	100	0.0	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
041615237-0003	17	Tan Non-Fibrous Homogeneous	100	0.0	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected

Report Date
06/14/2016Report Revision
R0Revision Comments
Initial Report**Benjamin Ellis, Laboratory Manager**
or other approved signatory
NYS ELAP 10872

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (800)220-3675 / (856)786-5974

<http://www.EMSL.com> cinnaslab@EMSL.com

EMSL Order #: 041615237

Customer ID: LBAP78

Customer PO: Not Available

Asbestos Analysis of NYS ELAP Method 198.6**PLM analysis for Asbestos in Sprayed-On Fireproofing Containing Vermiculite (SOF-V) Bulk Samples****Bench Sheet**

EMSL Sample ID: 041615237-0001

Crucible ID: X12-1

	Analyst	Date
Gravimetric Prep	CM	6/11/2016
Chrysotile Analysis	SRC	6/13/2016
Centrifugation Date	CM	6/14/2016
Amphibole Analysis	AC	6/14/2016

Stereoscopic			
Color	Tan	Stereoscopic % Asbestos	ND
Texture	Non-Fibrous		
Homogeneity	Homogeneous	Vermiculite Detected	Yes

Initial Weights*	
Weight of Crucible	25.5726
Weight of Crucible and Sub Sample	28.9614
Weight of Sub-Sample	3.3888

Non-Asbestos Fiber	Optical Property	Visual %	Calc %
			0
			0

Ashing	
Weight of Crucible & Ash	28.3534
Weight of Ash	2.7808
Weight Loss During Ashing	0.6080
Weight Percent Organic and Water	17.9415

Acid Treatment/Flotation	
Weight of Dish for Floats	46.2484
Weight of Dish & Floats	46.2484
Weight of Floats	0.0000
Weight Percent Floats	0.0000
Weight of Dish & Filter for Residue	8.4121
Weight of Dish & Filter & Residue	8.6471
Weight of Residue	0.2350
Weight Loss During Acid/Flotation Treatment	2.5458
Weight Percent Acid-Soluble/Float Materials	75.1239
Weight Percent Residue	6.9346

Chrysotile Identification Optical Properties						Temperature (C°)	20.4
↓ RI	IRI	Morphology	Sign	Pleochroism	Birefringence	Fiber Color	Extinction

Amphibole Identification Optical Properties						Temperature (C°)	22.3
↓ RI	IRI	Morphology	Sign	Pleochroism	Birefringence	Fiber Color	Extinction

PLM Examination of Residue (Chrysotile)	Analyzed	PTCT	Chrysotile	Non-Empty	PTCT	Chrysotile	Non-Empty	Trace Detected?
Number of Occupied Points	400	Slide 1:	0	50	Slide 5:	0	50	<input type="checkbox"/> None
Number of Chrysotile Points	0	Slide 2:	0	50	Slide 6:	0	50	<input type="checkbox"/> Check box if yes
Percent Chrysotile by PTCT	0.00	Slide 3:	0	50	Slide 7:	0	50	
(If greater than 1% no further analysis needed)	0.0000	Slide 4:	0	50	Slide 8:	0	50	

Heavy Liquid Centrifugation	
Weight of Dish & Filter & Balance of Residue (Post Chrysotile Analysis)	8.6276
Weight of Balance of Residue	0.2155
Weight of Dish & Filter for Centrifugate	8.4496
Weight of Dish & Filter & Centrifugate	8.4532
Weight of Centrifugate	0.0036
Weight Percent Centrifugate	0.1158

PLM Examination of Centrifugate (Amphibole)	Analyzed	PTCT	Amphibole	Non-Empty	PTCT	Amphibole	Non-Empty	Trace Detected?
Number of Occupied Points	400	Slide 1:	0	50	Slide 5:	0	50	<input type="checkbox"/> None
Number of Amphibole Points	0	Slide 2:	0	50	Slide 6:	0	50	<input type="checkbox"/> Check box if yes
Percent Amphibole by PTCT	0.00	Slide 3:	0	50	Slide 7:	0	50	
Percent Amphibole in Sample	0.0000	Slide 4:	0	50	Slide 8:	0	50	

Percent of Total Asbestos in Sample	0.0000
-------------------------------------	--------

* All Weights in grams

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (800)220-3675 / (856)786-5974

<http://www.EMSL.com> cinnaslab@EMSL.com

EMSL Order #: 041615237

Customer ID: LBAP78

Customer PO: Not Available

Asbestos Analysis of NYS ELAP Method 198.6**PLM analysis for Asbestos in Sprayed-On Fireproofing Containing Vermiculite (SOF-V) Bulk Samples****Bench Sheet**

EMSL Sample ID: 041615237-0002

Crucible ID: X12-2

	Analyst	Date
Gravimetric Prep	CM	6/11/2016
Chrysotile Analysis	SRC	6/13/2016
Centrifugation Date	CM	6/14/2016
Amphibole Analysis	AC	6/14/2016

Stereoscopic			
Color	Tan	Stereoscopic % Asbestos	ND
Texture	Non-Fibrous		
Homogeneity	Homogeneous	Vermiculite Detected	Yes

Initial Weights*	
Weight of Crucible	26.8375
Weight of Crucible and Sub Sample	29.8786
Weight of Sub-Sample	3.0411

Non-Asbestos Fiber	Optical Property	Visual %	Calc %
			0
			0

Ashing		Chrysotile Identification Optical Properties						Temperature (C°)	20.4
Weight of Crucible & Ash	29.3450	↓ RI	IRI	Morphology	Sign	Pleochroism	Birefringence	Fiber Color	Extinction
Weight of Ash	2.5075								
Weight Loss During Ashing	0.5336								
Weight Percent Organic and Water	17.5463								

Acid Treatment/Flotation		Amphibole Identification Optical Properties						Temperature (C°)	22.1
Weight of Dish for Floats	44.2598	↓ RI	IRI	Morphology	Sign	Pleochroism	Birefringence	Fiber Color	Extinction
Weight of Dish & Floats	44.2598								
Weight of Floats	0.0000								
Weight Percent Floats	0.0000								
Weight of Dish & Filter for Residue	8.4919								
Weight of Dish & Filter & Residue	8.7464								
Weight of Residue	0.2545								
Weight Loss During Acid/Flotation Treatment	2.2530								
Weight Percent Acid-Soluble/Float Materials	74.0850								
Weight Percent Residue	8.3687								

PLM Examination of Residue (Chrysotile)	Analyzed	PTCT	Chrysotile	Non-Empty	PTCT	Chrysotile	Non-Empty	Trace Detected?
Number of Occupied Points	400	Slide 1:	0	50	Slide 5:	0	50	<input type="checkbox"/> None
Number of Chrysotile Points	0	Slide 2:	0	50	Slide 6:	0	50	<input type="checkbox"/> Check box if yes
Percent Chrysotile by PTCT	0.00	Slide 3:	0	50	Slide 7:	0	50	
(If greater than 1% no further analysis needed)	0.0000	Slide 4:	0	50	Slide 8:	0	50	

Heavy Liquid Centrifugation	
Weight of Dish & Filter & Balance of Residue (Post Chrysotile Analysis)	8.7273
Weight of Balance of Residue	0.2354
Weight of Dish & Filter for Centrifugate	8.3733
Weight of Dish & Filter & Centrifugate	8.3784
Weight of Centrifugate	0.0051
Weight Percent Centrifugate	0.1813

PLM Examination of Centrifugate (Amphibole)	Analyzed	PTCT	Amphibole	Non-Empty	PTCT	Amphibole	Non-Empty	Trace Detected?
Number of Occupied Points	400	Slide 1:	0	50	Slide 5:	0	50	<input type="checkbox"/> None
Number of Amphibole Points	0	Slide 2:	0	50	Slide 6:	0	50	<input type="checkbox"/> Check box if yes
Percent Amphibole by PTCT	0.00	Slide 3:	0	50	Slide 7:	0	50	
Percent Amphibole in Sample	0.0000	Slide 4:	0	50	Slide 8:	0	50	

Percent of Total Asbestos in Sample	0.0000
-------------------------------------	--------

* All Weights in grams

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (800)220-3675 / (856)786-5974

<http://www.EMSL.com> cinnaslab@EMSL.com

EMSL Order #: 041615237

Customer ID: LBAP78

Customer PO: Not Available

Asbestos Analysis of NYS ELAP Method 198.6**PLM analysis for Asbestos in Sprayed-On Fireproofing Containing Vermiculite (SOF-V) Bulk Samples****Bench Sheet**

EMSL Sample ID: 041615237-0003

Crucible ID: X12-3

	Analyst	Date
Gravimetric Prep	CM	6/11/2016
Chrysotile Analysis	SRC	6/13/2016
Centrifugation Date	CM	6/14/2016
Amphibole Analysis	AC	6/14/2016

Stereoscopic			
Color	Tan	Stereoscopic % Asbestos	ND
Texture	Non-Fibrous		
Homogeneity	Homogeneous	Vermiculite Detected	Yes

Initial Weights*	
Weight of Crucible	28.0569
Weight of Crucible and Sub Sample	31.4732
Weight of Sub-Sample	3.4163

Non-Asbestos Fiber	Optical Property	Visual %	Calc %
			0
			0

Ashing		Chrysotile Identification Optical Properties						Temperature (C°)	20.4
Weight of Crucible & Ash	30.7953	↓ RI	IRI	Morphology	Sign	Pleochroism	Birefringence	Fiber Color	Extinction
Weight of Ash	2.7384								
Weight Loss During Ashing	0.6779								
Weight Percent Organic and Water	19.8431								

Acid Treatment/Flotation		Amphibole Identification Optical Properties						Temperature (C°)	22.2
Weight of Dish for Floats	40.6006	↓ RI	IRI	Morphology	Sign	Pleochroism	Birefringence	Fiber Color	Extinction
Weight of Dish & Floats	40.6006								
Weight of Floats	0.0000								
Weight Percent Floats	0.0000								
Weight of Dish & Filter for Residue	8.4779								
Weight of Dish & Filter & Residue	8.6754								
Weight of Residue	0.1975								
Weight Loss During Acid/Flotation Treatment	2.5409								
Weight Percent Acid-Soluble/Float Materials	74.3758								
Weight Percent Residue	5.7811								

PLM Examination of Residue (Chrysotile)	Analyzed	PTCT	Chrysotile	Non-Empty	PTCT	Chrysotile	Non-Empty	Trace Detected?
Number of Occupied Points	400	Slide 1:	0	50	Slide 5:	0	50	<input type="checkbox"/> None
Number of Chrysotile Points	0	Slide 2:	0	50	Slide 6:	0	50	<input type="checkbox"/> Check box if yes
Percent Chrysotile by PTCT	0.00	Slide 3:	0	50	Slide 7:	0	50	
(If greater than 1% no further analysis needed)	0.0000	Slide 4:	0	50	Slide 8:	0	50	

Heavy Liquid Centrifugation	
Weight of Dish & Filter & Balance of Residue (Post Chrysotile Analysis)	8.6563
Weight of Balance of Residue	0.1784
Weight of Dish & Filter for Centrifugate	8.3674
Weight of Dish & Filter & Centrifugate	8.3716
Weight of Centrifugate	0.0042
Weight Percent Centrifugate	0.1361

PLM Examination of Centrifugate (Amphibole)	Analyzed	PTCT	Amphibole	Non-Empty	PTCT	Amphibole	Non-Empty	Trace Detected?
Number of Occupied Points	400	Slide 1:	0	50	Slide 5:	0	50	<input type="checkbox"/> None
Number of Amphibole Points	0	Slide 2:	0	50	Slide 6:	0	50	<input type="checkbox"/> Check box if yes
Percent Amphibole by PTCT	0.00	Slide 3:	0	50	Slide 7:	0	50	
Percent Amphibole in Sample	0.0000	Slide 4:	0	50	Slide 8:	0	50	

Percent of Total Asbestos in Sample	0.0000
-------------------------------------	--------

* All Weights in grams



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

EMSL Order #: **041615237**
Customer ID: **LBAP78**
Customer PO: **Not Available**

Attn: **Craig Napolitano**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: **212-612-7900**
Fax: **Not Available**

Project: **3001329.00 / WSPD / White Plains High School / 550 North St,**

Date Collected: **05/31/2016**
Date Received: **06/08/2016**
Date Analyzed: **06/14/2016**

Report Date
06/14/2016

Report Revision
R0

Revision Comments
Initial Report

Benjamin Ellis, Laboratory Manager
or other approved signatory
NYS ELAP 10872

About us



EMSL Analytical, Inc. offers a full line of analytical solutions for over 30 years across North America. For more information about our nationally accredited locations, vast line of testing services, and our food safety solutions please visit www.EMSL.com or call (800) 220-3675.

United States and Canada Locations



Disclaimers

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LOUIS BERGER ASBESTOS SURVEY DATA SHEET/CHAIN OF CUSTODY

PAGE 2 OF 2

LOCATION(S) SURVEYED: throughout
 PROPOSED PROJECT: Building upgrades
 DATE(S) OF INSPECTION: 5/31/16
 Inspector(s): M.G., D.K.

RESULTS TO: _____
 TURNAROUND TIME:
☐ 4 HR. ☐ 24 HRS. ☒ 48 HRS. ☐ 72 HRS.

APPROX. QUANTITY (LF/SF) _____
 FIELD NOTES _____

SAMPLE LOCATION _____
 Field House, mechanical Rm.
 Bldg D, Stage Storage

MATERIAL DESCRIPTION _____
 Canvas wrap around
 Fiberglass pipe & fittings local
 (gray)

HA SAMPLE NO. _____
 12
 13
 14
 15
 16
 17
 18
 19
 20

RECEIVED
 CINNAMINSON, NJ
 JUN - 8 P 8 33
 6/8/16
 4/8/16
 8:30

W.P.M.S. - EASTVIEW CAMPUS

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com> manhattanlab@emsl.com

EMSL Order: 031509839

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **D Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
 Fax:
 Received: 04/02/15 5:58 PM
 Analysis Date: 4/5/2015
 Collected: 4/2/2015

Project: 3001091.00/ WHITE PLAINS SCHOOLS/ EAST VIEW MIDDLE SCHOOL/ ROOMS/ RENOVATIONS

Test Report:Asbestos Analysis of Bulk Material

Test		Analized Date	Color	Non Asbestos		Asbestos
Sample ID			Description	Fibrous	Non-Fibrous	
04A			Homogeneity	RM 303 - MASTIC TO CHALK BOARD/ BEIGE		
031509839-0001				Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	4/3/2015	Tan				Inconclusive: None Detected
TEM NYS 198.4 NOB	4/5/2015	Tan				1.2% Chrysotile 1.2% Total
Sample ID	04B		Description	RM 201 - MASTIC TO CHALK BOARD/ BEIGE		
031509839-0002			Homogeneity	Homogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	4/3/2015	Tan				Inconclusive: None Detected
TEM NYS 198.4 NOB	4/5/2015					Positive Stop (Not Analyzed)
Sample ID	05A		Description	RM 301 - MASTIC TO CHALK BOARD/ BLACK		
031509839-0003			Homogeneity	Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	4/3/2015	Black				Inconclusive: None Detected
TEM NYS 198.4 NOB	4/5/2015	Black				<1% Chrysotile <1% Total
Sample ID	05B		Description	RM 301 - MASTIC TO CHALK BOARD/ BLACK		
031509839-0004			Homogeneity	Homogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	4/3/2015	Black				Inconclusive: None Detected
TEM NYS 198.4 NOB	4/5/2015	Black				<1% Chrysotile <1% Total
Sample ID	06A		Description	RM 304 - MASTIC TO CHALK BOARD/ BROWN		
031509839-0005			Homogeneity	Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	4/3/2015	Brown				Inconclusive: None Detected
TEM NYS 198.4 NOB	4/5/2015	Brown				None Detected

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031509839
 CustomerID: LBAP78
 CustomerPO: 3001091.00
 ProjectID:

Test Report:Asbestos Analysis of Bulk Material

Test		Color	Fibrous	Non-Fibrous	Asbestos
Sample ID	06B	Description	RM 103 - MASTIC TO CHALK BOARD/ BROWN		
	031509839-0006	Homogeneity	Homogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	4/3/2015	Brown	Inconclusive: None Detected		
TEM NYS 198.4 NOB	4/5/2015	Brown	None Detected		
Sample ID	07A	Description	RM 301 - MASTIC TO CHALK BOARD/ GREY		
	031509839-0007	Homogeneity	Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	4/3/2015	Black	1.8% Chrysotile		
			1.8% Total		
TEM NYS 198.4 NOB	4/3/2015		Positive Stop (Not Analyzed)		
Sample ID	07B	Description	RM 301 - MASTIC TO CHALK BOARD/ GREY		
	031509839-0008	Homogeneity			
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	4/3/2015		Positive Stop (Not Analyzed)		
TEM NYS 198.4 NOB	4/3/2015		Positive Stop (Not Analyzed)		

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031509839

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Test Report:Asbestos Analysis of Bulk Material

Test	Color	Non Asbestos		Asbestos
		Fibrous	Non-Fibrous	

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk Materials via NYS ELAP Approved Methods. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date:: 4/2/2015 Sample Receipt Time: 5:58 PM

Analysis Completed Date: 4/5/2015 Analysis Completed Time: 4:48 PM

Analyst(s):

Noel Anderson PLM NYS 198.6 NOB (7)

Feng Liang TEM NYS 198.4 NOB (5)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

NOB = Non Friable Organically Bound N/A = Not Applicable VCM = Vermiculite Containing Material

-In New York State, TEM is currently the only method that can be used to determine if NOB materials can be considered or treated as non-asbestos containing. All samples examined for the presence of vermiculite when analyzed via NYS 198.1.

-NYS Guidelines for Vermiculite containing samples are available at http://www.wadsworth.org/labcert/elapcert/forms/VermiculiteInterimGuidance_Rev070913.pdf EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples were received in good condition unless otherwise noted.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. This report may contain data that is not covered by the NVLAP accreditation.

Samples analyzed by EMSL Analytical, Inc. New York, NY NYS ELAP 11506

PROJECT NO.: 3001091.00

CLIENT: White Plains Schools

PROJECT SITE: Eastview Middle School

Project Manager: Drew Chesky

LOCATION(S) SURVEYED: Rooms

PROPOSED PROJECT: *Renovations*

DATE(S) OF INSPECTION: 4/2/15

Inspector(s): Drew Cheskin

LOUIS BERGER
TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341
ADDRESS: 48 Wall Street 16th Floor, New York, NY 10005

RESULTS TO: acheskin@louisberger.com
cnapolitano@louisberger.com

TURNAROUND TIME: ☐ 4 HR. ☐ 12 HR.
☐ 24 HR. ☐ 48 HR. ☒ 72 HR. ☐ 96 HR.

3.3

HA	SAMPLE NO.	MATERIAL DESCRIPTION	SAMPLE LOCATION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
04	04A	Mastic to Chalk Board, Beige	Rm 303		
↓	04B	↓	Rm 201		
05	05A	Mastic to Chalk Board, Black	Rm 301		
↓	05B	↓	Rm 301		
06	06A	Mastic to Chalk Board, Brown	Rm 304		
↓	06B	↓	Rm 103		
07	07A	Mastic to Chalk Board, Grey	Rm 301		
↓	07B	↓	Rm 301		

CHAIN OF CUSTODY

Relinquished by:	(Sign)	(Date)	(Time)	Relinquished by:
15 Chaskin	De	4/2/15	3:07 PM	
Received by:	(Sign)	(Date)	(Time)	Received by:

(Sign)	(Date)	(Time)	Relinquished by:	(Sign)	(Date)	(Time)
(Sign)	(Date)	(Time)	Received by:	(Sign)	(Date)	(Time)

General Notes: All inconclusive NOBs to be analyzed by TEM. Please stop at 1st positive in any homogeneous group.

Maed Under 4/3/15 550pm

PROJECT NO.: 3001091.00

CLIENT: White Plains Schools

PROJECT SITE: Eastview Middle School

Project Manager: Drew Chesky

LOCATION(S) SURVEYED: Rooms

PROPOSED PROJECT: *Renovations*

DATE(S) OF INSPECTION: 4/2/15

Inspector(s): Drew Cheskin

LOUIS BERGER
TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341
ADDRESS: 48 Wall Street 16th Floor, New York, NY 10005

RESULTS TO: acheskin@louisberger.com
cnapolitano@louisberger.com

TURNAROUND TIME: ☐ 4 HR. ☐ 12 HR.
☐ 24 HR. ☐ 48 HR. ☒ 72 HR. ☐ 96 HR.

3.3

HA	SAMPLE NO.	MATERIAL DESCRIPTION	SAMPLE LOCATION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
04	04A	Mastic to Chalk Board, Beige	Rm 303		
↓	04B	↓	Rm 201		
05	05A	Mastic to Chalk Board, Black	Rm 301		
↓	05B	↓	Rm 301		
06	06A	Mastic to Chalk Board, Brown	Rm 304		
↓	06B	↓	Rm 103		
07	07A	Mastic to Chalk Board, Grey	Rm 301		
↓	07B	↓	Rm 301		

CHAIN OF CUSTODY

Relinquished by:	(Sign)	(Date)	(Time)	Relinquished by:
15 Chaskin	De	4/2/15	3:07 PM	
Received by:	(Sign)	(Date)	(Time)	Received by:

(Sign)	(Date)	(Time)	Relinquished by:	(Sign)	(Date)	(Time)
(Sign)	(Date)	(Time)	Received by:	(Sign)	(Date)	(Time)

General Notes: All inconclusive NOBs to be analyzed by TEM. Please stop at 1st positive in any homogeneous group.

Maed Under 4/3/15 550pm

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031522976

CustomerID: LBAP78

CustomerPO: 300109100

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 07/23/15 3:10 AM
Analysis Date: 7/26/2015
Collected: 7/22/2015

Project: 3001091.00/ WHITE PLAINS SCHOOL DISTRICT/ EAST VIEW MIDDLE SCHOOL/ DREW CHESKIN/ CLASSROOMS/ CHALK BOARD

Test Report:Asbestos Analysis of Bulk Material

Test		Analyzed Date	Color	Non Asbestos		Asbestos
				Fibrous	Non-Fibrous	
Sample ID	01A 031522976-0001		Description Homogeneity	RM 136 - CHALK BOARD MASTIC, BROWN Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	7/25/2015	Brown	Inconclusive: None Detected			
TEM NYS 198.4 NOB	7/26/2015	Brown	None Detected			
Sample ID	01B 031522976-0002		Description Homogeneity	RM 136 - CHALK BOARD MASTIC, BROWN Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	7/25/2015	Brown	Inconclusive: None Detected			
TEM NYS 198.4 NOB	7/26/2015	Brown	None Detected			

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031522976

CustomerID: LBAP78

CustomerPO: 300109100

ProjectID:

Test Report: Asbestos Analysis of Bulk Material

Test	Color	Non Asbestos		Asbestos
		Fibrous	Non-Fibrous	
Scope: Leica #8 Ser. 9640013810UN0022 Scope: JEOL / JEM-100CX II #03-02				

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk Materials via NYS ELAP Approved Methods. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Scope: Leica #8 Ser. 9640013810UN0022 Scope: JEOL / JEM-100CX II #03-02

Sample Receipt Date:: 7/23/2015 Sample Receipt Time: 3:10 AM

Analysis Completed Date: 7/26/2015 Analysis Completed Time: 1:40 AM

Analyst(s):

Jon Williams PLM NYS 198.6 NOB (2)

Sean Scales TEM NYS 198.4 NOB (2)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

NOB = Non Friable Organically Bound N/A = Not Applicable VCM = Vermiculite Containing Material

-In New York State, TEM is currently the only method that can be used to determine if NOB materials can be considered or treated as non-asbestos containing. All samples examined for the presence of vermiculite when analyzed via NYS 198.1.

-NYS Guidelines for Vermiculite containing samples are available at http://www.wadsworth.org/labcert/elapcert/forms/VermiculiteInterimGuidance_Rev070913.pdf EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples were received in good condition unless otherwise noted.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. This report may contain data that is not covered by the NVLAP accreditation.

Samples analyzed by EMSL Analytical, Inc. New York, NY NYS ELAP 11506

ASBESTOS SURVEY DATA SHEET / CHAIN OF CUSTODY

PROJECT NO.: 3001091.00

CLIENT: White Plains School District

PROJECT SITE: Eastview Middle School

Project Manager: Drew Cheskin

LOCATION(S) SURVEYED: Classrooms

PROPOSED PROJECT: Chalk Board Removal

DATE(S) OF INSPECTION: 7/22/15

Inspector(s): Draw Cheskin

LOUIS BERGER
TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341
ADDRESS: 48 Wall Street 16th Floor, New York, NY 10005

RESULTS TO: acheskin@louisberger.com
cnapolitano@louisberger.com

TURNAROUND TIME: ☐ 4 HR. ☐ 12 HR.
☐ 24 HR. ☐ 48 HR. ☒ 72 HR. ☐ 96 HR.

SAMPLE
NO.

MATERIAL DESCRIPTION

SAMPLE LOCATION

APPROX.
QUANTITY
(LF/SF)

FIELD NOTES

$$\frac{A10}{10}$$

Chalk Board Mastic, Brown

Rm 136

↓ 01B

→

→

EMSL MANHATTAN LAB
RECEIVED
2015 JUL 23 AM 3:10

7/25/15

945 pm

Relinquished by: [Signature]
Received by: [Signature]

(Signature)	(Signature)
1	1

(Date)	7/7	(Date)	7/7
--------	-----	--------	-----

Time)	6:15 PM
Time)	6:15 PM

Page 2

13

(Time)	5:03:00
(Time)	3:10:00

Relinquished by: _____

Received by: _____

	(Sign)
	(Sign)

(Time)	(Time)
--------	--------

General Notes: All inconclusive NOBs to be analyzed by TEM. Please stop at 1st positive in any homogeneous group.

Dean J. Leander
07/26/2015 01:47

**ROCHAMBEAU ALTERNATIVE
HIGH SCHOOL**

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com> manhattanlab@emsl.com

EMSL Order: 031340230

CustomerID: LOUI56

CustomerPO: 3000865

ProjectID:

Attn: **Craig Napolitano**
The Louis Berger Group, Inc.
48 Wall St.
16th Floor
New York, NY 10005

Phone: (212) 612-7900
 Fax:
 Received: 10/14/13 12:13 PM
 Analysis Date: 10/16/2013
 Collected: 10/8/2013

Project: 3000865/ WHITE PLAINS PUBLIC SCHOOL/ ROCHAMBEAU ELEMENTARY SCHOOL/ THROUGHOUT BUILDING

Test Report:Asbestos Analysis of Bulk Material

Test		Analyzed Date	Color	Non Asbestos		Asbestos
				Fibrous	Non-Fibrous	
Sample ID	01 031340230-0001		Description Homogeneity	2' X 4' LARGE GAUGED CEILING TILE/ WHITE - FIRST FLOOR/ NORTH EAST STORAGE Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	10/16/2013	Gray	Inconclusive: None Detected			
TEM NYS 198.4 NOB	10/16/2013	Gray	None Detected			
Sample ID	02 031340230-0002		Description Homogeneity	2' X 4' LARGE GAUGED CEILING TILE/ WHITE - FIRST FLOOR/ NORTH EAST STORAGE Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	10/16/2013	Gray	Inconclusive: None Detected			
TEM NYS 198.4 NOB	10/16/2013	Gray	None Detected			
Sample ID	03 031340230-0003		Description Homogeneity	2' X 4' FISSURED CEILING TILE/ WHITE - FIRST FLOOR/ NORTH EAST OFFICE Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	10/16/2013	Gray	Inconclusive: None Detected			
TEM NYS 198.4 NOB	10/16/2013	Gray	None Detected			
Sample ID	04 031340230-0004		Description Homogeneity	2' X 4' FISSURED CEILING TILE/ WHITE - FIRST FLOOR/ CLASSROOM 225 Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	10/16/2013	Gray	Inconclusive: None Detected			
TEM NYS 198.4 NOB	10/16/2013	Gray	None Detected			
Sample ID	05 031340230-0005		Description Homogeneity	1' X 1' GAUGED CEILING TILE/ GRAY - FIRST FLOOR/ ROOM 203 Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	10/16/2013	Gray	Inconclusive: None Detected			
TEM NYS 198.4 NOB	10/16/2013	Gray	None Detected			

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031340230

CustomerID: LOUI56

CustomerPO: 3000865

ProjectID:

Test Report:Asbestos Analysis of Bulk Material

		Non Asbestos		
Test		Color	Fibrous	Non-Fibrous
Sample ID		Description		Asbestos
06		1' X 1' GAUGED CEILING TILE/ GRAY - FIRST FLOOR/ ROOM 203		
031340230-0006		Homogeneity	Heterogeneous	
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	10/16/2013	Gray		Inconclusive: None Detected
TEM NYS 198.4 NOB	10/16/2013	Gray		None Detected
Sample ID		Description	2' X 4' GAUGED CEILING TILE/ WHITE - FIRST FLOOR/ MAIN OFFICE	
07		Homogeneity	Heterogeneous	
031340230-0007				
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	10/16/2013	Gray		Inconclusive: None Detected
TEM NYS 198.4 NOB	10/16/2013	Gray		None Detected
Sample ID		Description	2' X 4' GAUGED CEILING TILE/ WHITE - FIRST FLOOR/ MAIN OFFICE	
08		Homogeneity	Heterogeneous	
031340230-0008				
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	10/16/2013	Gray		Inconclusive: None Detected
TEM NYS 198.4 NOB	10/16/2013	Gray		None Detected
Sample ID		Description	2' X 4' STRIPE DESIGN CEILING TILE/ WHITE - FIRST FLOOR/ CLASSROOM 224	
09		Homogeneity	Heterogeneous	
031340230-0009				
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	10/16/2013	Gray		Inconclusive: None Detected
TEM NYS 198.4 NOB	10/16/2013	Gray		None Detected
Sample ID		Description	2' X 4' STRIPE DESIGN CEILING TILE/ WHITE - FIRST FLOOR/ CLASSROOM 224	
10		Homogeneity	Heterogeneous	
031340230-0010				
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	10/16/2013	Gray		Inconclusive: None Detected
TEM NYS 198.4 NOB	10/16/2013	Gray		None Detected
Sample ID		Description	2'X 4' FISSURED/ PINHOLE CEILING TILE/ WHITE - FIRST FLOOR/ CLASSROOM 225	
11		Homogeneity	Heterogeneous	
031340230-0011				
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	10/16/2013	Gray		Inconclusive: None Detected
TEM NYS 198.4 NOB	10/16/2013	Gray		None Detected

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031340230

CustomerID: LOUI56

CustomerPO: 3000865

ProjectID:

Test Report:Asbestos Analysis of Bulk Material

Test		Non Asbestos			Asbestos
		Color	Fibrous	Non-Fibrous	
Sample ID	12	Description	2'X 4' FISSURED/ PINHOLE CEILING TILE/ WHITE - FIRST FLOOR/ CLASSROOM 225		
	031340230-0012	Homogeneity	Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	10/16/2013	Gray	Inconclusive: None Detected		
TEM NYS 198.4 NOB	10/16/2013	Gray	None Detected		

Analyst(s)

Albert Grohmann

Evie Sioukri

James Hall, Laboratory Manager
or other approved signatory

NOB = Non Friable Organically Bound N/A = Not Applicable VCM = Vermiculite Containing Material

-In New York State, TEM is currently the only method that can be used to determine if NOB materials can be considered or treated as non-asbestos containing.

All samples examined for the presence of vermiculite when analyzed via NYS 198.1.

-NYS Guidelines for Vermiculite containing samples are available at http://www.wadsworth.org/labcert/elapcert/forms/VermiculiteInterimGuidance_Rev070913.pdf

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples were received in good condition unless otherwise noted.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. This report may contain data that is not covered by the NVLAP accreditation.

Samples analyzed by EMSL Analytical, Inc. New York, NY NYS ELAP 11506



**THE LOUIS BERGER
GROUP, INC.**

ASBESTOS SURVEY DATA SHEET / CHAIN OF CUSTODY

PROJECT NO.: 3000865

CLIENT: White Plains Public School

PROJECT SITE: Rochambeau Elementary School

Project Manager: Craig Napolitano

LOCATION(S) SURVEYED: Throughout Building

DATE(S) OF INSPECTION: 10/8/13

Inspector(s): Josue Garcia

03/24/23

THE LOUIS BERGER GROUP, INC.
TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341
ADDRESS: 48 Wall Street 16th Floor, New York, NY 10005

RESULTS TO: achekin@louisberger.com
cnapolitano@louisberger.com, jgarcia@louisber.com

TURNAROUND TIME: ☐ 4 HR. ☐ 12 HR.
☐ 24 HR. ☐ 48 HR. ☒ 72 HR.

HA	SAMPLE NO.	MATERIAL DESCRIPTION	SAMPLE LOCATION	APPROX. QUANTITY (LBS)	FIELD NOTES
01	01	2'x4' Large Gouged Ceiling Tile, white	First Floor Northwest Storage		
	02	↓	↓		
02	03	2'x4' Fissured Ceiling Tile, white	First Floor Northeast Office		
	04	↓	↓ Classroom 225		
03	05	1'x1' Gouged Ceiling Tile, Gray	First Floor Room 203		
	06	↓	↓		
04	07	2'x4' Gouged Ceiling Tile, white	First Floor Main Office		
	08	↓	↓		
05	09	2'x4' Stripe Design Ceiling Tile, white	First Floor Classroom 224		
	10	↓	↓		
06	11	2'x4' Fissured/Ribbed Ceiling Tile, white	First Floor Classroom 225		
	12	↓	↓		

CHAIN OF CUSTODY

Relinquished by:	(Sign)	(Date)	(Time)	Relinquished by:	(Sign)	(Date)	(Time)	Relinquished by:	(Sign)	(Date)	(Time)
Received by:	(Sign)	(Date)	(Time)	Received by:	(Sign)	(Date)	(Time)	Received by:	(Sign)	(Date)	(Time)
<u>LaBella Andrews</u>	(Sign)	10/14/13	12:30pm								

General Notes: All inconclusive NOBs to be analyzed by TEM. Please stop at 1st positive in any homogeneous group.

**CHURCH STREET
ELEMENTARY SCHOOL**

**GEORGE WASHINGTON
ELEMENTARY SCHOOL**

**MAMARONECK AVENUE
ELEMENTARY SCHOOL**

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com> manhattanlab@emsl.com

EMSL Order: 031342519

CustomerID: LOUI56

CustomerPO:

ProjectID:

Attn: **Craig Napolitano**
The Louis Berger Group, Inc.
48 Wall St.
16th Floor
New York, NY 10005

Phone: (212) 612-7900
 Fax:
 Received: 10/30/13 3:10 PM
 Analysis Date: 11/1/2013
 Collected: 10/29/2013

Project: **WHITE PLAINS PUBLIC SCHOOL/ MAMARONECK AVE. ELEMENTARY SCHOOL/ THROUGHOUT BUILDING****Test Report:Asbestos Analysis of Bulk Material**

Test		Analyzed Date	Color	Non Asbestos		Asbestos
				Fibrous	Non-Fibrous	
Sample ID	01 031342519-0001		Description Homogeneity	GROUND FL/ WATER METER ROOM - 2'X4' FISSURED CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB		11/1/2013	White			Inconclusive: None Detected
TEM NYS 198.4 NOB		11/1/2013	White			None Detected
Sample ID	02 031342519-0002		Description Homogeneity	1ST FL/ RESOURCE ROOM 103 - 2'X4' FISSURED CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB		11/1/2013	White			Inconclusive: None Detected
TEM NYS 198.4 NOB		11/1/2013	White			None Detected
Sample ID	03 031342519-0003		Description Homogeneity	GROUND FL/ ROOM 015A - 2'X4' GOUGED CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB		11/1/2013	White			Inconclusive: None Detected
TEM NYS 198.4 NOB		11/1/2013	White			None Detected
Sample ID	04 031342519-0004		Description Homogeneity	1ST FL/ ART ROOM 101 - 2'X4' GOUGED CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB		11/1/2013	White			Inconclusive: None Detected
TEM NYS 198.4 NOB		11/1/2013	White			None Detected
Sample ID	05 031342519-0005		Description Homogeneity	GROUND FL/ BOYS TOILET 011B - 2'X2' SMOOTH CEILING TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB		11/1/2013	White			Inconclusive: None Detected
TEM NYS 198.4 NOB		11/1/2013	White			None Detected

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031342519

CustomerID: LOUI56

CustomerPO:

ProjectID:

Test Report:Asbestos Analysis of Bulk Material

Test		Color	Fibrous	Non-Fibrous	Asbestos
Sample ID	06	Description	2ND FL/ ROOM 210 - 2'X2' SMOOTH CEILING TILE/ WHITE		
	031342519-0006	Homogeneity	Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	11/1/2013	White	Inconclusive: None Detected		
TEM NYS 198.4 NOB	11/1/2013	White	None Detected		
Sample ID	07	Description	1ST FL/ FACULTY ROOM 114 - 2'X4' LARGE GOUGED CEILING TILE/ WHITE		
	031342519-0007	Homogeneity	Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	11/1/2013	White	Inconclusive: None Detected		
TEM NYS 198.4 NOB	11/1/2013	White	None Detected		
Sample ID	08	Description	1ST FL/ FACULTY ROOM 114 - 2'X4' LARGE GOUGED CEILING TILE/ WHITE		
	031342519-0008	Homogeneity	Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	11/1/2013	White	Inconclusive: None Detected		
TEM NYS 198.4 NOB	11/1/2013	White	None Detected		

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031342519

CustomerID: LOUI56

CustomerPO:

ProjectID:

Test Report: Asbestos Analysis of Bulk Material

Test	Color	Non Asbestos		Asbestos
		Fibrous	Non-Fibrous	
PLM Scope: Leica #5 Ser. 411168628FT0021/ TEM Scope: JEOL / JEM-100CX II #03-02				

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk Materials via NYS ELAP Approved Methods. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

PLM Scope: Leica #5 Ser. 411168628FT0021/ TEM Scope: JEOL / JEM-100CX II #03-02

Sample Receipt Date:: 10/30/2013 Sample Receipt Time: 3:10 PM

Analysis Completed Date: 11/1/2013 Analysis Completed Time: 4:30 PM

Analyst(s):

Albert Grohmann PLM NYS 198.6 NOB (8)

Evie Sioukri TEM NYS 198.4 NOB (8)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

NOB = Non Friable Organically Bound N/A = Not Applicable VCM = Vermiculite Containing Material

-In New York State, TEM is currently the only method that can be used to determine if NOB materials can be considered or treated as non-asbestos containing. All samples examined for the presence of vermiculite when analyzed via NYS 198.1.

-NYS Guidelines for Vermiculite containing samples are available at http://www.wadsworth.org/labcert/elapcert/forms/VermiculiteInterimGuidance_Rev070913.pdf EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples were received in good condition unless otherwise noted.

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Samples analyzed by EMSL Analytical, Inc. New York, NY NYS ELAP 11506

11/13 @ 4:50pm

RIDGEWAY ELEMENTARY SCHOOL

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031340227

CustomerID: LOUI56

CustomerPO: 3000.865

ProjectID:

Attn: **Craig Napolitano**
The Louis Berger Group, Inc.
48 Wall St.
16th Floor
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 10/14/13 12:13 PM
Analysis Date: 10/17/2013
Collected: 10/11/2013

Project: 3000865/ WHITE PLAINS PUBLIC SCHOOL/ RIDGEWAY ELEMENTARY SCHOOL/ THROUGHOUT BUILDING

Test Report:Asbestos Analysis of Bulk Material

Test		Analyzed Date	Color	Non Asbestos		Asbestos
				Fibrous	Non-Fibrous	
Sample ID	01 031340227-0001		Description Homogeneity	2' X 4' (2' X 2' DESIGN) FISSURED CEILING TILE - WHITE/ FIRST FLOOR MEDIA CENTER Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	10/16/2013	Gray	Inconclusive: None Detected			
TEM NYS 198.4 NOB	10/17/2013	Gray	None Detected			
Sample ID	02 031340227-0002		Description Homogeneity	2' X 4' (2' X 2' DESIGN) FISSURED CEILING TILE - WHITE/ FIRST FLOOR MEDIA CENTER Heterogeneous		
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	10/16/2013	Gray	Inconclusive: None Detected			
TEM NYS 198.4 NOB	10/17/2013	Gray	None Detected			

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EMSL Order: 031340227

CustomerID: LOUI56

CustomerPO: 3000.865

ProjectID:

Test Report:Asbestos Analysis of Bulk Material

Test	Color	Non Asbestos		Asbestos
		Fibrous	Non-Fibrous	
Leica #6 Ser. 961374717AX0001				
JEOL / JEM-100CX II #03-02(6)				

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk Materials via NYS ELAP Approved Methods. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Leica #6 Ser. 961374717AX0001

Sample Receipt Date:: 10/14/2013 Sample Receipt Time: 12:13 PM

Analysis Completed Date: 10/17/2013 Analysis Completed Time: 12:52 PM

Analyst(s):

Emily Myint PLM NYS 198.6 NOB (2)

Evie Sioukri TEM NYS 198.4 NOB (2)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

NOB = Non Friable Organically Bound N/A = Not Applicable VCM = Vermiculite Containing Material

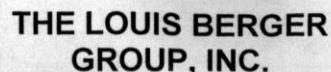
-In New York State, TEM is currently the only method that can be used to determine if NOB materials can be considered or treated as non-asbestos containing.

All samples examined for the presence of vermiculite when analyzed via NYS 198.1.

-NYS Guidelines for Vermiculite containing samples are available at http://www.wadsworth.org/labcert/elapcert/forms/VermiculiteInterimGuidance_Rev070913.pdf EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples were received in good condition unless otherwise noted.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. This report may contain data that is not covered by the NVLAP accreditation.

Samples analyzed by EMSL Analytical, Inc. New York, NY NYS ELAP 11506



ASBESTOS SURVEY DATA SHEET / CHAIN OF CUSTODY

PAGE 1 OF 1

PROJECT NO.: 3000 865

CLIENT: White Plains Public School

PROJECT SITE: Ridgeway Elementary School

Project Manager: Craig Napolitano

LOCATION(S) SURVEYED: Throughout Building

DATE(S) OF INSPECTION: 10/11/13

Inspector(s): Josue Garcia

03/340227



THE LOUIS BERGER GROUP, INC.
TELEPHONE NO. : (212) 612-7900 FAX NO.: (212) 363-4341
ADDRESS: 48 Wall Street 16th Floor, New York, NY 10005

RESULTS TO: acheskin@louisberger.com
cnapolitano@louisberger.com, igarcia@louisber.com

TURNAROUND TIME: ☐ 4 HR. ☐ 12 HR
☐ 24 HR. ☐ 48 HR. ☒ 72 HR.

[illegible]

CHAIN OF CUSTODY

Relinquished by: S. Garcia	(Sign) 	(Date) 10/14/13	(Time)	Relinquished by:	(Sign)	(Date)	(Time)	Relinquished by:	(Sign)	(Date)	(Time)
Received by: L. Batia Anderson	(Sign) 	(Date) 10/14/13	(Time) 12:13 pm	Received by:	(Sign)	(Date)	(Time)	Received by:	(Sign)	(Date)	(Time)

General Notes: All inconclusive NOBs to be analyzed by TEM. Please stop at 1st positive in any homogeneous group.

Emily Mylar 10/16/13 9:21A

031340227

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Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031400139

CustomerID: LBAP78

CustomerPO: 3000898.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
 Fax:
 Received: 12/31/14 3:59 PM
 Analysis Date: 1/5/2014
 Collected: 12/30/2013

Project: 3000898.00/ H2M ARCHITECT'S & ENGINEERS/ RIDGEWAY ELEMENTARY SCHOOL/ 225 RIDGEWAY WHITE PLAINS, NY/ INTERIOR &

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 01 031400139-0001		Description Homogeneity	MAIN OFFICE RECEPTION AREA - GYPSUM BOARD Homogeneous		
PLM NYS 198.1 Friable	1/5/2014	Brown/Gray	25.00% Cellulose	65.00% Gypsum 10.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 02 031400139-0002		Description Homogeneity	MAIN OFFICE MAIL AREA - GYPSUM BOARD Heterogeneous		
PLM NYS 198.1 Friable	1/6/2014	Brown/Gray	25.00% Cellulose	50.00% Gypsum 25.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 03 031400139-0003		Description Homogeneity	MAIN OFFICE RECEPTION AREA - JOINT COMPOUND/ WHITE Homogeneous		
PLM NYS 198.1 Friable	1/5/2014	White/Blue		5.00% Mica 60.00% Ca Carbonate 35.00% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 04 031400139-0004		Description Homogeneity	MAIN OFFICE MAIL AREA - JOINT COMPOUND/ WHITE Homogeneous		
PLM NYS 198.1 Friable	1/6/2014	White		5.00% Mica 60.00% Ca Carbonate 35.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed

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EMSL Order: 031400139
 CustomerID: LBAP78
 CustomerPO: 3000898.00
 ProjectID:

Test Report:Asbestos Analysis of Bulk Material

		Non Asbestos			Asbestos
Test		Color	Fibrous	Non-Fibrous	
Sample ID 05 031400139-0005		Description Homogeneity	MAIN OFFICE RECEPTION AREA - INTERIOR BRICK MORTAR Homogeneous		
PLM NYS 198.1 Friable	1/5/2014	Brown/Red		60.00% Quartz 40.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 06 031400139-0006		Description Homogeneity	CORRIDOR O/S BOYS RESTROOM - INTERIOR BRICK MORTAR Heterogeneous		
PLM NYS 198.1 Friable	1/6/2014	Tan		50.00% Quartz 15.00% Ca Carbonate 35.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 07 031400139-0007		Description Homogeneity	MAIN OFFICE - INTERIOR CINDERBLOCK MORTAR Homogeneous		
PLM NYS 198.1 Friable	1/5/2014	Brown		30.00% Quartz 70.00% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis					
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 08 031400139-0008		Description Homogeneity	BOYS RESTROOM - INTERIOR CINDERBLOCK MORTAR Heterogeneous		
PLM NYS 198.1 Friable	1/6/2014	Gray		50.00% Quartz 25.00% Ca Carbonate 25.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 09 031400139-0009		Description Homogeneity	MAIN OFFICE RECEPTION AREA - TECTUM CEILING TILES Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Brown			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	Brown			None Detected

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EMSL Order: 031400139
 CustomerID: LBAP78
 CustomerPO: 3000898.00
 ProjectID:

Test Report:Asbestos Analysis of Bulk Material

		Non Asbestos			
Test		Color	Fibrous	Non-Fibrous	Asbestos
Sample ID 10 031400139-0010	Description Homogeneity	MAIN OFFICE MAIL AREA - TECTUM CEILING TILES Heterogeneous			
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Brown			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	Brown			None Detected
Sample ID 11 031400139-0011	Description Homogeneity	MAIN OFFICE RECEPTION AREA - INTERIOR AC UNIT CAULKING/ WHITE Heterogeneous			
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	White			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	White			None Detected
Sample ID 12 031400139-0012	Description Homogeneity	MAIN OFFICE CONFERENCE ROOM - INTERIOR AC UNIT CAULKING/ WHITE Heterogeneous			
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	White			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	White			None Detected
Sample ID 13 031400139-0013	Description Homogeneity	MAIN OFFICE - AIRCELL PIPE INSULATION Heterogeneous			
PLM NYS 198.1 Friable	1/6/2014	Tan/White	85.00% Cellulose	12.50% Non-fibrous (other)	2.50% Chrysotile
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 14 031400139-0014	Description Homogeneity	MAIN OFFICE - AIRCELL PIPE INSULATION			
PLM NYS 198.1 Friable	1/6/2014				Positive Stop
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 15 031400139-0015	Description Homogeneity	MAIN OFFICE - AIRCELL PIPE INSULATION			
PLM NYS 198.1 Friable	1/6/2014				Positive Stop
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed

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EMSL Order: 031400139
 CustomerID: LBAP78
 CustomerPO: 3000898.00
 ProjectID:

Test Report:Asbestos Analysis of Bulk Material

Test		Color	Fibrous	Non-Fibrous	Asbestos
Sample ID	16 031400139-0016	Description Homogeneity	MAIN OFFICE - CANVAS OVER AIRCELL PIPE INSULATION/ BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Black	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/5/2014	Black	<1% Chrysotile <1% Total		
Sample ID	17 031400139-0017	Description Homogeneity	MAIN OFFICE - CANVAS OVER AIRCELL PIPE INSULATION/ BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Black	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/5/2014	Black	<1% Chrysotile <1% Total		
Sample ID	18 031400139-0018	Description Homogeneity	MAIN OFFICE - CANVAS OVER AIRCELL PIPE INSULATION/ BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Black	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/5/2014	Black	<1% Chrysotile <1% Total		
Sample ID	19 031400139-0019	Description Homogeneity	MAIN OFFICE - CEILING PLASTER/ BROWN Homogeneous		
PLM NYS 198.1 Friable	1/5/2014	Brown/Gray	45.00% Quartz 40.00% Ca Carbonate 15.00% Non-fibrous (other)	None Detected	
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID	20 031400139-0020	Description Homogeneity	MAIN OFFICE - CEILING PLASTER/ BROWN Homogeneous		
PLM NYS 198.1 Friable	1/5/2014	Brown/Gray	40.00% Quartz 60.00% Non-fibrous (other)	None Detected	
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed

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EMSL Order: 031400139
 CustomerID: LBAP78
 CustomerPO: 3000898.00
 ProjectID:

Test Report:Asbestos Analysis of Bulk Material

Test		Non Asbestos			Asbestos
		Color	Fibrous	Non-Fibrous	
Sample ID 21 031400139-0021	Description Homogeneity	MAIN OFFICE - CEILING PLASTER/ BROWN Homogeneous			
PLM NYS 198.1 Friable	1/6/2014	Gray		15.00% Quartz 30.00% Gypsum 10.00% Ca Carbonate 45.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 22 031400139-0022	Description Homogeneity	MAIN OFFICE - MASTIC TO 4" GRAY COVE BASE/ CREAM Heterogeneous			
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Cream			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	Cream			None Detected
Sample ID 23 031400139-0023	Description Homogeneity	MAIN OFFICE - MASTIC TO 4" GRAY COVE BASE/ CREAM Heterogeneous			
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Cream			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	Cream			None Detected
Sample ID 24 031400139-0024	Description Homogeneity	MAIN OFFICE - 4" GRAY COVE BASE Heterogeneous			
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Gray			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	Gray			None Detected
Sample ID 25 031400139-0025	Description Homogeneity	MAIN OFFICE - 4" GRAY COVE BASE Heterogeneous			
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Gray			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	Gray			None Detected
Sample ID 26 031400139-0026	Description Homogeneity	MAIN OFFICE - LEVELING COMPOUND UNDER FL TILE/ WHITE Homogeneous			
PLM NYS 198.1 Friable	1/5/2014	Gray/White		60.00% Ca Carbonate 40.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed

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EMSL Order: 031400139
 CustomerID: LBAP78
 CustomerPO: 3000898.00
 ProjectID:

Test Report:Asbestos Analysis of Bulk Material

		Non Asbestos			Asbestos
Test		Color	Fibrous	Non-Fibrous	
Sample ID 27 031400139-0027		Description Homogeneity	MAIN OFFICE - LEVELING COMPOUND UNDER FL TILE/ WHITE Heterogeneous		
PLM NYS 198.1 Friable	1/6/2014	Beige		60.00% Ca Carbonate 40.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 28 031400139-0028		Description Homogeneity	MAIN OFFICE - MASTIC TO 12"X12" WHITE VARIOUS COLORED SPEC FL TILES/ BROWN Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Brown			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	Brown			None Detected
Sample ID 29 031400139-0029		Description Homogeneity	MAIN OFFICE - MASTIC TO 12"X12" WHITE VARIOUS COLORED SPEC FL TILES/ BROWN Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Brown			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	Brown			None Detected
Sample ID 30 031400139-0030		Description Homogeneity	MAIN OFFICE - 12"X12" WHITE VARIOUS COLORED SPEC FL TILES Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	White			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	White			None Detected
Sample ID 31 031400139-0031		Description Homogeneity	MAIN OFFICE - 12"X12" WHITE VARIOUS COLORED SPEC FL TILES Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	White			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	White			None Detected
Sample ID 32 031400139-0032		Description Homogeneity	BOYS RESTROOM 135 - CERAMIC WALL TILE GROUT/ WHITE Homogeneous		
PLM NYS 198.1 Friable	1/5/2014	White		65.00% Ca Carbonate 35.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed

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EMSL Order: 031400139
 CustomerID: LBAP78
 CustomerPO: 3000898.00
 ProjectID:

Test Report:Asbestos Analysis of Bulk Material

		Non Asbestos			Asbestos
Test		Color	Fibrous	Non-Fibrous	
Sample ID 33 031400139-0033		Description Homogeneity	GIRLS RESTROOM - CERAMIC WALL TILE GROUT/ WHITE Homogeneous		
PLM NYS 198.1 Friable	1/6/2014	White		75.00% Ca Carbonate 25.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 34 031400139-0034		Description Homogeneity	BOYS RESTROOM 135 - CERAMIC WALL TILE BACKING/ BEIGE Homogeneous		
PLM NYS 198.1 Friable	1/5/2014	Beige		40.00% Ca Carbonate 56.92% Non-fibrous (other)	3.08% Chrysotile
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 35 031400139-0035		Description Homogeneity	GIRLS RESTROOM - CERAMIC WALL TILE BACKING/ BEIGE		
PLM NYS 198.1 Friable	1/5/2014				Positive Stop
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 36 031400139-0036		Description Homogeneity	BOYS RESTROOM 135 - 1"X1" CERAMIC FL TILE MORTAR Homogeneous		
PLM NYS 198.1 Friable	1/5/2014	Gray		75.00% Quartz 25.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 37 031400139-0037		Description Homogeneity	GIRLS RESTROOM - 1"X1" CERAMIC FL TILE MORTAR Homogeneous		
PLM NYS 198.1 Friable	1/6/2014	Gray		45.00% Quartz 20.00% Ca Carbonate 35.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed

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EMSL Order: 031400139
 CustomerID: LBAP78
 CustomerPO: 3000898.00
 ProjectID:

Test Report: Asbestos Analysis of Bulk Material

Non Asbestos					
Test		Color	Fibrous	Non-Fibrous	Asbestos
Sample ID	38 031400139-0038	Description Homogeneity	BOYS RESTROOM 135 - COMPOUND BETWEEN WINDOW FRAME/ WHITE Homogeneous		
PLM NYS 198.1 Friable	1/5/2014	White/Beige	55.00% Ca Carbonate 37.98% Non-fibrous (other)		7.02% Chrysotile
Inseparable paint / coating layer included in analysis					
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID	39 031400139-0039	Description Homogeneity	GIRLS RESTROOM - COMPOUND BETWEEN WINDOW FRAME/ WHITE		
PLM NYS 198.1 Friable	1/5/2014				Positive Stop
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID	40 031400139-0040	Description Homogeneity	MAIN OFFICE KITCHEN - GLUE DOTS TO 1'X1' CEILING TILES/ BROWN Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Brown			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	Brown			None Detected
Sample ID	41 031400139-0041	Description Homogeneity	CLASSROOM 126 - GLUE DOTS TO 1'X1' CEILING TILES/ BROWN Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Brown			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	Brown			None Detected
Sample ID	42 031400139-0042	Description Homogeneity	CLASSROOM 133 - GYPSUM BOARD CEILING Homogeneous		
PLM NYS 198.1 Friable	1/5/2014	Brown/Gray	30.00% Cellulose	55.00% Gypsum 15.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID	43 031400139-0043	Description Homogeneity	CLASSROOM 134 - GYPSUM BOARD CEILING Heterogeneous		
PLM NYS 198.1 Friable	1/6/2014	Brown/Gray	25.00% Cellulose	50.00% Gypsum 25.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed

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EMSL Order: 031400139
 CustomerID: LBAP78
 CustomerPO: 3000898.00
 ProjectID:

Test Report:Asbestos Analysis of Bulk Material

Test		Color	Non Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID	44 031400139-0044	Description Homogeneity	CLASSROOM 133 - SOFFIT PLASTER/ BROWN COAT Homogeneous		
PLM NYS 198.1 Friable	1/5/2014	Gray	50.00% Quartz 50.00% Non-fibrous (other)		None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID	45 031400139-0045	Description Homogeneity	CLASSROOM 140 - SOFFIT PLASTER/ BROWN COAT Homogeneous		
PLM NYS 198.1 Friable	1/5/2014	Gray	70.00% Quartz 30.00% Non-fibrous (other)		None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID	46 031400139-0046	Description Homogeneity	CLASSROOM 126 - SOFFIT PLASTER/ BROWN COAT Homogeneous		
PLM NYS 198.1 Friable	1/6/2014	Gray	50.00% Quartz 25.00% Ca Carbonate 25.00% Non-fibrous (other)		None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID	47 031400139-0047	Description Homogeneity	CLASSROOM 133 - SOFFIT PLASTER/ WHITE COAT Homogeneous		
PLM NYS 198.1 Friable	1/5/2014	White	55.00% Ca Carbonate 42.62% Non-fibrous (other)		2.38% Chrysotile
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID	48 031400139-0048	Description Homogeneity	CLASSROOM 140 - SOFFIT PLASTER/ WHITE COAT		
PLM NYS 198.1 Friable	1/5/2014				Positive Stop
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID	49 031400139-0049	Description Homogeneity	CLASSROOM 126 - SOFFIT PLASTER/ WHITE COAT		
PLM NYS 198.1 Friable	1/5/2014				Positive Stop
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed

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Test Report:Asbestos Analysis of Bulk Material

		Non Asbestos			Asbestos
Test		Color	Fibrous	Non-Fibrous	
Sample ID 50 031400139-0050	Description Homogeneity	AUDITORIUM - GLUE DOTS 1'X1' CEILING TILES/ LIGHT GRAY Heterogeneous			
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Gray			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	Gray			None Detected
Sample ID 51 031400139-0051	Description Homogeneity	AUDITORIUM - GLUE DOTS 1'X1' CEILING TILES/ LIGHT GRAY Heterogeneous			
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Gray			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	Gray			None Detected
Sample ID 52 031400139-0052	Description Homogeneity	AUDITORIUM - CEILING PLASTER/ BROWN ONLY Homogeneous			
PLM NYS 198.1 Friable	1/5/2014	Brown		60.00% Quartz 40.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 53 031400139-0053	Description Homogeneity	AUDITORIUM - CEILING PLASTER/ BROWN ONLY Homogeneous			
PLM NYS 198.1 Friable	1/5/2014	Brown		65.00% Quartz 35.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 54 031400139-0054	Description Homogeneity	AUDITORIUM - CEILING PLASTER/ BROWN ONLY Homogeneous			
PLM NYS 198.1 Friable	1/6/2014	Gray		60.00% Quartz 40.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 55 031400139-0055	Description Homogeneity	AUDITORIUM - STAGE CURTAIN Homogeneous			
PLM NYS 198.1 Friable	1/5/2014	Brown	98.00% Cellulose	2.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed

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EMSL Order: 031400139
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CustomerPO: 3000898.00
ProjectID:

Test Report: Asbestos Analysis of Bulk Material

Test		Color	Fibrous	Non Asbestos		Asbestos
Sample ID	56 031400139-0056	Description Homogeneity	AUDITORIUM - STAGE CURTAIN Homogeneous			
PLM NYS 198.1 Friable	1/6/2014	Tan	98.00% Cellulose	2.00% Non-fibrous (other)		None Detected
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB						Not Analyzed
TEM NYS 198.4 NOB						Not Analyzed
Sample ID	57 031400139-0057	Description Homogeneity	CLASSROOM 102 - LEVELING COMPOUND UNDER FL TILES/ GRAY Homogeneous			
PLM NYS 198.1 Friable	1/5/2014	Gray	70.00% Ca Carbonate 30.00% Non-fibrous (other)		None Detected	
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB						Not Analyzed
TEM NYS 198.4 NOB						Not Analyzed
Sample ID	58 031400139-0058	Description Homogeneity	CLASSROOM 103 - LEVELING COMPOUND UNDER FL TILES/ GRAY Homogeneous			
PLM NYS 198.1 Friable	1/6/2014	Gray	35.00% Quartz 40.00% Ca Carbonate 25.00% Non-fibrous (other)		None Detected	
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB						Not Analyzed
TEM NYS 198.4 NOB						Not Analyzed
Sample ID	59 031400139-0059	Description Homogeneity	CLASSROOM 102 - MASTIC TO 12"X12" RED FL TILES/ BEIGE Heterogeneous			
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Beige	Inconclusive: None Detected			
TEM NYS 198.4 NOB	1/5/2014	Beige	None Detected			
Sample ID	60 031400139-0060	Description Homogeneity	CLASSROOM 102 - MASTIC TO 12"X12" RED FL TILES/ BEIGE Heterogeneous			
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Beige	Inconclusive: None Detected			
TEM NYS 198.4 NOB	1/5/2014	Beige	None Detected			
Sample ID	61 031400139-0061	Description Homogeneity	CLASSROOM 102 - 12"X12" RED FL TILES Heterogeneous			
PLM NYS 198.1 Friable						Not Analyzed
PLM NYS 198.6 VCM						Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Red	Inconclusive: None Detected			
TEM NYS 198.4 NOB	1/5/2014	Red	None Detected			

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EMSL Order: 031400139
 CustomerID: LBAP78
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Test Report:Asbestos Analysis of Bulk Material

Non Asbestos					
Test		Color	Fibrous	Non-Fibrous	Asbestos
Sample ID	62 031400139-0062	Description Homogeneity	CLASSROOM 102 - 12"X12" RED FL TILES Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Red	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/5/2014	Red	None Detected		
Sample ID	63 031400139-0063	Description Homogeneity	CLASSROOM 102 - MASTIC TO 6" BLACK COVE BASE/ TAN Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Tan	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/5/2014	Tan	None Detected		
Sample ID	64 031400139-0064	Description Homogeneity	CLASSROOM 102 - MASTIC TO 6" BLACK COVE BASE/ TAN Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Tan	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/5/2014	Tan	None Detected		
Sample ID	65 031400139-0065	Description Homogeneity	CLASSROOM 102 - 6" BLACK COVE BASE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Black	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/5/2014	Black	None Detected		
Sample ID	66 031400139-0066	Description Homogeneity	CLASSROOM 102 - 6" BLACK COVE BASE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Black	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/5/2014	Black	None Detected		
Sample ID	67 031400139-0067	Description Homogeneity	CLASSROOM 102 - CAULKING BETWEEN WINDOW FRAME AND CASEWORK/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	White	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/5/2014	White	None Detected		

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EMSL Order: 031400139
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Test Report:Asbestos Analysis of Bulk Material

		Non Asbestos		
Test		Color	Fibrous	Non-Fibrous
Sample ID	68	Description	CLASSROOM 103 - CAULKING BETWEEN WINDOW FRAME AND CASEWORK/ WHITE	
	031400139-0068	Homogeneity	Heterogeneous	
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	White	Inconclusive: None Detected	
TEM NYS 198.4 NOB	1/5/2014	White	None Detected	
Sample ID	69	Description	CLASSROOM 103 - MASTIC TO 12"X12" BROWN FL TILES/ BEIGE	
	031400139-0069	Homogeneity	Heterogeneous	
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Beige	Inconclusive: None Detected	
TEM NYS 198.4 NOB	1/5/2014	Beige	None Detected	
Sample ID	70	Description	CLASSROOM 103 - MASTIC TO 12"X12" BROWN FL TILES/ BEIGE	
	031400139-0070	Homogeneity	Heterogeneous	
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Beige	Inconclusive: None Detected	
TEM NYS 198.4 NOB	1/5/2014	Beige	None Detected	
Sample ID	71	Description	CLASSROOM 103 - 12"X12" BROWN FL TILES	
	031400139-0071	Homogeneity	Heterogeneous	
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Brown	Inconclusive: None Detected	
TEM NYS 198.4 NOB	1/5/2014	Brown	None Detected	
Sample ID	72	Description	CLASSROOM 103 - 12"X12" BROWN FL TILES	
	031400139-0072	Homogeneity	Heterogeneous	
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Brown	Inconclusive: None Detected	
TEM NYS 198.4 NOB	1/5/2014	Brown	None Detected	
Sample ID	73	Description	CLASSROOM 103 - MASTIC TO 6" BROWN & DARK BROWN COVE BASE/ YELLOW	
	031400139-0073	Homogeneity	Heterogeneous	
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	Yellow	Inconclusive: None Detected	
TEM NYS 198.4 NOB	1/5/2014	Yellow	None Detected	

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EMSL Order: 031400139
 CustomerID: LBAP78
 CustomerPO: 3000898.00
 ProjectID:

Test Report:Asbestos Analysis of Bulk Material

		Non Asbestos		
Test		Color	Fibrous	Non-Fibrous
Sample ID	Description	Homogeneity		Asbestos
74 031400139-0074	CLASSROOM 103 - MASTIC TO 6" BROWN & DARK BROWN COVE BASE/ YELLOW	Heterogeneous		
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/5/2014 Yellow			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014 Yellow			None Detected
Sample ID	Description	Homogeneity		
75 031400139-0075	CLASSROOM 103 - 6" BROWN & DARK BROWN COVE BASE	Heterogeneous		
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/5/2014 Brown			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014 Brown			None Detected
Sample ID	Description	Homogeneity		
76 031400139-0076	CLASSROOM 103 - 6" BROWN & DARK BROWN COVE BASE	Heterogeneous		
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/5/2014 Brown			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014 Brown			None Detected
Sample ID	Description	Homogeneity		
77 031400139-0077	EXTERIOR FAÇADE - EXTERIOR EXPANSION WALL JOINT/ TAN	Heterogeneous		
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/5/2014 Tan			Inconclusive : <1%Chrysotile Inconclusive - <1% Total
TEM NYS 198.4 NOB	1/5/2014 Tan			1.2% Chrysotile 1.2% Total
Sample ID	Description	Homogeneity		
78 031400139-0078	EXTERIOR FAÇADE - EXTERIOR EXPANSION WALL JOINT/ TAN	Heterogeneous		
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/5/2014 Tan			Inconclusive : <1%Chrysotile Inconclusive - <1% Total
TEM NYS 198.4 NOB	1/5/2014			Positive Stop (Not Analyzed)
Sample ID	Description	Homogeneity		
79 031400139-0079	EXTERIOR FAÇADE - EXTERIOR BRICK MORTAR	Homogeneous		
PLM NYS 198.1 Friable	1/5/2014 Brown		55.00% Quartz 45.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB				Not Analyzed
TEM NYS 198.4 NOB				Not Analyzed

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Test Report:Asbestos Analysis of Bulk Material

		Non Asbestos			Asbestos
Test		Color	Fibrous	Non-Fibrous	
Sample ID 80 031400139-0080		Description Homogeneity	EXTERIOR FAÇADE - EXTERIOR BRICK MORTAR Heterogeneous		
PLM NYS 198.1 Friable	1/6/2014	Gray		50.00% Quartz 20.00% Ca Carbonate 30.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 81 031400139-0081		Description Homogeneity	EXTERIOR FAÇADE - EXTERIOR AC UNIT CAULKING/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	White			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	White			None Detected
Sample ID 82 031400139-0082		Description Homogeneity	EXTERIOR FAÇADE - EXTERIOR AC UNIT CAULKING/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	White			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	White			None Detected
Sample ID 83 031400139-0083		Description Homogeneity	EXTERIOR FAÇADE - EXTERIOR WINDOW FRAME CAULKING/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	White			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	White			None Detected
Sample ID 84 031400139-0084		Description Homogeneity	EXTERIOR FAÇADE - EXTERIOR WINDOW FRAME CAULKING/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/5/2014	White			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/5/2014	White			None Detected



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EMSL Order: 031400139

CustomerID: LBAP78

CustomerPO: 3000898.00

ProjectID:

Test Report:Asbestos Analysis of Bulk Material

Test	Color	Non Asbestos		Asbestos
		Fibrous	Non-Fibrous	
Analyst(s)				
Emmanuel Alberto	Wioletta Bis			
Shahrakur Mahmud				
Sean Scales				
				 James Hall, Laboratory Manager or other approved signatory

NOB = Non Friable Organically Bound N/A = Not Applicable VCM = Vermiculite Containing Material

-In New York State, TEM is currently the only method that can be used to determine if NOB materials can be considered or treated as non-asbestos containing.

All samples examined for the presence of vermiculite when analyzed via NYS 198.1.

-NYS Guidelines for Vermiculite containing samples are available at http://www.wadsworth.org/labcert/elapcert/forms/VermiculiteInterimGuidance_Rev070913.pdf

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Samples analyzed by EMSL Analytical, Inc. New York, NY NYS ELAP 11506

0314 00139

PROJECT NO.: 3000898.00
CLIENT: H2M Architect's & Engineers
PROJECT SITE: Ridgeway Elementary School, 225 Ridgeway, White Plains NY
Project Manager: A. Cheskin

LOCATION(S) SURVEYED : Interior & Exterior
PROPOSED PROJECT : Upgrades
DATE(S) OF INSPECTION: 12/30/14
Inspector(s): M. Luccioni

THE LOUIS BERGER GROUP, INC.
TELEPHONE NO.: (212) 612-7900 **FAX NO.:** (212) 425-1618
ADDRESS: 48 Wall Street, 16 Floor, New York, NY 10005

RESULTS TO: *M. Luccioni, @louisberger.com*
Acheskin@louisberger.com

TURNAROUND TIME: X 96 HR.

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PM 3:59

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
1	01	Main Office Reception Area	Gypsum Board		
1	02	Main Office Mail Area	Gypsum Board		
2	03	Main Office Reception Area	Joint Compound, White		
2	04	Main Office Mail Area	Joint Compound, White		
3	05	Main Office Reception Area	Interior Brick Mortar		
3	06	Corridor o/s Boys Restroom	Interior Brick Mortar		
4	07	Main Office	Interior Cinderblock Mortar		
4	08	Boys Restroom	Interior Cinderblock Mortar		
5	09	Main Office Reception Area	Tectum Ceiling Tiles		
5	10	Main Office Mail Area	Tectum Ceiling Tiles		
6	11	Main Office Reception Area	Interior AC Unit Caulking, White		
6	12	Main Office Conference Room	Interior AC Unit Caulking, White		

CHAIN OF CUSTODY					
Relinquished by: (print)	(Sign)	12/31/13	Relinquished by: (print)	(Sign)	
Received by: (print)	(Sign)	12/31/13	Received by: (print)	(Sign)	

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

0314 00139

THE LOUIS BERGER

ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODYPAGE 2 OF 7PROJECT NO.: 3000898.00CLIENT: H2M Architect's & EngineersPROJECT SITE: Ridgeway Elementary School, 225 Ridgeway, White Plains NYProject Manager: A. CheskinLOCATION(S) SURVEYED : Interior & ExteriorPROPOSED PROJECT : UpgradesDATE(S) OF INSPECTION: 12/30/14Inspector(s): M. Luccioni

THE LOUIS BERGER GROUP, INC.

TELEPHONE NO. : (212) 612-7900

FAX NO.: (212) 425-1618

ADDRESS: 48 Wall Street, 16 Floor, New York, NY 10005

RESULTS TO: _____

TURNAROUND TIME:
X 96 HR.

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
7	13	Main Office	Aircell Pipe Insulation		
7	14	Main Office	Aircell Pipe Insulation		
7	15	Main Office	Aircell Pipe Insulation		
8	16	Main Office	Canvas over Aircell Pipe Insulation, Black		
8	17	Main Office	Canvas over Aircell Pipe Insulation, Black		
8	18	Main Office	Canvas over Aircell Pipe Insulation, Black		
9	19	Main Office	Ceiling Plaster, Brown		Remnant only above plenum
9	20	Main Office	Ceiling Plaster, Brown		Remnant only above plenum
9	21	Main Office	Ceiling Plaster, Brown		Remnant only above plenum
10	22	Main Office	Mastic to 4" Gray Cove Base, Cream		
10	23	Main Office	Mastic to 4" Gray Cove Base, Cream		
11	24	Main Office	4" Gray Cove Base		

EMSL MANHATTAN LAB
RECEIVED
2013 DEC 31 PM 3:59

CHAIN OF CUSTODY

Relinquished by: (print) <u>M. Luccioni</u>	(Sign) <u>[Signature]</u>	12/31/13	13/10	Relinquished by: (print) _____	(Sign) _____
Received by: (print) <u>Demetrius</u>	(Sign) <u>[Signature]</u>	12/31/13	3/1/14	Received by: (print) _____	(Sign) _____
				Relinquished by: (print) _____	(Sign) _____
				Received by: (print) _____	(Sign) _____

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

031400139

THE LOUIS BERGER

ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODYPAGE 3 OF 7

PROJECT NO.: 3000898.00

CLIENT: H2M Architect's & Engineers

PROJECT SITE: Ridgeway Elementary School, 225 Ridgeway, White Plains NY

Project Manager: A. Cheskin

LOCATION(S) SURVEYED : Interior & Exterior

PROPOSED PROJECT : Upgrades

DATE(S) OF INSPECTION: 12/30/14

Inspector(s): M. Luccioni

THE LOUIS BERGER GROUP, INC.

TELEPHONE NO.: (212) 612-7900

FAX NO.: (212) 425-1618

ADDRESS: 48 Wall Street, 16 Floor, New York, NY 10005

RESULTS TO: _____

TURNAROUND TIME:
X 96 HR.

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
11	25	Main Office	4" Gray Cove Base		
12	26	Main Office	Leveling Compound under Floor Tile, White		
12	27	Main Office	Leveling Compound under Floor Tile, White		
13	28	Main Office	Mastic to 12"x12" White various colored spec Floor Tiles, Brown		
13	29	Main Office	Mastic to 12"x12" White various colored spec Floor Tiles, Brown		
14	30	Main Office	12"x12" White various colored spec Floor Tiles		
14	31	Main Office	12"x12" White various colored spec Floor Tiles		
15	32	Boys Restroom 135	Ceramic Wall Tile Grout, White		
15	33	Girls Restroom	Ceramic Wall Tile Grout, White		
16	34	Boys Restroom 135	Ceramic Wall Tile Backing, Beige		
16	35	Girls Restroom	Ceramic Wall Tile Backing, Beige		
17	36	Boys Restroom 135	1"x1" Ceramic Floor Tile Mortar		

CHAIN OF CUSTODY

Relinquished by: (print)	Relinquished by: (Sign)	Relinquished by: (print)	Relinquished by: (Sign)
Received by: (print)	Received by: (Sign)	Received by: (print)	Received by: (Sign)

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

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THE LOUIS BERGER

ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODYPAGE 4 OF 7

PROJECT NO.: 3000898.00

CLIENT: H2M Architect's & Engineers

PROJECT SITE: Ridgeway Elementary School, 225 Ridgeway, White Plains NY

Project Manager: A. Cheskin

LOCATION(S) SURVEYED : Interior & Exterior

PROPOSED PROJECT : Upgrades

DATE(S) OF INSPECTION: 12/30/14

Inspector(s): M. Luccioni

THE LOUIS BERGER GROUP, INC.

TELEPHONE NO.: (212) 612-7900

FAX NO.: (212) 425-1618

ADDRESS: 48 Wall Street, 16 Floor, New York, NY 10005

RESULTS TO: _____

TURNAROUND TIME:
X 96 HR.

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
17	37	Girls Restroom	1"x1" Ceramic Floor Tile Mortar		
18	38	Boys Restroom 135	Compound between Window Frame, White		
18	39	Girls Restroom	Compound between Window Frame, White		
19	40	Main Office Kitchen	Glue Dots to 1'x1' Ceiling Tiles, Brown		
19	41	Classroom 126	Glue Dots to 1'x1' Ceiling Tiles, Brown		
20	42	Classroom 133	Gypsum Board Ceiling		
20	43	Classroom 134	Gypsum Board Ceiling		
21	44	Classroom 133	Soffit Plaster, Brown Coat		
21	45	Classroom 140	Soffit Plaster, Brown Coat		
21	46	Classroom 126	Soffit Plaster, Brown Coat		
22	47	Classroom 133	Soffit Plaster, White Coat		
22	48	Classroom 140	Soffit Plaster, White Coat		

CHAIN OF CUSTODY

Relinquished by: (print)	(Sign)	Relinquished by: (print)	(Sign)
Received by: (print)	(Sign)	Received by: (print)	(Sign)
Relinquished by: (print)	(Sign)	Relinquished by: (print)	(Sign)
Received by: (print)	(Sign)	Received by: (print)	(Sign)

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

THE LOUIS BERGER

ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODYPAGE 5 OF 7PROJECT NO.: 3000898,00CLIENT: H2M Architect's & EngineersPROJECT SITE: Ridgeway Elementary School, 225 Ridgeway, White Plains NYProject Manager: A. Cheskin

THE LOUIS BERGER GROUP, INC.

TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 425-1618

ADDRESS: 48 Wall Street, 16 Floor, New York, NY 10005

LOCATION(S) SURVEYED: Interior & ExteriorPROPOSED PROJECT: UpgradesDATE(S) OF INSPECTION: 12/30/14Inspector(s): M. Luccioni

RESULTS TO: _____

TURNAROUND TIME:
X 96 HR.

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
22	49	Classroom 126	Soffit Plaster, White Coat		
23	50	Auditorium	Glue Dots to 1'x1' Ceiling Tiles, Light Gray		
23	51	Auditorium	Glue Dots to 1'x1' Ceiling Tiles, Light Gray		
24	52	Auditorium	Ceiling Plaster, Brown only		Only found where 1'x1' ceiling tiles lay
24	53	Auditorium	Ceiling Plaster, Brown only		Only found where 1'x1' ceiling tiles lay
24	54	Auditorium	Ceiling Plaster, Brown only		Only found where 1'x1' ceiling tiles lay
25	55	Auditorium	Stage Curtain		
25	56	Auditorium	Stage Curtain		
26	57	Classroom 102	Leveling Compound under Floor Tiles, Gray		
26	58	Classroom 103	Leveling Compound under Floor Tiles, Gray		
27	59	Classroom 102	Mastic to 12"x12" Red Floor Tiles, Beige		
27	60	Classroom 102	Mastic to 12"x12" Red Floor Tiles, Beige		

CHAIN OF CUSTODY

Relinquished by: (print) <u>M. Luccioni</u>	(Sign) <u>[Signature]</u>	12/31/13	10	Relinquished by: (print) _____	(Sign) _____
Received by: (print) <u>Emily Babson</u>	(Sign) <u>[Signature]</u>	12/31/13	10	Received by: (print) _____	(Sign) _____

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

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THE LOUIS BERGER

ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODYPAGE 6 OF 7

PROJECT NO.: 3000898.00

CLIENT: H2M Architect's & Engineers

PROJECT SITE: Ridgeway Elementary School, 225 Ridgeway, White Plains NY

Project Manager: A. Cheskin

LOCATION(S) SURVEYED : Interior & Exterior

PROPOSED PROJECT : Upgrades

DATE(S) OF INSPECTION: 12/30/14

Inspector(s): M. Luccioni

THE LOUIS BERGER GROUP, INC.

TELEPHONE NO.: (212) 612-7900

FAX NO.: (212) 425-1618

ADDRESS: 48 Wall Street, 16 Floor, New York, NY 10005

RESULTS TO: _____

TURNAROUND TIME:
X 96 HR.

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
28	61	Classroom 102	12"x12" Red Floor Tiles		
28	62	Classroom 102	12"x12" Red Floor Tiles		
29	63	Classroom 102	Mastic to 6" Black Cove Base, Tan		
29	64	Classroom 102	Mastic to 6" Black Cove Base, Tan		
30	65	Classroom 102	6" Black Cove Base		
30	66	Classroom 102	6" Black Cove Base		
31	67	Classroom 102	Caulking between window frame and casework, White		
31	68	Classroom 103	Caulking between window frame and casework, White		
32	69	Classroom 103	Mastic to 12"x12" Brown Floor Tiles, Beige		
32	70	Classroom 103	Mastic to 12"x12" Brown Floor Tiles, Beige		
33	71	Classroom 103	12"x12" Brown Floor Tiles		
33	72	Classroom 103	12"x12" Brown Floor Tiles		

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 2013 DEC 31 PM 4:03

CHAIN OF CUSTODY

Relinquished by: (print) M. Luccioni	(Sign)	12/31/13	13:10	Relinquished by: (print) / /	(Sign)	/ /	AM/PM
Received by: (print) M. Luccioni	(Sign)	12/31/13	13:10	Received by: (print) / /	(Sign)	/ /	AM/PM

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

39

031400139

THE LOUIS BERGER

ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODYPAGE 7 OF 7

PROJECT NO.: 3000898.00

CLIENT: H2M Architect's & Engineers

PROJECT SITE: Ridgeway Elementary School, 225 Ridgeway, White Plains NY

Project Manager: A. Cheskin

LOCATION(S) SURVEYED : Interior & Exterior

PROPOSED PROJECT : Upgrades

DATE(S) OF INSPECTION: 12/30/14

Inspector(s): M. Luccioni

THE LOUIS BERGER GROUP, INC.

TELEPHONE NO.: (212) 612-7900

FAX NO.: (212) 425-1618

ADDRESS: 48 Wall Street, 16 Floor, New York, NY 10005

RESULTS TO: _____

TURNAROUND TIME:
X 96 HR.

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
34	73	Classroom 103	Mastic to 6" Brown & Dark Brown Cove Base, Yellow		
34	74	Classroom 103	Mastic to 6" Brown & Dark Brown Cove Base, Yellow		
35	75	Classroom 103	6" Brown & Dark Brown Cove Base		
35	76	Classroom 103	6" Brown & Dark Brown Cove Base		
36	77	Exterior Facade	Exterior Expansion Wall Joint, Tan		
36	78	Exterior Facade	Exterior Expansion Wall Joint, Tan		
37	79	Exterior Facade	Exterior Brick Mortar		
37	80	Exterior Facade	Exterior Brick Mortar		
38	81	Exterior Facade	Exterior AC Unit Caulking, White		
38	82	Exterior Facade	Exterior AC Unit Caulking, White		
39	83	Exterior Facade	Exterior Window Frame Caulking, White		
39	84	Exterior Facade	Exterior Window Frame Caulking, White		

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 2013 DEC 31 PM 4:03

CHAIN OF CUSTODY

Relinquished by: (print)	(Sign)	Relinquished by: (print)	(Sign)	Relinquished by: (print)	(Sign)	Relinquished by: (print)	(Sign)
M. Luccioni		12/31/13		12/31/13		12/31/13	
Received by: (print)	(Sign)	Received by: (print)	(Sign)	Received by: (print)	(Sign)	Received by: (print)	(Sign)
A. Cheskin		12/31/13		12/31/13		12/31/13	

NOTE: USE STOP-AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031402379
 CustomerID: LBAP78
 CustomerPO: 3000898.00
 ProjectID:

Attn: **Craig Napolitano**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
 Fax:
 Received: 01/17/14 7:54 PM
 Analysis Date: 1/20/2014
 Collected: 1/16/2014

Project: 3000898.00/ H2M ARCHITECTS & ENGINEERS/ RIDGEWAY ELEMENTARY SCHOOL/ WHITE PLAINS, NY/ INTERIOR & EXTERIOR

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 85 031402379-0001		Description Homogeneity	FACULTY ROOM - 2 X 4 FISSURE CEILING TILES/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	Gray			None Detected
Sample ID 86 031402379-0002		Description Homogeneity	CORRIDOR OUTSIDE ROOM 139 - 2 X 4 FISSURE CEILING TILES/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	Gray			None Detected
Sample ID 87 031402379-0003		Description Homogeneity	CORRIDOR OUTSIDE ROOM 101 - 2 X 4 GAUGED CEILING TILES/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	Gray			None Detected
Sample ID 88 031402379-0004		Description Homogeneity	CORRIDOR OUTSIDE ROOM 139 - 2 X 4 GAUGED CEILING TILES/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	Gray			None Detected
Sample ID 89 031402379-0005		Description Homogeneity	AUDITORIUM - 1 X 1 GAUGED CEILING TILES/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	Gray			None Detected

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Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com> manhattanlab@emsl.com

EMSL Order:	031402379
CustomerID:	LBAP78
CustomerPO:	3000898.00
ProjectID:	

Test Report:Asbestos Analysis of Bulk Material

		Non Asbestos		
Test		Color	Fibrous Non-Fibrous	Asbestos
Sample ID 90 031402379-0006	Description Homogeneity	AUDITORIUM - 1 X 1 GAUGED CEILING TILES/ WHITE Heterogeneous		
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray		Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	Gray		None Detected
Sample ID 91 031402379-0007	Description Homogeneity	ROOM 104 - 1 X 1 HEAVY GAUGED CEILING TILES/ WHITE Heterogeneous		
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray		Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	Gray		None Detected
Sample ID 92 031402379-0008	Description Homogeneity	ROOM 124 - 1 X 1 HEAVY GAUGED CEILING TILES/ WHITE Heterogeneous		
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray		Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	Gray		None Detected
Sample ID 93 031402379-0009	Description Homogeneity	ROOM 104 RESTROOM - 2 X 2 FISSURE CEILING TILES/ WHITE Heterogeneous		
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray		Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	Gray		None Detected
Sample ID 94 031402379-0010	Description Homogeneity	ROOM 106 RESTROOM - 2 X 2 FISSURE CEILING TILES/ WHITE Heterogeneous		
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray		Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	Gray		None Detected
Sample ID 95 031402379-0011	Description Homogeneity	ROOM 139 - 1 X 2 GAUGED CEILING TILES/ WHITE Heterogeneous		
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	White		Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	White		None Detected

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031402379
 CustomerID: LBAP78
 CustomerPO: 3000898.00
 ProjectID:

Test Report:Asbestos Analysis of Bulk Material

Test		Color	Fibrous	Non-Fibrous	Asbestos
Sample ID	96 031402379-0012	Description Homogeneity	ROOM 140 - 1 X 2 GAUGED CEILING TILES/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	White	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/20/2014	White	None Detected		
Sample ID	97 031402379-0013	Description Homogeneity	ROOM 102 - 2 X 4 (2X2) SPLIT CEILING TILES/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/20/2014	Gray	None Detected		
Sample ID	98 031402379-0014	Description Homogeneity	ROOM 103 - 2 X 4 (2X2) SPLIT CEILING TILES/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/20/2014	Gray	None Detected		
Sample ID	99 031402379-0015	Description Homogeneity	ROOF AREAS - CHIMNEY FLASHING CAULKING/ GRAY Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/20/2014	Gray	None Detected		
Sample ID	100 031402379-0016	Description Homogeneity	ROOF AREAS - CHIMNEY FLASHING CAULKING/ GRAY Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/20/2014	Gray	None Detected		
Sample ID	101 031402379-0017	Description Homogeneity	ROOF AREAS - LOUVER CAULKING/ GRAY Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/20/2014	Gray	None Detected		

**EMSL Analytical, Inc.**

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Phone/Fax: (212) 290-0051 / (212) 290-0058

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EMSL Order: 031402379
CustomerID: LBAP78
CustomerPO: 3000898.00
ProjectID:

Test Report:Asbestos Analysis of Bulk Material

Test		Color	Non Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID	102 031402379-0018	Description Homogeneity	ROOF AREAS - LOUVER CAULKING/ GRAY Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/20/2014	Gray	None Detected		
Sample ID	103 031402379-0019	Description Homogeneity	ROOF AREAS - TAR MATERIAL ON AC UNITS/ BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Black	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/20/2014	Black	None Detected		
Sample ID	104 031402379-0020	Description Homogeneity	ROOF AREAS - TAR MATERIAL ON AC UNITS/ BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Black	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/20/2014	Black	None Detected		
Sample ID	105 031402379-0021	Description Homogeneity	ROOF AREAS - EXHAUST FAN CAULKING/ DARK GRAY Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Black	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/20/2014	Black	None Detected		
Sample ID	106 031402379-0022	Description Homogeneity	ROOF AREAS - EXHAUST FAN CAULKING/ DARK GRAY Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Black	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/20/2014	Black	None Detected		
Sample ID	107 031402379-0023	Description Homogeneity	ROOF AREAS - PITCH POCKET TAR/ BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/20/2014	Gray	None Detected		

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EMSL Order: 031402379
CustomerID: LBAP78
CustomerPO: 3000898.00
ProjectID:

Test Report:Asbestos Analysis of Bulk Material

Test		Color	Fibrous	Non-Fibrous	Asbestos
Sample ID	108	Description	ROOF AREAS - PITCH POCKET TAR/ BLACK		
	031402379-0024	Homogeneity	Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/20/2014		None Detected		
Sample ID	109	Description	ROOF AREAS - PAPER TO DUCT WORK FIBERGLASS INSULATION/ BLACK		
	031402379-0025	Homogeneity	Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	White	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/21/2014	White	None Detected		
Sample ID	110	Description	ROOF AREAS - PAPER TO DUCT WORK FIBERGLASS INSULATION/ BLACK		
	031402379-0026	Homogeneity	Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	White	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/21/2014	White	None Detected		
Sample ID	111	Description	ROOF AREAS - AC UNIT CAULKING/ BEIGE		
	031402379-0027	Homogeneity	Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	White	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/21/2014	White	None Detected		
Sample ID	112	Description	ROOF AREAS - AC UNIT CAULKING/ BEIGE		
	031402379-0028	Homogeneity	Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	White	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/21/2014	White	None Detected		
Sample ID	113	Description	ROOF AREAS - AC UNIT CAULKING/ WHITE		
	031402379-0029	Homogeneity	Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	White	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/21/2014	White	None Detected		

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

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<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031402379
CustomerID: LBAP78
CustomerPO: 3000898.00
ProjectID:

Test Report: Asbestos Analysis of Bulk Material

Test		Color	Non Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID	114	Description	ROOF AREAS - AC UNIT CAULKING/ WHITE		
	031402379-0030	Homogeneity	Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	White	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/21/2014	White	None Detected		

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk Materials via NYS ELAP Approved Methods. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date:: 1/17/2014 Sample Receipt Time: 7:54 PM

Analysis Completed Date: 1/20/2014 Analysis Completed Time: 11:38 PM

Analyst(s):

Emily Myint PLM NYS 198.6 NOB (30)

Sean Scales TEM NYS 198.4 NOB (30)

Samples reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

NOB = Non Friable Organically Bound N/A = Not Applicable VCM = Vermiculite Containing Material

-In New York State, TEM is currently the only method that can be used to determine if NOB materials can be considered or treated as non-asbestos containing. All samples examined for the presence of vermiculite when analyzed via NYS 198.1.

-NYS Guidelines for Vermiculite containing samples are available at http://www.wadsworth.org/labcert/elapcert/forms/VermiculiteInterimGuidance_Rev070913.pdf EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples were received in good condition unless otherwise noted.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. This report may contain data that is not covered by the NVLAP accreditation.

Samples analyzed by EMSL Analytical, Inc. New York, NY NYS ELAP 11506

LOUIS BERGER		ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY		PAGE <u>1</u> OF <u>3</u>	
PROJECT NO.: 3000 898.00 CLIENT: H2M ARCHITECTS & ENGINEERS PROJECT SITE: RIDGEWAY ELEMENTARY SCHOOL, WHITE PLAINS NY Project Manager: C. NAPOLITANO		LOCATION(S) SURVEYED: INTERIOR & EXTERIOR PROPOSED PROJECT: RENOVATION DATE(S) OF INSPECTION: 1/16/14 Inspector(s): M. W. CARROLL & J. GARCIA RESULTS TO: MLUCCIONI@LOUISBERGER.COM TURNAROUND TIME: 96 HRS			
HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
40	85	FACULTY Room	2x4 FISSURE CEILING TILES, WHITE		
↓	86	Corridor o/s Room 139	↓		
41	87	Corridor o/s Room 101	2x4 GAUGED CEILING TILES, WHITE		
↓	88	Corridor o/s Room 139	↓		
42	89	AUDITORIUM	1x1 GAUGED CEILING TILES, WHITE		
↓	90	↓	↓		
43	91	Room 104	1x1 HEAVY GAUGED CEILING TILES, WHITE		
↓	92	Room 104	↓		
44	93	Room 104 RESTROOM	2x2 FISSURE CEILING TILES, WHITE		
↓	94	Room 106 RESTROOM	↓		
45	95	Room 139	1x2 GAUGED CEILING TILES, WHITE		
↓	96	Room 140	↓		
			↓ Emily Majumdar 1-20-14 14:45		
CHAIN OF CUSTODY Relinquished by: (Sign) M. W. Carroll (print) 1/17/14 7:22 AM PM Received by: (Sign) Emily Majumdar (print) 1/17/14 7:54 AM PM Relinquished by: (Sign) (print) 1/1/1/1 Received by: (Sign) (print) 1/1/1/1 Relinquished by: (Sign) (print) 1/1/1/1 Received by: (Sign) (print) 1/1/1/1					

2014 JAN 17 PM 7:54
 LOUIS BERGER LAB
 RECEIVED

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

Seany Sealer 01/21/2014 06:30

RESULTS TO: MLUCCIONI@LOUISBERGER.COM

TURNAROUND TIME: 96 hrs

CHAIN OF CUSTODY						
Relinquished by: (print)	(Sign)	Relinquished by: (print)	Relinquished by: (print)	Relinquished by: (print)	(Sign)	
<i>[Signature]</i> PUNJAGANI		1/17/14	732 AMPPI	/ /		AMPPI
Received by: <i>[Signature]</i> POWERS/Daton	(Sign)	1/17/14	732 AMPPI	/ /		AMPPI

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

Second Reader 01/21/2014 06:30

EDUCATION HOUSE

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031402380

CustomerID: LBAP78

CustomerPO: 3000899

ProjectID:

Attn: **Craig Napolitano**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 01/17/14 7:43 PM
Analysis Date: 1/21/2014
Collected: 1/16/2014

Project: 300899/ H2M/ EDUCATION HOUSE/

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 01 031402380-0001		Description Homogeneity	INTERIOR - WALL PLASTER/ WHITE COAT Homogeneous		
PLM NYS 198.1 Friable	1/21/2014	Gray		10.00% Quartz 5.00% Ca Carbonate 85.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 02 031402380-0002		Description Homogeneity	INTERIOR - WALL PLASTER/ WHITE COAT Homogeneous		
PLM NYS 198.1 Friable	1/21/2014	Gray/Tan		10.00% Quartz 90.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 03 031402380-0003		Description Homogeneity	INTERIOR - WALL PLASTER/ WHITE COAT Heterogeneous		
PLM NYS 198.1 Friable	1/21/2014	Tan/White		35.00% Quartz 65.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 04 031402380-0004		Description Homogeneity	INTERIOR - WALL PLASTER/ BROWN COAT Homogeneous		
PLM NYS 198.1 Friable	1/21/2014	Gray/Tan		20.00% Quartz 15.00% Ca Carbonate 65.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed

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EMSL Order: 031402380

CustomerID: LBAP78

CustomerPO: 3000899

ProjectID:

Test Report:Asbestos Analysis of Bulk Material

		Non Asbestos			Asbestos
Test		Color	Fibrous	Non-Fibrous	
Sample ID 05 031402380-0005		Description Homogeneity	INTERIOR - WALL PLASTER/ BROWN COAT Homogeneous		
PLM NYS 198.1 Friable	1/21/2014	Gray		20.00% Quartz 15.00% Gypsum 65.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 06 031402380-0006		Description Homogeneity	INTERIOR - WALL PLASTER/ BROWN COAT Heterogeneous		
PLM NYS 198.1 Friable	1/21/2014	Tan/White		56.00% Quartz 20.00% Ca Carbonate 24.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 07 031402380-0007		Description Homogeneity	INTERIOR - GYPSUM BOARD Homogeneous		
PLM NYS 198.1 Friable	1/21/2014	Brown/Gray	18.00% Cellulose 3.00% Glass	60.00% Gypsum 19.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 08 031402380-0008		Description Homogeneity	INTERIOR - GYPSUM BOARD Heterogeneous		
PLM NYS 198.1 Friable	1/21/2014	Gray		70.00% Gypsum 30.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 09 031402380-0009		Description Homogeneity	INTERIOR - ASSOC JOINT COMPOUND/ WHITE Homogeneous		
PLM NYS 198.1 Friable	1/21/2014	White		70.00% Ca Carbonate 30.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed

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EMSL Order: 031402380

CustomerID: LBAP78

CustomerPO: 3000899

ProjectID:

Test Report:Asbestos Analysis of Bulk Material

		Non Asbestos			Asbestos
Test		Color	Fibrous	Non-Fibrous	
Sample ID 10 031402380-0010		Description Homogeneity	INTERIOR - ASSOC JOINT COMPOUND/ WHITE Heterogeneous		
PLM NYS 198.1 Friable	1/21/2014	White		75.00% Ca Carbonate 25.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 11 031402380-0011		Description Homogeneity	INTERIOR - CARPET MASTIC/ YELLOW Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Yellow			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	Yellow			None Detected
Sample ID 12 031402380-0012		Description Homogeneity	INTERIOR - CARPET MASTIC/ YELLOW Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Yellow			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	Yellow			<1% Chrysotile <1% Total
Sample ID 13 031402380-0013		Description Homogeneity	EXTERIOR/ SOUTH ELEVATION - EXTERIOR DOOR TRANS ON GLAZING/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	White			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	White			None Detected
Sample ID 14 031402380-0014		Description Homogeneity	EXTERIOR/ SOUTH ELEVATION - EXTERIOR DOOR TRANS ON GLAZING/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	White			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	White			None Detected
Sample ID 15 031402380-0015		Description Homogeneity	EXTERIOR FAÇADE - EXTERIOR PAINT/ WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	White			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	White			None Detected

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EMSL Order: 031402380

CustomerID: LBAP78

CustomerPO: 3000899

ProjectID:

Test Report:Asbestos Analysis of Bulk Material

		Non Asbestos		Asbestos
Test	Color	Fibrous	Non-Fibrous	
Sample ID 16 031402380-0016	Description Homogeneity	EXTERIOR FAÇADE - EXTERIOR PAINT/ WHITE Heterogeneous		
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/20/2014 White			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014 White			<1% Anthophyllite <1% Total
Sample ID 17 031402380-0017	Description Homogeneity	EXTERIOR/ EAST ELEVATION - CAULKING TO EXTERIOR WINDOW TRIM/ WHITE Heterogeneous		
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/20/2014 White			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014 White			<1% Anthophyllite <1% Total
Sample ID 18 031402380-0018	Description Homogeneity	EXTERIOR/ EAST ELEVATION - CAULKING TO EXTERIOR WINDOW TRIM/ WHITE Heterogeneous		
PLM NYS 198.1 Friable				Not Analyzed
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB	1/20/2014 White			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014 White			<1% Anthophyllite 2.7% Chrysotile 2.7% Total
Sample ID 19 031402380-0019	Description Homogeneity	EXTERIOR/ WEST ELEVATION - EXTERIOR COPING STONE MORTAR/ GRAY Homogeneous		
PLM NYS 198.1 Friable	1/21/2014 Gray		30.00% Quartz 20.00% Gypsum 50.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB				Not Analyzed
TEM NYS 198.4 NOB				Not Analyzed
Sample ID 20 031402380-0020	Description Homogeneity	EXTERIOR/ WEST ELEVATION - EXTERIOR COPING STONE MORTAR/ GRAY Heterogeneous		
PLM NYS 198.1 Friable	1/21/2014 Gray		55.00% Quartz 15.00% Gypsum 30.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM				Not Analyzed
PLM NYS 198.6 NOB				Not Analyzed
TEM NYS 198.4 NOB				Not Analyzed

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EMSL Order: 031402380

CustomerID: LBAP78

CustomerPO: 3000899

ProjectID:

Test Report:Asbestos Analysis of Bulk Material

		Non Asbestos			
Test		Color	Fibrous	Non-Fibrous	Asbestos
Sample ID 21 031402380-0021	Description Homogeneity	EXTERIOR/ NORTHWEST - EXTERIOR EXPANSION FLOOR JOINT FILLER/ BROWN Homogeneous			
PLM NYS 198.1 Friable	1/21/2014	Brown	98.00% Cellulose	2.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 22 031402380-0022	Description Homogeneity	EXTERIOR/ EAST - EXTERIOR EXPANSION FLOOR JOINT FILLER/ BROWN Homogeneous			
PLM NYS 198.1 Friable	1/21/2014	Brown	90.00% Cellulose	10.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 23 031402380-0023	Description Homogeneity	EXTERIOR/ WEST ELEVATION - EXTERIOR COLUMN TRIM CAULKING/ WHITE Heterogeneous			
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	White			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	White			<1% Anthophyllite <1% Total
Sample ID 24 031402380-0024	Description Homogeneity	EXTERIOR/ WEST ELEVATION - EXTERIOR COLUMN TRIM CAULKING/ WHITE Heterogeneous			
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	White			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	White			<1% Anthophyllite <1% Total
Sample ID 25 031402380-0025	Description Homogeneity	EXTERIOR/ SOUTH EAST - EXTERIOR DOOR FRAME CAULKING/ GRAY Heterogeneous			
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	Gray			3.4% Anthophyllite <1% Chrysotile 3.4% Total
Sample ID 26 031402380-0026	Description Homogeneity	EXTERIOR/ SOUTH WEST - EXTERIOR DOOR FRAME CAULKING/ GRAY Heterogeneous			
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Gray			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014				Positive Stop (Not Analyzed)

**EMSL Analytical, Inc.**

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EMSL Order: 031402380

CustomerID: LBAP78

CustomerPO: 3000899

ProjectID:

Test Report:Asbestos Analysis of Bulk Material

Test		Color	Fibrous	Non-Fibrous	Asbestos
Sample ID	27	Description	EXTERIOR/ EAST ELEVATION - EXTERIOR EXPANSION JOINT CAULKING TO STONE		
	031402380-0027	Homogeneity	WALKWAY/ BEIGE		
			Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Beige	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/20/2014	Beige	None Detected		
Sample ID	28	Description	EXTERIOR/ EAST ELEVATION - EXTERIOR EXPANSION JOINT CAULKING TO STONE		
	031402380-0028	Homogeneity	WALKWAY/ BEIGE		
			Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Beige	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/20/2014	Beige	None Detected		
Sample ID	29	Description	EXTERIOR/ EAST ELEVATION - EXTERIOR STONE WALL MORTAR		
	031402380-0029	Homogeneity	Homogeneous		
PLM NYS 198.1 Friable	1/21/2014	Brown/Gray	45.00% Quartz 25.00% Gypsum 30.00% Non-fibrous (other)		None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID	30	Description	EXTERIOR/ EAST ELEVATION - EXTERIOR STONE WALL MORTAR		
	031402380-0030	Homogeneity	Heterogeneous		
PLM NYS 198.1 Friable	1/21/2014	Gray	60.00% Quartz 40.00% Non-fibrous (other)		None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID	31	Description	EXTERIOR/ EAST ELEVATION - EXTERIOR STONE WALKWAY MORTAR		
	031402380-0031	Homogeneity	Homogeneous		
PLM NYS 198.1 Friable	1/21/2014	Gray	50.00% Quartz 50.00% Non-fibrous (other)		None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed

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EMSL Order: 031402380

CustomerID: LBAP78

CustomerPO: 3000899

ProjectID:

Test Report:Asbestos Analysis of Bulk Material

		Non Asbestos			
Test		Color	Fibrous	Non-Fibrous	Asbestos
Sample ID 32 031402380-0032		Description Homogeneity	EXTERIOR/ EAST ELEVATION - EXTERIOR STONE WALKWAY MORTAR Heterogeneous		
PLM NYS 198.1 Friable	1/21/2014	Gray		70.00% Quartz 10.00% Ca Carbonate 20.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 33 031402380-0033		Description Homogeneity	EXTERIOR - EXTERIOR COLUMN BASE MORTAR Homogeneous		
PLM NYS 198.1 Friable	1/21/2014	Gray		78.00% Quartz 22.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 34 031402380-0034		Description Homogeneity	EXTERIOR - EXTERIOR COLUMN BASE MORTAR Heterogeneous		
PLM NYS 198.1 Friable	1/21/2014	Gray		55.00% Quartz 25.00% Ca Carbonate 20.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 35 031402380-0035		Description Homogeneity	ROOF AREA/ WEST SIDE - TAR PAPER UNDER ROOF SHINGLES/ BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Black			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	Black			None Detected
Sample ID 36 031402380-0036		Description Homogeneity	ROOF AREA/ EAST SIDE - TAR PAPER UNDER ROOF SHINGLES/ BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Black			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	Black			None Detected
Sample ID 37 031402380-0037		Description Homogeneity	ROOF AREA/ WEST SIDE - ROOFING SHINGLES Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Black			Inconclusive: None Detected
TEM NYS 198.4 NOB	1/20/2014	Black			None Detected

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EMSL Order: 031402380

CustomerID: LBAP78

CustomerPO: 3000899

ProjectID:

Test Report: Asbestos Analysis of Bulk Material

		Non Asbestos			
Test		Color	Fibrous	Non-Fibrous	Asbestos
Sample ID	38	Description	ROOF AREA/ EAST SIDE - ROOFING SHINGLES		
	031402380-0038	Homogeneity	Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	1/20/2014	Black	Inconclusive: None Detected		
TEM NYS 198.4 NOB	1/20/2014	Black	None Detected		

Scope: Leica #8 Ser. 9640013510UN0022

Scope: Leica #7 Ser. 9640013510UN0031

Scope: JEOL / JEM-100CX II #03-01(41)

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk Materials via NYS ELAP Approved Methods. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Scope: Leica #8 Ser. 9640013510UN0022

Sample Receipt Date:: 1/17/2014

Sample Receipt Time: 7:43 PM

Analysis Completed Date: 1/21/2014

Analysis Completed Time: 12:50 PM

Analyst(s):

Henry Akintunde PLM NYS 198.1 Friable (11)

Jessica Fearon-Brown PLM NYS 198.1 Friable (9)

Jessica Fearon-Brown PLM NYS 198.6 NOB (18)

Feng Liang TEM NYS 198.4 NOB (17)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

NOB = Non Friable Organically Bound N/A = Not Applicable VCM = Vermiculite Containing Material

-In New York State, TEM is currently the only method that can be used to determine if NOB materials can be considered or treated as non-asbestos containing. All samples examined for the presence of vermiculite when analyzed via NYS 198.1.

-NYS Guidelines for Vermiculite containing samples are available at http://www.wadsworth.org/labcert/elapcert/forms/VermiculiteInterimGuidance_Rev070913.pdf EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples were received in good condition unless otherwise noted.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. This report may contain data that is not covered by the NVLAP accreditation.

Samples analyzed by EMSL Analytical, Inc. New York, NY NYS ELAP 11506

Initial Report From 01/21/2014 20:44:18

Test Report 198VCM-7.30.1 Printed: 1/21/2014 8:44:18 PM

THIS IS THE LAST PAGE OF THE REPORT.

Page 8

ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY

LOUIS BERGER

PAGE 1 OF 4

PROJECT NO.: 3000899

CLIENT: H2M

PROJECT SITE: EDUCATION HOUSE, WHITE PLAINS NY

Project Manager: C. NAPOLITANO

LOUIS BERGER & ASSOC. PC
 TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341
 ADDRESS: 48 Wall Street, 16 Floor, New York, NY 10005

LOCATION(S) SURVEYED: THROUGHOUT

PROPOSED PROJECT: RENOVATIONS

DATE(S) OF INSPECTION: 1/16/14

Inspector(s): M. WUCCIONI & J. GARBERA,

RESULTS TO: MLUCCIONI@LOUISBERGER.COM

TURNAROUND TIME: 96 HRS

03/402380

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (L/F/SF)	FIELD NOTES
1	01	INTERIOR	WALL PASTER, WHITE COAT		
↓	02		↓		
↓	03		↓		
2	04		WALL PASTER, BROWN COAT		
↓	05		↓		
↓	06		↓		
3	07		GYPSUM BOARD		
↓	08		↓		
4	09		ASSOC. JOINT COMPOUND, WHITE		
↓	10		↓		
5	11		CARPET MASTIC, YELLOW		
↓	12		↓		

EMSL MANHATTAN LAB
 RECEIVED
 2014 JAN 17 PH 7:43

CHAIN OF CUSTODY

Relinquished by: (print)	(Sign)	Relinquished by: (print)	AMP	(Sign)	AMP
Received by: (print)	(Sign)	Received by: (print)	AMP	(Sign)	AMP

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

1/21 Sign -

1/21 1:21pm

2014 JAN 17 PM 7:43

ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY

LOUIS BERGER

PAGE 1 OF 4

PROJECT NO.: 3000899

CLIENT: H2M

PROJECT SITE: EDUCATION HOUSE, WHITE PLAINS NY

Project Manager: C. NAPOLITANO

LOUIS BERGER & ASSOC. PC
TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341
ADDRESS: 48 Wall Street, 16 Floor, New York, NY 10005

LOCATION(S) SURVEYED: THROUGHOUT

PROPOSED PROJECT: RENOVATIONS

DATE(S) OF INSPECTION: 1/16/14

Inspector(s): M. WACCIONI & J. GARCIA

RESULTS TO: MLUCCIONI@LOUISBERGER.COM

TURNAROUND TIME: 96 HRS

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
1	01	INTERIOR	WALL PASTER, WHITE COAT		
↓	02		↓		
↓	03		↓		
2	04		WALL PASTER, BROWN COAT		
↓	05		↓		
↓	06		↓		
3	07		GYPSUM BOARD		
↓	08		↓		
4	09		ASSOC. JOINT COMPOUND, WHITE		
↓	10		↓		
5	11		CARPET MORTAR, YELLOW		
↓	12		↓		

CHAIN OF CUSTODY

Relinquished by: (print) M. WACCIONI	(Sign)	1/17/14	732	Relinquished by: (print) AMPM	(Sign)	1	1	1	1	AMPM
Received by: (print) M. WACCIONI	(Sign)	1/17/14	745	Received by: (print) AMPM	(Sign)	1	1	1	1	AMPM

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

1/20 11:28 AM
JF

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2014 JAN 17 PM 7:43

LOUIS BERGER ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY

PAGE 2 OF 4

PROJECT NO.: 3000899

CLIENT: H2M

PROJECT SITE: EDUCATION HOUSE, WHITE PLAINS NY

Project Manager: C. NAPOLITANO

LOUIS BERGER & ASSOC. PC
TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341
ADDRESS: 48 Wall Street, 16 Floor, New York, NY 10005

LOCATION(S) SURVEYED: THROUGHOUT

PROPOSED PROJECT: RENOVATIONS

DATE(S) OF INSPECTION: 1/16/14

Inspector(s): M. WUCCIONI & J. GARBERA

RESULTS TO: MLUCCIONI@LOUISBERGER.COM

TURNAROUND TIME: 96 HRS

031402380

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
6	13	EXTERIOR - SOUTH ELEVATION	EXTERIOR DOOR THRESHOLD CAULKING, WHITE		
↓	14	↓	↓		
7	15	EXTERIOR PORCH	EXTERIOR PAINT, WHITE		
↓	16	↓	↓		
8	17	EXTERIOR - EAST ELEVATION	CAULKING TO EXTERIOR WINDOW TRIM, WHITE		
↓	18	↓	↓		
9	19	EXTERIOR - WEST ELEVATION	EXTERIOR COPING SIDE MORTAR, GRAY		
↓	20	↓	↓		
10	21	EXTERIOR - NORTH WEST	EXTERIOR EXPANSION FLOOR JOINT FILLER, BROWN		
↓	22	↓	↓		
11	23	EXTERIOR - WEST ELEVATION	EXTERIOR COLUMN TRIM CAULKING, WHITE		
↓	24	↓	↓		

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RECEIVED
2014 JAN 17 PM 7:43

CHAIN OF CUSTODY

Relinquished by: (Sign) M. Wuccioni	1/17/14 7:32 AM	Relinquished by: (Sign) M. Wuccioni	1/17/14 7:32 AM	Relinquished by: (Sign) M. Wuccioni	1/17/14 7:32 AM
Received by: (Sign) J. Garbera	1/17/14 7:43 AM	Received by: (Sign) J. Garbera	1/17/14 7:43 AM	Received by: (Sign) J. Garbera	1/17/14 7:43 AM

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

1/20 11:28 AM

[illegible]

NOTE: USE STAP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY

LOUIS BERGER

PAGE 3 OF 4

PROJECT NO.: 3000899

CLIENT: H2M

PROJECT SITE: EDUCATION HOUSE, WHITE PLAINS NY

Project Manager: C. NAPOLEANO

 LOUIS BERGER & ASSOC. PC
 TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341
 ADDRESS: 48 Wall Street, 16 Floor, New York, NY 10005

LOCATION(S) SURVEYED: THROUGHOUT

PROPOSED PROJECT: RENOVATIONS

DATE(S) OF INSPECTION: 1/16/14

Inspector(s): M. WACCIONI & J. GARCIA

RESULTS TO: MLUCCIONI@LOUISBERGER.COM

TURNAROUND TIME: 96 HRS

031402380

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
12	25	EXTERIOR - SOUTH EAST	EXTERIOR ROOF FRAME CAULKING, GRAY		
↓	26	↓ - SOUTH WEST	↓		
13	27	EXTERIOR - EAST ELEVATION	EXTERIOR EXPANSION JOINT CAULKING TO STONE WALKWAY, BEIGE		
↓	28	↓	↓		
14	29	EXTERIOR - EAST ELEVATION	EXTERIOR STONE WALL MORTAR		
↓	30	↓	↓		
15	31	EXTERIOR - EAST ELEVATION	EXTERIOR STONE WALKWAY MORTAR		
↓	32	↓	↓		
16	33	EXTERIOR	EXTERIOR COLUMN BASE MORTAR		
↓	34	↓	↓		
17	35	ROOF AREA - WEST SIDE	TAPE PAPER UNDER ROOF SHINGLES, BLACK		
↓	36	↓ - EAST SIDE	↓		

 2014 JAN 17 PM 7:43
 RECEIVED
 103 MANHATTAN LANE

CHAIN OF CUSTODY

Relinquished by: (Print) M. WACCIONI	(Sign)	1/17/14	Relinquished by: (Print) M. WACCIONI	(Sign)	1/17/14	Relinquished by: (Print) M. WACCIONI	(Sign)	1/17/14	Relinquished by: (Print) M. WACCIONI	(Sign)	1/17/14
Received by: (Print) J. GARCIA	(Sign)	1/17/14	Received by: (Print) J. GARCIA	(Sign)	1/17/14	Received by: (Print) J. GARCIA	(Sign)	1/17/14	Received by: (Print) J. GARCIA	(Sign)	1/17/14

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

 1/20 11:28 AM
 1/20 11:28 AM

APPENDIX 6:

INSPECTORS' AND MANAGEMENT PLANNERS'
CERTIFICATIONS

APPENDIX 7:

SUMMARY OF ABATEMENT ACTIVITIES

WHITE PLAINS HIGH SCHOOL



July 20, 2015

Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605

Re: Re-Occupancy Letter
White Plains High School
550 North Street, White Plains, NY 10605
LBA Job Number: 3001153

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **White Plains High School on July 20, 2015**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed on **July 13, 14, 15, 16, 17 and 20, 2015** by **PAL Environmental Services**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
7/13/15, 7/14/15, 7/15/15, 7/16/15, 7/17/15 & 7/20/15	Auditorium	Floor Tile	7500 SF	NYS DOL 12 NYCRR Part 56 §11.7 Non-Friable Flooring and/or Mastic Removal

Project monitoring and clearance air testing was conducted by Louis Berger project monitor **Chucks Desmond Ugwu**. Final clearance air sampling inside and outside the work area was performed on **July 17, 2015** in accordance with approved procedures. Final clearance air sampling indicates average airborne fiber levels below 70s/mm² meeting re-occupancy criteria. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the clearance air testing, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact me at (212) 612-7906.

Sincerely,

Louis Berger

A handwritten signature in black ink, appearing to read "D Cheskin". The signature is fluid and cursive, with the first name "Drew" and last name "Cheskin" clearly distinguishable.

Drew Cheskin

Manager

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031522364

CustomerID: LBAP78

CustomerPO:

ProjectID:

Attn: **Louis Berger & Associates, PC**
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 07/18/15 12:43 AM
Analysis Date: 7/18/2015
Collected: 7/17/2015

Project: 3001153.00/ WPH SCH. DIST/ 550 NORTH ST./ WHITE PLAINS, NY/ POST-ABATEMENT

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ < 5	≥ 5μ		(S/mm ²)	(S/cc)
01	IWA/ AUDITORIUM NE MAIN EXIT DOOR	1280.00	0.0655	4	None Detected			0.0046	<15.00	<0.0046
031522364-0001										
02	IWA/ AUDITORIUM NW MAIN EXIT DOOR	1280.00	0.0655	0	None Detected			0.0046	<15.00	<0.0046
031522364-0002										
03	IWA/ AUDITORIUM MIDDLE AISLE	1288.00	0.0655	1	None Detected			0.0046	<15.00	<0.0046
031522364-0003										
04	IWA/ AUDITORIUM SE STAIR LANDING STAGE EXIT	1288.00	0.0655	0	None Detected			0.0046	<15.00	<0.0046
031522364-0004										
05	IWA/ AUDITORIUM SW STAIR LANDING STAGE EXIT	1371.72	0.0655	0	None Detected			0.0043	<15.00	<0.0043
031522364-0005										

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 07/18/2015 04:50:21

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031522364

CustomerID: LBAP78

CustomerPO:

ProjectID:

Attn: **Louis Berger & Associates, PC**
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 07/18/15 12:43 AM
Analysis Date: 7/18/2015
Collected: 7/17/2015

Project: **3001153.00/ WPH SCH. DIST/ 550 NORTH ST./ WHITE PLAINS, NY/ POST-ABATEMENT**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date::	7/18/2015	Sample Receipt Time:	12:43 AM
Analysis Completed Date:	7/18/2015	Analysis Completed Time:	4:33 AM

Analyst(s):

Robert Georgens TEM AHERA (5)**Samples reviewed and approved by:**

James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 07/18/2015 04:50:21

LBA#: 3001153-00	Client: WPH SCH. DIST	Contract#: N/A	Date: 7-17-15
Work Authorization#: N/A	Job / Service ID #: N/A	LLW / Project ID#: N/A	
Site / Bldg. ID#: N/A	Address: 550 NORTH ST, WHITE PLAINS NY		
Project Monitor: CHUCKS DESMOND UGWY	Project Manager: ANDREW CHERKIN		
Scope of Work: VAT AUDITORIUM - FINAL CLEARANCE			
Turn-Around Time	<input type="checkbox"/> 1 Hour	<input type="checkbox"/> 3 Hours	<input checked="" type="checkbox"/> 6 Hours
	<input type="checkbox"/> 12 Hours	<input checked="" type="checkbox"/> 24 Hours	<input type="checkbox"/> 48 Hours

EMSL MANHATTAN LAB
RECEIVED

Lab Information

Lab Name: EMSL	Analyst:	Date:	Time:
----------------	----------	-------	-------

Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.



July 6, 2015

Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605

Re: Re-Occupancy Letter
White Plains High School
550 North Street, White Plains, NY 10605
LBA Job Number: 3001153

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **White Plains High School on July 6, 2015**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed on **July 1, 2 and July 6, 2015 by Unitech Services Group, Inc.**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
7/1, 7/2 & 7/6/15	Room C015	Floor Tile and Associated Mastic	450 SF	NYS DOL 12 NYCRR Part 56 §11.7 Non-Friable Flooring and/or Mastic Removal

Project monitoring and clearance air testing was conducted by Louis Berger project monitor **Simon Chio**. Final clearance air sampling inside and outside the work areas was performed on **July 2, 2015** in accordance with approved procedures. Final clearance air sampling indicates average airborne fiber levels below 70s/mm² meeting re-occupancy criteria. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the clearance air testing, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact me at (212) 612-7906.

Sincerely,

Louis Berger

A handwritten signature in black ink, appearing to read "D Cheskin". The signature is fluid and cursive, with the first letter "D" being large and prominent.

Drew Cheskin

Manager

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031520464

CustomerID: LBAP78

CustomerPO: 300115300

ProjectID:

Attn: **A. CHESKIN**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
 Fax:
 Received: 07/02/15 11:59 PM
 Analysis Date: 7/3/2015
 Collected: 7/2/2015

Project: 3001153.00/ WHITE PLAINS SCHOOL DISTRICT/ 550 NORTH STREET NEW YORK/WHITEPLAINS HS/ FLOOR TILE REMOVAL ROOM

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)

Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ	< 5 ≥ 5μ		(S/mm ²)	(S/cc)
6 031520464-0001	IWA - ROOM C15 SOUTH	1305.00	0.0645	0	None Detected			0.0046	<16.00	<0.0046
7 031520464-0002	IWA - ROOM C15 WEST	1305.00	0.0645	1	None Detected			0.0046	<16.00	<0.0046
8 031520464-0003	IWA - ROOM C15 NORTH	1305.00	0.0645	0	Chrysotile	0	1	0.0046	16.00	0.0046
9 031520464-0004	IWA - ROOM C15 EAST	1305.00	0.0645	1	None Detected			0.0046	<16.00	<0.0046
10 031520464-0005	IWA - ROOM C15 CENTER	1305.00	0.0645	0	None Detected			0.0046	<16.00	<0.0046

Scope: JEOL / JEM-100CX II #03-02

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Report Amended: 07/06/2015 12:06:28 Replaces the Initial Report 07/03/2015 06:41:39. Reason Code: Data Entry-Change to Project ID

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031520464

CustomerID: LBAP78

CustomerPO: 300115300

ProjectID:

Attn: **A. CHESKIN**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 07/02/15 11:59 PM
Analysis Date: 7/3/2015
Collected: 7/2/2015

Project: **3001153.00/ WHITE PLAINS SCHOOL DISTRICT/ 550 NORTH STREET NEW YORK/WHITEPLAINS HS/ FLOOR TILE REMOVAL ROOM**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Scope: JEOL / JEM-100CX II #03-02

Sample Receipt Date::	7/2/2015	Sample Receipt Time:	11:59 PM
Analysis Completed Date:	7/3/2015	Analysis Completed Time:	6:26 AM

Analyst(s):

Robert Georgens TEM AHERA (5)

Samples reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Report Amended: 07/06/2015 12:06:28 Replaces the Initial Report 07/03/2015 06:41:39. Reason Code: Data Entry-Change to Project ID

W.P.M.S. - HIGHLAND CAMPUS



Louis Berger

565 Taxter Road 5th, Elmsford, NY 10523

Tel 914 798-3710 Fax 914 592-1734 Website: www.louisberger.com

July 29, 2014

**Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605**

**RE: Re-Occupancy Letter
White Plain Middle School Highland Campus
128 Grandview Avenue, White Plains, New York 10605
LBA Job Number: 3000997**

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **White Plain Middle School Highland Campus on July 28, 2014**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed from **July 24, 26, 27, 28, 2014 by Unitech Services Group**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
July 24, 26, 27, 28, 2014	Basement Room 11	VAT / Mastic	1,220 SF	Interior Foam

Project monitoring and clearance air testing was conducted by Louis Berger's project monitor **Yuan Jing Lin**. Final clearance air sampling inside and outside the work area was performed on **July 27, 2014** in accordance with approved procedures. Final clearance air sampling indicates average airborne fiber levels below 70 s/mm² meeting re-occupancy criteria. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the clearance air testing, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact Prakash Saha at (212) 612-7909.

Sincerely,

Louis Berger

Chung Ngai
Environmental Specialist

Louis Berger

Air Sample Data Sheet / Chain Of Custody

Page ____ of ____

48 Wall Street, 16th Floor, New York, NY 10005 Tel: (212) 612-7900 Fax: (212) 363-4341

LBA#3000 997

JOB#

LLW#

Date: 7/27/14

Client: White Plains School District

Site: 128 Grandview Ave White Plains NY

Project Monitor / Air Sampling
Technician

Yuan Jing Lin

Project
Manager

Drew Cheskin

Scope of Work

MAT (Floor tile) Room 11 at basement

Turn Around Time

☐ 1 Hour☐ 3 Hours☒ 6 Hours☐ 12 Hours☐ 24 Hours☐ 48 Hours

____ Hours

Sample#	Sample Location	Time (Military)		Total Minutes	Flow Rate			Total Volume
		Start	End		Start	End	Avg.	
1	IWA Room 11 at basement (North)	1610	1825	135	9.63	9.63	9.63	1300
2	IWA (West)	1611	1826	135	9.63	9.63	9.63	1300
3	IWA (Center)	1612	1827	135	9.63	9.63	9.63	1300
4	IWA (South)	1613	1828	135	9.63	9.63	9.63	1300
5	IWA (East)	1614	1829	135	9.63	9.63	9.63	1300
6	IWA next to the Pelan	1618	1833	135	9.63	9.63	9.63	1300
7	IWA next to the air locker	1620	1835	135	9.63	9.63	9.63	1300
8	IWA next to Room 11 backdoor (critical barrier)	1624	1836	135	9.63	9.63	9.63	1300
9	IWA By side Room & Room 11 (critical barrier)	1622	1837	135	9.63	9.63	9.63	1300
10	IWA 10 feet from the exhaust bank	1625	1840	135	9.63	9.63	9.63	1300
11	Field Blank							
12	Field Blank							
13	Sealed Blank							

2014 JUL 27 PM 7:43

Air Cassette Type

☐ PCM☒ TEM☐ Other:

Rotameter

LBA#

215

Cal Date

6/5/14

All flow rates incorporate the
calibration factor of 1.07

Sample Type

☐ Background☐ Pre-Abatement☐ During☒ Post Abatement☐ Ambient☐ OSHA☐ Periodic☐ Other

Chain of Custody

Print

Sign

Date

Time

Relinquished by

Yuan Jing Lin

Received by

U. Br...

7/27/14

1945

Relinquished by

7/27/14

1:43 PM

Received by

Relinquished by

Received by

Lab Information

Lab Name:

Analyst:

Date:

Time:

Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031429200

CustomerID: LBAP78

CustomerPO:

ProjectID:

Attn: **D Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 07/27/14 7:43 PM
Analysis Date: 7/27/2014
Collected: 7/27/2014

Project: 3000997/ WHITE PLAINS SCHOOL DISTRICT/ 128 GRANDVIEW AVE./ WHITE PLAINS, NY/ VAT ROOM 11 AT BASEMENT/ POST-

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ < 5	≥ 5μ		(S/mm ²)	(S/cc)
1	IWA/ ROOM 11 AT BASEMENT/ NORTH	1300.00	0.0660	0	None Detected			0.0045	<15.00	<0.0045
031429200-0001										
2	IWA/ ROOM 11 AT BASEMENT/ WEST	1300.00	0.0660	0	None Detected			0.0045	<15.00	<0.0045
031429200-0002										
3	IWA/ ROOM 11 AT BASEMENT/ CENTER	1300.00	0.0660	0	None Detected			0.0045	<15.00	<0.0045
031429200-0003										
4	IWA/ ROOM 11 AT BASEMENT/ SOUTH	1300.00	0.0660	0	None Detected			0.0045	<15.00	<0.0045
031429200-0004										
5	IWA/ ROOM 11 AT BASEMENT/ EAST	1300.00	0.0660	0	None Detected			0.0045	<15.00	<0.0045
031429200-0005										

Scope: JEOL / JEM-100CX II #03-02

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. Results reported in both structures/cm3 and structures/mm2 are dependent on the volume of air sampled and measured by non-laboratory personnel are not the responsibility of EMSL and are not covered by the laboratory's NVLAP accreditation. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request.

Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 07/27/2014 23:32:22

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031429200

CustomerID: LBAP78

CustomerPO:

ProjectID:

Attn: **D Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 07/27/14 7:43 PM
Analysis Date: 7/27/2014
Collected: 7/27/2014

Project: **3000997/ WHITE PLAINS SCHOOL DISTRICT/ 128 GRANDVIEW AVE./ WHITE PLAINS, NY/ VAT ROOM 11 AT BASEMENT/ POST-**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Scope: JEOL / JEM-100CX II #03-02

Sample Receipt Date::	7/27/2014	Sample Receipt Time:	7:43 PM
Analysis Completed Date:	7/27/2014	Analysis Completed Time:	11:21 PM

Analyst(s):

Sean Scales TEM AHERA (5)

Samples reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. Results reported in both structures/cm3 and structures/mm2 are dependent on the volume of air sampled and measured by non-laboratory personnel are not the responsibility of EMSL and are not covered by the laboratory's NVLAP accreditation. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request.

Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 07/27/2014 23:32:22



July 9, 2015

Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605

Re: Re-Occupancy Letter
Highlands Middle School
128 Grandview Avenue, White Plains, NY 10605
LBA Job Number: 3001180

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **Highlands Middle School on July 8, 2015**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed between **June 30 and July 8, 2015 by AMB Construction, Inc.**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
6/30/15, 7/2/15, 7/6/15, 7/8/15	Main Roof	Mechanical Flashing Tar & Coping Stone Caulking	400 SF	NYS DOL 12 NYCRR Part 56 §11.6 Exterior Project Removal of Non-Friable ACM

Project monitoring was conducted by Louis Berger project monitors **Jeffrey Leed, Jordan Wong & Marvin Luccioni**. No clearance air sampling was required per NYCRR Part 56 §11.6. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the final visual inspections, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact me at (212) 612-7906.

Sincerely,

Louis Berger

A handwritten signature in black ink, appearing to read "D Cheskin". The signature is fluid and cursive, with the first letter "D" being large and prominent.

Drew Cheskin

Manager



August 2, 2015

Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605

Re: Re-Occupancy Letter
Highlands Middle School
128 Grandview Avenue, White Plains, NY 10605
LBA Job Number: 3001180

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **Highlands Middle School on August 2, 2015**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed between **July 30 & August 2, 2015** by **Wright Environmental, Inc.**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
7/30/15 To 8/2/15	1 st , 2 nd & 3 rd Floor Boys & Girls Bathrooms, North End	Pipe Insulation & Mudded Elbows	240 LF	NYS DOL 12 NYCRR Part 56 §11.3 (d) Small Quantity Tent & Glovebag Removal

Project monitoring and clearance air testing was conducted by Louis Berger project monitors **Marvin Luccioni, Chucks Desmond Ugwu & Chinedu Ajulu**. Final clearance air sampling inside and outside the work areas was performed on **July 31 & August 1, 2015** in accordance with approved procedures. Final clearance air sampling indicates average airborne fiber levels below 70s/mm² meeting re-occupancy criteria. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the clearance air testing, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact me at (212) 612-7906.

Sincerely,

Louis Berger

A handwritten signature in black ink, appearing to read "D Cheskin". The signature is fluid and cursive, with the first letter "D" being large and prominent.

Drew Cheskin

Manager

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031524368

CustomerID: LBAP78

CustomerPO: 3001180.00

ProjectID:

Attn: **A. CHESKIN**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/02/15 12:23 AM
Analysis Date: 8/2/2015
Collected: 8/1/2015

Project: 3001180.00/ WHITE PLAINS SCHOOL DIST./128 GRANDVIEW AVE./ MARMORANECK/ WHITE PLAINS, NY/ POST-ABATEMENT

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ	< 5 ≥ 5μ		(S/mm ²)	(S/cc)
01	IWA/ 1ST FL. N.E. GIRLS' BATHROOM INSIDE TENT	1280.00	0.0640	0	None Detected			0.0047	<16.00	<0.0047
031524368-0001										
02	IWA/ 1ST FL. N.E. GIRLS' BATHROOM INSIDE TENT	1280.00	0.0640	0	None Detected			0.0047	<16.00	<0.0047
031524368-0002										
03	IWA/ 1ST FL. N.E. GIRLS' BATHROOM INSIDE AIRLOCK	1279.95	0.0640	0	None Detected			0.0047	<16.00	<0.0047
031524368-0003										

Scope: JEOL / JEM-100CX II #03-02

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. Results reported in both structures/cm3 and structures/mm2 are dependent on the volume of air sampled and measured by non-laboratory personnel are not the responsibility of EMSL and are not covered by the laboratory's NVLAP accreditation. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request.

Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Report Amended: 08/02/2015 18:20:19 Replaces the Initial Report 08/02/2015 03:01:14. Reason Code: Data Entry-Change to Project ID

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031524368

CustomerID: LBAP78

CustomerPO: 3001180.00

ProjectID:

Attn: **A. CHESKIN**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/02/15 12:23 AM
Analysis Date: 8/2/2015
Collected: 8/1/2015

Project: **3001180.00/ WHITE PLAINS SCHOOL DIST./128 GRANDVIEW AVE./ MARMORANECK/ WHITE PLAINS, NY/ POST-ABATEMENT**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Scope: JEOL / JEM-100CX II #03-02

Sample Receipt Date::	8/2/2015	Sample Receipt Time:	12:23 AM
Analysis Completed Date:	8/2/2015	Analysis Completed Time:	2:32 AM

Analyst(s):

Sean Scales TEM AHERA (3)

Samples reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. Results reported in both structures/cm3 and structures/mm2 are dependent on the volume of air sampled and measured by non-laboratory personnel are not the responsibility of EMSL and are not covered by the laboratory's NVLAP accreditation. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request.

Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Report Amended: 08/02/2015 18:20:19 Replaces the Initial Report 08/02/2015 03:01:14. Reason Code: Data Entry-Change to Project ID

LBA#: 3001/80.00	Client: WHITEPLAINS SEN DIST	Contract#: N/A	Date: 8-01-15				
Work Authorization#: N/A	Job / Service ID #: N/A	LLW / Project ID#: N/A					
Site / Bldg. ID#: N/A	Address: 128 GRANDVIEW AVE, MARMONETREE WHITEPLAINS NY						
Project Monitor: CHUCKS DESMOND UGARY	Project Manager: ANDREW CHESKIN						
Scope of Work: 1st FL N.E GIRLS BATHROOM							
Turn Around Time	<input type="checkbox"/> 1 Hour	<input type="checkbox"/> 3 Hours	<input checked="" type="checkbox"/> 6 Hours	<input type="checkbox"/> 12 Hours	<input type="checkbox"/> 24 Hours	<input type="checkbox"/> 48 Hours	____ Hours

EMSL MANHATTAN LAB
RECEIVED
2015 AUG -2 AM 12:23

Lab Information

Lab Name: EMSL	Analyst: Sean Healey	Date: 08/02/2015 Time: 02:40
----------------	----------------------	------------------------------

Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031524222

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **A. CHESKIN**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
 Fax:
 Received: 08/01/15 12:23 AM
 Analysis Date: 8/1/2015
 Collected: 7/31/2015

Project: 3001091.00/ WHITE PLAINS SCHOOL DIST./ 128 GRANDVIEW AVE, MAMARONECK WP , NY/ 2ND FLOOR BATHROOMS CLEARANCE

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)

Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ < 5	≥ 5μ		(S/mm ²)	(S/cc)
01	IWA 2ND FLOOR N.W BOYS BATHROOM/ INSIDE TENT	1280.00	0.0640	0	None Detected			0.0047	<16.00	<0.0047
031524222-0001										
02	IWA 2ND FLOOR N.W BOYS BATHROOM/ INSIDE TENT	1280.00	0.0640	0	None Detected			0.0047	<16.00	<0.0047
031524222-0002										
03	IWA 2ND FLOOR N.W BOYS BATHROOM/ INSIDE AIRLOCK	1288.00	0.0640	0	None Detected			0.0047	<16.00	<0.0047
031524222-0003										
07	IWA 2ND FLOOR N.E GIRLS BATHROOM/ INSIDE TENT	1280.00	0.0640	0	None Detected			0.0047	<16.00	<0.0047
031524222-0004										
08	IWA 2ND FLOOR N.E GIRLS BATHROOM/ INSIDE TENT	1280.00	0.0640	0	None Detected			0.0047	<16.00	<0.0047
031524222-0005										
09	IWA 2ND FLOOR N.E GIRLS BATHROOM	1288.00	0.0640	0	None Detected			0.0047	<16.00	<0.0047
031524222-0006										

Scope: JEOL / JEM-100CX II #03-02

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/01/2015 04:48:01

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031524222

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **A. CHESKIN**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/01/15 12:23 AM
Analysis Date: 8/1/2015
Collected: 7/31/2015

Project: **3001091.00/ WHITE PLAINS SCHOOL DIST./ 128 GRANDVIEW AVE, MAMARONECK WP , NY/ 2ND FLOOR BATHROOMS CLEARANCE**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Scope: JEOL / JEM-100CX II #03-02

Sample Receipt Date::	8/1/2015	Sample Receipt Time:	12:23 AM
Analysis Completed Date:	8/1/2015	Analysis Completed Time:	3:37 AM

Analyst(s):

Steven Li TEM AHERA (6)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/01/2015 04:48:01

48 Wall Street, 16th Floor, New York, NY 10005 Tel: (212) 612-7900 Fax: (212) 363-4341

LBA#: 3001091-00 Client: WHITE PLAINS SCH DIST Contract#: N/A Date: 7-31-2015
 Work Authorization#: N/A Job / Service ID #: N/A LLW / Project ID#:
 Site / Bldg. ID#: N/A Address: 128 GRANDVIEW AVE, MARMORONEK WP NY
 Project Monitor: CHUCK S DESMOND UGUSHI Project Manager: ANDREW CHESKIN
 Scope of Work: 2ND FLOOR NORTH BATHROOMS CLEARANCE

 Turn Around Time ☐ 1 Hour ☐ 3 Hours ☒ 6 Hours ☐ 12 Hours ☐ 24 Hours ☐ 48 Hours ☐ Hours

Sample#	Sample Location	Time (Military)		Total Minutes	Flow Rate			Total Volume
		Start	End		Start	End	Avg.	
01	IWA, 2nd FL N-W BOYS BATHROOM INSIDE TENT	1845	2125	160	8.0	8.0	8	1280
02	IWA, 2nd FL N-W BOYS BATHROOM INSIDE TENT	1844	2126	160	8.0	8.0	8	1280
03	IWA, 2nd FL N-W BOYS BATHROOM INSIDE AIRLOCK	1847	2128	161	8.0	8.0	8	1288
04	OWA, @ NEGA AIR N-W BOYS BATHROOM N-W	1848	2129	161	8.0	8.0	8	1288
05	OWA, @ AIRLOCK N-W BOYS BATHROOM	1850	2130	160	8.0	8.0	8	1280
06	OWA, @ HALLWAY OPP R-DECON f neg BOYS BATHROOM N-W	1851	2131	160	8.0	8.0	8	1280
07	IWA, 2nd FL N-E GIRLS BATHROOM INSIDE TENT	1916	2156	160	8.0	8.0	8	1280
08	IWA, 2nd FL N-E GIRLS BATHROOM INSIDE TENT	1917	2157	160	8.0	8.0	8	1280
09	IWA, 2nd FL N-E GIRLS BATHROOM	1918	2159	161	8.0	8.0	8	1288
10	OWA, @ AIRLOCK N-E, GIRLS BATHROOM	1922	2200	158	8.0	8.1	8.05	1271.9
11	OWA, NEG AIR N-E GIRLS BATHROOM	1923	2202	159	8.0	8.0	8	1272
12	OWA, @ 2nd FL N-E GIRLS BATHROOM DOOR	1924	2204	160	8.0	8.0	8	1280
13	FIELD BLANK							
14	FIELD BLANK							
15	BOX CASSETTE							

2015 AUG - 1 AM 12:23

EHS MANHATTAN LAB
RECEIVED

Air Cassette Type		Rotameter		Sample Type	
<input type="checkbox"/> PCM	LBA# <u>504</u>	<input type="checkbox"/> Background	<input type="checkbox"/> Ambient		
<input checked="" type="checkbox"/> TEM	Cal Date <u>4/25/2015</u>	<input type="checkbox"/> Pre-Abatement	<input type="checkbox"/> OSHA		
<input type="checkbox"/> Other:	All flow rates incorporate the calibration factor of <u></u>	<input type="checkbox"/> During	<input type="checkbox"/> Periodic		
		<input checked="" type="checkbox"/> Post Abatement	<input type="checkbox"/> Other		

Chain of Custody		Print	Sign	Date	Time
Relinquished by	<u>Ugushi, Desmond</u>	<u>[Signature]</u>	<u>[Signature]</u>	<u>8/01/2015</u>	<u>2421</u>
Received by	<u>Simental</u>	<u>[Signature]</u>	<u>[Signature]</u>	<u>8/01/15</u>	<u>12:23am</u>
Relinquished by					
Received by					
Relinquished by					
Received by					

Lab Information

 Lab Name: E. Mas... Analyst: SLI Date: 8/1 Time:

Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031524223

CustomerID: LBAP78

CustomerPO: 300109.00

ProjectID:

Attn: **A. CHESKIN**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/01/15 12:22 AM
Analysis Date: 8/1/2015
Collected: 7/31/2015

Project: 300109.00/ WHITE PLAINS SCH. DIST. / 128 GRANDVIEW AVENUE/ WHITEPLAINS NEW YORK/ 3RD FLOOR N.E BATHROOM PIPE

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						$\geq 0.5\mu$	< 5		(S/mm ²)	(S/cc)
01	IWA N.E 3RD FL GIRLS BATHROOM INSIDE TENT	1288.00	0.0640	0	None Detected			0.0047	<16.00	<0.0047
031524223-0001										
02	IWA N.E 3RD FL GIRLS BATHROOM INSIDE TENT	1288.00	0.0640	0	None Detected			0.0047	<16.00	<0.0047
031524223-0002										
03	IWA N.E 3RD FL GIRLS BATHROOM AT AIRLOCK	1280.00	0.0640	0	None Detected			0.0047	<16.00	<0.0047
031524223-0003										

Scope: JEOL / JEM-100CX II #03-02

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. Results reported in both structures/cm3 and structures/mm2 are dependent on the volume of air sampled and measured by non-laboratory personnel are not the responsibility of EMSL and are not covered by the laboratory's NVLAP accreditation. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request.

Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/01/2015 05:11:30

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031524223

CustomerID: LBAP78

CustomerPO: 300109.00

ProjectID:

Attn: **A. CHESKIN**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/01/15 12:22 AM
Analysis Date: 8/1/2015
Collected: 7/31/2015

Project: **300109.00/ WHITE PLAINS SCH. DIST. / 128 GRANDVIEW AVENUE/ WHITEPLAINS NEW YORK/ 3RD FLOOR N.E BATHROOM PIPE**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Scope: JEOL / JEM-100CX II #03-02

Sample Receipt Date::	8/1/2015	Sample Receipt Time:	12:22 AM
Analysis Completed Date:	8/1/2015	Analysis Completed Time:	4:41 AM

Analyst(s):

Steven Li TEM AHERA (3)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/01/2015 05:11:30



August 18, 2015

Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605

Re: Re-Occupancy Letter
Highlands Middle School
128 Grandview Avenue, White Plains, NY 10605
LBA Job Number: 3001195

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **Highlands Middle School on August 17, 2015**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed between **August 11 & August 17, 2015** by **ACA Environmental Services, Inc.**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
8/11/15 To 8/17/15	1 st , 2 nd & 3 rd Floor Hallways, Bathrooms & Staircases, North End	Clean-Up	10,500 SF	NYS DOL Clean-Up Procedures via Variance 15-1020
	1 st , 2 nd & 3 rd Floor Bathrooms	Pipe Insulation	13 LF	
	1 st , 2 nd & 3 rd Floor Bathrooms	Pipe Insulation	25 LF	NYS DOL 12 NYCRR Part 56 §11.3 (d) Small Quantity Tent & Glovebag Removal

Project monitoring and clearance air testing was conducted by Louis Berger project monitors **Yuan Jing Lin & Chinedu Ajulu**. Final clearance air sampling inside and outside the work areas was performed on **August 15, 2015** in accordance with approved procedures. Final clearance air sampling indicates average airborne fiber levels below 70s/mm² meeting re-occupancy criteria. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the clearance air testing, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact me at (212) 612-7906.

Sincerely,

Louis Berger

A handwritten signature in black ink, appearing to read "D Cheskin".

Drew Cheskin

Manager

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031526377

CustomerID: LBAP78

CustomerPO: 3001195.00

ProjectID:

Attn: **Drew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/15/15 11:41 AM
Analysis Date: 8/15/2015
Collected: 8/15/2015

Project: 3001195.00/ WHITE PLAINS/ HIGHLANDS MS/ 128 GRAND VIEW AVE/ WHITE PLAINS, NY/ POST ABATEMENT

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ < 5	≥ 5μ		(S/mm ²)	(S/cc)
1	EAST SIDE OF LOBBY/ 1ST FLOOR/ STAIRWELL - IWA - POST ABATEMENT	1260.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031526377-0001										
2	EAST SIDE OF LOBBY/ 1ST FLOOR/ BOYS BATHROOM - IWA - POST ABATEMENT	1260.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031526377-0002										
3	EAST SIDE OF LOBBY/ 1ST FLOOR/ CORRIDOR - IWA - POST ABATEMENT	1260.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031526377-0003										
4	EAST SIDE OF LOBBY/ 1ST FLOOR/ GIRLS BATHROOM - IWA - POST ABATEMENT	1251.00	0.0645	0	None Detected			0.0048	<16.00	<0.0048
031526377-0004										
5	EAST SIDE OF LOBBY/ 1ST FLOOR/ STAIRWELL NORTH - IWA - POST ABATEMENT	1251.00	0.0645	0	None Detected			0.0048	<16.00	<0.0048
031526377-0005										
6	EAST SIDE OF LOBBY/ 2ND FLOOR/ STAIRWELL NORTH - IWA - POST ABATEMENT	1269.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031526377-0006										
7	EAST SIDE OF LOBBY/ 2ND FLOOR/ GIRLS BATHROOM - IWA - POST ABATEMENT	1260.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031526377-0007										

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/15/2015 13:40:50

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031526377

CustomerID: LBAP78

CustomerPO: 3001195.00

ProjectID:

Attn: **Drew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/15/15 11:41 AM
Analysis Date: 8/15/2015
Collected: 8/15/2015

Project: 3001195.00/ WHITE PLAINS/ HIGHLANDS MS/ 128 GRAND VIEW AVE/ WHITE PLAINS, NY/ POST ABATEMENT

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ	< 5 ≥ 5μ		(S/mm ²)	(S/cc)
8	EAST SIDE OF LOBBY/ 2ND FLOOR/ CORRIDOR - IWA - POST ABATEMENT	1260.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031526377-0008										
9	EAST SIDE OF LOBBY/ 2ND FLOOR/ BOYS BATHROOM - IWA - POST ABATEMENT	1260.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031526377-0009										
10	EAST SIDE OF LOBBY/ 2ND FLOOR/ STAIRWELL SOUTH - IWA - POST ABATEMENT	1251.00	0.0645	0	None Detected			0.0048	<16.00	<0.0048
031526377-0010										
11	EAST SIDE OF LOBBY/ 3RD FLOOR/ STAIRWELL SOUTH - IWA - POST ABATEMENT	1251.00	0.0645	0	None Detected			0.0048	<16.00	<0.0048
031526377-0011										
12	EAST SIDE OF LOBBY/ 3RD FLOOR/ BOYS BATHROOM - IWA - POST ABATEMENT	1260.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031526377-0012										
13	EAST SIDE OF LOBBY/ 3RD FLOOR/ CORRIDOR - IWA - POST ABATEMENT	1260.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031526377-0013										
14	EAST SIDE OF LOBBY/ 3RD FLOOR/ GIRLS BATHROOM - IWA - POST ABATEMENT	1260.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031526377-0014										

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/15/2015 13:40:50

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031526377
CustomerID: LBAP78
CustomerPO: 3001195.00
ProjectID:

Attn: **Drew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/15/15 11:41 AM
Analysis Date: 8/15/2015
Collected: 8/15/2015

Project: 3001195.00/ WHITE PLAINS/ HIGHLANDS MS/ 128 GRAND VIEW AVE/ WHITE PLAINS, NY/ POST ABATEMENT

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ	< 5 ≥ 5μ		(S/mm ²)	(S/cc)
15	EAST SIDE OF LOBBY/ 3RD FLOOR/ STAIRWELL NORTH - IWA - POST ABATEMENT	1260.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047

031526377-0015

Scope: JEOL / JEM-100CX II #03-02, Scope: JEOL / JEM-100CX II #03-03

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/15/2015 13:40:50

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031526377

CustomerID: LBAP78

CustomerPO: 3001195.00

ProjectID:

Attn: **Drew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/15/15 11:41 AM
Analysis Date: 8/15/2015
Collected: 8/15/2015

Project: 3001195.00/ WHITE PLAINS/ HIGHLANDS MS/ 128 GRAND VIEW AVE/ WHITE PLAINS, NY/ POST ABATEMENT

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Scope: JEOL / JEM-100CX II #03-02, Scope: JEOL / JEM-100CX II #03-03

Sample Receipt Date::	8/15/2015	Sample Receipt Time:	11:41 AM
Analysis Completed Date:	8/15/2015	Analysis Completed Time:	1:56 PM

Analyst(s):

Alicia Folgar TEM AHERA (5)

Derrick Young TEM AHERA (10)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/15/2015 13:40:50

48 Wall Street, 16th Floor, New York, NY 10005 Tel:(212)612-7900 Fax: (212)363-4341

LBA#: 3001195-00 Client: WHITE PLAINS Contract#: Date: 8-15-15
 Work Authorization#: Job / Service ID #: LLW / Project ID#:
 Site / Bldg. ID#: HIGHLANDS MS Address: 128 GRAND VIEW AVE. WHITE PLAINS, NY
 Project Monitor: CHINEDU AJULIE Project Manager: DREW CHESKIN
 Scope of Work:

Turn Around Time ☐ 1 Hour ☒ 3 Hours ☐ 6 Hours ☐ 12 Hours ☐ 24 Hours ☐ 48 Hours _____ Hours

Sample#	Sample Location	Time (Military)		Total Minutes	Flow Rate			Total Volume
		Start	End		Start	End	Avg.	
1	IWA East side of lobby 1 st Fl. Stairwell	0700	0920	140	9.0	9.0	9.0	1260
2	Boys Bath	0701	0921	140	9.0	9.0	9.0	1260
3	Corridor	0702	0922	140	9.0	9.0	9.0	1260
4	Girls B/Rm	0704	0923	139	9.0	9.0	9.0	1251
5	Stairwell North	0705	0924	139	9.0	9.0	9.0	1251
6	2 nd Fl. Stairwell North	0707	0928	141	9.0	9.0	9.0	1269
7	Girls B/Rm	0709	0929	140	9.0	9.0	9.0	1260
8	Corridor	0710	0930	140	9.0	9.0	9.0	1260
9	Boys B/Rm	0711	0931	140	9.0	9.0	9.0	1260
10	Stairwell South	0713	0932	139	9.0	9.0	9.0	1251
11	3 rd Fl. Stairwell South	0715	0934	139	9.0	9.0	9.0	1251
12	Boys B/Rm	0716	0936	140	9.0	9.0	9.0	1260
13	Corridor	0717	0937	140	9.0	9.0	9.0	1260
14	Girls B/Rm	0718	0938	140	9.0	9.0	9.0	1260
15	Stairwell North	0719	0939	140	9.0	9.0	9.0	1260
16	DWA BY GYM @ 3 rd Floor	0722	0943	141	9.0	9.0	9.0	1269
17	BY MAIN LOBBY	0725	0945	140	9.0	9.0	9.0	1260
18	BY 2 nd FL. Corridor by Rm 261	0727	0947	140	9.0	9.0	9.0	1260
19	BY 3 rd FL. Corridor by Rm 361	0729	0949	140	9.0	9.0	9.0	1260
20	BY 3 rd FL. Corridor by Rm 341	0731	0952	141	9.0	9.0	9.0	1269

Air Cassette Type		Rotameter		Sample Type			
<input type="checkbox"/> PCM	LBA#	R111	<input type="checkbox"/> Background	<input type="checkbox"/> Ambient			
<input checked="" type="checkbox"/> TEM	Cal Date	6/22/15	<input type="checkbox"/> Pre-Abatement	<input type="checkbox"/> OSHA			
<input type="checkbox"/> Other:	All flow rates incorporate the calibration factor of 1.0		<input type="checkbox"/> During	<input type="checkbox"/> Periodic			
			<input checked="" type="checkbox"/> Post Abatement	<input type="checkbox"/> Other			
Chain of Custody		Print	Sign	Date	Time		
Relinquished by		C. AJULIE	[Signature]	8/15/15	12:25		
Received by		[Signature]	[Signature]	8/15/15	11:41		
Relinquished by							
Received by							
Relinquished by							
Received by							

Lab Information
 Lab Name: Const Analytical Analyst: Date: Time:

Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.

Ajler 8/15/15 @ 1:25 pm
 8/15/15

48 Wall Street, 16th Floor, New York, NY 10005 Tel:(212)612-7900 Fax: (212)363-4341

AT 31526377

AT 31526377

Time

Time

Time

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031526427

CustomerID: LBAP78

CustomerPO: 3001195.00

ProjectID:

Attn: **D Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/16/15 12:46 AM
Analysis Date: 8/16/2015
Collected: 8/15/2015

Project: 3001195.00/ WHITE PLAINS/ HIGHLANDS MS/ 128 GRAND VIEW AVE. WHITE PLAINS, NY/ POST

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ	< 5 ≥ 5μ		(S/mm ²)	(S/cc)
24	IWA/ 1ST FL/ BOYS BATHROOM TENT - POST	1260.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031526427-0001										
26	IWA/ 1ST FL/ GIRLS BATHROOM TENT - POST	1260.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031526427-0002										
28	IWA/ 2ND FL/ BOYS BATHROOM TENT - POST	1260.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031526427-0003										
30	IWA/ 2ND FL/ GIRLS BATHROOM TENT - POST	1260.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031526427-0004										
32	IWA/ 3RD FL/ BOYS BATHROOM TENT - POST	1260.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031526427-0005										
34	IWA/ 3RD FL/ GIRLS BATHROOM TENT - POST	1260.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031526427-0006										

Scope: JEOL / JEM-100CX II #03-02

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/16/2015 05:04:54

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031526427

CustomerID: LBAP78

CustomerPO: 3001195.00

ProjectID:

Attn: **D Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/16/15 12:46 AM
Analysis Date: 8/16/2015
Collected: 8/15/2015

Project: 3001195.00/ WHITE PLAINS/ HIGHLANDS MS/ 128 GRAND VIEW AVE. WHITE PLAINS, NY/ POST

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Scope: JEOL / JEM-100CX II #03-02

Sample Receipt Date::	8/16/2015	Sample Receipt Time:	12:46 AM
Analysis Completed Date:	8/16/2015	Analysis Completed Time:	4:28 AM

Analyst(s):

Steven Li TEM AHERA (6)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

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Initial report from 08/16/2015 05:04:54

Date: 8/15/15

Address: 128 Grand View Ave, White Plains NY

Project Manager: Drew Cheskin

Turn Around Time ☒ 1 Hour ☐ 3 Hours ☒ 6 Hours ☐ 12 Hours ☐ 24 Hours ☐ 48 Hours Hours

ENSL MANHATTAN L
RECEIVED
2015 AUG 16 AM 12:45

Lab Information			
Lab Name: EMCL	Analyst: SLF	Date: 8/16	Time:
Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.			



August 19, 2015

Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605

Re: Re-Occupancy Letter
Highlands Middle School
128 Grandview Avenue, White Plains, NY 10605
LBA Job Number: 3001195

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **Highlands Middle School on August 18, 2015**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed on **August 18, 2015 by ACA Environmental Services, Inc.**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
8/18/15	Gymnasium, 1 st and 2 nd Floor Boys Bathrooms & 3 rd Floor Girls Bathroom	Pipe Insulation	6 LF	NYS DOL 12 NYCRR Part 56 §11.3 (d) Minor Quantity Tent & Glovebag Removal

Project monitoring was conducted by Louis Berger project monitors **Yuan Jing Lin**. Final visual clearance inside and outside the work areas was performed on **August 18, 2015** in accordance with approved procedures. No visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the clearance air testing, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact me at (212) 612-7906.

Sincerely,

Louis Berger

A handwritten signature in black ink, appearing to read "D Cheskin". The signature is fluid and cursive, with the first letter "D" being large and prominent.

Drew Cheskin

Manager



March 24, 2016

Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605

Re: Re-Occupancy Letter
Highlands Middle School
128 Grandview Avenue, White Plains, NY 10605
LBA Job Number: 3001302

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **Highlands Middle School on March 24, 2016**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed between **March 21 & March 24, 2016 by Roughcut Contracting Inc.**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
3/21/16 To 3/24/16	Inner Courtyard	Exterior Window Glazing	60 SF	NYS DOL 12 NYCRR Part 56 §11.6 Exterior Project Removal of Non- Friable ACM

Project monitoring was conducted by Louis Berger project monitors **Chi Fei Hung**. Final clearance air sampling inside and outside the work areas is not required in accordance with approved procedures. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the visual inspection, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact me at (212) 612-7906.

Sincerely,

Louis Berger

A handwritten signature in black ink, appearing to read "D Cheskin". The signature is written in a cursive, flowing style.

Drew Cheskin

Manager

W.P.M.S. - EASTVIEW CAMPUS



Louis Berger & Assoc., PC.

565 Taxter Road 5th, Elmsford, NY 10523

Tel 914 798-3710 Fax 914 592-1734 Website: www.louisberger.com

February 20, 2015

**Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605**

**RE: Re-Occupancy Letter
Eastview Middle School
350 Main Street, White Plains, NY 10601
LBA Job Number: 3001091**

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **Eastview Middle School on February 20, 2015**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed from **February 16 through February 20, 2015 by Unitech Service Group**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
2/16/15 – 2/20/15	Rm. #105	Floor Tile and Associated Mastic	1,025 SF	NYS DOL 12 NYCRR Part 56 §11.7 Non-Friable Flooring and/or Mastic Removal
2/16/15 – 2/20/15	Rm. #303	Floor Tile and Associated Mastic	1,105 SF	

Project monitoring and clearance air testing was conducted by Louis Berger project monitors **Yuan Jing Lin, Drew Cheskin & Jeffrey Leed**. Final clearance air sampling inside and outside the work areas was performed on **February 19, 2015** in accordance with approved procedures. Final clearance air sampling indicates average airborne fiber levels below 70s/mm² meeting re-occupancy criteria. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the clearance air testing, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact Prakash Saha at (212) 612-7909.



Louis Berger & Assoc., PC.

565 Taxter Road 5th, Elmsford, NY 10523

Tel 914 798-3710 Fax 914 592-1734 Website: www.louisberger.com

Sincerely,

Louis Berger

Drew Cheskin

Manager

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031504889
CustomerID: LBAP78
CustomerPO: 3001091.00
ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 02/19/15 6:43 PM
Analysis Date: 2/19/2015
Collected: 2/19/2015

Project: 3001091.00/ WHITE PLAINS/ EASTVIEW MS/ 350 MAIN ST/ WHITE PLAINS. NY/ POST- ABATEMENT

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ < 5	≥ 5μ		(S/mm ²)	(S/cc)
14	IWA 1 - POST- ABATEMENT	1253.75	0.0640	0	None Detected			0.0048	<16.00	<0.0048
031504889-0001										
15	IWA 2 - POST- ABATEMENT	1253.75	0.0640	0	None Detected			0.0048	<16.00	<0.0048
031504889-0002										
16	IWA 3 - POST- ABATEMENT	1243.72	0.0640	0	None Detected			0.0048	<16.00	<0.0048
031504889-0003										
17	IWA 4 - POST- ABATEMENT	1253.75	0.0640	0	None Detected			0.0048	<16.00	<0.0048
031504889-0004										
18	IWA 5 - POST- ABATEMENT	1243.72	0.0640	0	None Detected			0.0048	<16.00	<0.0048
031504889-0005										

Scope: JEOL / JEM-100CX II #03-04

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. Results reported in both structures/cm3 and structures/mm2 are dependent on the volume of air sampled and measured by non-laboratory personnel are not the responsibility of EMSL and are not covered by the laboratory's NVLAP accreditation. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request.

Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 02/19/2015 21:30:22

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031504889

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 02/19/15 6:43 PM
Analysis Date: 2/19/2015
Collected: 2/19/2015

Project: **3001091.00/ WHITE PLAINS/ EASTVIEW MS/ 350 MAIN ST/ WHITE PLAINS. NY/ POST- ABATEMENT**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Scope: JEOL / JEM-100CX II #03-04

Sample Receipt Date::	2/19/2015	Sample Receipt Time:	6:43 PM
Analysis Completed Date:	2/19/2015	Analysis Completed Time:	8:58 PM

Analyst(s):

Helen Polanco TEM AHERA (5)**Samples reviewed and approved by:**

James Hall, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. Results reported in both structures/cm3 and structures/mm2 are dependent on the volume of air sampled and measured by non-laboratory personnel are not the responsibility of EMSL and are not covered by the laboratory's NVLAP accreditation. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request.

Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 02/19/2015 21:30:22

Louis Berger & Assoc PC		Air Sample Data Sheet / Chain Of Custody		Page <u>1</u> of <u>1</u>	
48 Wall Street, 16 th Floor, New York, NY 10005 Tel:(212)612-7900 Fax: (212)363-4341					
LBA#: <u>3001091.00</u>		Client: <u>White Plains</u>		Contract#: _____	
Work Authorization#:		Job / Service ID #:		LLW / Project ID#:	
Site / Bldg. ID#: <u>Eastview MS</u>		Address: <u>350 Main St, White Plains, NY</u>			
Project Monitor: <u>Drew Chaskin</u>		Project Manager: <u>Drew Chaskin</u>			
Scope of Work:					
Turn Around Time		<input type="checkbox"/> 1 Hour	<input checked="" type="checkbox"/> 3 Hours	<input type="checkbox"/> 6 Hours	<input type="checkbox"/> 12 Hours
		<input type="checkbox"/> 24 Hours	<input type="checkbox"/> 48 Hours	_____ Hours	

Sample#	Sample Location	Time (Military)		Total Minutes	Flow Rate			Total Volume
		Start	End		Start	End	Avg.	
01	IWA - Rm 303	1223	1435	132	10.3	10.3	10.3	1359.6
02	IWA - Rm 303	1224	1435	131	10.3			1349.3
03	IWA - Rm 303	1225	1436	131	10.3			1349.3
04	IWA - Rm 303	1226	1437	131	10.3			1349.3
05	IWA - Rm 303	1227	1437	130	10.3			1339
06	OWA - Hallway	1239	1445	126	10.3			1297.8
07	OWA - Hallway	1239	1446	127	10.3			1308.1
08	OWA - Hallway	1240	1446	126	10.3			1297.8
09	OWA - Hallway	1240	1447	127	10.3			1308.1
10	OWA - Hallway	1241	1447	126	10.3			1297.8
11	Blank							
12	Blank							
13	Blank							

031504891

2015 FEB 19 PM 6:42
 ENCL. MARKHAM LANE
 RECEIVED

Air Cassette Type		Rotameter		Sample Type	
<input type="checkbox"/> PCM	LBA# <u>LBA 116</u>	<input type="checkbox"/> Background	<input type="checkbox"/> Ambient		
<input checked="" type="checkbox"/> TEM	Cal Date <u>1/5/15</u>	<input type="checkbox"/> Pre-Abatement	<input type="checkbox"/> OSHA		
<input type="checkbox"/> Other:	All flow rates incorporate the calibration factor of <u>1.03</u>	<input type="checkbox"/> During	<input type="checkbox"/> Periodic		
		<input checked="" type="checkbox"/> Post Abatement	<input type="checkbox"/> Other		

Chain of Custody		Print	Sign	Date	Time
Relinquished by	<u>Drew Chaskin</u>	<u>Drew Chaskin</u>		<u>2/19/15</u>	<u>1335</u>
Received by	<u>Jeff Leedy</u>	<u>Jeff Leedy</u>		<u>2/19/15</u>	<u>1335</u>
Relinquished by	<u>Jeff Leedy</u>	<u>Jeff Leedy</u>		<u>2/19/15</u>	<u>1839</u>
Received by	<u>A. SWANSON</u>	<u>A. SWANSON</u>		<u>2/19/15</u>	<u>6:42 pm</u>
Relinquished by					
Received by					

Lab Information			
Lab Name: <u>ENCL</u>		Analyst: <u>fla</u>	
Date: <u>2/19/15</u>		Time: <u>8:36 pm</u>	

Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031504891
CustomerID: LBAP78
CustomerPO: 3001091.00
ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 02/19/15 6:42 PM
Analysis Date: 2/19/2015
Collected: 2/19/2015

Project: 3001091.00/ WHITE PLAINS/ EASTVIEW MS/ 350 MAIN ST/ WHITE PLAINS, NY/ POST- ABATEMENT

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ < 5	≥ 5μ		(S/mm ²)	(S/cc)
01	IWA- ROOM 303 - POST- ABATEMENT	1359.60	0.0640	0	None Detected			0.0044	<16.00	<0.0044
031504891-0001										
02	IWA- ROOM 303 - POST- ABATEMENT	1349.30	0.0640	0	None Detected			0.0045	<16.00	<0.0045
031504891-0002										
03	IWA- ROOM 303 - POST- ABATEMENT	1349.30	0.0640	0	None Detected			0.0045	<16.00	<0.0045
031504891-0003										
04	IWA- ROOM 303 - POST- ABATEMENT	1349.30	0.0640	0	None Detected			0.0045	<16.00	<0.0045
031504891-0004										
05	IWA- ROOM 303 - POST- ABATEMENT	1339.00	0.0640	0	None Detected			0.0045	<16.00	<0.0045
031504891-0005										

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. Results reported in both structures/cm3 and structures/mm2 are dependent on the volume of air sampled and measured by non-laboratory personnel are not the responsibility of EMSL and are not covered by the laboratory's NVLAP accreditation. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request.

Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 02/19/2015 20:59:52

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031504891

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 02/19/15 6:42 PM
Analysis Date: 2/19/2015
Collected: 2/19/2015

Project: **3001091.00/ WHITE PLAINS/ EASTVIEW MS/ 350 MAIN ST/ WHITE PLAINS, NY/ POST- ABATEMENT**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date::	2/19/2015	Sample Receipt Time:	6:42 PM
Analysis Completed Date:	2/19/2015	Analysis Completed Time:	8:32 PM

Analyst(s):

Feng Liang TEM AHERA (5)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 02/19/2015 20:59:52



April 4, 2015

Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605

Re: Re-Occupancy Letter
Eastview Middle School
350 Main Street, White Plains, NY 10601
LBA Job Number: 3001091

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **Eastview Middle School on April 4, 2015**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed from **March 30 through April 4, 2015** by **PAL Environmental Safety Corp.**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
3/30/15 – 4/2/15	Rm. #304	Floor Tile and Associated Mastic	550 SF	NYS DOL 12 NYCRR Part 56 §11.7 Non-Friable Flooring and/or Mastic Removal
4/2/15 – 4/4/15	Rm. #301	Floor Tile and Associated Mastic	20 SF	
4/2/15 – 4/4/15	Room 102	Pipe Insulation	8 LF	NYS DOL 12 NYCRR Part 56 § 11.3 Tent Procedures
4/2/15 – 4/4/15	Exterior Electrical Vault	Pipe Insulation	38 LF	

Project monitoring and clearance air testing was conducted by Louis Berger project monitor **Yuan Jing Lin**. Final clearance air sampling inside and outside the work areas was performed on **April 1, 2015 & April 3, 2015** in accordance with approved procedures. Final clearance air sampling indicates average airborne fiber levels below 70s/mm² meeting re-occupancy criteria. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the clearance air testing, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact Prakash Saha at (212) 612-7909.

Sincerely,
Louis Berger

A handwritten signature in black ink, appearing to read "D Cheskin".

Drew Cheskin
Manager



May 23, 2015

Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605

Re: Re-Occupancy Letter
Eastview Middle School
350 Main Street, White Plains, NY 10601
LBA Job Number: 3001091

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **Eastview Middle School on May 23, 2015**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed from **May 21 through May 23, 2015 by PAL Environmental Safety Corp.**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
5/21/15 – 5/23/15	Rm. #101	Mastic Associated with Chalk Boards	125 SF	NYS DOL 12 NYCRR Part 56 § 7.11 Small Interior Non- Friable Removal
5/21/15 – 5/23/15	Rm. #103	Mastic Associated with Chalk Boards	130 SF	
5/21/15 – 5/23/15	1 st Floor Hallway	Pipe Insulation	6 LF	NYS DOL 12 NYCRR Part 56 § 11.3 Minor Tent Procedures
5/21/15 – 5/23/15	2 nd Floor Hallway	Pipe Insulation	6 LF	

Project monitoring and clearance air testing was conducted by Louis Berger project monitor **Yuan Jing Lin**. Final clearance air sampling inside and outside the work areas was performed on **May 22, 2015** in accordance with approved procedures. Final clearance air sampling indicates average airborne fiber levels below 70s/mm² meeting re-occupancy criteria. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the clearance air testing, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact Prakash Saha at (212) 612-7909.

Sincerely,

Louis Berger

A handwritten signature in black ink, appearing to read "D Cheskin".

Drew Cheskin
Manager

48 Wall Street, 16th Floor, New York, NY 10005 Tel:(212)612-7900 Fax: (212)363-4341

LBA#: 300/09/00	Client: White Plains School District	Contract#: —	Date: 5/22/15 - 5/23/15
Work Authorization#: —	Job / Service ID #: —	LLW / Project ID#: —	
Site / Bldg. ID#: Eastview School	Address: 350 main street, white plains, NY		
Project Monitor: Yuanjing Lin	Project Manager: Andrew Cheskin		
Scope of Work: Mastic behind chalkboard (wall), TSZ Removal (1 st & 2 nd floor)			
Turn Around Time	<input type="checkbox"/> 1 Hour	<input checked="" type="checkbox"/> 3 Hours	<input type="checkbox"/> 6 Hours <input type="checkbox"/> 12 Hours <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours _____ Hours

Sample#	Sample Location	Time (Military)		Total Minutes	Flow Rate			Total Volume
		Start	End		Start	End	Avg.	
1	IWA 1 st floor hallway Tent (next to Rm 103)	2130	2351	141	9.27	9.27	9.27	1307
2	OWA next to air lock (1 st floor hallway next to Rm 103)	2131	2352	141	9.27	9.27	9.27	1307
3	IWA 2 nd floor hallway Tent (next to Rm 203)	2135	2356	141	9.27	9.27	9.27	1307
4	OWA next to air lock (2 nd floor hallway next to Rm 203)	2136	2357	141	9.27	9.27	9.27	1307
5	IWA Tent at Room 101 (L)	0015	0236	141	9.27	9.27	9.27	1307
6	IWA (C)	0016	0237	141	9.27	9.27	9.27	1307
7	IWA (R)	0017	0238	141	9.27	9.27	9.27	1307
8	OWA next to air lock (by Rm 101)	0018	0239	141	9.27	9.27	9.27	1307
9	OWA next to Decon (clean Rm) (Rm 101)	0019	0240	141	9.27	9.27	9.27	1307
10	OWA by Room 101 exit door	0020	0241	141	9.27	9.27	9.27	1307
11	IWA Tent at Room 103 (L)	0023	0244	141	9.27	9.27	9.27	1307
12	IWA (C)	0024	0245	141	9.27	9.27	9.27	1307
13	IWA (R)	0025	0246	141	9.27	9.27	9.27	1307
14	OWA next to air lock (by Rm 103)	0026	0247	141	9.27	9.27	9.27	1307
15	OWA by Room 103 (next to window)	0027	0248	141	9.27	9.27	9.27	1307
16	OWA by Room 103 exit door.	0028	0249	141	9.27	9.27	9.27	1307
17	Field Blank							
18	Field Blank							
19	Sealed Blank							

Air Cassette Type	Rotameter	Sample Type	
<input type="checkbox"/> PCM	LBA# 2/5	<input type="checkbox"/> Background	<input type="checkbox"/> Ambient
<input checked="" type="checkbox"/> TEM	Cal Date 3/6/15	<input type="checkbox"/> Pre-Abatement	<input type="checkbox"/> OSHA
<input type="checkbox"/> Other:	All flow rates incorporate the calibration factor of 103	<input type="checkbox"/> During	<input type="checkbox"/> Periodic
		<input checked="" type="checkbox"/> Post Abatement	<input type="checkbox"/> Other

Chain of Custody	Print	Sign	Date	Time
Relinquished by	Yuanjing Lin		5/23/15	3:45 AM
Received by			5/23/15	PM 3:45
Relinquished by				
Received by				
Relinquished by				
Received by				

Lab Information			
Lab Name: EMSL	Analyst: G. Mannozi	Date: 5/23/15	Time: 7:51 AM

Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.

031515448

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031515448

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 05/23/15 3:45 AM
Analysis Date: 5/23/2015
Collected: 5/22/2015

Project: 3001091.00/ WHITE PLAINS SCHOOL DISTRICT/ EASTVIEW SCHOOL/ 350 MAIN STREET, WHITE PLAINS, NY/ POST

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ	< 5 ≥ 5μ		(S/mm ²)	(S/cc)
1	IWA 1ST FLOOR HALLWAY TENT (NEXT TO RM 103) - POST	1307.00	0.0640	0	None Detected			0.0046	<16.00	<0.0046
031515448-0001										
3	IWA 2ND FLOOR HALLWAY TENT (NEXT TO RM 203) - POST	1307.00	0.0640	1	None Detected			0.0046	<16.00	<0.0046
031515448-0002										
5	IWA TENT AT ROOM 101/ L - POST	1307.00	0.0640	1	None Detected			0.0046	<16.00	<0.0046
031515448-0003										
6	IWA TENT AT ROOM 101/ C - POST	1307.00	0.0640	0	None Detected			0.0046	<16.00	<0.0046
031515448-0004										
7	IWA TENT AT ROOM 101/ R - POST	1307.00	0.0640	0	None Detected			0.0046	<16.00	<0.0046
031515448-0005										
11	IWA TENT AT ROOM 103/ L - POST	1307.00	0.0640	0	None Detected			0.0046	<16.00	<0.0046
031515448-0006										
12	IWA TENT AT ROOM 103/ C - POST	1307.00	0.0640	0	None Detected			0.0046	<16.00	<0.0046
031515448-0007										
13	IWA TENT AT ROOM 103/ R - POST	1307.00	0.0640	0	None Detected			0.0046	<16.00	<0.0046
031515448-0008										

Scope: JEOL / JEM-100CX II #03-03

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 05/23/2015 08:04:36

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031515448

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 05/23/15 3:45 AM
Analysis Date: 5/23/2015
Collected: 5/22/2015

Project: 3001091.00/ WHITE PLAINS SCHOOL DISTRICT/ EASTVIEW SCHOOL/ 350 MAIN STREET, WHITE PLAINS, NY/ POST

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Scope: JEOL / JEM-100CX II #03-03

Sample Receipt Date::	5/23/2015	Sample Receipt Time:	3:45 AM
Analysis Completed Date:	5/23/2015	Analysis Completed Time:	7:49 AM

Analyst(s):

Gerald Iannuzzi TEM AHERA (3)

Robert Georgens TEM AHERA (5)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 05/23/2015 08:04:36



August 11, 2015

Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605

Re: Re-Occupancy Letter
Eastview Middle School
350 Main Street, White Plains, NY 10601
LBA Job Number: 3001091

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **Eastview Middle School on August 10, 2015**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed from **July 29 through August 10, 2015** by **PAL Environmental Safety Corp.**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
7/29/15 to 8/10/15	Rooms 223, 230, 315, 319, 323 & 336	Floor Tile and Associated Mastic	4000 SF	NYS DOL 12 NYCRR Part 56 §11.7 Non-Friable Flooring and/or Mastic Removal
	North Wing, First Floor, East & West Stair Landings	1'x1' Ceiling Tile Mastic	200 SF	NYS DOL 12 NYCRR Part 56 § 7.11 Tent Procedures

Project monitoring and clearance air testing was conducted by Louis Berger project monitor **Simon Chio & Yuan Jing Lin**. Final clearance air sampling inside and outside the work areas was performed on **August 4, 5 & 7, 2015** in accordance with approved procedures. Final clearance air sampling indicates average airborne fiber levels below 70s/mm² meeting re-occupancy criteria. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will

be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the clearance air testing, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact me at (212) 612-7906.

Sincerely,

Louis Berger

A handwritten signature in black ink, appearing to read "D Cheskin". The signature is fluid and cursive, with the first name "Drew" and last name "Cheskin" clearly distinguishable.

Drew Cheskin

Manager, Industrial Hygiene & Hazmat Services

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031524637

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/04/15 5:30 PM
Analysis Date: 8/5/2015
Collected: 8/4/2015

Project: 3001091.00/ WHITEPLAINS SCHOOL/ EASTVIEW SCHOOL/ 350 MAIN STREET NEW YORK/ POST-ABATEMENT

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ < 5	≥ 5μ		(S/mm ²)	(S/cc)
6	IWA/ IN ROOM 315 N - POST-ABATEMENT	1263.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031524637-0001										
7	IWA/ IN ROOM 315 E - POST-ABATEMENT	1263.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031524637-0002										
8	IWA/ IN ROOM 315 S - POST-ABATEMENT	1263.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031524637-0003										
9	IWA/ IN ROOM 315 W - POST-ABATEMENT	1263.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031524637-0004										
10	IWA/ IN ROOM 315 CENTER - POST- ABATEMENT	1263.00	0.0645	0	None Detected			0.0047	<16.00	<0.0047
031524637-0005										

Scope: JEOL / JEM-100CX II #03-04

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/05/2015 01:27:36

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031524637

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/04/15 5:30 PM
Analysis Date: 8/5/2015
Collected: 8/4/2015

Project: **3001091.00/ WHITEPLAINS SCHOOL/ EASTVIEW SCHOOL/ 350 MAIN STREET NEW YORK/ POST-ABATEMENT**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Scope: JEOL / JEM-100CX II #03-04

Sample Receipt Date::	8/4/2015	Sample Receipt Time:	5:30 PM
Analysis Completed Date:	8/5/2015	Analysis Completed Time:	1:16 AM

Analyst(s):

Sean Scales TEM AHERA (5)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

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Initial report from 08/05/2015 01:27:36

Louis Berger & Assoc PC

Air Sample Data Sheet / Chain Of Custody

Page ____ of ____

48 Wall Street, 16th Floor, New York, NY 10005 Tel:(212)612-7900 Fax: (212)363-4341

LBA#: 3001091.00

Client: White Plains School

Contract#:

Date: 8/4/15

Work Authorization#:

Job / Service ID #:

LLW / Project ID#:

Site / Bldg. ID#: Eastview School

Address: 350 Main Street New York

Project Monitor: Yinhwa Choo

Project Manager: Andrew Chesein

Scope of Work: Floor tiles removal on 2nd + 3rd Floors

Turn Around Time

☐ 1 Hour☐ 3 Hours☐ 6 Hours☒ 12 Hours☐ 24 Hours☐ 48 Hours

____ Hours

Sample#	Sample Location	Time (Military)		Total Minutes	Flow Rate			Total Volume
		Start	End		Start	End	Avg.	
1	OWA - by room 326	0830	1045	135	9.36	9.36	9.36	1263
2	OWA - by room 332	0831	1046	135	9.36	9.36	9.36	1263
3	OWA - by room 315	0832	1047	135	9.36	9.36	9.36	1263
4	OWA - by room 334	0833	1048	135	9.36	9.36	9.36	1263
5	OWA - by room 319	0834	1049	135	9.36	9.36	9.36	1263
6	IWA - in room 315 (N)	0835	1050	135	9.36	9.36	9.36	1263
7	IWA - (E)	0836	1051	135	9.36	9.36	9.36	1263
8	IWA - (S)	0837	1052	135	9.36	9.36	9.36	1263
9	IWA - (W)	0838	1053	135	9.36	9.36	9.36	1263
10	IWA - center	0839	1054	135	9.36	9.36	9.36	1263
11	Field Blank							
12	Field Blank							
13	Field Blank							

031524637

2015 AUG -4 PM 5:30

EMSL MANHATTAN LAB RECEIVED

Air Cassette Type

☐ PCM☒ TEM 8/5/15☐ Other:

Rotameter

LBA#

116

Cal Date

7/6/14

All flow rates incorporate the calibration factor of 1.04

Sample Type

☐ Background☐ Pre-Abatement☐ During☒ Post Abatement☐ Ambient☐ OSHA☐ Periodic☐ Other

Chain of Custody

Print

Sign

Date

Time

Relinquished by

Yinhwa Choo

8/4/15

1730

Received by

Maren Aultman

8/4/15

5:30pm

Relinquished by

Received by

Relinquished by

Received by

Lab Information

Lab Name:

EMSL

Analyst:

Sandy Becker

Date:

08/04/2015

Time: 01:20

Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031524818

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/05/15 4:31 PM
Analysis Date: 8/5/2015
Collected: 8/5/2015

Project: 3001091.00/ WHITE PLAINS SCHOOL DISTRICT/ 350 MAIN STREET/ WHITE PLAINS, NY/ POST-ABATEMENT

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ < 5	≥ 5μ		(S/mm ²)	(S/cc)
1	IWA BY TENT 319 (L) - POST-ABATEMENT	1285.00	0.0645	0	None Detected			0.0046	<16.00	<0.0046
031524818-0001										
2	IWA BY TENT 319 (CENTER) - POST- ABATEMENT	1285.00	0.0645	0	None Detected			0.0046	<16.00	<0.0046
031524818-0002										
3	IWA BY TENT 319 (R) - POST-ABATEMENT	1285.00	0.0645	0	None Detected			0.0046	<16.00	<0.0046
031524818-0003										
7	IWA BY TENT 319-2 (L) - POST-ABATEMENT	1285.00	0.0645	0	None Detected			0.0046	<16.00	<0.0046
031524818-0004										
8	IWA BY TENT 319-2 (CENTER) - POST- ABATEMENT	1285.00	0.0645	0	None Detected			0.0046	<16.00	<0.0046
031524818-0005										
9	IWA BY TENT 319-2 (R) - POST-ABATEMENT	1285.00	0.0645	0	None Detected			0.0046	<16.00	<0.0046
031524818-0006										

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/06/2015 01:28:35

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031524818

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/05/15 4:31 PM
Analysis Date: 8/5/2015
Collected: 8/5/2015

Project: **3001091.00/ WHITE PLAINS SCHOOL DISTRICT/ 350 MAIN STREET/ WHITE PLAINS, NY/ POST-ABATEMENT**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date::	8/5/2015	Sample Receipt Time:	4:31 PM
Analysis Completed Date:	8/5/2015	Analysis Completed Time:	11:50 PM

Analyst(s):

Helen Polanco TEM AHERA (6)

Samples reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/06/2015 01:28:35

Air Sample Data Sheet / Chain Of Custody

Page 1 of 1

LBA# 3000 3001091.00	JOB#	LLW#	Date: 8/5/15
---------------------------------	------	------	--------------

Client: <u>White Plains School District</u>	Site: <u>350 main street, white plains NY</u>	Date: <u>8/5/13</u>
---	---	---------------------

Project Monitor / Air Sampling Technician	Yuanqing Gu	Project Manager	Andrew Checkin
---	-------------	-----------------	----------------



Scope of Work	VA7 & Historic at Room 319 [Tina/Sammy for Test 319-1, 319-
---------------	---

Turn Around Time	<input type="checkbox"/> 1 Hour	<input type="checkbox"/> 3 Hours	<input type="checkbox"/> 6 Hours	<input checked="" type="checkbox"/> 12 Hours	<input type="checkbox"/> 24 Hours	<input type="checkbox"/> 48 Hours	____ Hours
------------------	---------------------------------	----------------------------------	----------------------------------	--	-----------------------------------	-----------------------------------	------------

Sample#	Sample Location	Time (Military)		Total Minutes	Flow Rate			Total Volume
		Start	End		Start	End	Avg.	
1	IWA By Tent 319-1 (L)	0900	1120	140	9.4	9.4	9.4	1285
2	IWA (center)	0901	1121	140	9.4	9.4	9.4	1285
3	IWA (R)	0902	1122	140	9.4	9.4	9.4	1285
4	IWA Infront of Tentairlock of Tent 319-1	0903	1123	140	9.4	9.4	9.4	1285
5	IWA By Room 319 (center)	0904	1124	140	9.4	9.4	9.4	1285
6	IWA Infront of airlock of Tent 319-2	0905	1125	140	9.4	9.4	9.4	1285
7	IWA By Tent 319-2 (L)	0906	1126	140	9.4	9.4	9.4	1285
8	IWA (center)	0907	1127	140	9.4	9.4	9.4	1285
9	IWA (R)	0908	1128	140	9.4	9.4	9.4	1285
10	Field Blank							
11	Field Blank							
12	Sealed Blank							
<div style="display: flex; justify-content: space-between; align-items: center;"> <div>031524818</div> <div> 2016 AUG -5 PM 4:31 EMSL MANHATTAN LAB RECEIVED </div> </div>								

2015 AUG 31 - 5 PM 4:31

031524818

Air Cassette Type		Rotameter		Sample Type	
<input type="checkbox"/> PCM		LBA#	2/5	<input type="checkbox"/> Background	<input type="checkbox"/> Ambient
<input checked="" type="checkbox"/> TEM		Cal Date	6/7/15	<input type="checkbox"/> Pre-Abatement	<input type="checkbox"/> OSHA
<input type="checkbox"/> Other:		All flow rates incorporate the calibration factor of 1.02		<input type="checkbox"/> During	<input type="checkbox"/> Periodic
				<input checked="" type="checkbox"/> Post Abatement	<input type="checkbox"/> Other
Chain of Custody		Print	Sign	Date	Time
Relinquished by		Yuanjing Lin		8/5/15	1630
Received by		Karen Huttman		8/5/15	4:31pm
Relinquished by					
Received by					
Relinquished by					
Received by					
Lab Information					
Lab Name: <i>Elise Huttman</i>		Analyst: <i>Yuanjing Lin</i>		Date: <i>8/5/15</i>	Time: <i>7:50</i>
Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.					

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com> manhattanlab@emsl.com

EMSL Order: 031524821
CustomerID: LBAP78
CustomerPO: 3001091.00
ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/05/15 4:31 PM
Analysis Date: 8/5/2015
Collected: 8/5/2015

Project: 3001091.00/ WHITE PLAINS SCHOOL DISTRICT/ 350 MAIN STREET/ WHITE PLAINS, NY/ POST-ABATEMENT

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ < 5	≥ 5μ		(S/mm ²)	(S/cc)
1	IWA BY RM 323 (NORTH) - POST- ABATEMENT	1285.00	0.0645	0	None Detected			0.0046	<16.00	<0.0046
031524821-0001										
2	IWA BY RM 323 (EAST) - POST-ABATEMENT	1285.00	0.0645	0	None Detected			0.0046	<16.00	<0.0046
031524821-0002										
3	IWA BY RM 323 (CENTER) - POST- ABATEMENT	1285.00	0.0645	0	None Detected			0.0046	<16.00	<0.0046
031524821-0003										
4	IWA BY RM 323 (WEST) - POST-ABATEMENT	1285.00	0.0645	0	None Detected			0.0046	<16.00	<0.0046
031524821-0004										
5	IWA BY RM 323 (SOUTH) - POST- ABATEMENT	1285.00	0.0645	0	None Detected			0.0046	<16.00	<0.0046
031524821-0005										
11	IWA BY RM 336 (WEST) - POST-ABATEMENT	1285.00	0.0645	0	None Detected			0.0046	<16.00	<0.0046
031524821-0006										
12	IWA BY RM 336 (SOUTH) - POST- ABATEMENT	1285.00	0.0645	0	Chrysotile	1	0	0.0046	16.00	0.0046
031524821-0007										
13	IWA BY RM 336 (CENTER) - POST- ABATEMENT	1285.00	0.0645	0	None Detected			0.0046	<16.00	<0.0046
031524821-0008										
14	IWA BY RM 336 (NORTH) - POST- ABATEMENT	1285.00	0.0645	0	None Detected			0.0046	<16.00	<0.0046
031524821-0009										

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/05/2015 22:41:30

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031524821
CustomerID: LBAP78
CustomerPO: 3001091.00
ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/05/15 4:31 PM
Analysis Date: 8/5/2015
Collected: 8/5/2015

Project: 3001091.00/ WHITE PLAINS SCHOOL DISTRICT/ 350 MAIN STREET/ WHITE PLAINS, NY/ POST-ABATEMENT

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ	< 5 ≥ 5μ		(S/mm ²)	(S/cc)
15	IWA BY RM 336 (EAST) - POST-ABATEMENT	1285.00	0.0645	0	None Detected			0.0046	<16.00	<0.0046

031524821-0010

Scope: JEOL / JEM-100CX II #03-02

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. Results reported in both structures/cm3 and structures/mm2 are dependent on the volume of air sampled and measured by non-laboratory personnel are not the responsibility of EMSL and are not covered by the laboratory's NVLAP accreditation. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request.

Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/05/2015 22:41:30

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031524821
CustomerID: LBAP78
CustomerPO: 3001091.00
ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/05/15 4:31 PM
Analysis Date: 8/5/2015
Collected: 8/5/2015

Project: **3001091.00/ WHITE PLAINS SCHOOL DISTRICT/ 350 MAIN STREET/ WHITE PLAINS, NY/ POST-ABATEMENT**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Scope: JEOL / JEM-100CX II #03-02

Sample Receipt Date::	8/5/2015	Sample Receipt Time:	4:31 PM
Analysis Completed Date:	8/5/2015	Analysis Completed Time:	10:20 PM

Analyst(s):

Feng Liang TEM AHERA (10)

Samples reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/05/2015 22:41:30

Louis Berger

Air Sample Data Sheet / Chain Of Custody

Page 1 of 148 Wall Street, 16th Floor, New York, NY 10005 Tel: (212) 612-7900 Fax: (212) 363-4341LBA# ~~3000~~ 300/01.00 JOB# LLW# Date: 8/5/15

Client: White Plains School District Site: 350 Main Street, White Plains, NY

Project Monitor / Air Sampling
Technician

Yuanjing Lin

Project
Manager

Andrew Cheskin

Scope of Work

Final TEM samples for Rm 323, & 336 (Asbestos removal)

Turn Around Time

☐ 1 Hour☐ 3 Hours☐ 6 Hours☒ 12 Hours☐ 24 Hours☐ 48 Hours

____ Hours

Sample#	Sample Location	Time (Military)		Total Minutes	Flow Rate			Total Volume
		Start	End		Start	End	Avg.	
1	IWA By Rm 323 (North)	1220	1440	140	9.18	9.18	9.18	1285
2	IWA (East)	1221	1441	140	9.18	9.18	9.18	1285
3	IWA (Center)	1222	1442	140	9.18	9.18	9.18	1285
4	IWA (West)	1223	1443	140	9.18	9.18	9.18	1285
5	IWA South	1224	1444	140	9.18	9.18	9.18	1285
6	IWA Recorder (next to Rm 323)	1225	1445	140	9.18	9.18	9.18	1285
7	IWA 328	1226	1446	140	9.18	9.18	9.18	1285
8	IWA 336 (Rear)	1227	1447	140	9.18	9.18	9.18	1285
9	IWA 319	1228	1448	140	9.18	9.18	9.18	1285
10	IWA 336 (Front)	1229	1449	140	9.18	9.18	9.18	1285
11	IWA By Rm 336 (West)	1230	1450	140	9.18	9.18	9.18	1285
12	IWA (South)	1231	1451	140	9.18	9.18	9.18	1285
13	IWA (Center)	1232	1452	140	9.18	9.18	9.18	1285
14	IWA (North)	1233	1453	140	9.18	9.18	9.18	1285
15	IWA (East)	1234	1454	140	9.18	9.18	9.18	1285
16	Field Blank							
17	Field Blank							
18	Sealed Blank							

Air Cassette Type	Rotameter	Sample Type	
<input type="checkbox"/> PCM	LBA# 216	<input type="checkbox"/> Background	<input type="checkbox"/> Ambient
<input checked="" type="checkbox"/> TEM (P)	Cal Date 6/7/15	<input type="checkbox"/> Pre-Abatement	<input type="checkbox"/> OSHA
<input type="checkbox"/> Other:	All flow rates incorporate the calibration factor of 1.02	<input type="checkbox"/> During	<input type="checkbox"/> Periodic
		<input checked="" type="checkbox"/> Post Abatement	<input type="checkbox"/> Other

Chain of Custody	Print	Sign	Date	Time
Relinquished by	Yuanjing Lin	[Signature]	8/5/15	1630
Received by	Karen Autman	[Signature]	8/5/15	4:31pm
Relinquished by				
Received by				
Relinquished by				
Received by				

Lab Information

Lab Name: EMSL Analyst: [Signature] Date: 8/5/15 Time: 10:30p

Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com> manhattanlab@emsl.com

EMSL Order: 031525209

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
 Fax:
 Received: 08/07/15 12:11 PM
 Analysis Date: 8/7/2015
 Collected: 8/7/2015

Project: 3001091.00/ WHITE PLAINS SCHOOL DISTRICT / 350 MAIN STREET / WHITE PLAINS, NY / FINAL AIR SAMPLING FOR ROOM 230 AND

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)

Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures ≥ 0.5μ < 5 ≥ 5μ		Analytical Sensitivity (S/cc)	Asbestos Concentration (S/mm ²) (S/cc)	
01	IWA ROOM 230 WEST - POST ABATEMENT	1285.00	0.0630	0	None Detected			0.0048	<16.00	<0.0048
031525209-0001										
02	IWA ROOM 230 SOUTH - POST ABATEMENT	1285.00	0.0630	0	None Detected			0.0048	<16.00	<0.0048
031525209-0002										
03	IWA ROOM 230 CENTER - POST ABATEMENT	1285.00	0.0630	0	None Detected			0.0048	<16.00	<0.0048
031525209-0003										
04	IWA ROOM 230 NORTH - POST ABATEMENT	1285.00	0.0630	0	None Detected			0.0048	<16.00	<0.0048
031525209-0004										
05	IWA ROOM 230 EAST - POST ABATEMENT	1285.00	0.0630	0	None Detected			0.0048	<16.00	<0.0048
031525209-0005										
11	IWA BY ROOM 223 NORTH WEST IN TENT - POST ABATEMENT	1285.00	0.0630	0	Chrysotile	1	0	0.0048	16.00	0.0048
031525209-0006										
12	IWA BY ROOM 223 NORTH EAST IN TENT - POST ABATEMENT	1285.00	0.0630	0	None Detected			0.0048	<16.00	<0.0048
031525209-0007										
13	IWA BY ROOM 223 CENTER IN TENT - POST ABATEMENT	1285.00	0.0630	0	None Detected			0.0048	<16.00	<0.0048
031525209-0008										
14	IWA BY ROOM 223 SOUTH WEST IN TENT - POST ABATEMENT	1285.00	0.0630	0	None Detected			0.0048	<16.00	<0.0048
031525209-0009										

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/07/2015 22:46:27

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031525209

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/07/15 12:11 PM
Analysis Date: 8/7/2015
Collected: 8/7/2015

Project: 3001091.00/ WHITE PLAINS SCHOOL DISTRICT / 350 MAIN STREET / WHITE PLAINS, NY / FINAL AIR SAMPLING FOR ROOM 230 AND

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ	< 5 ≥ 5μ		(S/mm ²)	(S/cc)
15	IWA BY ROOM 223 SOUTH EAST IN TENT - POST ABATEMENT	1285.00	0.0630	0	None Detected			0.0048	<16.00	<0.0048

031525209-0010

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/07/2015 22:46:27

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031525209

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/07/15 12:11 PM
Analysis Date: 8/7/2015
Collected: 8/7/2015

Project: **3001091.00/ WHITE PLAINS SCHOOL DISTRICT / 350 MAIN STREET / WHITE PLAINS, NY / FINAL AIR SAMPLING FOR ROOM 230 AND**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date::	8/7/2015	Sample Receipt Time:	12:11 PM
Analysis Completed Date:	8/7/2015	Analysis Completed Time:	10:15 PM

Analyst(s):

Helen Polanco TEM AHERA (5)

Wioletta Bis TEM AHERA (5)

Samples reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/07/2015 22:46:27

Louis Berger

Air Sample Data Sheet / Chain Of Custody

Page ____ of ____

48 Wall Street, 16th Floor, New York, NY 10005 Tel: (212)612-7900 Fax: (212)363-4341LBA# ~~0000~~ 300109/00

JOB#

LLW#

Date: 8/7/15

Client: White Plains School District

Site: 350 main street, white plains, NY

Project Monitor / Air Sampling
Technician

Yuanjing Lin

Project
Manager

Andrew Cheskin

Scope of Work

Final Air Sampling for Rm 230 & 223

Turn Around Time

☐ 1 Hour☐ 3 Hours☐ 6 Hours☒ 12 Hours☐ 24 Hours☐ 48 Hours

____ Hours

Sample#	Sample Location	Time (Military)		Total Minutes	Flow Rate			Total Volume
		Start	End		Start	End	Avg.	
1	Infl By Room 230 (West)	0735	0955	140	9.18	9.18	9.18	1285
2	Infl (South)	0736	0956	140	9.18	9.18	9.18	1285
3	Infl (Center)	0737	0957	140	9.18	9.18	9.18	1285
4	Infl (North)	0738	0958	140	9.18	9.18	9.18	1285
5	Infl (East)	0739	0959	140	9.18	9.18	9.18	1285
6	Outfl next to Reon (clean Rm) (Rm 230)	0740	1000	140	9.18	9.18	9.18	1285
7	Outfl By Corridor (next to Rm 230 Rear door)	0741	1001	140	9.18	9.18	9.18	1285
8	Outfl (Front door)	0742	1002	140	9.18	9.18	9.18	1285
9	Outfl (next to Rm 221)	0743	1003	140	9.18	9.18	9.18	1285
10	Outfl By Rm 223 (In front of airlock)	0744	1004	140	9.18	9.18	9.18	1285
11	Infl By Rm 223 (North west) (in Tent)	0745	1005	140	9.18	9.18	9.18	1285
12	Infl (North East)	0746	1006	140	9.18	9.18	9.18	1285
13	Infl (Center)	0747	1007	140	9.18	9.18	9.18	1285
14	Infl (South west)	0748	1008	140	9.18	9.18	9.18	1285
15	Infl (South East)	0749	1009	140	9.18	9.18	9.18	1285
16	Field Blank							
17	Field Blank							
18	Sealed Blank							

Air Cassette Type

☐ PCM☒ TEM☐ Other:

Rotameter

LBA#

2/5

Cal Date

6/7/15

All flow rates incorporate the
calibration factor of 1.02

Sample Type

☐ Background☐ Pre-Abatement☐ During☒ Post Abatement☐ Ambient☐ OSHA☐ Periodic☐ Other

Chain of Custody

Print

Sign

Date

Time

Relinquished by

Yuanjing Lin

8/7/15

12:10

Received by

Sarah Hickey

8/7/15

12:11pm

Relinquished by

Received by

Relinquished by

Received by

Lab Information

Lab Name:

QMSL

Analyst:

Yuanjing Lin

Date:

8/7/15

Time:

12:10

Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031525212

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/07/15 12:13 PM
Analysis Date: 8/7/2015
Collected: 8/7/2015

Project: 3001091.00/ WHITE PLAINS SCHOOL DISTRICT / 350 MAIN STREET / WHITE PLAINS, NY / CEILING TILE MASTIC REMOVAL

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ	< 5 ≥ 5μ		(S/mm ²)	(S/cc)
19	IWA BY TENT AT 1ST FLOOR STAIRCASE E LANDING L	1285.00	0.0630	0	None Detected			0.0048	<16.00	<0.0048
031525212-0001										
20	IWA BY TENT AT 1ST FLOOR STAIRCASE E LANDING C	1285.00	0.0630	0	None Detected			0.0048	<16.00	<0.0048
031525212-0002										
21	IWA BY TENT AT 1ST FLOOR STAIRCASE E LANDING R	1285.00	0.0630	0	None Detected			0.0048	<16.00	<0.0048
031525212-0003										

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/07/2015 22:12:42

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

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<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031525212

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/07/15 12:13 PM
Analysis Date: 8/7/2015
Collected: 8/7/2015

Project: **3001091.00/ WHITE PLAINS SCHOOL DISTRICT / 350 MAIN STREET / WHITE PLAINS, NY / CEILING TILE MASTIC REMOVAL**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date::	8/7/2015	Sample Receipt Time:	12:13 PM
Analysis Completed Date:	8/7/2015	Analysis Completed Time:	8:32 PM

Analyst(s):

Helen Polanco TEM AHERA (3)

Samples reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/07/2015 22:12:42

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

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<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031525214

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/07/15 12:10 PM
Analysis Date: 8/7/2015
Collected: 8/7/2015

Project: 3001091.00/ WHITE PLAINS SCHOOL DISTRICT / 350 MAIN STREET / WHITE PLAINS, NY / CEILING TILE REMOVAL / 1ST FLOOR

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ	< 5 ≥ 5μ		(S/mm ²)	(S/cc)
28	IWA BY TEN 1ST FLOOR STAIRCASE F LANDING L	1285.00	0.0630	0	None Detected			0.0048	<16.00	<0.0048
031525214-0001										
29	IWA BY TEN 1ST FLOOR STAIRCASE F LANDING C	1285.00	0.0630	0	None Detected			0.0048	<16.00	<0.0048
031525214-0002										
30	IWA BY TEN 1ST FLOOR STAIRCASE F LANDING R	1285.00	0.0630	0	None Detected			0.0048	<16.00	<0.0048
031525214-0003										

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/07/2015 22:02:47

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031525214

CustomerID: LBAP78

CustomerPO: 3001091.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 08/07/15 12:10 PM
Analysis Date: 8/7/2015
Collected: 8/7/2015

Project: **3001091.00/ WHITE PLAINS SCHOOL DISTRICT / 350 MAIN STREET / WHITE PLAINS, NY /CEILING TILE REMOVAL / 1ST FLOOR**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date::	8/7/2015	Sample Receipt Time:	12:10 PM
Analysis Completed Date:	8/7/2015	Analysis Completed Time:	7:40 PM

Analyst(s):

Helen Polanco TEM AHERA (3)

Samples reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 08/07/2015 22:02:47

Louis Berger

Air Sample Data Sheet / Chain Of Custody

Page ____ of ____

48 Wall Street, 16th Floor, New York, NY 10005 Tel: (212) 612-7900 Fax: (212) 363-4341LBA# ~~3000~~ 300/091.00

JOB#

LLW#

Date: 8/7/15

Client: White Plains School District

Site: 350 main street white plains, NY

Project Monitor / Air Sampling
Technician

Yuanjing Lin

Project
Manager

Andrew Cheskin

Scope of Work

Ceiling Tile Mastic removal (1st floor staircase F landing)

Turn Around Time

☐ 1 Hour☐ 3 Hours☐ 6 Hours☒ 12 Hours☒ 24 Hours☐ 48 Hours☐ 12 Hours

Sample#

Sample Location

Time (Military)

Start

End

Total
Minutes

Flow Rate

Start

End

Avg.

Total
Volume

28

EWA By Tent at 1st floor staircase F landing (L)

0835

1055

140

9.18

9.18

9.18

1285

29

EWA By Tent at 1st floor staircase F landing (C)

0836

1056

140

9.18

9.18

9.18

1285

30

EWA By Tent at 1st floor staircase F landing (R)

0837

1057

140

9.18

9.18

9.18

1285

31

EWA By 1st floor staircase F half landing (L)

0838

1058

140

9.18

9.18

9.18

1285

32

EWA By 1st floor staircase F half landing (R)

0839

1059

140

9.18

9.18

9.18

1285

33

EWA By 1st floor corridor (next to staircase F)

0841

1101

140

9.18

9.18

9.18

1285

34

Field Blank

35

Field Blank

36

Sealed Blank

2015 AUG 7 PM 12:10

EMSL MANHATTAN LAB
RECEIVED

Air Cassette Type

☐ PCM☒ TEM☐ Other:

Rotameter

LBA#

215

Cal Date

6/7/15

All flow rates incorporate the
calibration factor of 1.02

Sample Type

☐ Background☐ Pre-Abatement☐ During☒ Post Abatement☐ Ambient☐ OSHA☐ Periodic☐ Other

Chain of Custody

Print

Sign

Date

Time

Relinquished by

Yuanjing Lin

8/7/15

12:10

Received by

John Kieley

8/7/15

12:10pm

Relinquished by

Received by

Relinquished by

Received by

Lab Information

Lab Name:

EcoLab

Analyst:

Alex AD

Date:

8/7/15

Time:

7:25pm

Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.



October 31, 2015

Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605

Re: Re-Occupancy Letter
Eastview Middle School
350 Main Street, White Plains, NY 10601
LBA Job Number: 3001214

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **Eastview Middle School on October 30, 2015**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed from **October 27 through October 30, 2015** by **PAL Environmental Safety Corp.**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
10/27/15 to 10/30/15	North Wing, 2 nd Floor, Girls Bathroom, Room 227A	Pipe Insulation	40 LF	NYS DOL 12 NYCRR Part 56 § 7.11 Tent Procedures

Project monitoring and clearance air testing was conducted by Louis Berger project monitor **Joi Fei Hung**. Final clearance air sampling inside and outside the work area was performed on **October 29, 2015** in accordance with approved procedures. Final clearance air sampling indicates average airborne fiber levels below 70s/mm² meeting re-occupancy criteria. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the clearance air testing, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact me at (212) 612-7906.

Sincerely,

Louis Berger

A handwritten signature in black ink, appearing to read "D Cheskin".

Drew Cheskin

Manager, Industrial Hygiene & Hazmat Services

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031535198

CustomerID: LBAP78

CustomerPO: 3001214.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 10/29/15 8:15 PM
Analysis Date: 10/30/2015
Collected: 10/29/2015

Project: 3001214.00/ EASTVIEW SCHOOL/ 350 MAIN STREET WHITE PLAINS, NY/ POST-ABATEMENT

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ < 5	≥ 5μ		(S/mm ²)	(S/cc)
1	(IWA) 2ND FL. BATHROOM TENT (L)	1310.00	0.0635	0	Chrysotile	1	0	0.0046	16.00	0.0046
031535198-0001										
2	(IWA) 2ND FL. BATHROOM TENT (C)	1310.00	0.0635	0	None Detected			0.0046	<16.00	<0.0046
031535198-0002										
3	(IWA) 2ND FL. BATHROOM TENT (R)	1310.00	0.0635	0	None Detected			0.0046	<16.00	<0.0046
031535198-0003										

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 10/30/2015 01:47:50

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031535198

CustomerID: LBAP78

CustomerPO: 3001214.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 10/29/15 8:15 PM
Analysis Date: 10/30/2015
Collected: 10/29/2015

Project: **3001214.00/ EASTVIEW SCHOOL/ 350 MAIN STREET WHITE PLAINS, NY/ POST-ABATEMENT**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date::	10/29/2015	Sample Receipt Time:	8:15 PM
Analysis Completed Date:	10/30/2015	Analysis Completed Time:	1:30 AM

Analyst(s):

Sean Scales TEM AHERA (3)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 10/30/2015 01:47:50

Air Sample Data Sheet / Chain Of Custody

Page 1 of 1

48 Wall Street, 16th Floor, New York, NY 10005 Tel: (212) 612-7900 Fax: (212) 363-4341

300/24.00 LBA#

Date: 10-29-15

Client: EASTVIEW School

Site: 350 main street white plains N.Y

Project Monitor / Air Sampling Technician

Project
Manager

Interaktion

Andrew Cheskin

Scope of Work

Pipe insulation removal

Turn Around Time

☐ 1 Hour☐ 3 Hours☒ 6 Hours☐ 12 Hours☐ 24 Hours☐ 48 Hours

Hours

EMSL MANHATTAN LAB
RECEIVED
2015 OCT 29 PM 8:15

03/535/98

Air Cassette Type		Rotameter		Sample Type			
<input type="checkbox"/> PCM	SSS10/30/15	LBA#	/15	<input type="checkbox"/> Background	<input type="checkbox"/> Ambient		
<input checked="" type="checkbox"/> TEM	2	Cal Date	9/23/15	<input type="checkbox"/> Pre-Abatement	<input type="checkbox"/> OSHA		
<input type="checkbox"/> Other:		All flow rates incorporate the calibration factor of 1.04		<input type="checkbox"/> During	<input type="checkbox"/> Periodic		
				<input checked="" type="checkbox"/> Post Abatement	<input type="checkbox"/> Other		
Chain of Custody		Print		Sign		Date	Time
Relinquished by		Lai-fai Hung		Lai-fai Hung		10-29-15	19:30
Received by		Karen Aultman		Karen Aultman		10/29/15	8:15 pm
Relinquished by							
Received by							
Relinquished by							
Received by							

Lab Information

Lab Name: EMSL

Analyst: Samuel

Date: 10/30/2015

Time: 01:30

Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.



February 18, 2016

Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605

Re: Re-Occupancy Letter
Eastview Middle School
350 Main Street, White Plains, NY 10601
LBA Job Number: 3001214

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **Eastview Middle School on February 18, 2016**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed from **February 16 through February 18, 2016 by PAL Environmental Safety Corp.**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
2/16/16 to 2/18/16	Room 206	Floor Tile & Mastic	200 SF	NYS DOL 12 NYCRR Part 56 §11.7 Non-Friable Flooring and/or Mastic Removal

Project monitoring and clearance air testing was conducted by Louis Berger project monitor **Dmitri Kirnossenko**. Final clearance air sampling inside and outside the work area was performed on **February 17, 2016** in accordance with approved procedures. Final clearance air sampling indicates average airborne fiber levels below 70s/mm² meeting re-occupancy criteria. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the clearance air testing, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact me at (212) 612-7906.

Sincerely,

Louis Berger

A handwritten signature in black ink, appearing to read "D Cheskin". The signature is fluid and cursive, with the first letter "D" being large and prominent.

Drew Cheskin

Manager, Industrial Hygiene & Hazmat Services

Page 1 of 1

LBA#: 3001214	Client: WPSD	Contract#:	Date: 2/17/16
---------------	--------------	------------	---------------

Work Authorization#:	Job / Service ID #:	LLW / Project ID#:
----------------------	---------------------	--------------------

Site / Bldg. ID#: <i>Eastview MS</i>	Address: <i>350 Main Str., White Plains, NY</i>
--------------------------------------	---

Project Monitor:	D. Kivnosennov	Project Manager:	A. Chesnikh
------------------	----------------	------------------	-------------

Scope of Work: VAT Rm 206

Turn Around Time	<input type="checkbox"/> 1 Hour	<input type="checkbox"/> 3 Hours	<input checked="" type="checkbox"/> 6 Hours	<input type="checkbox"/> 12 Hours	<input type="checkbox"/> 24 Hours	<input type="checkbox"/> 48 Hours	<input type="text"/> Hours
------------------	---------------------------------	----------------------------------	---	-----------------------------------	-----------------------------------	-----------------------------------	----------------------------

031604267

EMSL MANHATTAN LAB
Time RECEIVED
2:23 PM
2016 FEB 18 AM 2:31

Lab Information

Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031604267

CustomerID: LBAP78

CustomerPO: 3001214

ProjectID:

Attn: **A. CHESKIN**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 02/18/16 2:31 AM
Analysis Date: 2/18/2016
Collected: 2/17/2016

Project: 3001214/ WPSD/ EASTVIEW MS/ 350 MAIN ST/ WHITE PLAINS NY/ VAT RM 206/ POST-ABATEMENT

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ	< 5 ≥ 5μ		(S/mm ²)	(S/cc)
01 031604267-0001	IWA/ RM 206 - LEFT	1320.00	0.0640	0	None Detected			0.0046	<16.00	<0.0046
02 031604267-0002	IWA/ RM 206 - FRONT	1320.00	0.0640	0	None Detected			0.0046	<16.00	<0.0046
03 031604267-0003	IWA/ RM 206 - RIGHT	1320.00	0.0640	0	None Detected			0.0046	<16.00	<0.0046
04 031604267-0004	IWA/ RM 206 - CENTER	1320.00	0.0640	0	None Detected			0.0046	<16.00	<0.0046
05 031604267-0005	IWA/ RM 206 - BACK	1320.00	0.0640	0	None Detected			0.0046	<16.00	<0.0046

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 02/18/2016 07:23:35

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031604267

CustomerID: LBAP78

CustomerPO: 3001214

ProjectID:

Attn: **A. CHESKIN**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 02/18/16 2:31 AM
Analysis Date: 2/18/2016
Collected: 2/17/2016

Project: 3001214/ WPSD/ EASTVIEW MS/ 350 MAIN ST/ WHITE PLAINS NY/ VAT RM 206/ POST-ABATEMENT

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date::	2/18/2016	Sample Receipt Time:	2:31 AM
Analysis Completed Date:	2/18/2016	Analysis Completed Time:	5:38 AM

Analyst(s):

Steven Li TEM AHERA (5)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 02/18/2016 07:23:35

**ROCHAMBEAU ALTERNATIVE
HIGH SCHOOL**

**CHURCH STREET
ELEMENTARY SCHOOL**

**GEORGE WASHINGTON
ELEMENTARY SCHOOL**



Louis Berger & Assoc., PC.

565 Taxter Road 5th, Elmsford, NY 10523

Tel 914 798-3710 Fax 914 592-1734 Website: www.louisberger.com

April 17, 2014

**Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605**

**RE: Re-Occupancy Letter
George Washington Elementary School
100 Orchard Avenue, White Plains, NY 10605
LBA Job Number: 3000969**

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **George Washington Elementary School on April 17, 2014**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed from **April 16 through April 17 2014 by Mack Enterprises**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
4/16 4/17	Basement Oil Tank Room/Vault	Contaminated Debris on Floor	150 SF	56-7.11(f)(1) Negative Pressure Tent Regulated Abatement Work Area Enclosure

Project monitoring and clearance air testing was conducted by Louis Berger's project monitor **Jeff Leed**. Final clearance air sampling inside and outside the work area was performed on **April 17, 2014** in accordance with approved procedures. Final clearance air sampling indicates average airborne fiber levels below 70 s/mm² meeting re-occupancy criteria. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the clearance air testing, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact Prakash Saha at (212) 612-7909.

Sincerely,

Louis Berger

Chung Ngai
Environmental Specialist

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031414603

CustomerID: LBAP78

CustomerPO: 300969

ProjectID:

Attn: **Craig Napolitano**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 04/17/14 3:28 AM
Analysis Date: 4/17/2014
Collected: 4/16/2014

Project: 300969/ WHITE PLAINS/ GEORGE WASHINGTON/ OIL TANK CLEANUP/ POST

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ < 5	≥ 5μ		(S/mm ²)	(S/cc)
01	IWA/ 1/ FAR RIGHT - POST	1800.00	0.0528	0	None Detected			0.0041	<19.00	<0.0041
031414603-0001										
02	IWA/ 2/ NEAR LEFT - POST	1800.00	0.0528	0	None Detected			0.0041	<19.00	<0.0041
031414603-0002										
03	IWA/ 3/ NEAR RIGHT - POST	1800.00	0.0528	0	None Detected			0.0041	<19.00	<0.0041
031414603-0003										

Analyst(s)

Tarik McMillian (3)

James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC-IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 04/17/2014 05:56:01


48 Wall Street, 16th Floor, New York, NY 10005 Tel:(212)612-7900 Fax: (212)363-4341

LBA# 3000969

JOB#

LLW#

Date: 4/16/14

Client:  White Plains

Site: George Washington - Oil Tank Cleanup

Project Monitor / Air Sampling Technician

Jeff Leed

Project
Manager

Craig Napolitano

Turn Around Time

☐ 1 Hour

3 Hours

☐ 12 Hours☐ 24 Hours☐ 48 Hours

Hours

Sample#	Sample Location	Time (Military)		Total Minutes	Flow Rate			Total Volume
		Start	End		Start	End	Avg.	
01	IWA-1-Far Right	11:50	02:50	180	10	10	10	1800
02	IWA-2-Near Left	11:51	02:51	180	10	10	10	1800
03	IWA-3-Near Right	11:52	02:52	180	10	10	10	1800
04	OWA-1-By water pumps	11:55	02:55	180	10	10	10	1800
05	OWA-2-By Water Tank	11:56	02:56	180	10	10	10	1800
06	OWA-3-By Boiler	11:57	02:57	180	10	10	10	1800
07	Blank	n/a						
08	↓	n/a						
09	↓	n/a						

2014 APR 17 AM 3:28

ENSL MANHATTAN LAB RECEIVED

2014 APR 17 AM 3:28

RECEIVED
MANHATTAN
FBI

Air Cassette Type		Rotameter		Sample Type	
<input type="checkbox"/> PCM	JL	LBA#	200	<input type="checkbox"/> Background	<input type="checkbox"/> Ambient
<input checked="" type="checkbox"/> TEM		Cal Date	4/15/14	<input type="checkbox"/> Pre-Abatement	<input type="checkbox"/> OSHA
<input type="checkbox"/> Other:		All flow rates incorporate the calibration factor.		<input type="checkbox"/> During	<input type="checkbox"/> Periodic
				<input checked="" type="checkbox"/> Post Abatement	<input type="checkbox"/> Other
Chain of Custody	Print	Sign	Date	Time	
Relinquished by	Jeff Leed	[Signature]	4/17/14	15:30	
Received by	Tracie Clossman	JL	4/17/14	3:28 am	
Relinquished by					
Received by					
Relinquished by					
Received by					
Lab Information					
Lab Name:			Analyst:		Date: Time:
Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.					
FOR RESULTS TO 212-369-1819, ATTEN: ANGELO					

031414603



June 27, 2013

Mr. Frank Stefanelli
Director, Buildings and Grounds
White Plains City School District
580 North Street
White Plains, New York 10605

Re: Clearance Letter/ Asbestos Air Sampling-George Washington Elementary School Auditorium, White Plains New York: Project # SPC510X9

Dear Mr. Stefanelli:

Louis Berger & Assoc, P.C. (LBAPC) has collected final clearance TEM air samples at the following location: George Washington Elementary School, 100 Orchard Street White Plains, NY. The abatement was performed by Unitech Services Group, Inc. an licensed New York State Department of Labor asbestos abatement contractor and clearance air testing was conducted by LBAPC Asbestos Project Monitor Memhet Kurtisi.

Please be advised that asbestos abatement work for the removal of ACM 9"x 9" floor tile within the auditorium was completed at the above cited school on Thursday June 27, 2013 in accordance with the New York State Department of Labor Industrial Code Rule 56. TEM air samples were collected inside and outside the work area in accordance with the approved procedures indicates average airborne fiber **levels below 70 s/mm² as per 40cfr763.91 (4)**. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into final project monitoring report and forwarded to your office upon completion of all abatement activities.

Below is list of asbestos containing materials that were abated:

Material	Location	Friability	Condition	Quantity
9"x9" Floor Tile	First Floor Auditorium	Non-Friable	Good	2,150 SF

In addition, please see the following items attached:

- Appendix A-Copies of all TEM air monitoring results and associated Chain-of Custodies

Based upon the results of the final clearance air testing, the areas listed above may be released for re-occupancy.

We appreciate the opportunity to provide professional environmental services to White Plain City School District. If you have any questions or you would like to discuss the project in further detail please contact me at (646) 210-6500.

Sincerely,

LOUIS BERGER & ASSOC, P.C.



Craig Napolitano, CHMM
Director, Industrial Hygiene & Hazmat Services

Appendix A

Laboratory Results and Chain of Custodies

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.emsl.com>manhattanlab@emsl.com

EMSL Order: 031324577

CustomerID: LBAP78

CustomerPO: SPC510X9

ProjectID: NYC SCA

Attn: **BEN HO**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
 Fax:
 Received: 06/26/13 7:53 PM
 Analysis Date: 6/27/2013
 Collected: 6/26/2013

Project: SPC510X9/ SCA/ GEORGE WASHINGTON ELEMENTARY SCHOOL/ WHITE PLAINS, NY/ POST- ABATEMENT

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)

Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures ≥ 0.5μ < 5 ≥ 5μ	Analytical Sensitivity (S/cc)	Asbestos Concentration (S/mm ²) (S/cc)
F01	IWA/ NEAR LEFT DOOR TOWARDS ENTRANCE NORTH WALL - POST- ABATEMENT	1272.60	0.0640	0	None Detected		0.0047	<16.00 <0.0047
031324577-0001								
F02	IWA/ NORTHEAST CORNER TOWARD MIDDLE DOOR - POST- ABATEMENT	1272.60	0.0640	0	None Detected		0.0047	<16.00 <0.0047
031324577-0002								
F03	IWA/ NEAR RIGHT DOOR TOWARDS ENTRANCE SOUTH WALL - POST- ABATEMENT	1272.60	0.0640	0	None Detected		0.0047	<16.00 <0.0047
031324577-0003								
F04	IWA/ SOUTH MID AREA TOWARDS DECON - POST- ABATEMENT	1272.60	0.0640	0	None Detected		0.0047	<16.00 <0.0047
031324577-0004								
F05	IWA/ NEAR WEST TOWARDS STAGE - POST- ABATEMENT	1272.60	0.0640	0	None Detected		0.0047	<16.00 <0.0047
031324577-0005								

Scope: JEOL / JEM-100CX II #03-01(41)

Analyst(s)

Sean Scales (5)

James Hall, Laboratory Manager
 or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. Results reported in both structures/cm3 and structures/mm2 are dependent on the volume of air sampled and measured by non-laboratory personnel are not the responsibility of EMSL and are not covered by the laboratory's NVLAP accreditation. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request.

Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC-IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 06/27/2013 01:36:34


EMSL Analytical, Inc.

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.emsl.com>
manhattanlab@emsl.com

EMSL Order:	031324577
CustomerID:	LBAP78
CustomerPO:	SPC510X9
ProjectID:	NYC SCA

Attn: **BEN HO**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
 Fax:
 Received: 06/26/13 7:53 PM
 Analysis Date: 6/27/2013
 Collected: 6/26/2013

Project: **SPC510X9/ SCA/ GEORGE WASHINGTON ELEMENTARY SCHOOL/ WHITE PLAINS, NY/ POST- ABATEMENT**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Scope: JEOL / JEM-100CX II #03-01(41)

Sample Receipt Date::	6/26/2013	Sample Receipt Time:	7:53 PM
Analysis Completed Date:	6/27/2013	Analysis Completed Time:	1:27 AM

Analyst(s):

Sean Scales TEM AHERA (5)

Samples reviewed and approved by:

James Hall, Laboratory Manager
 or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. Results reported in both structures/cm3 and structures/mm2 are dependent on the volume of air sampled and measured by non-laboratory personnel are not the responsibility of EMSL and are not covered by the laboratory's NVLAP accreditation. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request.

Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 06/27/2013 01:36:34

031324577

Louis Berger & Assoc PC		Air Sample Data Sheet / Chain Of Custody		Page <u>1</u> of <u>1</u>	
48 Wall Street, 16 th Floor, New York, NY 10005 Tel:(212)612-7900 Fax: (212)363-4341					
LBA# <u>SPC 510X9</u>		JOB#		LLW#	
Client: <u>SCA</u>		Site: <u>George Washington Elementary School, White Plains NY</u>		Date: <u>6/26/2013</u>	
Project Monitor / Air Sampling Technician		Project Manager			
Turn Around Time		<input type="checkbox"/> 1 Hour <input type="checkbox"/> 3 Hours <input checked="" type="checkbox"/> 6 Hours <input type="checkbox"/> 12 Hours <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours _____ Hours			
Project Monitor / Air Sampling Technician: <u>Muamet Kurtisi</u>		Project Manager: <u>Ben Ho / Craig Neapolitano</u>			

Sample#	Sample Location	Time (Military)		Total Minutes	Flow Rate			Total Volume
		Start	End		Start	End	Avg.	
F01	IWA - near left door towards entrance ^{North wall}	16:00	18:20	140	9.09	9.09	9.09	1272.6
F02	IWA - North east corner toward middle door	16:02	18:22	140	9.09	9.09	9.09	1272.6
F03	IWA - near right door towards entrance ^{South wall}	16:03	18:23	140	9.09	9.09	9.09	1272.6
F04	IWA - South mid area towards Decen	16:04	18:24	140	9.09	9.09	9.09	1272.6
F05	IWA - near west towards Stage	16:05	18:25	140	9.09	9.09	9.09	1272.6
F06	OWA - near left door across entrance ^{North}	16:06	18:26	140	9.09	9.09	9.09	1272.6
F07	OWA - South west wall near middle door	16:07	18:27	140	9.09	9.09	9.09	1272.6
F08	OWA - next to Decen entrance	16:08	18:28	140	9.09	9.09	9.09	1272.6
F09	OWA - near South West door of stage	16:09	18:29	140	9.09	9.09	9.09	1272.6
F10	OWA - near North west stage	16:10	18:30	140	9.09	9.09	9.09	1272.6
F11	Field Blank							
F12	Field Blank							
F13	Sealed Blank							

Air Cassette Type		Rotameter		Sample Type	
<input type="checkbox"/> PCM		LBA# <u>116</u>		<input type="checkbox"/> Background	<input type="checkbox"/> Ambient
<input checked="" type="checkbox"/> TEM <u>ROT</u>		Cal Date <u>6/5/2013</u>		<input type="checkbox"/> Pre-Abatement	<input type="checkbox"/> OSHA
<input type="checkbox"/> Other: <u>SSS 06/27</u>		All flow rates incorporate the calibration factor.		<input type="checkbox"/> During	<input type="checkbox"/> Periodic
				<input checked="" type="checkbox"/> Post Abatement	<input type="checkbox"/> Other

Chain of Custody		Print		Sign		Date		Time	
Relinquished by	<u>Muamet Kurtisi</u>			<u>Ben Ho</u>		<u>6/26/2013</u>			
Received by	<u>A. SWANSON</u>			<u>Ben Ho</u>		<u>6/26/13</u>			<u>7:53pm</u>
Relinquished by									
Received by									
Relinquished by									
Received by									

Lab Information			
Lab Name: <u>EMSL</u>	Analyst: <u>Sean Scaler</u>	Date: <u>06/27/2013</u>	Time: <u>01:32</u>

Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.



July 31, 2015

Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605

Re: Re-Occupancy Letter
George Washington School
100 Orchard Street, White Plains, NY 10604
LBA Job Number: 3001179

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **George Washington School on July 31, 2015**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed from **July 27 through July 31, 2015 by PAL Environmental Services**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
7/27/15, through 7/31/15	Exterior Facades	Exterior Window Frame & Door Frame Caulking	15 SF	NYS DOL 12 NYCRR Part 56 §11.6 Exterior Project Removal of Non- Friable ACM Caulking

Project monitoring was conducted by Louis Berger project monitor **Nick Colonna**. Final visual inspections inside and outside the work areas were performed on **July 31, 2015** in accordance with approved procedures. Final visual inspections of the abated areas were conducted and no visible debris was observed upon final completion of the removal. All daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the visual inspections, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact me at (212) 612-7906.

Sincerely,

Louis Berger

A handwritten signature in black ink, appearing to read "D Cheskin". The signature is fluid and cursive, with the first letter "D" being large and prominent.

Drew Cheskin

Manager

**MAMARONECK AVENUE
ELEMENTARY SCHOOL**



Louis Berger & Assoc., PC.

565 Taxter Road 5th, Elmsford, NY 10523

Tel 914 798-3710 Fax 914 592-1734 Website: www.louisberger.com

July 10, 2014

Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605

RE: Re-Occupancy Letter
Mamaroneck Avenue Elem School
7 Nosband Avenue, White Plains, NY 10605
LBA Job Number: 3000988

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **Mamaroneck Avenue Elem School on July 9, 2014**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed from **July 7, 8, 9 2014 by Pal Environmental Services**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
7/7/14	1 st Floor - Room #30	Floor Tile and Associated Mastic	362 SF	56-11.7 Non Friable Flooring and Mastic Removal (and applicable variance AV-A-3)
7/8/14	1 st Floor - Room #32	Floor Tile and Associated Mastic	382 SF	
7/9/14				

Project monitoring and clearance air testing was conducted by Louis Berger's project monitor **Stefan Wong**. Final clearance air sampling inside and outside the work area was performed on **July 9, 2014** in accordance with approved procedures. Final clearance air sampling indicates average airborne fiber levels below 70 s/mm² meeting re-occupancy criteria. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the clearance air testing, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact Prakash Saha at (212) 612-7909.

Sincerely,

Louis Berger

Chung Ngai
Environmental Specialist

Louis Berger & Assoc PC

Air Sample Data Sheet / Chain Of Custody

Page 1 of 1

48 Wall Street, 16th Floor, New York, NY 10005 Tel: (212) 612-7900 Fax: (212) 363-4341

LBA#3000 988-00

JOB#

LLW#

Date: 7/9/14

Client: White Plains City Schools

Site: 7 Nosband Avenue, White Plains NY 10605

Project Monitor / Air Sampling Technician

Stefan Wong

Project Manager

Ben Ho

Scope of Work

VAT in ROOMS 30 and 32

Turn Around Time

☐ 1 Hour☒ 3 Hours☐ 6 Hours☐ 12 Hours☐ 24 Hours☐ 48 Hours

____ Hours

Sample#	Sample Location	Time (Military)		Total Minutes	Flow Rate			Total Volume
		Start	End		Start	End	Avg.	
01	IWA - ROOM 30 - East	07:10	09:20	130	9.63	9.63	9.63	1252
02	IWA - ↓ - West	07:11	09:21	130	9.63	9.63	9.63	1252
03	IWA - ↓ - South	07:12	09:22	130	9.63	9.63	9.63	1252
04	IWA - ROOM 32 - East	07:13	09:23	130	9.63	9.63	9.63	1252
05	IWA - ↓ - West	07:14	09:24	130	9.63	9.63	9.63	1252
06	OWA - BY CORRIDOR ROOM 31	07:15	09:25	130	9.63	9.63	9.63	1252
07	OWA - BY CORRIDOR ROOM 33	07:16	09:26	130	9.63	9.63	9.63	1252
08	OWA - BY CORRIDOR ROOM 34	07:17	09:30	130	9.63	9.63	9.63	1252
09	OWA - BY CORRIDOR ROOM 35	07:18	09:31	130	9.63	9.63	9.63	1252
10	OWA - BY DECON	07:19	09:32	130	9.63	9.63	9.63	1252
11	Field Blank							
12	Field Blank							
13	Field Blank							

Air Cassette Type

☐ PCM☒ TEM☐ Other:

Rotameter

LBA#

27

Cal Date

9/12/14

All flow rates incorporate the calibration factor of 1.07

Sample Type

☐ Background☐ Pre-Abatement☐ During☒ Post Abatement☐ Ambient☐ OSHA☐ Periodic☐ Other

Chain of Custody

Print

Sign

Date

Time

Relinquished by

Stefan Wong

S-g

7/9/14

Received by

Bernard Mizer

7-9-14

Relinquished by

Received by

Relinquished by

Received by

2014 JUL -9 AM 10:13 AM

DATE RECEIVED

TIME RECEIVED

Lab Information

Lab Name:

Ernst Analytical Inc

Analyst:

H. O. C.

Date:

3

Time: 12:51 pm

Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031426421

CustomerID: LBAP78

CustomerPO: 300098800

ProjectID:

Attn: **Ben HO**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 07/09/14 10:13 AM
Analysis Date: 7/9/2014
Collected: 7/9/2014

Project: 3000988.00/ WHITE PLAINS CITY SCHOOLS/ 7 NOSBAND AVENUE WHITE PLAINS NY 10608/VAT IN ROOMS 30 & 32

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ	< 5μ		(S/mm ²)	(S/cc)
01 031426421-0001	IWA/ ROOM 30/ EAST	1252.00	0.0660	0	None Detected			0.0047	<15.00	<0.0047
02 031426421-0002	IWA/ ROOM 30/ WEST	1252.00	0.0660	0	None Detected			0.0047	<15.00	<0.0047
03 031426421-0003	IWA/ ROOM 30/ SOUTH	1252.00	0.0660	0	None Detected			0.0047	<15.00	<0.0047
04 031426421-0004	IWA/ ROOM 32/ EAST	1252.00	0.0660	0	None Detected			0.0047	<15.00	<0.0047
05 031426421-0005	IWA/ ROOM 32/ WEST	1252.00	0.0660	0	None Detected			0.0047	<15.00	<0.0047

Scope: Olympus #7 Ser. T31K25119

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 07/09/2014 13:02:53

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031426421

CustomerID: LBAP78

CustomerPO: 300098800

ProjectID:

Attn: **Ben HO**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 07/09/14 10:13 AM
Analysis Date: 7/9/2014
Collected: 7/9/2014

Project: 3000988.00/ WHITE PLAINS CITY SCHOOLS/ 7 NOSBAND AVENUE WHITE PLAINS NY 10608/VAT IN ROOMS 30 &32

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Scope: Olympus #7 Ser. T31K25119

Sample Receipt Date::	7/9/2014	Sample Receipt Time:	10:13 AM
Analysis Completed Date:	7/9/2014	Analysis Completed Time:	12:44 PM

Analyst(s):

Alicia Folgar TEM AHERA (5)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 07/09/2014 13:02:53



July 23, 2015

Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605

Re: Re-Occupancy Letter
Mamaroneck Avenue School
7 Nosband Avenue, White Plains, NY 10605
LBA Job Number: 3001181

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **Mamaroneck Avenue School on July 23, 2015**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed from **July 14 through July 23, 2015 by PAL Environmental Services**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
7/14/15, through 7/23/15	Exterior Facades	Exterior Window Frame Caulking	15 SF	NYS DOL 12 NYCRR Part 56 §11.6 Exterior Project Removal of Non- Friable ACM Caulking

Project monitoring was conducted by Louis Berger project monitor **Simon Chio**. Final visual inspections inside and outside the work areas were performed on **July 23, 2015** in accordance with approved procedures. Final visual inspections of the abated areas were conducted and no visible debris was observed upon final completion of the removal. All daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the visual inspections, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact me at (212) 612-7906.

Sincerely,

Louis Berger

A handwritten signature in black ink, appearing to read "D Cheskin". The signature is fluid and cursive, with the first letter "D" being large and prominent.

Drew Cheskin

Manager

RIDGEWAY ELEMENTARY SCHOOL



Louis Berger

565 Taxter Road 5th, Elmsford, NY 10523

Tel 914 798-3710 Fax 914 592-1734 Website: www.louisberger.com

July 14, 2014

**Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605**

**RE: Re-Occupancy Letter
Ridgeway Elementary School
225 Ridgeway Street, White Plains, New York 10605
LBA Job Number: 3000989**

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **Ridgeway Elementary School on July 14, 2014**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed from **July 3, 7, 8, 9, 10, 11, 12, 14, 2014** by **PAL Environmental Services**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
July 3, 7, 8, 9, 10, 11, 12, 2014	1st Floor Girl's Bathroom	Ceramic Wall Tile Backing (Beige)	260 SF	NYS DOL 12 NYCRR Part 56 - Full Containment
	1st Floor Boy's Bathroom	Ceramic Wall Tile Backing (Beige)	260 SF	
July 14, 2014	1st Floor Girl's Bathroom	Compound between Window Frame (White)	2.5 LF	NYS DOL 12 NYCRR Part 56 56-11.3 - Minor Tent
	1st Floor Boy's Bathroom	Compound between Window Frame (White)	2.5 LF	
July 11, 2014	Exterior Façade	Exterior Expansion Wall Joint Caulking (Tan)	45 LF	NYS DOL 12 NYCRR Part 56 56-11.6

Project monitoring and clearance air testing was conducted by Louis Berger's project monitors **Jeff Leed and Stefan Wong**. Final clearance air sampling inside and outside the work area was performed on **July 12 & 14, 2014** in accordance with approved procedures. Final clearance air sampling indicates average airborne fiber levels below 70 s/mm² meeting re-occupancy criteria. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.



Louis Berger

565 Taxter Road 5th, Elmsford, NY 10523

Tel 914 798-3710 Fax 914 592-1734 Website: www.louisberger.com

Based upon the results of the clearance air testing, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact Prakash Saha at (212) 612-7909.

Sincerely,

Louis Berger

Chung Ngai
Environmental Specialist

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031427134
CustomerID: LBAP78
CustomerPO: 3000 989.00
ProjectID:

Attn: **P. SAHA**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 07/14/14 12:24 PM
Analysis Date: 7/14/2014
Collected: 7/14/2014

Project: 3000 989.00 / WHITE PLAINS CITY SCHOOL DISTRICT / 225 RIDGEWAY STREET WHITE PLAINS, NY 10605 / WINDOW CAULKING IN

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ	< 5 ≥ 5μ		(S/mm ²)	(S/cc)
01	IWA / BOYS BATHROOM / CENTER	1252.00	0.0660	0	None Detected			0.0047	<15.00	<0.0047
031427134-0001										
03	IWA / GIRLS BATHROOM / CENTER	1252.00	0.0660	0	None Detected			0.0047	<15.00	<0.0047
031427134-0002										

Leica DME Ser. 000240452JX0008

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 07/14/2014 13:56:05

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031427134
CustomerID: LBAP78
CustomerPO: 3000 989.00
ProjectID:

Attn: **P. SAHA**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 07/14/14 12:24 PM
Analysis Date: 7/14/2014
Collected: 7/14/2014

Project: 3000 989.00 / WHITE PLAINS CITY SCHOOL DISTRICT / 225 RIDGEWAY STREET WHITE PLAINS, NY 10605 / WINDOW CAULKING IN

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Leica DME Ser. 000240452JX0008

Sample Receipt Date::	7/14/2014	Sample Receipt Time:	12:24 PM
Analysis Completed Date:	7/14/2014	Analysis Completed Time:	1:32 PM

Analyst(s):

Gerald Iannuzzi TEM AHERA (2)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 07/14/2014 13:56:05

L B	Louis Berger	Air Sample Data Sheet / Chain Of Custody		Page <u>1</u> of <u>1</u>
48 Wall Street, 16 th Floor, New York, NY 10005 Tel: (212) 612-7900 Fax: (212) 363-4341				
LBA# <u>3000987.00</u>		JOB#	LLW#	Date: <u>7/12/14</u>
Client: <u>White Plains CSD</u>		Site: <u>Ridgeview Elementary</u>		
Project Monitor / Air Sampling Technician		<u>Jeff Leed</u>	Project Manager	<u>Craig Napolitano</u>
Scope of Work				
Turn Around Time	<input type="checkbox"/> 1 Hour	<input type="checkbox"/> 3 Hours	<input type="checkbox"/> 6 Hours	<input checked="" type="checkbox"/> 12 Hours
	<input type="checkbox"/> 24 Hours	<input type="checkbox"/> 48 Hours	<input type="checkbox"/> Hours	

Sample#	Sample Location	Time (Military)		Total Minutes	Flow Rate			Total Volume
		Start	End		Start	End	Avg.	
1	IWA - 1	8:50	11:40	170	7.8	7.8	7.8	1326
2	IWA - 2	8:51	11:41	170	7.8	7.8	7.8	1326
3	IWA - 3	8:52	11:42	170	7.8	7.8	7.8	1326
4	IWA - 4	8:53	11:43	170	7.8	7.8	7.8	1326
5	IWA - 5	8:54	11:44	170	7.8	7.8	7.8	1326
6	OWA - 1	8:19	11:10	171	7.8	7.8	7.8	1333.8
7	IWA - 2	8:15	11:11	176	7.8	7.8	7.8	1372.8
8	IWA - 3	8:17	11:12	175	7.8	7.8	7.8	1365
9	IWA - 4	8:02	11:00	178	7.8	7.8	7.8	1388.4
10	IWA - 5	8:07	11:01	174	7.8	7.8	7.8	1357.2
11	Blank	n/a						
12								
13								

2014 JUL 12 PM 12:55
 JEFF LEED

Air Cassette Type	Rotameter	Sample Type	
<input type="checkbox"/> PCM	LBA# <u>200</u>	<input type="checkbox"/> Background	<input type="checkbox"/> Ambient
<input checked="" type="checkbox"/> TEM	Cal Date <u>6/16/14</u>	<input type="checkbox"/> Pre-Abatement	<input type="checkbox"/> OSHA
<input type="checkbox"/> Other:	All flow rates incorporate the calibration factor of <u>1.04</u>	<input type="checkbox"/> During	<input type="checkbox"/> Periodic
		<input checked="" type="checkbox"/> Post Abatement	<input type="checkbox"/> Other

Chain of Custody	Print	Sign	Date
Relinquished by	<u>Jeff Leed</u>	<u>[Signature]</u>	<u>7/12/14</u>
Received by	<u>[Signature]</u>		<u>7/12/14</u>
Relinquished by			
Received by			
Relinquished by			
Received by			

Lab Information			
Lab Name: <u>BMS L</u>	Analyst: <u>[Signature]</u>	Date: <u>7/14/14</u>	Time: <u>5:40 PM</u>

Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.

**EMSL Analytical, Inc.**

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EMSL Order: 031426983

CustomerID: LBAP78

CustomerPO: 300098900

ProjectID:

Attn: **C. NAPOLITANO**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 07/12/14 12:55 PM
Analysis Date: 7/12/2014
Collected: 7/12/2014

Project: 300098900/WHITE PLAINS CSO/ RIDGEWAY ELEMENTARY/ POST ABATEMENT

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ < 5	≥ 5μ		(S/mm ²)	(S/cc)
1	IWA-1 - POST-ABTEMENT	1326.00	0.0660	0	Chrysotile	0	1	0.0044	15.00	0.0044
031426983-0001										
2	IWA-2 - POST-ABTEMENT	1326.00	0.0660	0	None Detected			0.0044	<15.00	<0.0044
031426983-0002										
3	IWA-3 - POST-ABTEMENT	1326.00	0.0660	0	None Detected			0.0044	<15.00	<0.0044
031426983-0003										
4	IWA-4 - POST-ABTEMENT	1326.00	0.0660	0	None Detected			0.0044	<15.00	<0.0044
031426983-0004										
5	IWA-5 - POST-ABTEMENT	1326.00	0.0660	0	None Detected			0.0044	<15.00	<0.0044
031426983-0005										

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 07/13/2014 11:11:03

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031426983

CustomerID: LBAP78

CustomerPO: 300098900

ProjectID:

Attn: **C. NAPOLITANO**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 07/12/14 12:55 PM
Analysis Date: 7/12/2014
Collected: 7/12/2014

Project: **300098900/WHITE PLAINS CSO/ RIDGEWAY ELEMENTARY/ POST ABATEMENT**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date::	7/12/2014	Sample Receipt Time:	12:55 PM
Analysis Completed Date:	7/12/2014	Analysis Completed Time:	5:32 PM

Analyst(s):

David Z. Chen TEM AHERA (5)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 07/13/2014 11:11:03



Louis Berger

565 Taxter Road 5th, Elmsford, NY 10523

Tel 914 798-3710 Fax 914 592-1734 Website: www.louisberger.com

July 23, 2014

**Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605**

**RE: Re-Occupancy Letter
Ridgeway Elementary School
225 Ridgeway Street, White Plains, New York 10605
LBA Job Number: 3000989**

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **Ridgeway Elementary School on July 23, 2014**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed from **July 21, 22, 23, 2014 by Unitech Services Group**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
July 21, 22, 23, 2014	1st Floor Girl's Bathroom	Pipe / Joint Insulation	20 LF	Tent
	1st Floor Boy's Bathroom	Pipe / Joint Insulation	20 LF	Tent

Project monitoring and clearance air testing was conducted by Louis Berger's project monitor **Alvin Chau**. Final clearance air sampling inside and outside the work area was performed on **July 21 & 22, 2014** in accordance with approved procedures. Final clearance air sampling indicates average airborne fiber levels below 70 s/mm² meeting re-occupancy criteria. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal. All air monitoring results, daily logs and other pertinent project data will be compiled into a final project monitoring report and forwarded to your office upon completion of all abatement activities.

Based upon the results of the clearance air testing, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact Prakash Saha at (212) 612-7909.

Sincerely,

Louis Berger

Chung Ngai
Environmental Specialist

Air Sample Data Sheet / Chain Of Custody

Page 1 of 1

LBA#3000489.00	JOB#	LLW#	Date: 7/22/14
Client: White Plains School	Site: Ridgeway Elementary School, 255 Ridgeway, White Plains		
Project Monitor / Air Sampling Technician	Alvin Chau	Project Manager	Andrew Cheskin

Turn Around Time	<input type="checkbox"/> 1 Hour	<input type="checkbox"/> 3 Hours	<input type="checkbox"/> 6 Hours	<input checked="" type="checkbox"/> 12 Hours	<input type="checkbox"/> 24 Hours	<input type="checkbox"/> 48 Hours	____ Hours
------------------	---------------------------------	----------------------------------	----------------------------------	--	-----------------------------------	-----------------------------------	------------

[illegible]

03/428472

2014 JUL 22 PM 5:42

Air Cassette Type		Rotameter		Sample Type		15:42
<input type="checkbox"/> PCM	LBA# 228	<input type="checkbox"/> Background	<input type="checkbox"/> Ambient			
<input checked="" type="checkbox"/> TEM	Cal Date 7/18/14	<input type="checkbox"/> Pre-Abatement	<input type="checkbox"/> OSHA			
<input type="checkbox"/> Other:	All flow rates incorporate the calibration factor of 1.05	<input type="checkbox"/> During	<input type="checkbox"/> Periodic			
		<input checked="" type="checkbox"/> Post Abatement	<input type="checkbox"/> Other			
Chain of Custody	Print	Sign	Date	Time		
Relinquished by	Alvin Chan	[Signature]	7/22/14	17:45		
Received by	Mohamed Mohamed	[Signature]	7-22-14	5:42 PM		
Relinquished by						
Received by						
Relinquished by						
Received by						

Lab Name: EMSL	Analyst: PHA	Date: 7/22/14	Time: 10:01pm
----------------	--------------	---------------	---------------

Notes / Comments / Instructions: For TEM analyze iwa samples only unless otherwise directed.

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<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031428472

CustomerID: LBAP78

CustomerPO: 3000989.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 07/22/14 5:42 PM
Analysis Date: 7/22/2014
Collected: 7/22/2014

Project: 3000989.00/ WHITE PLAINS SCHOOL/ RIDGEWAY ELEMENTARY SCHOOL/ 255 RIDGEWAY/ WHITE PLAINS, NY/ POST- ABATEMENT

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ	< 5 ≥ 5μ		(S/mm ²)	(S/cc)
1	IWA BY ROOM #2 - POST- ABATEMENT	1275.00	0.0660	0	None Detected			0.0046	<15.00	<0.0046

031428472-0001

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Initial report from 07/23/2014 04:28:51

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

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EMSL Order: 031428472

CustomerID: LBAP78

CustomerPO: 3000989.00

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 07/22/14 5:42 PM
Analysis Date: 7/22/2014
Collected: 7/22/2014

Project: **3000989.00/ WHITE PLAINS SCHOOL/ RIDGEWAY ELEMENTARY SCHOOL/ 255 RIDGEWAY/ WHITE PLAINS, NY/ POST- ABATEMENT**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date::	7/22/2014	Sample Receipt Time:	5:42 PM
Analysis Completed Date:	7/22/2014	Analysis Completed Time:	9:54 PM

Analyst(s):

Feng Liang TEM AHERA (1)

Samples reviewed and approved by:James Hall, Laboratory Manager
or other approved signatory

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Initial report from 07/23/2014 04:28:51

Page 1 Of 1

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

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<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031428266

CustomerID: LBAP78

CustomerPO:

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 07/21/14 5:12 PM
Analysis Date: 7/22/2014
Collected: 7/21/2014

Project: **LBA#3000989.00/ WHITEPLAINS SCHOOL/ RIDGEWAY ELEMENTARY SCHOOL, 225 RIDGEWAY, WHITE PLAINS/ REMOVAL OF**

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm ²)	Non Asb	Asbestos Type(s)	# Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥ 0.5μ	< 5 ≥ 5μ		(S/mm ²)	(S/cc)
1	POST ABATEMENT/ IWA/ INSIDE TENT IN ROOM #1	1275.00	0.0660	0	None Detected			0.0046	<15.00	<0.0046

031428266-0001

Scope: JEOL / JEM-100CX II #03-02

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Samples analyzed by EMSL Analytical, Inc. New York, NY NVLAP Lab Code 101048-9, AIHA-LAP, LLC--IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 07/22/2014 03:49:43

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

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<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031428266

CustomerID: LBAP78

CustomerPO:

ProjectID:

Attn: **Andrew Cheskin**
Louis Berger & Associates, PC
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 07/21/14 5:12 PM
Analysis Date: 7/22/2014
Collected: 7/21/2014

Project: **LBA#3000989.00/ WHITEPLAINS SCHOOL/ RIDGEWAY ELEMENTARY SCHOOL, 225 RIDGEWAY, WHITE PLAINS/ REMOVAL OF**

The samples in this report were submitted to EMSL for analysis by Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Scope: JEOL / JEM-100CX II #03-02

Sample Receipt Date::	7/21/2014	Sample Receipt Time:	5:12 PM
Analysis Completed Date:	7/22/2014	Analysis Completed Time:	12:24 AM

Analyst(s):

Sean Scales TEM AHERA (1)

Samples reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

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Initial report from 07/22/2014 03:49:43



Louis Berger

565 Taxter Road 5th, Elmsford, NY 10523

Tel 914 798-3710 Fax 914 592-1734 Website: www.louisberger.com

July 29, 2014

**Mr. Frank Stefanelli
Director of Facilities
White Plains Public Schools
580 North Street
White Plains, NY 10605**

**RE: Re-Occupancy Letter
Ridgeway Elementary School
225 Ridgeway Street, White Plains, New York 10605
LBA Job Number: 3000989**

Dear Mr. Stefanelli,

Please be advised that asbestos abatement work was completed at **Ridgeway Elementary School on July 28, 2014**. Louis Berger provided on site project monitoring for the duration of the abatement procedure, performed from **July 28, 2014 by Unitech Services Group**, in accordance with the New York State Department of Labor Industrial Code Rule 56 and applicable variances.

Date	Location	Material Removed	Quantity	Procedure Used
July 28, 2014	Auditorium	Exterior Window Caulking	20 LF	Exterior Vertical Surface

Project monitoring and During air sampling was conducted by Louis Berger's project monitor **Yuan Jing Lin**. A visual inspection of the abated areas was conducted and no visible debris was observed upon final completion of the removal.

Based upon the visual inspection of LBA project monitor Y. Lin, all areas may be released for re-occupancy. If you have any questions regarding this matter, feel free to contact Prakash Saha at (212) 612-7909.

Sincerely,

Louis Berger

Chung Ngai
Environmental Specialist

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>manhattanlab@emsl.com

EMSL Order: 031429247

CustomerID: LBAP78

CustomerPO:

ProjectID:

Attn: **Louis Berger & Associates, PC**
48 Wall St.
New York, NY 10005

Phone: (212) 612-7900
Fax:
Received: 07/28/14 2:55 PM
Analysis Date: 7/28/2014
Collected: 7/28/2014

Project: **LBA #3000989/ WHITE PLAINS SCHOOL DISTRICT / 225 RIDGAWAY AVE / WHITE PLAINS NY**

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method, Revision 3, Issue 2, 8/15/94

Sample	Location	Sample Date	Volume (liters)	Fibers	Fields	LOD (fib/cc)	Fibers/ mm ²	Fibers/ cc	Notes
01 031429247-0001	OWA AUDITORIUM 10 FEET FROM WINDOW L - DURING	7/28/2014	823.00	5.5	100	0.003	7.01	0.003	
02 031429247-0002	OWA AUDITORIUM 10 FEET FROM WINDW CENTER - DURING	7/28/2014	823.00	<5.5	100	0.003	<7.01	<0.003	
03 031429247-0003	OWA AUDITORIUM 10 FEET FROM WINDW R - DURING	7/28/2014	823.00	<5.5	100	0.003	<7.01	<0.003	
04 031429247-0004	FIELD BLANK - DURING	7/28/2014		<5.5	100		<7.01		Field Blank
05 031429247-0005	FIELD BLANK - DURING	7/28/2014		<5.5	100		<7.01		Field Blank

SCOPE #2 MEIJI TECH MT 5000 SER#139601

The results reported have been blank corrected as applicable.

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.25, 21-50 fibers = 0.22, 51-100 fibers = 0.18. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.29. The laboratory is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. This report relates only to the samples reported above. This report may not be reproduced, except in full, without written approval by EMSL. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Results have been blank corrected as applicable. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC-IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 07/28/2014 23:52:30

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Fax:
Received: 07/28/14 2:55 PM
Analysis Date: 7/28/2014
Collected: 7/28/2014

Project: **LBA #3000989/ WHITE PLAINS SCHOOL DISTRICT / 225 RIDGAWAY AVE / WHITE PLAINS NY**

The samples in this report were submitted to EMSL for analysis by Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method, Revision 3, Issue 2, 8/15/94. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

SCOPE #2 MEIJI TECH MT 5000 SER#139601

Sample Receipt Date::	7/28/2014	Sample Receipt Time:	2:55 PM
Analysis Completed Date:	7/28/2014	Analysis Completed Time:	11:50 PM

Analyst(s):

Emmanuel Velez PCM NYS ELAP (5)**Samples reviewed and approved by:**

James Hall, Laboratory Manager
or other approved signatory

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.25, 21-50 fibers = 0.22, 51-100 fibers = 0.18. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.29. The laboratory is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. This report relates only to the samples reported above. This report may not be reproduced, except in full, without written approval by EMSL. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Results have been blank corrected as applicable. Samples received in good condition unless otherwise noted.

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Initial report from 07/28/2014 23:52:30

EDUCATION HOUSE

APPENDIX 8:

40 CFR PART 763 (EPA AHERA)

PART 763—ASBESTOS

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Subpart D [Reserved]

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- 763.83 Definitions.
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- 763.178 Recordkeeping.
- 763.179 Confidential business information claims.

AUTHORITY: 15 U.S.C. 2605, 2607(c), 2643, and 2646.

Subparts A–C [Reserved]

Subpart D [Reserved]

Subpart E—Asbestos-Containing Materials in Schools

SOURCE: 52 FR 41846, Oct. 30, 1987, unless otherwise noted.

§ 763.80 Scope and purpose.

(a) This rule requires local education agencies to identify friable and nonfriable asbestos-containing material (ACM) in public and private elementary and secondary schools by visually inspecting school buildings for such materials, sampling such materials if they are not assumed to be ACM, and having samples analyzed by appropriate techniques referred to in this rule. The rule requires local education agencies to submit management plans to the Governor of their State by October 12, 1988, begin to implement the plans by July 9, 1989, and complete implementation of the plans in a timely fashion. In addition, local education agencies are required to use persons who have been accredited to conduct inspections, reinspections, develop management plans, or perform response actions. The rule also includes recordkeeping requirements. Local education agencies may contractually delegate their duties under this rule, but they remain responsible for the proper performance of those duties. Local education agencies are encouraged to consult with EPA Regional Asbestos Coordinators, or if applicable, a State's lead agency designated by the State Governor, for assistance in complying with this rule.

(b) Local education agencies must provide for the transportation and disposal of asbestos in accordance with EPA's "Asbestos Waste Management Guidance." For convenience, applicable sections of this guidance are reprinted as Appendix D of this subpart. There are regulations in place, however, that affect transportation and disposal of asbestos waste generated by this rule. The transportation of asbestos waste is covered by the Department of Transportation (49 CFR part 173, subpart J) and disposal is covered by the National Emissions Standards for Hazardous Air Pollutants (NESHAP) (40 CFR part 61, subpart M).

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§ 763.83 Definitions.

For purposes of this subpart:

Act means the Toxic Substances Control Act (TSCA), 15 U.S.C. 2601, *et seq.*

Accessible when referring to ACM means that the material is subject to disturbance by school building occupants or custodial or maintenance personnel in the course of their normal activities.

Accredited or *accreditation* when referring to a person or laboratory means that such person or laboratory is accredited in accordance with section 206 of Title II of the Act.

Air erosion means the passage of air over friable ACM which may result in the release of asbestos fibers.

Asbestos means the asbestiform varieties of: Chrysotile (serpentine); crocidolite (riebeckite); amosite (cum- mingtonitegrunerite); anthophyllite; tremolite; and actinolite.

Asbestos-containing material (ACM) when referring to school buildings means any material or product which contains more than 1 percent asbestos.

Asbestos-containing building material (ACBM) means surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a school building.

Asbestos debris means pieces of ACBM that can be identified by color, texture, or composition, or means dust, if the dust is determined by an accredited inspector to be ACM.

Damaged friable miscellaneous ACM means friable miscellaneous ACM which has deteriorated or sustained physical injury such that the internal structure (cohesion) of the material is inadequate or, if applicable, which has delaminated such that its bond to the substrate (adhesion) is inadequate or which for any other reason lacks fiber cohesion or adhesion qualities. Such damage or deterioration may be illustrated by the separation of ACM into layers; separation of ACM from the substrate; flaking, blistering, or crumbling of the ACM surface; water damage; significant or repeated water stains, scrapes, gouges, mars or other signs of physical injury on the ACM. Asbestos debris originating from the ACBM in question may also indicate damage.

Damaged friable surfacing ACM means friable surfacing ACM which has deteriorated or sustained physical injury such that the internal structure (cohesion) of the material is inadequate or which has delaminated such that its bond to the substrate (adhesion) is inadequate, or which, for any other reason, lacks fiber cohesion or adhesion qualities. Such damage or deterioration may be illustrated by the separation of ACM into layers; separation of ACM from the substrate; flaking, blistering, or crumbling of the ACM surface; water

damage; significant or repeated water stains, scrapes, gouges, mars or other signs of physical injury on the ACM. Asbestos debris originating from the ACBM in question may also indicate damage.

Damaged or significantly damaged thermal system insulation ACM means thermal system insulation ACM on pipes, boilers, tanks, ducts, and other thermal system insulation equipment where the insulation has lost its structural integrity, or its covering, in whole or in part, is crushed, water-stained, gouged, punctured, missing, or not intact such that it is not able to contain fibers. Damage may be further illustrated by occasional punctures, gouges or other signs of physical injury to ACM; occasional water damage on the protective coverings/jackets; or exposed ACM ends or joints. Asbestos debris originating from the ACBM in question may also indicate damage.

Encapsulation means the treatment of ACBM with a material that surrounds or embeds asbestos fibers in an adhesive matrix to prevent the release of fibers, as the encapsulant creates a membrane over the surface (bridging encapsulant) or penetrates the material and binds its components together (penetrating encapsulant).

Enclosure means an airtight, impermeable, permanent barrier around ACBM to prevent the release of asbestos fibers into the air.

Fiber release episode means any uncontrolled or unintentional disturbance of ACBM resulting in visible emission.

Friable when referring to material in a school building means that the material, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure, and includes previously nonfriable material after such previously nonfriable material becomes damaged to the extent that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure.

Functional space means a room, group of rooms, or homogeneous area (including crawl spaces or the space between a dropped ceiling and the floor or roof deck above), such as classroom(s), a cafeteria, gymnasium, hallway(s), designated by a person accredited to prepare management plans, design abatement projects, or conduct response actions.

High-efficiency particulate air (HEPA) refers to a filtering system capable of trapping and retaining at least 99.97 percent of all monodispersed particles 0.3 μm in diameter or larger.

Homogeneous area means an area of surfacing material, thermal system insulation material, or miscellaneous material that is uniform in color and texture.

Local education agency means:

(1) Any local educational agency as defined in section 198 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 3381).

(2) The owner of any nonpublic, nonprofit elementary, or secondary school building.

(3) The governing authority of any school operated under the defense dependent's education system provided for under the Defense Dependents' Education Act of 1978 (20 U.S.C. 921, et seq.).

Miscellaneous ACM means miscellaneous material that is ACM in a school building.

Miscellaneous material means interior building material on structural components, structural members or fixtures, such as floor and ceiling tiles, and does not include surfacing material or thermal system insulation.

Nonfriable means material in a school building which when dry may not be crumbled, pulverized, or reduced to powder by hand pressure.

Operations and maintenance program means a program of work practices to maintain friable ACBM in good condition, ensure clean up of asbestos fibers previously released, and prevent further release by minimizing and controlling friable ACBM disturbance or damage.

Potential damage means circumstances in which:

(1) Friable ACBM is in an area regularly used by building occupants, including maintenance personnel, in the course of their normal activities.

(2) There are indications that there is a reasonable likelihood that the material or its covering will become damaged, deteriorated, or delaminated due to factors such as changes in building use, changes in operations and maintenance practices, changes in occupancy, or recurrent damage.

Potential significant damage means circumstances in which:

(1) Friable ACBM is in an area regularly used by building occupants, including maintenance personnel, in the course of their normal activities.

(2) There are indications that there is a reasonable likelihood that the material or its covering will become significantly damaged, deteriorated, or delaminated due to factors such as changes in building use, changes in operations and maintenance practices, changes in occupancy, or recurrent damage.

(3) The material is subject to major or continuing disturbance, due to factors including, but not limited to, accessibility or, under certain circumstances, vibration or air erosion.

Preventive measures means actions taken to reduce disturbance of ACBM or otherwise eliminate the reasonable likelihood of the material's becoming damaged or significantly damaged.

Removal means the taking out or the stripping of substantially all ACBM from a damaged area,

a functional space, or a homogeneous area in a school building.

Repair means returning damaged ACBM to an undamaged condition or to an intact state so as to prevent fiber release.

Response action means a method, including removal, encapsulation, enclosure, repair, operations and maintenance, that protects human health and the environment from friable ACBM.

Routine maintenance area means an area, such as a boiler room or mechanical room, that is not normally frequented by students and in which maintenance employees or contract workers regularly conduct maintenance activities.

School means any elementary or secondary school as defined in section 198 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 2854).

School building means:

(1) Any structure suitable for use as a classroom, including a school facility such as a laboratory, library, school eating facility, or facility used for the preparation of food.

(2) Any gymnasium or other facility which is specially designed for athletic or recreational activities for an academic course in physical education.

(3) Any other facility used for the instruction or housing of students or for the administration of educational or research programs.

(4) Any maintenance, storage, or utility facility, including any hallway, essential to the operation of any facility described in this definition of "school building" under paragraphs (1), (2), or (3).

(5) Any portico or covered exterior hallway or walkway.

(6) Any exterior portion of a mechanical system used to condition interior space.

Significantly damaged friable miscellaneous ACM means damaged friable miscellaneous ACM where the damage is extensive and severe.

Significantly damaged friable surfacing ACM means damaged friable surfacing ACM in a functional space where the damage is extensive and severe.

State means a State, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the Northern Marianas, the Trust Territory of the Pacific Islands, and the Virgin Islands.

Surfacing ACM means surfacing material that is ACM.

Surfacing material means material in a school building that is sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

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Thermal system insulation means material in a school building applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain, or water condensation, or for other purposes.

Thermal system insulation ACM means thermal system insulation that is ACM.

Vibration means the periodic motion of friable ACM which may result in the release of asbestos fibers.

§ 763.84 General local education agency responsibilities.

Each local education agency shall:

(a) Ensure that the activities of any persons who perform inspections, reinspections, and periodic surveillance, develop and update management plans, and develop and implement response actions, including operations and maintenance, are carried out in accordance with subpart E of this part.

(b) Ensure that all custodial and maintenance employees are properly trained as required by this subpart E and other applicable Federal and/or State regulations (e.g., the Occupational Safety and Health Administration asbestos standard for construction, the EPA worker protection rule, or applicable State regulations).

(c) Ensure that workers and building occupants, or their legal guardians, are informed at least once each school year about inspections, response actions, and post-response action activities, including periodic reinspection and surveillance activities that are planned or in progress.

(d) Ensure that short-term workers (e.g., telephone repair workers, utility workers, or exterminators) who may come in contact with asbestos in a school are provided information regarding the locations of ACM and suspected ACM assumed to be ACM.

(e) Ensure that warning labels are posted in accordance with § 763.95.

(f) Ensure that management plans are available for inspection and notification of such availability has been provided as specified in the management plan under § 763.93(g).

(g)(1) Designate a person to ensure that requirements under this section are properly implemented.

(2) Ensure that the designated person receives adequate training to perform duties assigned under this section. Such training shall provide, as necessary, basic knowledge of:

(i) Health effects of asbestos.

(ii) Detection, identification, and assessment of ACM.

(iii) Options for controlling ACM.

(iv) Asbestos management programs.

(v) Relevant Federal and State regulations concerning asbestos, including those in this subpart E

and those of the Occupational Safety and Health Administration, U.S. Department of Labor, the U.S. Department of Transportation and the U.S. Environmental Protection Agency.

(h) Consider whether any conflict of interest may arise from the interrelationship among accredited personnel and whether that should influence the selection of accredited personnel to perform activities under this subpart.

§ 763.85 Inspection and reinspections.

(a) *Inspection.* (1) Except as provided in paragraph (a)(2) of this section, before October 12, 1988, local education agencies shall inspect each school building that they lease, own, or otherwise use as a school building to identify all locations of friable and nonfriable ACM.

(2) Any building leased or acquired on or after October 12, 1988, that is to be used as a school building shall be inspected as described under paragraphs (a) (3) and (4) of this section prior to use as a school building. In the event that emergency use of an uninspected building as a school building is necessitated, such buildings shall be inspected within 30 days after commencement of such use.

(3) Each inspection shall be made by an accredited inspector.

(4) For each area of a school building, except as excluded under § 763.99, each person performing an inspection shall:

(i) Visually inspect the area to identify the locations of all suspected ACM.

(ii) Touch all suspected ACM to determine whether they are friable.

(iii) Identify all homogeneous areas of friable suspected ACM and all homogeneous areas of nonfriable suspected ACM.

(iv) Assume that some or all of the homogeneous areas are ACM, and, for each homogeneous area that is not assumed to be ACM, collect and submit for analysis bulk samples under §§ 763.86 and 763.87.

(v) Assess, under § 763.88, friable material in areas where samples are collected, friable material in areas that are assumed to be ACM, and friable ACM identified during a previous inspection.

(vi) Record the following and submit to the person designated under § 763.84 a copy of such record for inclusion in the management plan within 30 days of the inspection:

(A) An inspection report with the date of the inspection signed by each accredited person making the inspection, State of accreditation, and if applicable, his or her accreditation number.

(B) An inventory of the locations of the homogeneous areas where samples are collected, exact location where each bulk sample is collected, dates that samples are collected, homogeneous areas

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where friable suspected ACBM is assumed to be ACM, and homogeneous areas where nonfriable suspected ACBM is assumed to be ACM.

(C) A description of the manner used to determine sampling locations, the name and signature of each accredited inspector who collected the samples, State of accreditation, and, if applicable, his or her accreditation number.

(D) A list of whether the homogeneous areas identified under paragraph (a)(4)(vi)(B) of this section, are surfacing material, thermal system insulation, or miscellaneous material.

(E) Assessments made of friable material, the name and signature of each accredited inspector making the assessment, State of accreditation, and if applicable, his or her accreditation number.

(b) *Reinspection.* (1) At least once every 3 years after a management plan is in effect, each local education agency shall conduct a reinspection of all friable and nonfriable known or assumed ACBM in each school building that they lease, own, or otherwise use as a school building.

(2) Each inspection shall be made by an accredited inspector.

(3) For each area of a school building, each person performing a reinspection shall:

(i) Visually reinspect, and reassess, under § 763.88, the condition of all friable known or assumed ACBM.

(ii) Visually inspect material that was previously considered nonfriable ACBM and touch the material to determine whether it has become friable since the last inspection or reinspection.

(iii) Identify any homogeneous areas with material that has become friable since the last inspection or reinspection.

(iv) For each homogeneous area of newly friable material that is already assumed to be ACBM, bulk samples may be collected and submitted for analysis in accordance with §§ 763.86 and 763.87.

(v) Assess, under § 763.88, the condition of the newly friable material in areas where samples are collected, and newly friable materials in areas that are assumed to be ACBM.

(vi) Reassess, under § 763.88, the condition of friable known or assumed ACBM previously identified.

(vii) Record the following and submit to the person designated under § 763.84 a copy of such record for inclusion in the management plan within 30 days of the reinspection:

(A) The date of the reinspection, the name and signature of the person making the reinspection, State of accreditation, and if applicable, his or her accreditation number, and any changes in the condition of known or assumed ACBM.

(B) The exact locations where samples are collected during the reinspection, a description of the

manner used to determine sampling locations, the name and signature of each accredited inspector who collected the samples, State of accreditation, and, if applicable, his or her accreditation number.

(C) Any assessments or reassessments made of friable material, the name and signature of the accredited inspector making the assessments, State of accreditation, and if applicable, his or her accreditation number.

(c) *General.* Thermal system insulation that has retained its structural integrity and that has an undamaged protective jacket or wrap that prevents fiber release shall be treated as nonfriable and therefore is subject only to periodic surveillance and preventive measures as necessary.

§ 763.86 Sampling.

(a) *Surfacing material.* An accredited inspector shall collect, in a statistically random manner that is representative of the homogeneous area, bulk samples from each homogeneous area of friable surfacing material that is not assumed to be ACM, and shall collect the samples as follows:

(1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft² or less, except as provided in § 763.87(c)(2).

(2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft² but less than or equal to 5,000 ft², except as provided in § 763.87(c)(2).

(3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft², except as provided in § 763.87(c)(2).

(b) *Thermal system insulation.* (1) Except as provided in paragraphs (b) (2) through (4) of this section and § 763.87(c), an accredited inspector shall collect, in a randomly distributed manner, at least three bulk samples from each homogeneous area of thermal system insulation that is not assumed to be ACM.

(2) Collect at least one bulk sample from each homogeneous area of patched thermal system insulation that is not assumed to be ACM if the patched section is less than 6 linear or square feet.

(3) In a manner sufficient to determine whether the material is ACM or not ACM, collect bulk samples from each insulated mechanical system that is not assumed to be ACM where cement or plaster is used on fittings such as tees, elbows, or valves, except as provided under § 763.87(c)(2).

(4) Bulk samples are not required to be collected from any homogeneous area where the accredited inspector has determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACBM.

(c) *Miscellaneous material.* In a manner sufficient to determine whether material is ACM or not ACM, an accredited inspector shall collect bulk

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samples from each homogeneous area of friable miscellaneous material that is not assumed to be ACM.

(d) *Nonfriable suspected ACBM*. If any homogeneous area of nonfriable suspected ACBM is not assumed to be ACM, then an accredited inspector shall collect, in a manner sufficient to determine whether the material is ACM or not ACM, bulk samples from the homogeneous area of nonfriable suspected ACBM that is not assumed to be ACM.

§ 763.87 Analysis.

(a) Local education agencies shall have bulk samples, collected under § 763.86 and submitted for analysis, analyzed for asbestos using laboratories accredited by the National Bureau of Standards (NBS). Local education agencies shall use laboratories which have received interim accreditation for polarized light microscopy (PLM) analysis under the EPA Interim Asbestos Bulk Sample Analysis Quality Assurance Program until the NBS PLM laboratory accreditation program for PLM is operational.

(b) Bulk samples shall not be composited for analysis and shall be analyzed for asbestos content by PLM, using the "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" found at appendix E to subpart E of this part.

(c)(1) A homogeneous area is considered not to contain ACM only if the results of all samples required to be collected from the area show asbestos in amounts of 1 percent or less.

(2) A homogeneous area shall be determined to contain ACM based on a finding that the results of at least one sample collected from that area shows that asbestos is present in an amount greater than 1 percent.

(d) The name and address of each laboratory performing an analysis, the date of analysis, and the name and signature of the person performing the analysis shall be submitted to the person designated under § 763.84 for inclusion into the management plan within 30 days of the analysis.

[52 FR 41846, Oct. 30, 1987, as amended at 60 FR 31922, June 19, 1995]

§ 763.88 Assessment.

(a)(1) For each inspection and reinspection conducted under § 763.85 (a) and (c) and previous inspections specified under § 763.99, the local education agency shall have an accredited inspector provide a written assessment of all friable known or assumed ACBM in the school building.

(2) Each accredited inspector providing a written assessment shall sign and date the assessment, provide his or her State of accreditation, and if applicable, accreditation number, and submit a copy of the assessment to the person designated under

§ 763.84 for inclusion in the management plan within 30 days of the assessment.

(b) The inspector shall classify and give reasons in the written assessment for classifying the ACBM and suspected ACBM assumed to be ACM in the school building into one of the following categories:

(1) Damaged or significantly damaged thermal system insulation ACM.

(2) Damaged friable surfacing ACM.

(3) Significantly damaged friable surfacing ACM.

(4) Damaged or significantly damaged friable miscellaneous ACM.

(5) ACBM with potential for damage.

(6) ACBM with potential for significant damage.

(7) Any remaining friable ACBM or friable suspected ACBM.

(c) Assessment may include the following considerations:

(1) Location and the amount of the material, both in total quantity and as a percentage of the functional space.

(2) Condition of the material, specifying:

(i) Type of damage or significant damage (e.g., flaking, blistering, water damage, or other signs of physical damage).

(ii) Severity of damage (e.g., major flaking, severely torn jackets, as opposed to occasional flaking, minor tears to jackets).

(iii) Extent or spread of damage over large areas or large percentages of the homogeneous area.

(3) Whether the material is accessible.

(4) The material's potential for disturbance.

(5) Known or suspected causes of damage or significant damage (e.g., air erosion, vandalism, vibration, water).

(6) Preventive measures which might eliminate the reasonable likelihood of undamaged ACM from becoming significantly damaged.

(d) The local education agency shall select a person accredited to develop management plans to review the results of each inspection, reinspection, and assessment for the school building and to conduct any other necessary activities in order to recommend in writing to the local education agency appropriate response actions. The accredited person shall sign and date the recommendation, provide his or her State of accreditation, and, if applicable, provide his or her accreditation number, and submit a copy of the recommendation to the person designated under § 763.84 for inclusion in the management plan.

§ 763.90 Response actions.

(a) The local education agency shall select and implement in a timely manner the appropriate response actions in this section consistent with the

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assessment conducted in § 763.88. The response actions selected shall be sufficient to protect human health and the environment. The local education agency may then select, from the response actions which protect human health and the environment, that action which is the least burdensome method. Nothing in this section shall be construed to prohibit removal of ACM from a school building at any time, should removal be the preferred response action of the local education agency.

(b) If damaged or significantly damaged thermal system insulation ACM is present in a building, the local education agency shall:

(1) At least repair the damaged area.

(2) Remove the damaged material if it is not feasible, due to technological factors, to repair the damage.

(3) Maintain all thermal system insulation ACM and its covering in an intact state and undamaged condition.

(c)(1) If damaged friable surfacing ACM or damaged friable miscellaneous ACM is present in a building, the local education agency shall select from among the following response actions: encapsulation, enclosure, removal, or repair of the damaged material.

(2) In selecting the response action from among those which meet the definitional standards in § 763.83, the local education agency shall determine which of these response actions protects human health and the environment. For purposes of determining which of these response actions are the least burdensome, the local education agency may then consider local circumstances, including occupancy and use patterns within the school building, and its economic concerns, including short- and long-term costs.

(d) If significantly damaged friable surfacing ACM or significantly damaged friable miscellaneous ACM is present in a building the local education agency shall:

(1) Immediately isolate the functional space and restrict access, unless isolation is not necessary to protect human health and the environment.

(2) Remove the material in the functional space or, depending upon whether enclosure or encapsulation would be sufficient to protect human health and the environment, enclose or encapsulate.

(e) If any friable surfacing ACM, thermal system insulation ACM, or friable miscellaneous ACM that has potential for damage is present in a building, the local education agency shall at least implement an operations and maintenance (O&M) program, as described under § 763.91.

(f) If any friable surfacing ACM, thermal system insulation ACM, or friable miscellaneous ACM that has potential for significant damage is

present in a building, the local education agency shall:

(1) Implement an O&M program, as described under § 763.91.

(2) Institute preventive measures appropriate to eliminate the reasonable likelihood that the ACM or its covering will become significantly damaged, deteriorated, or delaminated.

(3) Remove the material as soon as possible if appropriate preventive measures cannot be effectively implemented, or unless other response actions are determined to protect human health and the environment. Immediately isolate the area and restrict access if necessary to avoid an imminent and substantial endangerment to human health or the environment.

(g) Response actions including removal, encapsulation, enclosure, or repair, other than small-scale, short-duration repairs, shall be designed and conducted by persons accredited to design and conduct response actions.

(h) The requirements of this subpart E in no way supersede the worker protection and work practice requirements under 29 CFR 1926.58 (Occupational Safety and Health Administration (OSHA) asbestos worker protection standards for construction), 40 CFR part 763, subpart G (EPA asbestos worker protection standards for public employees), and 40 CFR part 61, subpart M (National Emission Standards for Hazardous Air Pollutants—Asbestos).

(i) Completion of response actions. (1) At the conclusion of any action to remove, encapsulate, or enclose ACM or material assumed to be ACM, a person designated by the local education agency shall visually inspect each functional space where such action was conducted to determine whether the action has been properly completed.

(2)(i) A person designated by the local education agency shall collect air samples using aggressive sampling as described in appendix A to this subpart E to monitor air for clearance after each removal, encapsulation, and enclosure project involving ACM, except for projects that are of small-scale, short-duration.

(ii) Local education agencies shall have air samples collected under this section analyzed for asbestos using laboratories accredited by the National Bureau of Standards to conduct such analysis using transmission electron microscopy (TEM) or, under circumstances permitted in this section, laboratories enrolled in the American Industrial Hygiene Association Proficiency Analytical Testing Program for phase contrast microscopy (PCM).

(iii) Until the National Bureau of Standards TEM laboratory accreditation program is operational, local educational agencies shall use laboratories that use the protocol described in appendix A to subpart E of this part.

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(3) Except as provided in paragraphs (i)(4), and (i)(5), of this section, an action to remove, encapsulate, or enclose ACBM shall be considered complete when the average concentration of asbestos of five air samples collected within the affected functional space and analyzed by the TEM method in appendix A of this subpart E, is not statistically significantly different, as determined by the Z-test calculation found in appendix A of this subpart E, from the average asbestos concentration of five air samples collected at the same time outside the affected functional space and analyzed in the same manner, and the average asbestos concentration of the three field blanks described in appendix A of this subpart E is below the filter background level, as defined in appendix A of this subpart E, of 70 structures per square millimeter (70 s/mm²).

(4) An action may also be considered complete if the volume of air drawn for each of the five samples collected within the affected functional space is equal to or greater than 1,199 L of air for a 25 mm filter or equal to or greater than 2,799 L of air for a 37 mm filter, and the average concentration of asbestos as analyzed by the TEM method in appendix A of this subpart E, for the five air samples does not exceed the filter background level, as defined in appendix A, of 70 structures per square millimeter (70 s/mm²). If the average concentration of asbestos of the five air samples within the affected functional space exceeds 70 s/mm², or if the volume of air in each of the samples is less than 1,199 L of air for a 25 mm filter or less than 2,799 L of air for a 37 mm filter, the action shall be considered complete only when the requirements of paragraph (i)(3) or (i)(5), of this section are met.

(5) At any time, a local education agency may analyze air monitoring samples collected for clearance purposes by phase contrast microscopy (PCM) to confirm completion of removal, encapsulation, or enclosure of ACBM that is greater than small-scale, short-duration and less than or equal to 160 square feet or 260 linear feet. The action shall be considered complete when the results of samples collected in the affected functional space and analyzed by phase contrast microscopy using the National Institute for Occupational Safety and Health (NIOSH) Method 7400 entitled "Fibers" published in the NIOSH Manual of Analytical Methods, 3rd Edition, Second Supplement, August 1987, show that the concentration of fibers for each of the five samples is less than or equal to a limit of quantitation for PCM (0.01 fibers per cubic centimeter (0.01 f/cm³) of air). The method is available for public inspection at the Office of the Federal Register, 800 North Capitol Street, NW, Suite 700, Washington, DC, 20408, and the Non-Confidential Information Center (NCIC) (7407), Office of Pollution Prevention and Toxics,

U.S. Environmental Protection Agency, Room B-607 NEM, 401 M Street, SW., Washington, DC, 20460, between the hours of 12 p.m. and 4 p.m. weekdays excluding legal holidays. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. The method is incorporated as it exists on the effective date of this rule, and a notice of any change to the method will be published in the FEDERAL REGISTER.

(6) To determine the amount of ACBM affected under paragraph (i)(5) of this section, the local education agency shall add the total square or linear footage of ACBM within the containment barriers used to isolate the functional space for the action to remove, encapsulate, or enclose the ACBM. Contiguous portions of material subject to such action conducted concurrently or at approximately the same time within the same school building shall not be separated to qualify under paragraph (i)(5), of this section.

[52 FR 41846, Oct. 30, 1987, as amended at 53 FR 12525, Apr. 15, 1988; 60 FR 31922, June 19, 1995; 60 FR 34465, July 3, 1995]

§ 763.91 Operations and maintenance.

(a) *Applicability.* The local education agency shall implement an operations, maintenance, and repair (O&M) program under this section whenever any friable ACBM is present or assumed to be present in a building that it leases, owns, or otherwise uses as a school building. Any material identified as nonfriable ACBM or nonfriable assumed ACBM must be treated as friable ACBM for purposes of this section when the material is about to become friable as a result of activities performed in the school building.

(b) *Worker protection.* The protection provided by EPA at 40 CFR 763.121 for worker protection during asbestos abatement projects is extended to employees of local education agencies who perform operations, maintenance, and repair (O&M) activities involving ACM and who are not covered by the OSHA asbestos construction standard at 29 CFR 1926.58 or an asbestos worker approved by OSHA under section 19 of the Occupational Safety and Health Act. Local education agencies may consult appendix B of this subpart if their employees are performing operations, maintenance, and repair activities that are of small-scale, short-duration.

(c) *Cleaning—(1) Initial cleaning.* Unless the building has been cleaned using equivalent methods within the previous 6 months, all areas of a school building where friable ACBM, damaged or significantly damaged thermal system insulation ACM, or friable suspected ACBM assumed to be ACM are present shall be cleaned at least once after the completion of the inspection required by

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§ 763.85(a) and before the initiation of any response action, other than O&M activities or repair, according to the following procedures:

- (i) HEPA-vacuum or steam-clean all carpets.
- (ii) HEPA-vacuum or wet-clean all other floors and all other horizontal surfaces.
- (iii) Dispose of all debris, filters, mopheads, and cloths in sealed, leak-tight containers.

(2) *Additional cleaning.* The accredited management planner shall make a written recommendation to the local education agency whether additional cleaning is needed, and if so, the methods and frequency of such cleaning.

(d) *Operations and maintenance activities.* The local education agency shall ensure that the procedures described below to protect building occupants shall be followed for any operations and maintenance activities disturbing friable ACBM:

(1) Restrict entry into the area by persons other than those necessary to perform the maintenance project, either by physically isolating the area or by scheduling.

(2) Post signs to prevent entry by unauthorized persons.

(3) Shut off or temporarily modify the air-handling system and restrict other sources of air movement.

(4) Use work practices or other controls, such as, wet methods, protective clothing, HEPA-vacuums, mini-enclosures, glove bags, as necessary to inhibit the spread of any released fibers.

(5) Clean all fixtures or other components in the immediate work area.

(6) Place the asbestos debris and other cleaning materials in a sealed, leak-tight container.

(e) *Maintenance activities other than small-scale, short-duration.* The response action for any maintenance activities disturbing friable ACBM, other than small-scale, short-duration maintenance activities, shall be designed by persons accredited to design response actions and conducted by persons accredited to conduct response actions.

(f) *Fiber release episodes*—(1) *Minor fiber release episode.* The local education agency shall ensure that the procedures described below are followed in the event of a minor fiber release episode (i.e., the falling or dislodging of 3 square or linear feet or less of friable ACBM): 5

(i) Thoroughly saturate the debris using wet methods.

(ii) Clean the area, as described in paragraph (e) of this section.

(iii) Place the asbestos debris in a sealed, leak-tight container.

(iv) Repair the area of damaged ACM with materials such as asbestos-free spackling, plaster, cement, or insulation, or seal with latex paint or an encapsulant, or immediately have the appropriate

response action implemented as required by § 763.90.

(2) *Major fiber release episode.* The local education agency shall ensure that the procedures described below are followed in the event of a major fiber release episode (i.e., the falling or dislodging of more than 3 square or linear feet of friable ACBM):

(i) Restrict entry into the area and post signs to prevent entry into the area by persons other than those necessary to perform the response action.

(ii) Shut off or temporarily modify the air-handling system to prevent the distribution of fibers to other areas in the building.

(iii) The response action for any major fiber release episode must be designed by persons accredited to design response actions and conducted by persons accredited to conduct response actions.

§ 763.92 Training and periodic surveillance.

(a) *Training.* (1) The local education agency shall ensure, prior to the implementation of the O&M provisions of the management plan, that all members of its maintenance and custodial staff (custodians, electricians, heating/air conditioning engineers, plumbers, etc.) who may work in a building that contains ACBM receive awareness training of at least 2 hours, whether or not they are required to work with ACBM. New custodial and maintenance employees shall be trained within 60 days after commencement of employment. Training shall include, but not be limited to:

(i) Information regarding asbestos and its various uses and forms.

(ii) Information on the health effects associated with asbestos exposure.

(iii) Locations of ACBM identified throughout each school building in which they work.

(iv) Recognition of damage, deterioration, and delamination of ACBM.

(v) Name and telephone number of the person designated to carry out general local education agency responsibilities under § 763.84 and the availability and location of the management plan.

(2) The local education agency shall ensure that all members of its maintenance and custodial staff who conduct any activities that will result in the disturbance of ACBM shall receive training described in paragraph (a)(1) of this section and 14 hours of additional training. Additional training shall include, but not be limited to:

(i) Descriptions of the proper methods of handling ACBM.

(ii) Information on the use of respiratory protection as contained in the EPA/NIOSH *Guide to Respiratory Protection for the Asbestos Abatement Industry*, September 1986 (EPA 560/OPPTS-86-001), available from the Director, Environmental

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Assistance Division (7408), Office of Pollution Prevention and Toxics, U.S. Environmental Protection Agency, Room E-543B, 401 M St., SW., Washington, DC, 20460, Telephone: (202) 554-1404, TDD: (202) 544-0551 and other personal protection measures.

(iii) The provisions of this section and § 763.91, Appendices A, B, C, D of this subpart E of this part, EPA regulations contained in 40 CFR part 763, subpart G, and in 40 CFR part 61, subpart M, and OSHA regulations contained in 29 CFR 1926.58.

(iv) Hands-on training in the use of respiratory protection, other personal protection measures, and good work practices.

(3) Local education agency maintenance and custodial staff who have attended EPA-approved asbestos training or received equivalent training for O&M and periodic surveillance activities involving asbestos shall be considered trained for the purposes of this section.

(b) *Periodic surveillance.* (1) At least once every 6 months after a management plan is in effect, each local education agency shall conduct periodic surveillance in each building that it leases, owns, or otherwise uses as a school building that contains ACBM or is assumed to contain ACBM.

(2) Each person performing periodic surveillance shall:

(i) Visually inspect all areas that are identified in the management plan as ACBM or assumed ACBM.

(ii) Record the date of the surveillance, his or her name, and any changes in the condition of the materials.

(iii) Submit to the person designated to carry out general local education agency responsibilities under § 763.84 a copy of such record for inclusion in the management plan.

[52 FR 41846, Oct. 30, 1987, as amended at 60 FR 34465, July 3, 1995]

§ 763.93 Management plans.

(a)(1) On or before October 12, 1988, each local education agency shall develop an asbestos management plan for each school, including all buildings that they lease, own, or otherwise use as school buildings, and submit the plan to an Agency designated by the Governor of the State in which the local education agency is located. The plan may be submitted in stages that cover a portion of the school buildings under the authority of the local education agency.

(2) If a building to be used as part of a school is leased or otherwise acquired after October 12, 1988, the local education agency shall include the new building in the management plan for the school prior to its use as a school building. The

revised portions of the management plan shall be submitted to the Agency designated by the Governor.

(3) If a local education agency begins to use a building as a school after October 12, 1988, the local education agency shall submit a management plan for the school to the Agency designated by the Governor prior to its use as a school.

(b) On or before October 17, 1987, the Governor of each State shall notify local education agencies in the State regarding where to submit their management plans. States may establish administrative procedures for reviewing management plans. If the Governor does not disapprove a management plan within 90 days after receipt of the plan, the local education agency shall implement the plan.

(c) Each local education agency must begin implementation of its management plan on or before July 9, 1989, and complete implementation in a timely fashion.

(d) Each local education agency shall maintain and update its management plan to keep it current with ongoing operations and maintenance, periodic surveillance, inspection, reinspection, and response action activities. All provisions required to be included in the management plan under this section shall be retained as part of the management plan, as well as any information that has been revised to bring the plan up-to-date.

(e) The management plan shall be developed by an accredited management planner and shall include:

(1) A list of the name and address of each school building and whether the school building contains friable ACBM, nonfriable ACBM, and friable and nonfriable suspected ACBM assumed to be ACM.

(2) For each inspection conducted before the December 14, 1987:

(i) The date of the inspection.

(ii) A blueprint, diagram, or written description of each school building that identifies clearly each location and approximate square or linear footage of any homogeneous or sampling area where material was sampled for ACM, and, if possible, the exact locations where bulk samples were collected, and the dates of collection.

(iii) A copy of the analyses of any bulk samples, dates of analyses, and a copy of any other laboratory reports pertaining to the analyses.

(iv) A description of any response actions or preventive measures taken to reduce asbestos exposure, including if possible, the names and addresses of all contractors involved, start and completion dates of the work, and results of any air samples analyzed during and upon completion of the work.

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(v) A description of assessments, required to be made under § 763.88, of material that was identified before December 14, 1987, as friable ACBM or friable suspected ACBM assumed to be ACM, and the name and signature, State of accreditation, and if applicable, accreditation number of each accredited person making the assessments.

(3) For each inspection and reinspection conducted under § 763.85:

(i) The date of the inspection or reinspection and the name and signature, State of accreditation and, if applicable, the accreditation number of each accredited inspector performing the inspection or reinspection.

(ii) A blueprint, diagram, or written description of each school building that identifies clearly each location and approximate square or linear footage of homogeneous areas where material was sampled for ACM, the exact location where each bulk sample was collected, date of collection, homogeneous areas where friable suspected ACBM is assumed to be ACM, and where nonfriable suspected ACBM is assumed to be ACM.

(iii) A description of the manner used to determine sampling locations, and the name and signature of each accredited inspector collecting samples, the State of accreditation, and if applicable, his or her accreditation number.

(iv) A copy of the analyses of any bulk samples collected and analyzed, the name and address of any laboratory that analyzed bulk samples, a statement that the laboratory meets the applicable requirements of § 763.87(a) the date of analysis, and the name and signature of the person performing the analysis.

(v) A description of assessments, required to be made under § 763.88, of all ACBM and suspected ACBM assumed to be ACM, and the name, signature, State of accreditation, and if applicable, accreditation number of each accredited person making the assessments.

(4) The name, address, and telephone number of the person designated under § 763.84 to ensure that the duties of the local education agency are carried out, and the course name, and dates and hours of training taken by that person to carry out the duties.

(5) The recommendations made to the local education agency regarding response actions, under § 763.88(d), the name, signature, State of accreditation of each person making the recommendations, and if applicable, his or her accreditation number.

(6) A detailed description of preventive measures and response actions to be taken, including methods to be used, for any friable ACBM, the locations where such measures and action will be taken, reasons for selecting the response action or preventive measure, and a schedule for beginning

and completing each preventive measure and response action.

(7) With respect to the person or persons who inspected for ACBM and who will design or carry out response actions, except for operations and maintenance, with respect to the ACBM, one of the following statements:

(i) If the State has adopted a contractor accreditation program under section 206(b) of Title II of the Act, a statement that the person(s) is accredited under such plan.

(ii) A statement that the local education agency used (or will use) persons who have been accredited by another State which has adopted a contractor accreditation plan under section 206(b) of Title II of the Act or is accredited by an EPA-approved course under section 206(c) of Title II of the Act.

(8) A detailed description in the form of a blueprint, diagram, or in writing of any ACBM or suspected ACBM assumed to be ACM which remains in the school once response actions are undertaken pursuant to § 763.90. This description shall be updated as response actions are completed.

(9) A plan for reinspection under § 763.85, a plan for operations and maintenance activities under § 763.91, and a plan for periodic surveillance under § 763.92, a description of the recommendation made by the management planner regarding additional cleaning under § 763.91(c)(2) as part of an operations and maintenance program, and the response of the local education agency to that recommendation.

(10) A description of steps taken to inform workers and building occupants, or their legal guardians, about inspections, reinspections, response actions, and post-response action activities, including periodic reinspection and surveillance activities that are planned or in progress.

(11) An evaluation of the resources needed to complete response actions successfully and carry out reinspection, operations and maintenance activities, periodic surveillance and training.

(12) With respect to each consultant who contributed to the management plan, the name of the consultant and one of the following statements:

(i) If the State has adopted a contractor accreditation plan under section 206(b) of Title II of the Act, a statement that the consultant is accredited under such plan.

(ii) A statement that the contractor is accredited by another State which has adopted a contractor accreditation plan under section 206(b) of Title II of the Act, or is accredited by an EPA-approved course developed under section 206(c) of Title II of the Act.

(f) A local education agency may require each management plan to contain a statement signed by an accredited management plan developer that such person has prepared or assisted in the prepa-

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ration of such plan or has reviewed such plan, and that such plan is in compliance with this subpart E. Such statement may not be signed by a person who, in addition to preparing or assisting in preparing the management plan, also implements (or will implement) the management plan.

(g)(1) Upon submission of a management plan to the Governor for review, a local education agency shall keep a copy of the plan in its administrative office. The management plans shall be available, without cost or restriction, for inspection by representatives of EPA and the State, the public, including teachers, other school personnel and their representatives, and parents. The local education agency may charge a reasonable cost to make copies of management plans.

(2) Each local education agency shall maintain in its administrative office a complete, updated copy of a management plan for each school under its administrative control or direction. The management plans shall be available, during normal business hours, without cost or restriction, for inspection by representatives of EPA and the State, the public, including teachers, other school personnel and their representatives, and parents. The local education agency may charge a reasonable cost to make copies of management plans.

(3) Each school shall maintain in its administrative office a complete, updated copy of the management plan for that school. Management plans shall be available for inspection, without cost or restriction, to workers before work begins in any area of a school building. The school shall make management plans available for inspection to representatives of EPA and the State, the public, including parents, teachers, and other school personnel and their representatives within 5 working days after receiving a request for inspection. The school may charge a reasonable cost to make copies of the management plan.

(4) Upon submission of its management plan to the Governor and at least once each school year, the local education agency shall notify in writing parent, teacher, and employee organizations of the availability of management plans and shall include in the management plan a description of the steps taken to notify such organizations, and a dated copy of the notification. In the absence of any such organizations for parents, teachers, or employees, the local education agency shall provide written notice to that relevant group of the availability of management plans and shall include in the management plan a description of the steps taken to notify such groups, and a dated copy of the notification.

(h) Records required under § 763.94 shall be made by local education agencies and maintained as part of the management plan.

(i) Each management plan must contain a true and correct statement, signed by the individual designated by the local education agency under § 763.84, which certifies that the general, local education agency responsibilities, as stipulated by § 763.84, have been met or will be met.

§ 763.94 Recordkeeping.

(a) Records required under this section shall be maintained in a centralized location in the administrative office of both the school and the local education agency as part of the management plan. For each homogeneous area where all ACBM has been removed, the local education agency shall ensure that such records are retained for 3 years after the next reinspection required under § 763.85(b)(1), or for an equivalent period.

(b) For each preventive measure and response action taken for friable and nonfriable ACBM and friable and nonfriable suspected ACBM assumed to be ACM, the local education agency shall provide:

(1) A detailed written description of the measure or action, including methods used, the location where the measure or action was taken, reasons for selecting the measure or action, start and completion dates of the work, names and addresses of all contractors involved, and if applicable, their State of accreditation, and accreditation numbers, and if ACBM is removed, the name and location of storage or disposal site of the ACM.

(2) The name and signature of any person collecting any air sample required to be collected at the completion of certain response actions specified by § 763.90(i), the locations where samples were collected, date of collection, the name and address of the laboratory analyzing the samples, the date of analysis, the results of the analysis, the method of analysis, the name and signature of the person performing the analysis, and a statement that the laboratory meets the applicable requirements of § 763.90(i)(2)(ii).

(c) For each person required to be trained under § 763.92(a) (1) and (2), the local education agency shall provide the person's name and job title, the date that training was completed by that person, the location of the training, and the number of hours completed in such training.

(d) For each time that periodic surveillance under § 763.92(b) is performed, the local education agency shall record the name of each person performing the surveillance, the date of the surveillance, and any changes in the conditions of the materials.

(e) For each time that cleaning under § 763.91(c) is performed, the local education agency shall record the name of each person performing the cleaning, the date of such cleaning, the lo-

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cations cleaned, and the methods used to perform such cleaning.

(f) For each time that operations and maintenance activities under § 763.91(d) are performed, the local education agency shall record the name of each person performing the activity, the start and completion dates of the activity, the locations where such activity occurred, a description of the activity including preventive measures used, and if ACBM is removed, the name and location of storage or disposal site of the ACM.

(g) For each time that major asbestos activity under § 763.91(e) is performed, the local education agency shall provide the name and signature, State of accreditation, and if applicable, the accreditation number of each person performing the activity, the start and completion dates of the activity, the locations where such activity occurred, a description of the activity including preventive measures used, and if ACBM is removed, the name and location of storage or disposal site of the ACM.

(h) For each fiber release episode under § 763.91(f), the local education agency shall provide the date and location of the episode, the method of repair, preventive measures or response action taken, the name of each person performing the work, and if ACBM is removed, the name and location of storage or disposal site of the ACM.

(Approved by the Office of Management and Budget under control number 2070-0091)

§ 763.95 Warning labels.

(a) The local education agency shall attach a warning label immediately adjacent to any friable and nonfriable ACBM and suspected ACBM assumed to be ACM located in routine maintenance areas (such as boiler rooms) at each school building. This shall include:

(1) Friable ACBM that was responded to by a means other than removal.

(2) ACBM for which no response action was carried out.

(b) All labels shall be prominently displayed in readily visible locations and shall remain posted until the ACBM that is labeled is removed.

(c) The warning label shall read, in print which is readily visible because of large size or bright color, as follows:

CAUTION: ASBESTOS. HAZARDOUS. DO NOT DISTURB WITHOUT PROPER TRAINING AND EQUIPMENT.

§ 763.97 Compliance and enforcement.

(a) *Compliance with Title II of the Act.* (1) Section 207(a) of Title II of the Act (15 U.S.C. 2647) makes it unlawful for any local education agency to:

(i) Fail to conduct inspections pursuant to section 203(b) of Title II of the Act, including failure to follow procedures and failure to use accredited personnel and laboratories.

(ii) Knowingly submit false information to the Governor regarding any inspection pursuant to regulations under section 203(i) of Title II of the Act.

(iii) Fail to develop a management plan pursuant to regulations under section 203(i) of Title II of the Act.

(2) Section 207(a) of Title II of the Act (15 U.S.C. 2647) also provides that any local education agency which violates any provision of section 207 shall be liable for a civil penalty of not more than \$5,000 for each day during which the violation continues. For the purposes of this subpart, a "violation" means a failure to comply with respect to a single school building.

(b) *Compliance with Title I of the Act.* (1) Section 15(1)(D) of Title I of the Act (15 U.S.C. 2614) makes it unlawful for any person to fail or refuse to comply with any requirement of Title II or any rule promulgated or order issued under Title II. Therefore, any person who violates any requirement of this subpart is in violation of section 15 of Title I of the Act.

(2) Section 15(3) of Title I of the Act (15 U.S.C. 2614) makes it unlawful for any person to fail or refuse to establish or maintain records, submit reports, notices or other information, or permit access to or copying of records, as required by this Act or a rule thereunder.

(3) Section 15(4) (15 U.S.C. 2614) of Title I of the Act makes it unlawful for any person to fail or refuse to permit entry or inspection as required by section 11 of Title I of the Act.

(4) Section 16(a) of Title I of the Act (15 U.S.C. 2615) provides that any person who violates any provision of section 15 of Title I of the Act shall be liable to the United States for a civil penalty in an amount not to exceed \$25,000 for each such violation. Each day such a violation continues shall, for purposes of this paragraph, constitute a separate violation of section 15. A local education agency is not liable for any civil penalty under Title I of the Act for failing or refusing to comply with any rule promulgated or order issued under Title II of the Act.

(c) *Criminal penalties.* If any violation committed by any person (including a local education agency) is knowing or willful, criminal penalties may be assessed under section 16(b) of Title I of the Act.

(d) *Injunctive relief.* The Agency may obtain injunctive relief under section 208(b) of Title II of the Act to respond to a hazard which poses an imminent and substantial endangerment to human health or the environment or section 17 (15 U.S.C.

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2616) of Title I of the Act to restrain any violation of section 15 of Title I of the Act or to compel the taking of any action required by or under Title I of the Act.

(e) *Citizen complaints.* Any citizen who wishes to file a complaint pursuant to section 207(d) of Title II of the Act should direct the complaint to the Governor of the State or the EPA Asbestos Ombudsman, 401 M Street, SW., Washington, DC 20460. The citizen complaint should be in writing and identified as a citizen complaint pursuant to section 207(d) of Title II of TSCA. The EPA Asbestos Ombudsman or the Governor shall investigate and respond to the complaint within a reasonable period of time if the allegations provide a reasonable basis to believe that a violation of the Act has occurred.

(f) *Inspections.* EPA may conduct inspections and review management plans under section 11 of Title I of the Act (15 U.S.C. 2610) to ensure compliance.

§ 763.98 Waiver; delegation to State.

(a) *General.* (1) Upon request from a State Governor and after notice and comment and an opportunity for a public hearing in accordance with paragraphs (b) and (c) of this section, EPA may waive some or all of the requirements of this subpart E if the State has established and is implementing or intends to implement a program of asbestos inspection and management that contains requirements that are at least as stringent as the requirements of this subpart E.

(2) A waiver from any requirement of this subpart E shall apply only to the specific provision for which a waiver has been granted under this section. All requirements of this subpart E shall apply until a waiver is granted under this section.

(b) *Request.* Each request by a Governor to waive any requirement of this subpart E shall be sent with three complete copies of the request to the Regional Administrator for the EPA Region in which the State is located and shall include:

(1) A copy of the State provisions or proposed provisions relating to its program of asbestos inspection and management in schools for which the request is made.

(2)(i) The name of the State agency that is or will be responsible for administering and enforcing the requirements for which a waiver is requested, the names and job titles of responsible officials in that agency, and phone numbers where the officials can be contacted.

(ii) In the event that more than one agency is or will be responsible for administering and enforcing the requirements for which a waiver is requested, a description of the functions to be performed by each agency, how the program will be coordinated by the lead agency to ensure consist-

ency and effective administration in the asbestos inspection and management program within the State, the names and job titles of responsible officials in the agencies, and phone numbers where the officials can be contacted. The lead agency will serve as the central contact point for the EPA.

(3) Detailed reasons, supporting papers, and the rationale for concluding that the State's asbestos inspection and management program provisions for which the request is made are at least as stringent as the requirements of this subpart E.

(4) A discussion of any special situations, problems, and needs pertaining to the waiver request accompanied by an explanation of how the State intends to handle them.

(5) A statement of the resources that the State intends to devote to the administration and enforcement of the provisions relating to the waiver request.

(6) Copies of any specific or enabling State laws (enacted and pending enactment) and regulations (promulgated and pending promulgation) relating to the request, including provisions for assessing criminal and/or civil penalties.

(7) Assurance from the Governor, the Attorney General, or the legal counsel of the lead agency that the lead agency or other cooperating agencies have the legal authority necessary to carry out the requirements relating to the request.

(c) *General notice—hearing.* (1) Within 30 days after receipt of a request for a waiver, EPA will determine the completeness of the request. If EPA does not request further information within the 30-day period, the request will be deemed complete.

(2) Within 30 days after EPA determines that a request is complete, EPA will issue for publication in the FEDERAL REGISTER a notice that announces receipt of the request, describes the information submitted under paragraph (b) of this section, and solicits written comment from interested members of the public. Comments must be submitted within 60 days.

(3) If, during the comment period, EPA receives a written objection to a Governor's request and a request for a public hearing detailing specific objections to the granting of a waiver, EPA will schedule a public hearing to be held in the affected State after the close of the comment period and will announce the public hearing date in the FEDERAL REGISTER before the date of the hearing. Each comment shall include the name and address of the person submitting the comment.

(d) *Criteria.* EPA may waive some or all of the requirements of subpart E of this part if:

(1) The State's lead agency and other cooperating agencies have the legal authority necessary to carry out the provisions of asbestos inspection and management in schools relating to the waiver request.

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(2) The State's program of asbestos inspection and management in schools relating to the waiver request and implementation of the program are or will be at least as stringent as the requirements of this subpart E.

(3) The State has an enforcement mechanism to allow it to implement the program described in the waiver request.

(4) The lead agency and any cooperating agencies have or will have qualified personnel to carry out the provisions relating to the waiver request.

(5) The State will devote adequate resources to the administration and enforcement of the asbestos inspection and management provisions relating to the waiver request.

(6) When specified by EPA, the State gives satisfactory assurances that necessary steps, including specific actions it proposes to take and a time schedule for their accomplishment, will be taken within a reasonable time to conform with applicable criteria under paragraphs (d) (2) through (4) of this section.

(e) *Decision.* EPA will issue for publication in the FEDERAL REGISTER a notice announcing its decision to grant or deny, in whole or in part, a Governor's request for a waiver from some or all of the requirements of this subpart E within 30 days after the close of the comment period or within 30 days following a public hearing, whichever is applicable. The notice will include the Agency's reasons and rationale for granting or denying the Governor's request. The 30-day period may be extended if mutually agreed upon by EPA and the State.

(f) *Modifications.* When any substantial change is made in the administration or enforcement of a State program for which a waiver was granted under this section, a responsible official in the lead agency shall submit such changes to EPA.

(g) *Reports.* The lead agency in each State that has been granted a waiver by EPA from any requirement of subpart E of this part shall submit a report to the Regional Administrator for the Region in which the State is located at least once every 12 months to include the following information:

(1) A summary of the State's implementation and enforcement activities during the last reporting period relating to provisions waived under this section, including enforcement actions taken.

(2) Any changes in the administration or enforcement of the State program implemented during the last reporting period.

(3) Other reports as may be required by EPA to carry out effective oversight of any requirement of this subpart E that was waived under this section.

(h) *Oversight.* EPA may periodically evaluate the adequacy of a State's implementation and enforcement of and resources devoted to carrying out

requirements relating to the waiver. This evaluation may include, but is not limited to, site visits to local education agencies without prior notice to the State.

(i) *Informal conference.* (1) EPA may request that an informal conference be held between appropriate State and EPA officials when EPA has reason to believe that a State has failed to:

(i) Substantially comply with the terms of any provision that was waived under this section.

(ii) Meet the criteria under paragraph (d) of this section, including the failure to carry out enforcement activities or act on violations of the State program.

(2) EPA will:

(i) Specify to the State those aspects of the State's program believed to be inadequate.

(ii) Specify to the State the facts that underlie the belief of inadequacy.

(3) If EPA finds, on the basis of information submitted by the State at the conference, that deficiencies did not exist or were corrected by the State, no further action is required.

(4) Where EPA finds that deficiencies in the State program exist, a plan to correct the deficiencies shall be negotiated between the State and EPA. The plan shall detail the deficiencies found in the State program, specify the steps the State has taken or will take to remedy the deficiencies, and establish a schedule for each remedial action to be initiated.

(j) *Rescission.* (1) If the State fails to meet with EPA or fails to correct deficiencies raised at the informal conference, EPA will deliver to the Governor of the State and a responsible official in the lead agency a written notice of its intent to rescind, in whole or part, the waiver.

(2) EPA will issue for publication in the FEDERAL REGISTER a notice that announces the rescission of the waiver, describes those aspects of the State's program determined to be inadequate, and specifies the facts that underlie the findings of inadequacy.

§ 763.99 Exclusions.

(a) A local education agency shall not be required to perform an inspection under § 763.85(a) in any sampling area as defined in 40 CFR 763.103 or homogeneous area of a school building where:

(1) An accredited inspector has determined that, based on sampling records, friable ACBM was identified in that homogeneous or sampling area during an inspection conducted before December 14, 1987. The inspector shall sign and date a statement to that effect with his or her State of accreditation and if applicable, accreditation number and, within 30 days after such determination, submit a copy of the statement to the person designated

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under § 763.84 for inclusion in the management plan. However, an accredited inspector shall assess the friable ACBM under § 763.88.

(2) An accredited inspector has determined that, based on sampling records, nonfriable ACBM was identified in that homogeneous or sampling area during an inspection conducted before December 14, 1987. The inspector shall sign and date a statement to that effect with his or her State of accreditation and if applicable, accreditation number and, within 30 days after such determination, submit a copy of the statement to the person designated under § 763.84 for inclusion in the management plan. However, an accredited inspector shall identify whether material that was nonfriable has become friable since that previous inspection and shall assess the newly-friable ACBM under § 763.88.

(3) Based on sampling records and inspection records, an accredited inspector has determined that no ACBM is present in the homogeneous or sampling area and the records show that the area was sampled, before December 14, 1987 in substantial compliance with § 763.85(a), which for purposes of this section means in a random manner and with a sufficient number of samples to reasonably ensure that the area is not ACBM.

(i) The accredited inspector shall sign and date a statement, with his or her State of accreditation and if applicable, accreditation number that the homogeneous or sampling area determined not to be ACBM was sampled in substantial compliance with § 763.85(a).

(ii) Within 30 days after the inspector's determination, the local education agency shall submit a copy of the inspector's statement to the EPA Regional Office and shall include the statement in the management plan for that school.

(4) The lead agency responsible for asbestos inspection in a State that has been granted a waiver from § 763.85(a) has determined that, based on sampling records and inspection records, no ACBM is present in the homogeneous or sampling area and the records show that the area was sampled before December 14, 1987, in substantial compliance with § 763.85(a). Such determination shall be included in the management plan for that school.

(5) An accredited inspector has determined that, based on records of an inspection conducted before December 14, 1987, suspected ACBM identified in that homogeneous or sampling area is assumed to be ACM. The inspector shall sign and date a statement to that effect, with his or her State of accreditation and if applicable, accreditation number and, within 30 days of such determination, submit a copy of the statement to the person designated under § 763.84 for inclusion in the management plan. However, an accredited in-

spector shall identify whether material that was nonfriable suspected ACBM assumed to be ACM has become friable since the previous inspection and shall assess the newly friable material and previously identified friable suspected ACBM assumed to be ACM under § 763.88.

(6) Based on inspection records and contractor and clearance records, an accredited inspector has determined that no ACBM is present in the homogeneous or sampling area where asbestos removal operations have been conducted before December 14, 1987, and shall sign and date a statement to that effect and include his or her State of accreditation and, if applicable, accreditation number. The local education agency shall submit a copy of the statement to the EPA Regional Office and shall include the statement in the management plan for that school.

(7) An architect or project engineer responsible for the construction of a new school building built after October 12, 1988, or an accredited inspector signs a statement that no ACBM was specified as a building material in any construction document for the building, or, to the best of his or her knowledge, no ACBM was used as a building material in the building. The local education agency shall submit a copy of the signed statement of the architect, project engineer, or accredited inspector to the EPA Regional Office and shall include the statement in the management plan for that school.

(b) The exclusion, under paragraphs (a) (1) through (4) of this section, from conducting the inspection under § 763.85(a) shall apply only to homogeneous or sampling areas of a school building that were inspected and sampled before October 17, 1987. The local education agency shall conduct an inspection under § 763.85(a) of all areas inspected before October 17, 1987, that were not sampled or were not assumed to be ACM.

(c) If ACBM is subsequently found in a homogeneous or sampling area of a local education agency that had been identified as receiving an exclusion by an accredited inspector under paragraphs (a) (3), (4), (5) of this section, or an architect, project engineer or accredited inspector under paragraph (a)(7) of this section, the local education agency shall have 180 days following the date of identification of ACBM to comply with this subpart E.

APPENDIX A TO SUBPART E—INTERIM TRANSMISSION ELECTRON MICROSCOPY ANALYTICAL METHODS—MANDATORY AND NON-MANDATORY—AND MANDATORY SECTION TO DETERMINE COMPLETION OF RESPONSE ACTIONS

Pt. 763, Subpt. E, App. A

1. Introduction

The following appendix contains three units. The first unit is the mandatory transmission electron microscopy (TEM) method which all laboratories must follow; it is the minimum requirement for analysis of air samples for asbestos by TEM. The mandatory method contains the essential elements of the TEM method. The second unit contains the complete non-mandatory method. The non-mandatory method supplements the mandatory method by including additional steps to improve the analysis. EPA recommends that the non-mandatory method be employed for analyzing air filters; however, the laboratory may choose to employ the mandatory method. The non-mandatory method contains the same minimum requirements as are outlined in the mandatory method. Hence, laboratories may choose either of the two methods for analyzing air samples by TEM.

The final unit of this Appendix A to subpart E defines the steps which must be taken to determine completion of response actions. This unit is mandatory.

II. Mandatory Transmission Electron Microscopy Method

A. Definitions of Terms

1. *Analytical sensitivity*—Airborne asbestos concentration represented by each fiber counted under the electron microscope. It is determined by the air volume collected and the proportion of the filter examined. This method requires that the analytical sensitivity be no greater than 0.005 structures/cm³.
2. *Asbestiform*—A specific type of mineral fibrosity in which the fibers and fibrils possess high tensile strength and flexibility.
3. *Aspect ratio*—A ratio of the length to the width of a particle. Minimum aspect ratio as defined by this method is equal to or greater than 5:1.
4. *Bundle*—A structure composed of three or more fibers in a parallel arrangement with each fiber closer than one fiber diameter.
5. *Clean area*—A controlled environment which is maintained and monitored to assure a low probability of asbestos contamination to materials in that space. Clean areas used in this method have HEPA filtered air under positive pressure and are capable of sustained operation with an open laboratory blank which on subsequent analysis has an average of less than 18 structures/mm² in an area of 0.057 mm² (nominally 10 200-mesh grid openings) and a maximum of 53 structures/mm² for any single preparation for that same area.
6. *Cluster*—A structure with fibers in a random arrangement such that all fibers are intermixed and no single fiber is isolated from the group. Groupings must have more than two intersections.
7. *ED*—Electron diffraction.
8. *EDXA*—Energy dispersive X-ray analysis.
9. *Fiber*—A structure greater than or equal to 0.5 µm in length with an aspect ratio (length to width) of 5:1 or greater and having substantially parallel sides.
10. *Grid*—An open structure for mounting on the sample to aid in its examination in the TEM. The term is used here to denote a 200-mesh copper lattice approximately 3 mm in diameter.
11. *Intersection*—Nonparallel touching or crossing of fibers, with the projection having an aspect ratio of 5:1 or greater.

12. *Laboratory sample coordinator*—That person responsible for the conduct of sample handling and the certification of the testing procedures.

13. *Filter background level*—The concentration of structures per square millimeter of filter that is considered indistinguishable from the concentration measured on a blank (filters through which no air has been drawn). For this method the filter background level is defined as 70 structures/mm².

14. *Matrix*—Fiber or fibers with one end free and the other end embedded in or hidden by a particulate. The exposed fiber must meet the fiber definition.

15. *NSD*—No structure detected.

16. *Operator*—A person responsible for the TEM instrumental analysis of the sample.

17. *PCM*—Phase contrast microscopy.

18. *SAED*—Selected area electron diffraction.

19. *SEM*—Scanning electron microscope.

20. *STEM*—Scanning transmission electron microscope.

21. *Structure*—a microscopic bundle, cluster, fiber, or matrix which may contain asbestos.

22. *S/cm³*—Structures per cubic centimeter.

23. *S/mm²*—Structures per square millimeter.

24. *TEM*—Transmission electron microscope.

B. Sampling

1. The sampling agency must have written quality control procedures and documents which verify compliance.
2. Sampling operations must be performed by qualified individuals completely independent of the abatement contractor to avoid possible conflict of interest (References 1, 2, 3, and 5 of Unit II.J.).
3. Sampling for airborne asbestos following an abatement action must use commercially available cassettes.
4. Prescreen the loaded cassette collection filters to assure that they do not contain concentrations of asbestos which may interfere with the analysis of the sample. A filter blank average of less than 18 s/mm² in an area of 0.057 mm² (nominally 10 200-mesh grid openings) and a single preparation with a maximum of 53 s/mm² for that same area is acceptable for this method.
5. Use sample collection filters which are either polycarbonate having a pore size less than or equal to 0.4 µm or mixed cellulose ester having a pore size less than or equal to 0.45 µm.
6. Place these filters in series with a 5.0 µm backup filter (to serve as a diffuser) and a support pad. See the following Figure 1:
EC01AP92.001
7. Reloading of used cassettes is not permitted.
8. Orient the cassette downward at approximately 45 degrees from the horizontal.
9. Maintain a log of all pertinent sampling information.
10. Calibrate sampling pumps and their flow indicators over the range of their intended use with a recognized standard. Assemble the sampling system with a representative filter (not the filter which will be used in sampling) before and after the sampling operation.
11. Record all calibration information.
12. Ensure that the mechanical vibrations from the pump will be minimized to prevent transferral of vibration to the cassette.
13. Ensure that a continuous smooth flow of negative pressure is delivered by the pump by damping out any pump action fluctuations if necessary.
14. The final plastic barrier around the abatement area remains in place for the sampling period.

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15. After the area has passed a thorough visual inspection, use aggressive sampling conditions to dislodge any remaining dust. (See suggested protocol in Unit III.B.7.d.)

16. Select an appropriate flow rate equal to or greater than 1 liter per minute (L/min) or less than 10 L/min for 25 mm cassettes. Larger filters may be operated at proportionally higher flow rates.

17. A minimum of 13 samples are to be collected for each testing site consisting of the following:

- a. A minimum of five samples per abatement area.
- b. A minimum of five samples per ambient area positioned at locations representative of the air entering the abatement site.
- c. Two field blanks are to be taken by removing the cap for not more than 30 seconds and replacing it at the time of sampling before sampling is initiated at the following places:
 - i. Near the entrance to each abatement area.
 - ii. At one of the ambient sites. (DO NOT leave the field blanks open during the sampling period.)
- d. A sealed blank is to be carried with each sample set. This representative cassette is not to be opened in the field.

18. Perform a leak check of the sampling system at each indoor and outdoor sampling site by activating the pump with the closed sampling cassette in line. Any flow indicates a leak which must be eliminated before initiating the sampling operation.

19. The following Table I specifies volume ranges to be used:

EC01AP92.002

20. Ensure that the sampler is turned upright before interrupting the pump flow.

21. Check that all samples are clearly labeled and that all pertinent information has been enclosed before transfer of the samples to the laboratory.

22. Ensure that the samples are stored in a secure and representative location.

23. Do not change containers if portions of these filters are taken for other purposes.

24. A summary of Sample Data Quality Objectives is shown in the following Table II:

EC01AP92.003

C. Sample Shipment

Ship bulk samples to the analytical laboratory in a separate container from air samples.

D. Sample Receiving

1. Designate one individual as sample coordinator at the laboratory. While that individual will normally be available to receive samples, the coordinator may train and supervise others in receiving procedures for those times when he/she is not available.

2. Bulk samples and air samples delivered to the analytical laboratory in the same container shall be rejected.

E. Sample Preparation

1. All sample preparation and analysis shall be performed by a laboratory independent of the abatement contractor.

2. Wet-wipe the exterior of the cassettes to minimize contamination possibilities before taking them into the clean room facility.

3. Perform sample preparation in a well-equipped clean facility.

NOTE: The clean area is required to have the following minimum characteristics. The area or hood must be capable of maintaining a positive pressure with make-up air being HEPA-filtered. The cumulative analytical blank concentration must average less than 18 s/mm² in an area of 0.057 mm² (nominally 10 200-mesh grid openings) and a single preparation with a maximum of 53 s/mm² for that same area.

4. Preparation areas for air samples must not only be separated from preparation areas for bulk samples, but they must be prepared in separate rooms.

5. Direct preparation techniques are required. The object is to produce an intact film containing the particulates of the filter surface which is sufficiently clear for TEM analysis.

a. TEM Grid Opening Area measurement must be done as follows:

i. The filter portion being used for sample preparation must have the surface collapsed using an acetone vapor technique.

ii. Measure 20 grid openings on each of 20 random 200-mesh copper grids by placing a grid on a glass and examining it under the PCM. Use a calibrated graticule to measure the average field diameters. From the data, calculate the field area for an average grid opening.

iii. Measurements can also be made on the TEM at a properly calibrated low magnification or on an optical microscope at a magnification of approximately 400X by using an eyepiece fitted with a scale that has been calibrated against a stage micrometer. Optical microscopy utilizing manual or automated procedures may be used providing instrument calibration can be verified.

b. TEM specimen preparation from polycarbonate (PC) filters. Procedures as described in Unit III.G. or other equivalent methods may be used.

c. TEM specimen preparation from mixed cellulose ester (MCE) filters.

i. Filter portion being used for sample preparation must have the surface collapsed using an acetone vapor technique or the Burdette procedure (Ref. 7 of Unit II.J.)

ii. Plasma etching of the collapsed filter is required. The microscope slide to which the collapsed filter pieces are attached is placed in a plasma asher. Because plasma ashers vary greatly in their performance, both from unit to unit and between different positions in the asher chamber, it is difficult to specify the conditions that should be used. Insufficient etching will result in a failure to expose embedded filters, and too much etching may result in loss of particulate from the surface. As an interim measure, it is recommended that the time for ashing of a known weight of a collapsed filter be established and that the etching rate be calculated in terms of micrometers per second. The actual etching time used for the particulate asher and operating conditions will then be set such that a 1–2 µm (10 percent) layer of collapsed surface will be removed.

iii. Procedures as described in Unit III. or other equivalent methods may be used to prepare samples.

F. TEM Method

1. An 80–120 kV TEM capable of performing electron diffraction with a fluorescent screen inscribed with calibrated gradations is required. If the TEM is equipped with EDXA it must either have a STEM attachment or be capable of producing a spot less than 250 nm in diameter

at crossover. The microscope shall be calibrated routinely for magnification and camera constant.

2. *Determination of Camera Constant and ED Pattern Analysis.* The camera length of the TEM in ED operating mode must be calibrated before ED patterns on unknown samples are observed. This can be achieved by using a carbon-coated grid on which a thin film of gold has been sputtered or evaporated. A thin film of gold is evaporated on the specimen TEM grid to obtain zone-axis ED patterns superimposed with a ring pattern from the polycrystalline gold film. In practice, it is desirable to optimize the thickness of the gold film so that only one or two sharp rings are obtained on the superimposed ED pattern. Thicker gold film would normally give multiple gold rings, but it will tend to mask weaker diffraction spots from the unknown fibrous particulate. Since the unknown d-spacings of most interest in asbestos analysis are those which lie closest to the transmitted beam, multiple gold rings are unnecessary on zone-axis ED patterns. An average camera constant using multiple gold rings can be determined. The camera constant is one-half the diameter of the rings times the interplanar spacing of the ring being measured.

3. *Magnification Calibration.* The magnification calibration must be done at the fluorescent screen. The TEM must be calibrated at the grid opening magnification (if used) and also at the magnification used for fiber counting. This is performed with a cross grating replica (e.g., one containing 2,160 lines/mm). Define a field of view on the fluorescent screen either by markings or physical boundaries. The field of view must be measurable or previously inscribed with a scale or concentric circles (all scales should be metric). A logbook must be maintained, and the dates of calibration and the values obtained must be recorded. The frequency of calibration depends on the past history of the particular microscope. After any maintenance of the microscope that involved adjustment of the power supplied to the lenses or the high-voltage system or the mechanical disassembly of the electron optical column apart from filament exchange, the magnification must be recalibrated. Before the TEM calibration is performed, the analyst must ensure that the cross grating replica is placed at the same distance from the objective lens as the specimens are. For instruments that incorporate a eucentric tilting specimen stage, all specimens and the cross grating replica must be placed at the eucentric position.

4. While not required on every microscope in the laboratory, the laboratory must have either one microscope equipped with energy dispersive X-ray analysis or access to an equivalent system on a TEM in another laboratory.

5. Microscope settings: 80–120 kV, grid assessment 250–1,000X, then 15,000–20,000X screen magnification for analysis.

6. Approximately one-half (0.5) of the predetermined sample area to be analyzed shall be performed on one sample grid preparation and the remaining half on a second sample grid preparation.

7. Individual grid openings with greater than 5 percent openings (holes) or covered with greater than 25 percent particulate matter or obviously having nonuniform loading must not be analyzed.

8. Reject the grid if:

- a. Less than 50 percent of the grid openings covered by the replica are intact.
- b. The replica is doubled or folded.

c. The replica is too dark because of incomplete dissolution of the filter.

9. *Recording Rules.*

a. Any continuous grouping of particles in which an asbestos fiber with an aspect ratio greater than or equal to 5:1 and a length greater than or equal to 0.5 μm is detected shall be recorded on the count sheet. These will be designated asbestos structures and will be classified as fibers, bundles, clusters, or matrices. Record as individual fibers any contiguous grouping having 0, 1, or 2 definable intersections. Groupings having more than 2 intersections are to be described as cluster or matrix. An intersection is a nonparallel touching or crossing of fibers, with the projection having an aspect ratio of 5:1 or greater. See the following Figure 2:

EC01AP92.004

EC01AP92.005

i. *Fiber.* A structure having a minimum length greater than or equal to 0.5 μm and an aspect ratio (length to width) of 5:1 or greater and substantially parallel sides. Note the appearance of the end of the fiber, i.e., whether it is flat, rounded or dovetailed.

ii. *Bundle.* A structure composed of three or more fibers in a parallel arrangement with each fiber closer than one fiber diameter.

iii. *Cluster.* A structure with fibers in a random arrangement such that all fibers are intermixed and no single fiber is isolated from the group. Groupings must have more than two intersections.

iv. *Matrix.* Fiber or fibers with one end free and the other end embedded in or hidden by a particulate. The exposed fiber must meet the fiber definition.

b. Separate categories will be maintained for fibers less than 5 μm and for fibers equal to or greater than 5 μm in length.

c. Record NSD when no structures are detected in the field.

d. Visual identification of electron diffraction (ED) patterns is required for each asbestos structure counted which would cause the analysis to exceed the 70 s/mm² concentration. (Generally this means the first four fibers identified as asbestos must exhibit an identifiable diffraction pattern for chrysotile or amphibole.)

e. The micrograph number of the recorded diffraction patterns must be reported to the client and maintained in the laboratory's quality assurance records. In the event that examination of the pattern by a qualified individual indicates that the pattern has been misidentified visually, the client shall be contacted.

f. Energy Dispersive X-ray Analysis (EDXA) is required of all amphiboles which would cause the analysis results to exceed the 70 s/mm² concentration. (Generally speaking, the first 4 amphiboles would require EDXA.)

g. If the number of fibers in the nonasbestos class would cause the analysis to exceed the 70 s/mm² concentration, the fact that they are not asbestos must be confirmed by EDXA or measurement of a zone axis diffraction pattern.

h. Fibers classified as chrysotile must be identified by diffraction or X-ray analysis and recorded on a count sheet. X-ray analysis alone can be used only after 70 s/mm² have been exceeded for a particular sample.

i. Fibers classified as amphiboles must be identified by X-ray analysis and electron diffraction and recorded on the count sheet. (X-ray analysis alone can be used only after 70 s/mm² have been exceeded for a particular sample.)

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j. If a diffraction pattern was recorded on film, record the micrograph number on the count sheet.

k. If an electron diffraction was attempted but no pattern was observed, record N on the count sheet.

l. If an EDXA spectrum was attempted but not observed, record N on the count sheet.

m. If an X-ray analysis spectrum is stored, record the file and disk number on the count sheet.

10. Classification Rules.

a. *Fiber*. A structure having a minimum length greater than or equal to 0.5 μm and an aspect ratio (length to width) of 5:1 or greater and substantially parallel sides. Note the appearance of the end of the fiber, i.e., whether it is flat, rounded or dovetailed.

b. *Bundle*. A structure composed of three or more fibers in a parallel arrangement with each fiber closer than one fiber diameter.

c. *Cluster*. A structure with fibers in a random arrangement such that all fibers are intermixed and no single fiber is isolated from the group. Groupings must have more than two intersections.

d. *Matrix*. Fiber or fibers with one end free and the other end embedded in or hidden by a particulate. The exposed fiber must meet the fiber definition.

11. After finishing with a grid, remove it from the microscope, and replace it in the appropriate grid holder. Sample grids must be stored for a minimum of 1 year from the date of the analysis; the sample cassette must be retained for a minimum of 30 days by the laboratory or returned at the client's request.

G. Sample Analytical Sequence

1. Under the present sampling requirements a minimum of 13 samples is to be collected for the clearance testing of an abatement site. These include five abatement area samples, five ambient samples, two field blanks, and one sealed blank.

2. Carry out visual inspection of work site prior to air monitoring.

3. Collect a minimum of 5 air samples inside the work site and 5 samples outside the work site. The indoor and outdoor samples shall be taken during the same time period.

4. Remaining steps in the analytical sequence are contained in Unit IV of this Appendix.

H. Reporting

1. The following information must be reported to the client for each sample analyzed:

a. Concentration in structures per square millimeter and structures per cubic centimeter.

b. Analytical sensitivity used for the analysis.

c. Number of asbestos structures.

d. Area analyzed.

e. Volume of air sampled (which must be initially supplied to lab by client).

f. Copy of the count sheet must be included with the report.

g. Signature of laboratory official to indicate that the laboratory met specifications of the method.

h. Report form must contain official laboratory identification (e.g., letterhead).

i. Type of asbestos.

I. Quality Control/Quality Assurance Procedures (Data Quality Indicators)

Monitoring the environment for airborne asbestos requires the use of sensitive sampling and analysis procedures. Because the test is sensitive, it may be influenced by a variety of factors. These include the supplies used in the sampling operation, the performance of the sampling, the preparation of the grid from the filter and the actual examination of this grid in the microscope. Each of these unit operations must produce a product of defined quality if the analytical result is to be a reliable and meaningful test result. Accordingly, a series of control checks and reference standards are to be performed along with the sample analysis as indicators that the materials used are adequate and the operations are within acceptable limits. In this way, the quality of the data is defined and the results are of known value. These checks and tests also provide timely and specific warning of any problems which might develop within the sampling and analysis operations. A description of these quality control/quality assurance procedures is summarized in the following Table III:

EC01AP92.006

1. When the samples arrive at the laboratory, check the samples and documentation for completeness and requirements before initiating the analysis.

2. Check all laboratory reagents and supplies for acceptable asbestos background levels.

3. Conduct all sample preparation in a clean room environment monitored by laboratory blanks. Testing with blanks must also be done after cleaning or servicing the room.

4. Prepare multiple grids of each sample.

5. Provide laboratory blanks with each sample batch. Maintain a cumulative average of these results. If there are more than 53 fibers/mm² per 10 200-mesh grid openings, the system must be checked for possible sources of contamination.

6. Perform a system check on the transmission electron microscope daily.

7. Make periodic performance checks of magnification, electron diffraction and energy dispersive X-ray systems as set forth in Table III under Unit II.I.

8. Ensure qualified operator performance by evaluation of replicate analysis and standard sample comparisons as set forth in Table III under Unit II.I.

9. Validate all data entries.

10. Recalculate a percentage of all computations and automatic data reduction steps as specified in Table III under Unit II.I.

11. Record an electron diffraction pattern of one asbestos structure from every five samples that contain asbestos. Verify the identification of the pattern by measurement or comparison of the pattern with patterns collected from standards under the same conditions. The records must also demonstrate that the identification of the pattern has been verified by a qualified individual and that the operator who made the identification is maintaining at least an 80 percent correct visual identification based on his measured patterns.

12. Appropriate logs or records must be maintained by the analytical laboratory verifying that it is in compliance with the mandatory quality assurance procedures.

J. References

For additional background information on this method, the following references should be consulted.

1. "Guidance for Controlling Asbestos-Containing Materials in Buildings," EPA 560/5-85-024, June 1985.
2. "Measuring Airborne Asbestos Following an Abatement Action," USEPA, Office of Pollution Prevention and Toxics, EPA 600/4-85-049, 1985.
3. Small, John and E. Steel. Asbestos Standards: Materials and Analytical Methods. N.B.S. Special Publication 619, 1982.
4. Campbell, W.J., R.L. Blake, L.L. Brown, E.E. Cather, and J.J. Sjöberg. Selected Silicate Minerals and Their Asbestiform Varieties. Information Circular 8751, U.S. Bureau of Mines, 1977.
5. Quality Assurance Handbook for Air Pollution Measurement System. Ambient Air Methods, EPA 600/4-77-027a, USEPA, Office of Research and Development, 1977.
6. Method 2A: Direct Measurement of Gas Volume through Pipes and Small Ducts. 40 CFR Part 60 Appendix A.
7. Burdette, G.J., Health & Safety Exec. Research & Lab. Services Div., London, "Proposed Analytical Method for Determination of Asbestos in Air."
8. Chatfield, E.J., Chatfield Tech. Cons., Ltd., Clark, T., PEI Assoc., "Standard Operating Procedure for Determination of Airborne Asbestos Fibers by Transmission Electron Microscopy Using Polycarbonate Membrane Filters," WERL SOP 87-1, March 5, 1987.
9. NIOSH Method 7402 for Asbestos Fibers, 12-11-86 Draft.
10. Yamate, G., Agarwall, S.C., Gibbons, R.D., IIT Research Institute, "Methodology for the Measurement of Airborne Asbestos by Electron Microscopy," Draft report, USEPA Contract 68-02-3266, July 1984.
11. "Guidance to the Preparation of Quality Assurance Project Plans," USEPA, Office of Pollution Prevention and Toxics, 1984.

III. Nonmandatory Transmission Electron Microscopy Method

A. Definitions of Terms

1. *Analytical sensitivity*—Airborne asbestos concentration represented by each fiber counted under the electron microscope. It is determined by the air volume collected and the proportion of the filter examined. This method requires that the analytical sensitivity be no greater than 0.005 s/cm³.
2. *Asbestiform*—A specific type of mineral fibrosity in which the fibers and fibrils possess high tensile strength and flexibility.
3. *Aspect ratio*—A ratio of the length to the width of a particle. Minimum aspect ratio as defined by this method is equal to or greater than 5:1.
4. *Bundle*—A structure composed of three or more fibers in a parallel arrangement with each fiber closer than one fiber diameter.
5. *Clean area*—A controlled environment which is maintained and monitored to assure a low probability of asbestos contamination to materials in that space. Clean areas used in this method have HEPA filtered air under positive pressure and are capable of sustained operation with an open laboratory blank which on subsequent analysis has an average of less than 18 structures/mm² in an

area of 0.057 mm² (nominally 10 200 mesh grid openings) and a maximum of 53 structures/mm² for no more than one single preparation for that same area.

6. *Cluster*—A structure with fibers in a random arrangement such that all fibers are intermixed and no single fiber is isolated from the group. Groupings must have more than two intersections.
7. *ED*—Electron diffraction.
8. *EDXA*—Energy dispersive X-ray analysis.
9. *Fiber*—A structure greater than or equal to 0.5 μ m in length with an aspect ratio (length to width) of 5:1 or greater and having substantially parallel sides.
10. *Grid*—An open structure for mounting on the sample to aid in its examination in the TEM. The term is used here to denote a 200-mesh copper lattice approximately 3 mm in diameter.
11. *Intersection*—Nonparallel touching or crossing of fibers, with the projection having an aspect ratio of 5:1 or greater.
12. *Laboratory sample coordinator*—That person responsible for the conduct of sample handling and the certification of the testing procedures.
13. *Filter background level*—The concentration of structures per square millimeter of filter that is considered indistinguishable from the concentration measured on blanks (filters through which no air has been drawn). For this method the filter background level is defined as 70 structures/mm².
14. *Matrix*—Fiber or fibers with one end free and the other end embedded in or hidden by a particulate. The exposed fiber must meet the fiber definition.
15. *NSD*—No structure detected.
16. *Operator*—A person responsible for the TEM instrumental analysis of the sample.
17. *PCM*—Phase contrast microscopy.
18. *SAED*—Selected area electron diffraction.
19. *SEM*—Scanning electron microscope.
20. *STEM*—Scanning transmission electron microscope.
21. *Structure*—a microscopic bundle, cluster, fiber, or matrix which may contain asbestos.
22. *S/cm³*—Structures per cubic centimeter.
23. *S/mm²*—Structures per square millimeter.
24. *TEM*—Transmission electron microscope.

B. Sampling

1. Sampling operations must be performed by qualified individuals completely independent of the abatement contractor to avoid possible conflict of interest (See References 1, 2, and 5 of Unit III.L.) Special precautions should be taken to avoid contamination of the sample. For example, materials that have not been prescreened for their asbestos background content should not be used; also, sample handling procedures which do not take cross contamination possibilities into account should not be used.
2. Material and supply checks for asbestos contamination should be made on all critical supplies, reagents, and procedures before their use in a monitoring study.
3. Quality control and quality assurance steps are needed to identify problem areas and isolate the cause of the contamination (see Reference 5 of Unit III.L.). Control checks shall be permanently recorded to document the quality of the information produced. The sampling firm must have written quality control procedures and documents which verify compliance. Independent audits by a qualified consultant or firm should be performed once a year. All documentation of compliance should be retained

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indefinitely to provide a guarantee of quality. A summary of Sample Data Quality Objectives is shown in Table II of Unit II.B.

4. Sampling materials.

a. Sample for airborne asbestos following an abatement action using commercially available cassettes.

b. Use either a cowl or a filter-retaining middle piece. Conductive material may reduce the potential for particulates to adhere to the walls of the cowl.

c. Cassettes must be verified as "clean" prior to use in the field. If packaged filters are used for loading or preloaded cassettes are purchased from the manufacturer or a distributor, the manufacturer's name and lot number should be entered on all field data sheets provided to the laboratory, and are required to be listed on all reports from the laboratory.

d. Assemble the cassettes in a clean facility (See definition of clean area under Unit III.A.).

e. Reloading of used cassettes is not permitted.

f. Use sample collection filters which are either polycarbonate having a pore size of less than or equal to 0.4 µm or mixed cellulose ester having a pore size of less than or equal to 0.45 µm.

g. Place these filters in series with a backup filter with a pore size of 5.0 µm (to serve as a diffuser) and a support pad. See the following Figure 1:

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h. When polycarbonate filters are used, position the highly reflective face such that the incoming particulate is received on this surface.

i. Seal the cassettes to prevent leakage around the filter edges or between cassette part joints. A mechanical press may be useful to achieve a reproducible leak-free seal. Shrink fit gel-bands may be used for this purpose and are available from filter manufacturers and their authorized distributors.

j. Use wrinkle-free loaded cassettes in the sampling operation.

5. Pump setup.

a. Calibrate the sampling pump over the range of flow rates and loads anticipated for the monitoring period with this flow measuring device in series. Perform this calibration using guidance from EPA Method 2A each time the unit is sent to the field (See Reference 6 of Unit III.L.).

b. Configure the sampling system to preclude pump vibrations from being transmitted to the cassette by using a sampling stand separate from the pump station and making connections with flexible tubing.

c. Maintain continuous smooth flow conditions by damping out any pump action fluctuations if necessary.

d. Check the sampling system for leaks with the end cap still in place and the pump operating before initiating sample collection. Trace and stop the source of any flow indicated by the flowmeter under these conditions.

e. Select an appropriate flow rate equal to or greater than 1 L/min or less than 10 L/min for 25 mm cassettes. Larger filters may be operated at proportionally higher flow rates.

f. Orient the cassette downward at approximately 45 degrees from the horizontal.

g. Maintain a log of all pertinent sampling information, such as pump identification number, calibration data, sample location, date, sample identification number, flow rates at the beginning, middle, and end, start and stop times, and other useful information or comments. Use of a sampling log form is recommended. See the following Figure 2:

EC01AP92.008

h. Initiate a chain of custody procedure at the start of each sampling, if this is requested by the client.

i. Maintain a close check of all aspects of the sampling operation on a regular basis.

j. Continue sampling until at least the minimum volume is collected, as specified in the following Table I:

EC01AP92.009

k. At the conclusion of sampling, turn the cassette upward before stopping the flow to minimize possible particle loss. If the sampling is resumed, restart the flow before reorienting the cassette downward. Note the condition of the filter at the conclusion of sampling.

l. Double check to see that all information has been recorded on the data collection forms and that the cassette is securely closed and appropriately identified using a waterproof label. Protect cassettes in individual clean resealed polyethylene bags. Bags are to be used for storing cassette caps when they are removed for sampling purposes. Caps and plugs should only be removed or replaced using clean hands or clean disposable plastic gloves.

m. Do not change containers if portions of these filters are taken for other purposes.

6. Minimum sample number per site. A minimum of 13 samples are to be collected for each testing consisting of the following:

a. A minimum of five samples per abatement area.

b. A minimum of five samples per ambient area positioned at locations representative of the air entering the abatement site.

c. Two field blanks are to be taken by removing the cap for not more than 30 sec and replacing it at the time of sampling before sampling is initiated at the following places:

i. Near the entrance to each ambient area.

ii. At one of the ambient sites.

(NOTE: Do not leave the blank open during the sampling period.)

d. A sealed blank is to be carried with each sample set. This representative cassette is not to be opened in the field.

7. Abatement area sampling.

a. Conduct final clearance sampling only after the primary containment barriers have been removed; the abatement area has been thoroughly dried; and, it has passed visual inspection tests by qualified personnel. (See Reference 1 of Unit III.L.).

b. Containment barriers over windows, doors, and air passageways must remain in place until the TEM clearance sampling and analysis is completed and results meet clearance test criteria. The final plastic barrier remains in place for the sampling period.

c. Select sampling sites in the abatement area on a random basis to provide unbiased and representative samples.

d. After the area has passed a thorough visual inspection, use aggressive sampling conditions to dislodge any remaining dust.

i. Equipment used in aggressive sampling such as a leaf blower and/or fan should be properly cleaned and decontaminated before use.

ii. Air filtration units shall remain on during the air monitoring period.

iii. Prior to air monitoring, floors, ceiling and walls shall be swept with the exhaust of a minimum one (1) horsepower leaf blower.

iv. Stationary fans are placed in locations which will not interfere with air monitoring equipment. Fan air is directed toward the ceiling. One fan shall be used for each 10,000 ft³ of worksite.

v. Monitoring of an abatement work area with high-volume pumps and the use of circulating fans will require electrical power. Electrical outlets in the abatement area may be used if available. If no such outlets are available, the equipment must be supplied with electricity by the use of extension cords and strip plug units. All electrical power supply equipment of this type must be approved Underwriter Laboratory equipment that has not been modified. All wiring must be grounded. Ground fault interrupters should be used. Extreme care must be taken to clean up any residual water and ensure that electrical equipment does not become wet while operational.

vi. Low volume pumps may be carefully wrapped in 6-mil polyethylene to insulate the pump from the air. High volume pumps cannot be sealed in this manner since the heat of the motor may melt the plastic. The pump exhausts should be kept free.

vii. If recleaning is necessary, removal of this equipment from the work area must be handled with care. It is not possible to completely decontaminate the pump motor and parts since these areas cannot be wetted. To minimize any problems in this area, all equipment such as fans and pumps should be carefully wet wiped prior to removal from the abatement area. Wrapping and sealing low volume pumps in 6-mil polyethylene will provide easier decontamination of this equipment. Use of clean water and disposable wipes should be available for this purpose.

e. Pump flow rate equal to or greater than 1 L/min or less than 10 L/min may be used for 25 mm cassettes. The larger cassette diameters may have comparably increased flow.

f. Sample a volume of air sufficient to ensure the minimum quantitation limits. (See Table I of Unit III.B.5.j.)

8. Ambient sampling.

a. Position ambient samplers at locations representative of the air entering the abatement site. If makeup air entering the abatement site is drawn from another area of the building which is outside of the abatement area, place the pumps in the building, pumps should be placed out of doors located near the building and away from any obstructions that may influence wind patterns. If construction is in progress immediately outside the enclosure, it may be necessary to select another ambient site. Samples should be representative of any air entering the work site.

b. Locate the ambient samplers at least 3 ft apart and protect them from adverse weather conditions.

c. Sample same volume of air as samples taken inside the abatement site.

C. Sample Shipment

1. Ship bulk samples in a separate container from air samples. Bulk samples and air samples delivered to the analytical laboratory in the same container shall be rejected.

2. Select a rigid shipping container and pack the cassettes upright in a noncontaminating nonfibrous medium such as a bubble pack. The use of resealable polyethylene bags may help to prevent jostling of individual cassettes.

3. Avoid using expanded polystyrene because of its static charge potential. Also avoid using particle-based packaging materials because of possible contamination.

4. Include a shipping bill and a detailed listing of samples shipped, their descriptions and all identifying numbers or marks, sampling data, shipper's name, and contact information. For each sample set, designate which are the ambient samples, which are the abatement area samples, which are the field blanks, and which is the sealed blank if sequential analysis is to be performed.

5. Hand-carry samples to the laboratory in an upright position if possible; otherwise choose that mode of transportation least likely to jar the samples in transit.

6. Address the package to the laboratory sample coordinator by name when known and alert him or her of the package description, shipment mode, and anticipated arrival as part of the chain of custody and sample tracking procedures. This will also help the laboratory schedule timely analysis for the samples when they are received.

D. Quality Control/Quality Assurance Procedures (Data Quality Indicators)

Monitoring the environment for airborne asbestos requires the use of sensitive sampling and analysis procedures. Because the test is sensitive, it may be influenced by a variety of factors. These include the supplies used in the sampling operation, the performance of the sampling, the preparation of the grid from the filter and the actual examination of this grid in the microscope. Each of these unit operations must produce a product of defined quality if the analytical result is to be a reliable and meaningful test result. Accordingly, a series of control checks and reference standards is performed along with the sample analysis as indicators that the materials used are adequate and the operations are within acceptable limits. In this way, the quality of the data is defined, and the results are of known value. These checks and tests also provide timely and specific warning of any problems which might develop within the sampling and analysis operations. A description of these quality control/quality assurance procedures is summarized in the text below.

1. Prescreen the loaded cassette collection filters to assure that they do not contain concentrations of asbestos which may interfere with the analysis of the sample. A filter blank average of less than 18 s/mm² in an area of 0.057 mm² (nominally 10 200-mesh grid openings) and a maximum of 53 s/mm² for that same area for any single preparation is acceptable for this method.

2. Calibrate sampling pumps and their flow indicators over the range of their intended use with a recognized standard. Assemble the sampling system with a representative filter—not the filter which will be used in sampling—before and after the sampling operation.

3. Record all calibration information with the data to be used on a standard sampling form.

4. Ensure that the samples are stored in a secure and representative location.

5. Ensure that mechanical calibrations from the pump will be minimized to prevent transferral of vibration to the cassette.

6. Ensure that a continuous smooth flow of negative pressure is delivered by the pump by installing a damping chamber if necessary.

7. Open a loaded cassette momentarily at one of the indoor sampling sites when sampling is initiated. This sample will serve as an indoor field blank.

8. Open a loaded cassette momentarily at one of the outdoor sampling sites when sampling is initiated. This sample will serve as an outdoor field blank.

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9. Carry a sealed blank into the field with each sample series. Do not open this cassette in the field.

10. Perform a leak check of the sampling system at each indoor and outdoor sampling site by activating the pump with the closed sampling cassette in line. Any flow indicates a leak which must be eliminated before initiating the sampling operation.

11. Ensure that the sampler is turned upright before interrupting the pump flow.

12. Check that all samples are clearly labeled and that all pertinent information has been enclosed before transfer of the samples to the laboratory.

E. Sample Receiving

1. Designate one individual as sample coordinator at the laboratory. While that individual will normally be available to receive samples, the coordinator may train and supervise others in receiving procedures for those times when he/she is not available.

2. Adhere to the following procedures to ensure both the continued chain-of-custody and the accountability of all samples passing through the laboratory:

a. Note the condition of the shipping package and data written on it upon receipt.

b. Retain all bills of lading or shipping slips to document the shipper and delivery time.

c. Examine the chain-of-custody seal, if any, and the package for its integrity.

d. If there has been a break in the seal or substantive damage to the package, the sample coordinator shall immediately notify the shipper and a responsible laboratory manager before any action is taken to unpack the shipment.

e. Packages with significant damage shall be accepted only by the responsible laboratory manager after discussions with the client.

3. Unwrap the shipment in a clean, uncluttered facility. The sample coordinator or his or her designee will record the contents, including a description of each item and all identifying numbers or marks. A Sample Receiving Form to document this information is attached for use when necessary. (See the following Figure 3.)

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NOTE: The person breaking the chain-of-custody seal and itemizing the contents assumes responsibility for the shipment and signs documents accordingly.

4. Assign a laboratory number and schedule an analysis sequence.

5. Manage all chain-of-custody samples within the laboratory such that their integrity can be ensured and documented.

F. Sample Preparation

1. Personnel not affiliated with the Abatement Contractor shall be used to prepare samples and conduct TEM analysis. Wet-wipe the exterior of the cassettes to minimize contamination possibilities before taking them to the clean sample preparation facility.

2. Perform sample preparation in a well-equipped clean facility.

NOTE: The clean area is required to have the following minimum characteristics. The area or hood must be capable of maintaining a positive pressure with make-up air being HEPA filtered. The cumulative analytical blank concentration must average less than 18 s/mm² in an area

of 0.057 s/mm² (nominally 10 200-mesh grid openings) with no more than one single preparation to exceed 53 s/mm² for that same area.

3. Preparation areas for air samples must be separated from preparation areas for bulk samples. Personnel must not prepare air samples if they have previously been preparing bulk samples without performing appropriate personal hygiene procedures, i.e., clothing change, showering, etc.

4. *Preparation.* Direct preparation techniques are required. The objective is to produce an intact carbon film containing the particulates from the filter surface which is sufficiently clear for TEM analysis. Currently recommended direct preparation procedures for polycarbonate (PC) and mixed cellulose ester (MCE) filters are described in Unit III.F.7. and 8. Sample preparation is a subject requiring additional research. Variation on those steps which do not substantively change the procedure, which improve filter clearing or which reduce contamination problems in a laboratory are permitted.

a. Use only TEM grids that have had grid opening areas measured according to directions in Unit III.J.

b. Remove the inlet and outlet plugs prior to opening the cassette to minimize any pressure differential that may be present.

c. Examples of techniques used to prepare polycarbonate filters are described in Unit III.F.7.

d. Examples of techniques used to prepare mixed cellulose ester filters are described in Unit III.F.8.

e. Prepare multiple grids for each sample.

f. Store the three grids to be measured in appropriately labeled grid holders or polyethylene capsules.

5. *Equipment.*

a. Clean area.

b. Tweezers. Fine-point tweezers for handling of filters and TEM grids.

c. Scalpel Holder and Curved No. 10 Surgical Blades.

d. Microscope slides.

e. Double-coated adhesive tape.

f. Gummed page reinforcements.

g. Micro-pipet with disposal tips 10 to 100 μ L variable volume.

h. Vacuum coating unit with facilities for evaporation of carbon. Use of a liquid nitrogen cold trap above the diffusion pump will minimize the possibility of contamination of the filter surface by oil from the pumping system. The vacuum-coating unit can also be used for deposition of a thin film of gold.

i. *Carbon rod electrodes.* Spectrochemically pure carbon rods are required for use in the vacuum evaporator for carbon coating of filters.

j. *Carbon rod sharpener.* This is used to sharpen carbon rods to a neck. The use of necked carbon rods (or equivalent) allows the carbon to be applied to the filters with a minimum of heating.

k. *Low-temperature plasma asher.* This is used to etch the surface of collapsed mixed cellulose ester (MCE) filters. The asher should be supplied with oxygen, and should be modified as necessary to provide a throttle or bleed valve to control the speed of the vacuum to minimize disturbance of the filter. Some early models of ashers admit air too rapidly, which may disturb particulates on the surface of the filter during the etching step.

l. *Glass petri dishes, 10 cm in diameter, 1 cm high.* For prevention of excessive evaporation of solvent when these are in use, a good seal must be provided between the base

and the lid. The seal can be improved by grinding the base and lid together with an abrasive grinding material.

- m. Stainless steel mesh.
- n. Lens tissue.
- o. Copper 200-mesh TEM grids, 3 mm in diameter, or equivalent.
- p. Gold 200-mesh TEM grids, 3 mm in diameter, or equivalent.
- q. Condensation washer.
- r. Carbon-coated, 200-mesh TEM grids, or equivalent.
- s. Analytical balance, 0.1 mg sensitivity.
- t. Filter paper, 9 cm in diameter.
- u. Oven or slide warmer. Must be capable of maintaining a temperature of 65–70 °C.
- v. Polyurethane foam, 6 mm thickness.
- w. Gold wire for evaporation.

6. Reagents.

a. *General.* A supply of ultra-clean, fiber-free water must be available for washing of all components used in the analysis. Water that has been distilled in glass or filtered or deionized water is satisfactory for this purpose. Reagents must be fiber-free.

b. Polycarbonate preparation method—chloroform.

c. Mixed Cellulose Ester (MCE) preparation method—acetone or the Burdette procedure (Ref. 7 of Unit III.L.).

7. TEM specimen preparation from polycarbonate filters.

a. *Specimen preparation laboratory.* It is most important to ensure that contamination of TEM specimens by extraneous asbestos fibers is minimized during preparation.

b. Cleaning of sample cassettes. Upon receipt at the analytical laboratory and before they are taken into the clean facility or laminar flow hood, the sample cassettes must be cleaned of any contamination adhering to the outside surfaces.

c. Preparation of the carbon evaporator. If the polycarbonate filter has already been carbon-coated prior to receipt, the carbon coating step will be omitted, unless the analyst believes the carbon film is too thin. If there is a need to apply more carbon, the filter will be treated in the same way as an uncoated filter. Carbon coating must be performed with a high-vacuum coating unit. Units that are based on evaporation of carbon filaments in a vacuum generated only by an oil rotary pump have not been evaluated for this application, and must not be used. The carbon rods should be sharpened by a carbon rod sharpener to necks of about 4 mm long and 1 mm in diameter. The rods are installed in the evaporator in such a manner that the points are approximately 10 to 12 cm from the surface of a microscope slide held in the rotating and tilting device.

d. Selection of filter area for carbon coating. Before preparation of the filters, a 75 mm x 50 mm microscope slide is washed and dried. This slide is used to support strips of filter during the carbon evaporation. Two parallel strips of double-sided adhesive tape are applied along the length of the slide. Polycarbonate filters are easily stretched during handling, and cutting of areas for further preparation must be performed with great care. The filter and the MCE backing filter are removed together from the cassette and placed on a cleaned glass microscope slide. The filter can be cut with a curved scalpel blade by rocking the blade from the point placed in contact with the filter. The process can be repeated to cut a strip approximately 3 mm wide across the diameter of the filter. The strip of polycarbonate filter is separated from the cor-

responding strip of backing filter and carefully placed so that it bridges the gap between the adhesive tape strips on the microscope slide. The filter strip can be held with fine-point tweezers and supported underneath by the scalpel blade during placement on the microscope slide. The analyst can place several such strips on the same microscope slide, taking care to rinse and wet-wipe the scalpel blade and tweezers before handling a new sample. The filter strips should be identified by etching the glass slide or marking the slide using a marker insoluble in water and solvents. After the filter strip has been cut from each filter, the residual parts of the filter must be returned to the cassette and held in position by reassembly of the cassette. The cassette will then be archived for a period of 30 days or returned to the client upon request.

e. Carbon coating of filter strips. The glass slide holding the filter strips is placed on the rotation-tilting device, and the evaporator chamber is evacuated. The evaporation must be performed in very short bursts, separated by some seconds to allow the electrodes to cool. If evaporation is too rapid, the strips of polycarbonate filter will begin to curl, which will lead to cross-linking of the surface material and make it relatively insoluble in chloroform. An experienced analyst can judge the thickness of carbon film to be applied, and some test should be made first on unused filters. If the film is too thin, large particles will be lost from the TEM specimen, and there will be few complete and undamaged grid openings on the specimen. If the coating is too thick, the filter will tend to curl when exposed to chloroform vapor and the carbon film may not adhere to the support mesh. Too thick a carbon film will also lead to a TEM image that is lacking in contrast, and the ability to obtain ED patterns will be compromised. The carbon film should be as thin as possible and remain intact on most of the grid openings of the TEM specimen intact.

f. Preparation of the Jaffe washer. The precise design of the Jaffe washer is not considered important, so any one of the published designs may be used. A washer consisting of a simple stainless steel bridge is recommended. Several pieces of lens tissue approximately 1.0 cm x 0.5 cm are placed on the stainless steel bridge, and the washer is filled with chloroform to a level where the meniscus contacts the underside of the mesh, which results in saturation of the lens tissue. See References 8 and 10 of Unit III.L.

g. Placing of specimens into the Jaffe washer. The TEM grids are first placed on a piece of lens tissue so that individual grids can be picked up with tweezers. Using a curved scalpel blade, the analyst excises three 3 mm square pieces of the carbon-coated polycarbonate filter from the filter strip. The three squares are selected from the center of the strip and from two points between the outer periphery of the active surface and the center. The piece of filter is placed on a TEM specimen grid with the shiny side of the TEM grid facing upwards, and the whole assembly is placed boldly onto the saturated lens tissue in the Jaffe washer. If carbon-coated grids are used, the filter should be placed carbon-coated side down. The three excised squares of filters are placed on the same piece of lens tissue. Any number of separate pieces of lens tissue may be placed in the same Jaffe washer. The lid is then placed on the Jaffe washer, and the system is allowed to stand for several hours, preferably overnight.

h. *Condensation washing.* It has been found that many polycarbonate filters will not dissolve completely in the

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Jaffe washer, even after being exposed to chloroform for as long as 3 days. This problem becomes more serious if the surface of the filter was overheated during the carbon evaporation. The presence of undissolved filter medium on the TEM preparation leads to partial or complete obscuration of areas of the sample, and fibers that may be present in these areas of the specimen will be overlooked; this will lead to a low result. Undissolved filter medium also compromises the ability to obtain ED patterns. Before they are counted, TEM grids must be examined critically to determine whether they are adequately cleared of residual filter medium. It has been found that condensation washing of the grids after the initial Jaffe washer treatment, with chloroform as the solvent, clears all residual filter medium in a period of approximately 1 hour. In practice, the piece of lens tissue supporting the specimen grids is transferred to the cold finger of the condensation washer, and the washer is operated for about 1 hour. If the specimens are cleared satisfactorily by the Jaffe washer alone, the condensation washer step may be unnecessary.

8. TEM specimen preparation from MCE filters.

a. This method of preparing TEM specimens from MCE filters is similar to that specified in NIOSH Method 7402. See References 7, 8, and 9 of Unit III.L.

b. Upon receipt at the analytical laboratory, the sample cassettes must be cleaned of any contamination adhering to the outside surfaces before entering the clean sample preparation area.

c. Remove a section from any quadrant of the sample and blank filters.

d. Place the section on a clean microscope slide. Affix the filter section to the slide with a gummed paged reinforcement or other suitable means. Label the slide with a water and solvent-proof marking pen.

e. Place the slide in a petri dish which contains several paper filters soaked with 2 to 3 mL acetone. Cover the dish. Wait 2 to 4 minutes for the sample filter to fuse and clear.

f. Plasma etching of the collapsed filter is required.

i. The microscope slide to which the collapsed filter pieces are attached is placed in a plasma asher. Because plasma ashers vary greatly in their performance, both from unit to unit and between different positions in the asher chamber, it is difficult to specify the conditions that should be used. This is one area of the method that requires further evaluation. Insufficient etching will result in a failure to expose embedded filters, and too much etching may result in loss of particulate from the surface. As an interim measure, it is recommended that the time for ashing of a known weight of a collapsed filter be established and that the etching rate be calculated in terms of micrometers per second. The actual etching time used for a particular asher and operating conditions will then be set such that a 1–2 μm (10 percent) layer of collapsed surface will be removed.

ii. Place the slide containing the collapsed filters into a low-temperature plasma asher, and etch the filter.

g. Transfer the slide to a rotating stage inside the bell jar of a vacuum evaporator. Evaporate a 1 mm x 5 mm section of graphite rod onto the cleared filter. Remove the slide to a clean, dry, covered petri dish.

h. Prepare a second petri dish as a Jaffe washer with the wicking substrate prepared from filter or lens paper placed on top of a 6 mm thick disk of clean spongy polyurethane foam. Cut a V-notch on the edge of the foam and filter paper. Use the V-notch as a reservoir for adding

solvent. The wicking substrate should be thin enough to fit into the petri dish without touching the lid.

i. Place carbon-coated TEM grids face up on the filter or lens paper. Label the grids by marking with a pencil on the filter paper or by putting registration marks on the petri dish lid and marking with a waterproof marker on the dish lid. In a fume hood, fill the dish with acetone until the wicking substrate is saturated. The level of acetone should be just high enough to saturate the filter paper without creating puddles.

j. Remove about a quarter section of the carbon-coated filter samples from the glass slides using a surgical knife and tweezers. Carefully place the section of the filter, carbon side down, on the appropriately labeled grid in the acetone-saturated petri dish. When all filter sections have been transferred, slowly add more solvent to the wedge-shaped trough to bring the acetone level up to the highest possible level without disturbing the sample preparations. Cover the petri dish. Elevate one side of the petri dish by placing a slide under it. This allows drops of condensed solvent vapors to form near the edge rather than in the center where they would drip onto the grid preparation.

G. TEM Method

1. Instrumentation.

a. Use an 80–120 kV TEM capable of performing electron diffraction with a fluorescent screen inscribed with calibrated gradations. If the TEM is equipped with EDXA it must either have a STEM attachment or be capable of producing a spot less than 250 nm in diameter at cross-over. The microscope shall be calibrated routinely (see Unit III.J.) for magnification and camera constant.

b. While not required on every microscope in the laboratory, the laboratory must have either one microscope equipped with energy dispersive X-ray analysis or access to an equivalent system on a TEM in another laboratory. This must be an Energy Dispersive X-ray Detector mounted on TEM column and associated hardware/software to collect, save, and read out spectral information. Calibration of Multi-Channel Analyzer shall be checked regularly for Al at 1.48 KeV and Cu at 8.04 KeV, as well as the manufacturer's procedures.

i. Standard replica grating may be used to determine magnification (e.g., 2160 lines/mm).

ii. Gold standard may be used to determine camera constant.

c. Use a specimen holder with single tilt and/or double tilt capabilities.

2. Procedure.

a. Start a new Count Sheet for each sample to be analyzed. Record on count sheet: analyst's initials and date; lab sample number; client sample number microscope identification; magnification for analysis; number of predetermined grid openings to be analyzed; and grid identification. See the following Figure 4:

EC01AP92.011

b. Check that the microscope is properly aligned and calibrated according to the manufacturer's specifications and instructions.

c. Microscope settings: 80–120 kV, grid assessment 250–1000X, then 15,000–20,000X screen magnification for analysis.

d. Approximately one-half (0.5) of the predetermined sample area to be analyzed shall be performed on one sample grid preparation and the remaining half on a second sample grid preparation.

e. Determine the suitability of the grid.

i. Individual grid openings with greater than 5 percent openings (holes) or covered with greater than 25 percent particulate matter or obviously having nonuniform loading shall not be analyzed.

ii. Examine the grid at low magnification (<1000X) to determine its suitability for detailed study at higher magnifications.

iii. Reject the grid if:

(1) Less than 50 percent of the grid openings covered by the replica are intact.

(2) It is doubled or folded.

(3) It is too dark because of incomplete dissolution of the filter.

iv. If the grid is rejected, load the next sample grid.

v. If the grid is acceptable, continue on to Step 6 if mapping is to be used; otherwise proceed to Step 7.

f. Grid Map (Optional).

i. Set the TEM to the low magnification mode.

ii. Use flat edge or finder grids for mapping.

iii. Index the grid openings (fields) to be counted by marking the acceptable fields for one-half (0.5) of the area needed for analysis on each of the two grids to be analyzed. These may be marked just before examining each grid opening (field), if desired.

iv. Draw in any details which will allow the grid to be properly oriented if it is reloaded into the microscope and a particular field is to be reliably identified.

g. Scan the grid.

i. Select a field to start the examination.

ii. Choose the appropriate magnification (15,000 to 20,000X screen magnification).

iii. Scan the grid as follows.

(1) At the selected magnification, make a series of parallel traverses across the field. On reaching the end of one traverse, move the image one window and reverse the traverse.

NOTE: A slight overlap should be used so as not to miss any part of the grid opening (field).

(2) Make parallel traverses until the entire grid opening (field) has been scanned.

h. Identify each structure for appearance and size.

i. Appearance and size: Any continuous grouping of particles in which an asbestos fiber within aspect ratio greater than or equal to 5:1 and a length greater than or equal to 0.5 μm is detected shall be recorded on the count sheet. These will be designated asbestos structures and will be classified as fibers, bundles, clusters, or matrices. Record as individual fibers any contiguous grouping having 0, 1, or 2 definable intersections. Groupings having more than 2 intersections are to be described as cluster or matrix. See the following Figure 5:

EC01AP92.012

EC01AP92.013

An intersection is a non-parallel touching or crossing of fibers, with the projection having an aspect ratio of 5:1 or greater. Combinations such as a matrix and cluster, matrix and bundle, or bundle and cluster are categorized by the dominant fiber quality—cluster, bundle, and matrix, respectively. Separate categories will be maintained for fibers less than 5 μm and for fibers greater than or equal to 5 μm in length. Not required, but useful, may be to record the fiber length in 1 μm intervals. (Identify each structure morphologically and analyze it as it enters the “window”.)

(1) *Fiber*. A structure having a minimum length greater than 0.5 μm and an aspect ratio (length to width) of 5:1

or greater and substantially parallel sides. Note the appearance of the end of the fiber, i.e., whether it is flat, rounded or dovetailed, no intersections.

(2) *Bundle*. A structure composed of 3 or more fibers in a parallel arrangement with each fiber closer than one fiber diameter.

(3) *Cluster*. A structure with fibers in a random arrangement such that all fibers are intermixed and no single fiber is isolated from the group; groupings must have more than 2 intersections.

(4) *Matrix*. Fiber or fibers with one end free and the other end embedded in or hidden by a particulate. The exposed fiber must meet the fiber definition.

(5) *NSD*. Record NSD when no structures are detected in the field.

(6) *Intersection*. Non-parallel touching or crossing of fibers, with the projection having an aspect ratio 5:1 or greater.

ii. Structure Measurement.

(1) Recognize the structure that is to be sized.

(2) Memorize its location in the “window” relative to the sides, inscribed square and to other particulates in the field so this exact location can be found again when scanning is resumed.

(3) Measure the structure using the scale on the screen.

(4) Record the length category and structure type classification on the count sheet after the field number and fiber number.

(5) Return the fiber to its original location in the window and scan the rest of the field for other fibers; if the direction of travel is not remembered, return to the right side of the field and begin the traverse again.

i. Visual identification of Electron Diffraction (ED) patterns is required for each asbestos structure counted which would cause the analysis to exceed the 70 s/mm² concentration. (Generally this means the first four fibers identified as asbestos must exhibit an identifiable diffraction pattern for chrysotile or amphibole.)

i. Center the structure, focus, and obtain an ED pattern. (See Microscope Instruction Manual for more detailed instructions.)

ii. From a visual examination of the ED pattern, obtained with a short camera length, classify the observed structure as belonging to one of the following classifications: chrysotile, amphibole, or nonasbestos.

(1) Chrysotile: The chrysotile asbestos pattern has characteristic streaks on the layer lines other than the central line and some streaking also on the central line. There will be spots of normal sharpness on the central layer line and on alternate lines (2nd, 4th, etc.). The repeat distance between layer lines is 0.53 nm and the center doublet is at 0.73 nm. The pattern should display (002), (110), (130) diffraction maxima; distances and geometry should match a chrysotile pattern and be measured semiquantitatively.

(2) Amphibole Group [includes grunerite (amosite), crocidolite, anthophyllite, tremolite, and actinolite]: Amphibole asbestos fiber patterns show layer lines formed by very closely spaced dots, and the repeat distance between layer lines is also about 0.53 nm. Streaking in layer lines is occasionally present due to crystal structure defects.

(3) Nonasbestos: Incomplete or unobtainable ED patterns, a nonasbestos EDXA, or a nonasbestos morphology.

iii. The micrograph number of the recorded diffraction patterns must be reported to the client and maintained in the laboratory's quality assurance records. The records

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must also demonstrate that the identification of the pattern has been verified by a qualified individual and that the operator who made the identification is maintaining at least an 80 percent correct visual identification based on his measured patterns. In the event that examination of the pattern by the qualified individual indicates that the pattern had been misidentified visually, the client shall be contacted. If the pattern is a suspected chrysotile, take a photograph of the diffraction pattern at 0 degrees tilt. If the structure is suspected to be amphibole, the sample may have to be tilted to obtain a simple geometric array of spots.

j. Energy Dispersive X-Ray Analysis (EDXA).

i. Required of all amphiboles which would cause the analysis results to exceed the 70 s/mm² concentration. (Generally speaking, the first 4 amphiboles would require EDXA.)

ii. Can be used alone to confirm chrysotile after the 70 s/mm² concentration has been exceeded.

iii. Can be used alone to confirm all nonasbestos.

iv. Compare spectrum profiles with profiles obtained from asbestos standards. The closest match identifies and categorizes the structure.

v. If the EDXA is used for confirmation, record the properly labeled spectrum on a computer disk, or if a hard copy, file with analysis data.

vi. If the number of fibers in the nonasbestos class would cause the analysis to exceed the 70 s/mm² concentration, their identities must be confirmed by EDXA or measurement of a zone axis diffraction pattern to establish that the particles are nonasbestos.

k. Stopping Rules.

i. If more than 50 asbestiform structures are counted in a particular grid opening, the analysis may be terminated.

ii. After having counted 50 asbestiform structures in a minimum of 4 grid openings, the analysis may be terminated. The grid opening in which the 50th fiber was counted must be completed.

iii. For blank samples, the analysis is always continued until 10 grid openings have been analyzed.

iv. In all other samples the analysis shall be continued until an analytical sensitivity of 0.005 s/cm³ is reached.

l. Recording Rules. The count sheet should contain the following information:

i. Field (grid opening): List field number.

ii. Record "NSD" if no structures are detected.

iii. Structure information.

(1) If fibers, bundles, clusters, and/or matrices are found, list them in consecutive numerical order, starting over with each field.

(2) Length. Record length category of asbestos fibers examined. Indicate if less than 5 µm or greater than or equal to 5 µm.

(3) Structure Type. Positive identification of asbestos fibers is required by the method. At least one diffraction pattern of each fiber type from every five samples must be recorded and compared with a standard diffraction pattern. For each asbestos fiber reported, both a morphological descriptor and an identification descriptor shall be specified on the count sheet.

(4) Fibers classified as chrysotile must be identified by diffraction and/or X-ray analysis and recorded on the count sheet. X-ray analysis alone can be used as sole identification only after 70s/mm² have been exceeded for a particular sample.

(5) Fibers classified as amphiboles must be identified by X-ray analysis and electron diffraction and recorded on

the count sheet. (X-ray analysis alone can be used as sole identification only after 70s/mm² have been exceeded for a particular sample.)

(6) If a diffraction pattern was recorded on film, the micrograph number must be indicated on the count sheet.

(7) If an electron diffraction was attempted and an appropriate spectra is not observed, N should be recorded on the count sheet.

(8) If an X-ray analysis is attempted but not observed, N should be recorded on the count sheet.

(9) If an X-ray analysis spectrum is stored, the file and disk number must be recorded on the count sheet.

m. Classification Rules.

i. *Fiber*. A structure having a minimum length greater than or equal to 0.5 µm and an aspect ratio (length to width) of 5:1 or greater and substantially parallel sides. Note the appearance of the end of the fiber, i.e., whether it is flat, rounded or dovetailed.

ii. *Bundle*. A structure composed of three or more fibers in a parallel arrangement with each fiber closer than one fiber diameter.

iii. *Cluster*. A structure with fibers in a random arrangement such that all fibers are intermixed and no single fiber is isolated from the group. Groupings must have more than two intersections.

iv. *Matrix*. Fiber or fibers with one end free and the other end embedded in or hidden by a particulate. The exposed fiber must meet the fiber definition.

v. *NSD*. Record NSD when no structures are detected in the field.

n. After all necessary analyses of a particle structure have been completed, return the goniometer stage to 0 degrees, and return the structure to its original location by recall of the original location.

o. Continue scanning until all the structures are identified, classified and sized in the field.

p. Select additional fields (grid openings) at low magnification; scan at a chosen magnification (15,000 to 20,000X screen magnification); and analyze until the stopping rule becomes applicable.

q. Carefully record all data as they are being collected, and check for accuracy.

r. After finishing with a grid, remove it from the microscope, and replace it in the appropriate grid hold. Sample grids must be stored for a minimum of 1 year from the date of the analysis; the sample cassette must be retained for a minimum of 30 days by the laboratory or returned at the client's request.

H. Sample Analytical Sequence

1. Carry out visual inspection of work site prior to air monitoring.

2. Collect a minimum of five air samples inside the work site and five samples outside the work site. The indoor and outdoor samples shall be taken during the same time period.

3. Analyze the abatement area samples according to this protocol. The analysis must meet the 0.005 s/cm³ analytical sensitivity.

4. Remaining steps in the analytical sequence are contained in Unit IV. of this Appendix.

I. Reporting

The following information must be reported to the client. See the following Table II:

EC01AP92.014

1. Concentration in structures per square millimeter and structures per cubic centimeter.
2. Analytical sensitivity used for the analysis.
3. Number of asbestos structures.
4. Area analyzed.
5. Volume of air samples (which was initially provided by client).
6. Average grid size opening.
7. Number of grids analyzed.
8. Copy of the count sheet must be included with the report.
9. Signature of laboratory official to indicate that the laboratory met specifications of the AHERA method.
10. Report form must contain official laboratory identification (e.g., letterhead).
11. Type of asbestos.

J. Calibration Methodology

NOTE: Appropriate implementation of the method requires a person knowledgeable in electron diffraction and mineral identification by ED and EDXA. Those inexperienced laboratories wishing to develop capabilities may acquire necessary knowledge through analysis of appropriate standards and by following detailed methods as described in References 8 and 10 of Unit III.L.

1. *Equipment Calibration.* In this method, calibration is required for the air-sampling equipment and the transmission electron microscope (TEM).

a. *TEM Magnification.* The magnification at the fluorescent screen of the TEM must be calibrated at the grid opening magnification (if used) and also at the magnification used for fiber counting. This is performed with a cross grating replica. A logbook must be maintained, and the dates of calibration depend on the past history of the particular microscope; no frequency is specified. After any maintenance of the microscope that involved adjustment of the power supplied to the lenses or the high-voltage system or the mechanical disassembly of the electron optical column apart from filament exchange, the magnification must be recalibrated. Before the TEM calibration is performed, the analyst must ensure that the cross grating replica is placed at the same distance from the objective lens as the specimens are. For instruments that incorporate an eucentric tilting specimen stage, all specimens and the cross grating replica must be placed at the eucentric position.

b. Determination of the TEM magnification on the fluorescent screen.

i. Define a field of view on the fluorescent screen either by markings or physical boundaries. The field of view must be measurable or previously inscribed with a scale or concentric circles (all scales should be metric).

ii. Insert a diffraction grating replica (for example a grating containing 2,160 lines/mm) into the specimen holder and place into the microscope. Orient the replica so that the grating lines fall perpendicular to the scale on the TEM fluorescent screen. Ensure that the goniometer stage tilt is 0 degrees.

iii. Adjust microscope magnification to 10,000X or 20,000X. Measure the distance (mm) between two widely separated lines on the grating replica. Note the number of spaces between the lines. Take care to measure between the same relative positions on the lines (e.g., between left edges of lines).

NOTE: The more spaces included in the measurement, the more accurate the final calculation. On most micro-

scopes, however, the magnification is substantially constant only within the central 8–10 cm diameter region of the fluorescent screen.

iv. Calculate the true magnification (M) on the fluorescent screen:

$$M = XG/Y$$

where:

X=total distance (mm) between the designated grating lines;

G=calibration constant of the grating replica (lines/mm);

Y=number of grating replica spaces counted along X.

c. *Calibration of the EDXA System.* Initially, the EDXA system must be calibrated by using two reference elements to calibrate the energy scale of the instrument. When this has been completed in accordance with the manufacturer's instructions, calibration in terms of the different types of asbestos can proceed. The EDXA detectors vary in both solid angle of detection and in window thickness. Therefore, at a particular accelerating voltage in use on the TEM, the count rate obtained from specific dimensions of fiber will vary both in absolute X-ray count rate and in the relative X-ray peak heights for different elements. Only a few minerals are relevant for asbestos abatement work, and in this procedure the calibration is specified in terms of a "fingerprint" technique. The EDXA spectra must be recorded from individual fibers of the relevant minerals, and identifications are made on the basis of semiquantitative comparisons with these reference spectra.

d. *Calibration of Grid Openings.*

i. Measure 20 grid openings on each of 20 random 200-mesh copper grids by placing a grid on a glass slide and examining it under the PCM. Use a calibrated graticule to measure the average field diameter and use this number to calculate the field area for an average grid opening. Grids are to be randomly selected from batches up to 1,000.

NOTE: A grid opening is considered as one field.

ii. The mean grid opening area must be measured for the type of specimen grids in use. This can be accomplished on the TEM at a properly calibrated low magnification or on an optical microscope at a magnification of approximately 400X by using an eyepiece fitted with a scale that has been calibrated against a stage micrometer. Optical microscopy utilizing manual or automated procedures may be used providing instrument calibration can be verified.

e. *Determination of Camera Constant and ED Pattern Analysis.*

i. The camera length of the TEM in ED operating mode must be calibrated before ED patterns on unknown samples are observed. This can be achieved by using a carbon-coated grid on which a thin film of gold has been sputtered or evaporated. A thin film of gold is evaporated on the specimen TEM grid to obtain zone-axis ED patterns superimposed with a ring pattern from the polycrystalline gold film.

ii. In practice, it is desirable to optimize the thickness of the gold film so that only one or two sharp rings are obtained on the superimposed ED pattern. Thicker gold film would normally give multiple gold rings, but it will tend to mask weaker diffraction spots from the unknown fibrous particulates. Since the unknown d-spacings of most interest in asbestos analysis are those which lie closest to the transmitted beam, multiple gold rings are un-

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necessary on zone-axis ED patterns. An average camera constant using multiple gold rings can be determined. The camera constant is one-half the diameter, D , of the rings times the interplanar spacing, d , of the ring being measured.

K. Quality Control/Quality Assurance Procedures (Data Quality Indicators)

Monitoring the environment for airborne asbestos requires the use of sensitive sampling and analysis procedures. Because the test is sensitive, it may be influenced by a variety of factors. These include the supplies used in the sampling operation, the performance of the sampling, the preparation of the grid from the filter and the actual examination of this grid in the microscope. Each of these unit operations must produce a product of defined quality if the analytical result is to be a reliable and meaningful test result. Accordingly, a series of control checks and reference standards is performed along with the sample analysis as indicators that the materials used are adequate and the operations are within acceptable limits. In this way, the quality of the data is defined and the results are of known value. These checks and tests also provide timely and specific warning of any problems which might develop within the sampling and analysis operations. A description of these quality control/quality assurance procedures is summarized in the following Table III:

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1. When the samples arrive at the laboratory, check the samples and documentation for completeness and requirements before initiating the analysis.
2. Check all laboratory reagents and supplies for acceptable asbestos background levels.
3. Conduct all sample preparation in a clean room environment monitored by laboratory blanks and special testing after cleaning or servicing the room.
4. Prepare multiple grids of each sample.
5. Provide laboratory blanks with each sample batch. Maintain a cumulative average of these results. If this average is greater than 53 f/mm^2 per 10 200-mesh grid openings, check the system for possible sources of contamination.
6. Check for recovery of asbestos from cellulose ester filters submitted to plasma asher.
7. Check for asbestos carryover in the plasma asher by including a blank alongside the positive control sample.
8. Perform a systems check on the transmission electron microscope daily.
9. Make periodic performance checks of magnification, electron diffraction and energy dispersive X-ray systems as set forth in Table III of Unit III.K.
10. Ensure qualified operator performance by evaluation of replicate counting, duplicate analysis, and standard sample comparisons as set forth in Table III of Unit III.K.
11. Validate all data entries.
12. Recalculate a percentage of all computations and automatic data reduction steps as specified in Table III.
13. Record an electron diffraction pattern of one asbestos structure from every five samples that contain asbestos. Verify the identification of the pattern by measure-

ment or comparison of the pattern with patterns collected from standards under the same conditions.

The outline of quality control procedures presented above is viewed as the minimum required to assure that quality data is produced for clearance testing of an asbestos abated area. Additional information may be gained by other control tests. Specifics on those control procedures and options available for environmental testing can be obtained by consulting References 6, 7, and 11 of Unit III.L.

L. References

For additional background information on this method the following references should be consulted.

1. "Guidelines for Controlling Asbestos-Containing Materials in Buildings," EPA 560/5-85-024, June 1985.
2. "Measuring Airborne Asbestos Following an Abatement Action," USEP/Office of Pollution Prevention and Toxics, EPA 600/4-85-049, 1985.
3. Small, John and E. Steel. Asbestos Standards: Materials and Analytical Methods. N.B.S. Special Publication 619, 1982.
4. Campbell, W.J., R.L. Blake, L.L. Brown, E.E. Cather, and J.J. Sjoberg. Selected Silicate Minerals and Their Asbestiform Varieties. Information Circular 8751, U.S. Bureau of Mines, 1977.
5. Quality Assurance Handbook for Air Pollution Measurement System. Ambient Air Methods, EPA 600/4-77-027a, USEPA, Office of Research and Development, 1977.
6. Method 2A: Direct Measurement of Gas Volume Through Pipes and Small Ducts. 40 CFR Part 60 Appendix A.
7. Burdette, G.J. Health & Safety Exec., Research & Lab. Services Div., London, "Proposed Analytical Method for Determination of Asbestos in Air."
8. Chatfield, E.J., Chatfield Tech. Cons., Ltd., Clark, T., PEI Assoc. "Standard Operating Procedure for Determination of Airborne Asbestos Fibers by Transmission Electron Microscopy Using Polycarbonate Membrane Filters." WERL SOP 87-1, March 5, 1987.
9. NIOSH. Method 7402 for Asbestos Fibers, December 11, 1986 Draft.
10. Yamate, G., S.C. Agarwall, R.D. Gibbons, IIT Research Institute, "Methodology for the Measurement of Airborne Asbestos by Electron Microscopy." Draft report, USEPA Contract 68-02-3266, July 1984.
11. Guidance to the Preparation of Quality Assurance Project Plans. USEPA, Office of Pollution Prevention and Toxics, 1984.

IV. Mandatory Interpretation of Transmission Electron Microscopy Results to Determine Completion of Response Actions

A. Introduction

A response action is determined to be completed by TEM when the abatement area has been cleaned and the airborne asbestos concentration inside the abatement area is no higher than concentrations at locations outside the abatement area. "Outside" means outside the abatement area, but not necessarily outside the building. EPA reasons that an asbestos removal contractor cannot be expected to clean an abatement area to an airborne asbestos concentration that is lower than the concentration of air entering the abatement area from outdoors or from other

parts of the building. After the abatement area has passed a thorough visual inspection, and before the outer containment barrier is removed, a minimum of five air samples inside the abatement area and a minimum of five air samples outside the abatement area must be collected. Hence, the response action is determined to be completed when the average airborne asbestos concentration measured inside the abatement area is not statistically different from the average airborne asbestos concentration measured outside the abatement area.

The inside and outside concentrations are compared by the Z-test, a statistical test that takes into account the variability in the measurement process. A minimum of five samples inside the abatement area and five samples outside the abatement area are required to control the false negative error rate, i.e., the probability of declaring the removal complete when, in fact, the air concentration inside the abatement area is significantly higher than outside the abatement area. Additional quality control is provided by requiring three blanks (filters through which no air has been drawn) to be analyzed to check for unusually high filter contamination that would distort the test results.

When volumes greater than or equal to 1,199 L for a 25 mm filter and 2,799 L for a 37 mm filter have been collected and the average number of asbestos structures on samples inside the abatement area is no greater than 70 s/mm² of filter, the response action may be considered complete without comparing the inside samples to the outside samples. EPA is permitting this initial screening test to save analysis costs in situations where the airborne asbestos concentration is sufficiently low so that it cannot be distinguished from the filter contamination/background level (fibers deposited on the filter that are unrelated to the air being sampled). The screening test cannot be used when volumes of less than 1,199 L for 25 mm filter or 2,799 L for a 37 mm filter are collected because the ability to distinguish levels significantly different from filter background is reduced at low volumes.

The initial screening test is expressed in structures per square millimeter of filter because filter background levels come from sources other than the air being sampled and cannot be meaningfully expressed as a concentration per cubic centimeter of air. The value of 70 s/mm² is based on the experience of the panel of microscopists who consider one structure in 10 grid openings (each grid opening with an area of 0.0057 mm²) to be comparable with contamination/background levels of blank filters. The decision is based, in part, on Poisson statistics which indicate that four structures must be counted on a filter before the fiber count is statistically distinguishable from the count for one structure. As more information on the performance of the method is collected, this criterion may be modified. Since different combinations of the number and size of grid openings are permitted under the TEM protocol, the criterion is expressed in structures per square millimeter of filter to be consistent across all combinations. Four structures per 10 grid openings corresponds to approximately 70 s/mm².

B. Sample Collection and Analysis

1. A minimum of 13 samples is required: five samples collected inside the abatement area, five samples collected outside the abatement area, two field blanks, and one sealed blank.
2. Sampling and TEM analysis must be done according to either the mandatory or nonmandatory protocols in Ap-

pendix A. At least 0.057 mm² of filter must be examined on blank filters.

C. Interpretation of Results

1. The response action shall be considered complete if either:

- a. Each sample collected inside the abatement area consists of at least 1,199 L of air for a 25 mm filter, or 2,799 L of air for a 37 mm filter, and the arithmetic mean of their asbestos structure concentrations per square millimeter of filter is less than or equal to 70 s/mm²; or

- b. The three blank samples have an arithmetic mean of the asbestos structure concentration on the blank filters that is less than or equal to 70 s/mm² and the average airborne asbestos concentration measured inside the abatement area is not statistically higher than the average airborne asbestos concentration measured outside the abatement area as determined by the Z-test. The Z-test is carried out by calculating

$$EC01AP92.016$$

where Y_I is the average of the natural logarithms of the inside samples and Y_O is the average of the natural logarithms of the outside samples, n_I is the number of inside samples and n_O is the number of outside samples. The response action is considered complete if Z is less than or equal to 1.65.

NOTE: When no fibers are counted, the calculated detection limit for that analysis is inserted for the concentration.

2. If the abatement site does not satisfy either (1) or (2) of this Section C, the site must be recleaned and a new set of samples collected.

D. Sequence for Analyzing Samples

It is possible to determine completion of the response action without analyzing all samples. Also, at any point in the process, a decision may be made to terminate the analysis of existing samples, reclean the abatement site, and collect a new set of samples. The following sequence is outlined to minimize the number of analyses needed to reach a decision.

1. Analyze the inside samples.
2. If at least 1,199 L of air for a 25 mm filter or 2,799 L of air for a 37 mm filter is collected for each inside sample and the arithmetic mean concentration of structures per square millimeter of filter is less than or equal to 70 s/mm², the response action is complete and no further analysis is needed.
3. If less than 1,199 L of air for a 25 mm filter or 2,799 L of air for a 37 mm filter is collected for any of the inside samples, or the arithmetic mean concentration of structures per square millimeter of filter is greater than 70 s/mm², analyze the three blanks.
4. If the arithmetic mean concentration of structures per square millimeter on the blank filters is greater than 70 s/mm², terminate the analysis, identify and correct the source of blank contamination, and collect a new set of samples.
5. If the arithmetic mean concentration of structures per square millimeter on the blank filters is less than or equal to 70 s/mm², analyze the outside samples and perform the Z-test.
6. If the Z-statistic is less than or equal to 1.65, the response action is complete. If the Z-statistic is greater than

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1.65, reclean the abatement site and collect a new set of samples.

[52 FR 41857, Oct. 30, 1987]
Pt. 763, Subpt. E, App. B

APPENDIX B TO SUBPART E—WORK PRACTICES AND ENGINEERING CONTROLS FOR SMALL- SCALE, SHORT-DURATION OPERATIONS MAINTENANCE AND REPAIR (O&M) ACTIVITIES INVOLVING ACM

This appendix is not mandatory, in that LEAs may choose to comply with all the requirements of 40 CFR 763.121. Section 763.91(b) extends the protection provided by EPA in its 40 CFR 763.121 for worker protection during asbestos abatement projects to employees of local education agencies who perform small-scale, short-duration operations, maintenance and repair (O&M) activities involving asbestos-containing materials and are not covered by the OSHA asbestos construction standard at 29 CFR 1926.58 or an asbestos worker protection standard adopted by a State as part of a State plan approved by OSHA under section 18 of the Occupational Safety and Health Act. Employers wishing to be exempt from the requirements of § 763.121 (e)(6) and (f)(2)(i) may instead comply with the provisions of this appendix when performing small-scale, short-duration O&M activities.

Definition of Small-Scale, Short-Duration Activities

For the purposes of this appendix, small-scale, short-duration maintenance activities are tasks such as, but not limited to:

1. Removal of asbestos-containing insulation on pipes.
2. Removal of small quantities of asbestos-containing insulation on beams or above ceilings.
3. Replacement of an asbestos-containing gasket on a valve.
4. Installation or removal of a small section of drywall.
5. Installation of electrical conduits through or proximate to asbestos-containing materials.

Small-scale, short-duration maintenance activities can be further defined, for the purposes of this subpart, by the following considerations:

1. Removal of small quantities of asbestos-containing materials (ACM) only if required in the performance of another maintenance activity not intended as asbestos abatement.
2. Removal of asbestos-containing thermal system insulation not to exceed amounts greater than those which can be contained in a single glove bag.
3. Minor repairs to damaged thermal system insulation which do not require removal.
4. Repairs to a piece of asbestos-containing wallboard.
5. Repairs, involving encapsulation, enclosure or removal, to small amounts of friable asbestos-containing material only if required in the performance of emergency or routine maintenance activity and not intended solely as asbestos abatement. Such work may not exceed amounts greater than those which can be contained in a single prefabricated minienclature. Such an enclosure shall conform spatially and geometrically to the localized work area, in order to perform its intended containment function.

OSHA concluded that the use of certain engineering and work practice controls is capable of reducing employee exposures to asbestos to levels below the final

standard's action level (0.1 f/cm³). (See 51 FR 22714, June 20, 1986.) Several controls and work practices, used either singly or in combination, can be employed effectively to reduce asbestos exposures during small maintenance and renovation operations. These include:

1. Wet methods.
2. Removal methods.
 - i. Use of glove bags.
 - ii. Removal of entire asbestos insulated pipes or structures.
 - iii. Use of miniencllosures.
3. Enclosure of asbestos materials.
4. Maintenance programs.

This appendix describes these controls and work practices in detail.

Preparation of the Area Before Renovation or Maintenance Activities

The first step in preparing to perform a small-scale, short-duration asbestos renovation or maintenance task, regardless of the abatement method that will be used, is the removal from the work area of all objects that are movable to protect them from asbestos contamination. Objects that cannot be removed must be covered completely with 6-mil-thick polyethylene plastic sheeting before the task begins. If objects have already been contaminated, they should be thoroughly cleaned with a High Efficiency Particulate Air (HEPA) filtered vacuum or be wet-wiped before they are removed from the work area or completely encased in the plastic.

Wet methods. Whenever feasible, and regardless of the abatement method to be used (e.g., removal, enclosure, use of glove bags), wet methods must be used during small-scale, short-duration maintenance and renovation activities that involve disturbing asbestos-containing materials. Handling asbestos materials wet is one of the most reliable methods of ensuring that asbestos fibers do not become airborne, and this practice should therefore be used whenever feasible. Wet methods can be used in the great majority of workplace situations. Only in cases where asbestos work must be performed on live electrical equipment, on live steam lines, or in other areas where water will seriously damage materials or equipment may dry removal be performed. Amended water or another wetting agent should be applied by means of an airless sprayer to minimize the extent to which the asbestos-containing material is disturbed.

Asbestos-containing material should be wetted from the initiation of the maintenance or renovation operation and wetting agents should be used continually throughout the work period to ensure that any dry asbestos-containing material exposed in the course of the work is wet and remains wet until final disposal.

Removal of small amount of asbestos-containing materials. Several methods can be used to remove small amounts of asbestos-containing materials during small-scale, short-duration renovation or maintenance tasks. These include the use of glove bags, the removal of an entire asbestos-covered pipe or structure, and the construction of miniencllosures. The procedures that employers must use for each of these operations if they wish to avail themselves of the rule's exemptions are described in the following sections.

Glove bags. OSHA found that the use of glove bags to enclose the work area during small-scale, short-duration maintenance or renovation activities will result in employee exposure to asbestos that are below the rule's ac-

tion level of 0.1 f/cm³. This appendix provides requirements for glove-bag procedures to be followed by employers wishing to avail themselves of the rule's exemption for each activity. OSHA has determined that the use of these procedures will reduce the 8-hour time weighted average (TWA) exposure of employees involved in these work operations to levels below the action level and will thus provide a degree of employee protection equivalent to that provided by compliance with all provisions of the rule.

Glove bag installation. Glove bags are approximately 40-inch-wide times 64-inch-long bags fitted with arms through which the work can be performed. When properly installed and used, they permit workers to remain completely isolated from the asbestos material removed or replaced inside the bag. Glove bags can thus provide a flexible, easily installed, and quickly dismantled temporary small work area enclosure that is ideal for small-scale asbestos renovation or maintenance jobs. These bags are single-use control devices that are disposed of at the end of each job. The bags are made of transparent 6-mil-thick polyethylene plastic with areas of Tyvek¹ material (the same material used to make the disposal protective suits used in major asbestos removal, renovation, and demolition operations and in protective gloves). Glove bags are readily available from safety supply stores or specialty asbestos removal supply houses. Glove bags come pre-labelled with the asbestos warning label prescribed by OSHA and EPA for bags used to dispose of asbestos waste.

Glove bag equipment and supplies. Supplies and materials that are necessary to use glove bags effectively include:

1. Tape to seal glove bag to the area from which asbestos is to be removed.
2. Amended water or other wetting agents.
3. An airless sprayer for the application of the wetting agent.
4. Bridging encapsulant (a paste-like substance for coating asbestos) to seal the rough edges of any asbestos-containing materials that remain within the glove bag at the points of attachment after the rest of the asbestos has been removed.
5. Tools such as razor knives, nips, and wire brushes (or other tools suitable for cutting wires, etc.).
6. A HEPA filter-equipped vacuum for evacuating the glove bag (to minimize the release of asbestos fibers) during removal of the bag from the work area and for cleaning any material that may have escaped during the installation of the glove bag.
7. HEPA-equipped dual-cartridge or more protective respirators for use by the employees involved in the removal of asbestos with the glove bag.

Glove bag work practices. The proper use of glove bags requires the following steps:

1. Glove bags must be installed so that they completely cover the pipe or other structure where asbestos work is to be done. Glove bags are installed by cutting the sides of the glove bag to fit the size of the pipe from which asbestos is to be removed. The glove bag is attached to the pipe by folding the open edges together and securely sealing them with tape. All openings in the glove bag must be sealed with duct tape or equivalent material. The

bottom seam of the glove bag must also be sealed with duct tape or equivalent to prevent any leakage from the bag that may result from a defect in the bottom seam.

2. The employee who is performing the asbestos removal with the glove bag must don at least a half mask dual-cartridge HEPA-equipped respirator; respirators should be worn by employees who are in close contact with the glove bag and who may thus be exposed as a result of small gaps in the seams of the bag or holes punched through the bag by a razor knife or a piece of wire mesh.

3. The removed asbestos material from the pipe or other surface that has fallen into the enclosed bag must be thoroughly wetted with a wetting agent (applied with an airless sprayer through the pre-cut port provided in most glove bags or applied through a small hole in the bag).

4. Once the asbestos material has been thoroughly wetted, it can be removed from the pipe, beam, or other surface. The choice of tool to use to remove the asbestos-containing material depends on the type of material to be removed. Asbestos-containing materials are generally covered with painted canvas and/or wire mesh. Painted canvas can be cut with a razor knife and peeled away from the asbestos-containing material underneath. Once the canvas has been peeled away, the asbestos-containing material underneath may be dry, in which case it should be resprayed with a wetting agent to ensure that it generates as little dust as possible when removed. If the asbestos-containing material is covered with wire mesh, the mesh should be cut with nips, tin snips, or other appropriate tool and removed.

A wetting agent must then be used to spray any layer of dry material that is exposed beneath the mesh, the surface of the stripped underlying structure, and the inside of the glove bag.

5. After removal of the layer of asbestos-containing material, the pipe or surface from which asbestos has been removed must be thoroughly cleaned with a wire brush and wet-wiped with a wetting agent until no traces of the asbestos-containing material can be seen.

6. Any asbestos-containing insulation edges that have been exposed as a result of the removal or maintenance activity must be encapsulated with bridging encapsulant to ensure that the edges do not release asbestos fibers to the atmosphere after the glove bag has been removed.

7. When the asbestos removal and encapsulation have been completed, a vacuum hose from a HEPA filtered vacuum must be inserted into the glove bag through the port to remove any air in the bag that may contain asbestos fibers. When the air has been removed from the bag, the bag should be squeezed tightly (as close to the top as possible), twisted, and sealed with tape, to keep the asbestos materials safely in the bottom of the bag. The HEPA vacuum can then be removed from the bag and the glove bag itself can be removed from the work area to be disposed of properly.

Minienlosures. In some instances, such as removal of asbestos from a small ventilation system or from a short length of duct, a glove bag may not be either large enough or of the proper shape to enclose the work area. In such cases, a minienclosure can be built around the area where small-scale, short-duration asbestos maintenance or renovation work is to be performed. Such enclosures should be constructed of 6-mil-thick polyethylene plastic sheeting and can be small enough to restrict entry to the asbestos work area to one worker.

¹ Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

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For example, a minienclature can be built in a small utility closet when asbestos-containing duct covering is to be removed. The enclosure is constructed by:

1. Affixing plastic sheeting to the walls with spray adhesive and tape.
2. Covering the floor with plastic and sealing the plastic covering the floor to the plastic on the walls.
3. Sealing any penetrations such as pipes or electrical conduits with tape.
4. Constructing a small change room (approximately 3 feet square) made of 6-mil-thick polyethylene plastic supported by 2-inch by 4-inch lumber (the plastic should be attached to the lumber supports with staples or spray adhesive and tape).

The change room should be contiguous to the minienclature, and is necessary to allow the worker to vacuum off his protective coveralls and remove them before leaving the work area. While inside minienclature, the worker should wear Tyvek¹ disposable coveralls and use the appropriate HEPA-filtered dual-cartridge or more protective respiratory protection.

The advantages of minienclatures are that they limit the spread of asbestos contamination, reduce the potential exposure of bystanders and other workers who may be working in adjacent areas, and are quick and easy to install. The disadvantage of minienclatures is that they may be too small to contain the equipment necessary to create a negative pressure within the enclosure; however the double layer of plastic sheeting will serve to restrict the release of asbestos fibers to the area outside the enclosure.

Removal of entire structures. When pipes are insulated with asbestos-containing materials, removal of the entire pipe may be more protective, easier, and more cost-effective than stripping the asbestos insulation from the pipe. Before such a pipe is cut, the asbestos-containing insulation must be wrapped with 6-mil polyethylene plastic and securely sealed with duct tape or equivalent. This plastic covering will prevent asbestos fibers from becoming airborne as a result of the vibration created by the power saws used to cut the pipe. If possible, the pipes should be cut at locations that are not insulated to avoid disturbing the asbestos. If a pipe is completely insulated with asbestos-containing materials, small sections should be stripped using the glove-bag method described above before the pipe is cut at the stripped sections.

Enclosure. The decision to enclose rather than remove asbestos-containing material from an area depends on the building owner's preference, i.e., for removal or containment. Owners consider such factors as cost effectiveness, the physical configuration of the work area, and the amount of traffic in the area when determining which abatement method to use.

If the owner chooses to enclose the structure rather than to remove the asbestos-containing material insulating it, a solid structure (airtight walls and ceilings) must be built around the asbestos covered pipe or structure to prevent the release of asbestos-containing materials into the area beyond the enclosure and to prevent disturbing these materials by casual contact during future maintenance operations.

Such a permanent (i.e., for the life of the building) enclosure should be built of new construction materials and should be impact resistant and airtight. Enclosure walls should be made of tongue-and-groove boards, boards with spine joints, or gypsum boards having taped seams. The underlying structure must be able to support the weight

of the enclosure. (Suspended ceilings with laid-in panels do not provide airtight enclosures and should not be used to enclose structures covered with asbestos-containing materials.) All joints between the walls and ceiling of the enclosure should be caulked to prevent the escape of asbestos fibers. During the installation of enclosures, tools that are used (such as drills or rivet tools) should be equipped with HEPA-filtered vacuums. Before constructing the enclosure, all electrical conduits, telephone lines, recessed lights, and pipes in the area to be enclosed should be moved to ensure that the enclosure will not have to be re-opened later for routine or emergency maintenance. If such lights or other equipment cannot be moved to a new location for logistic reasons, or if moving them will disturb the asbestos-containing materials, removal rather than enclosure of the asbestos-containing materials is the appropriate control method to use.

Maintenance program. An asbestos maintenance program must be initiated in all facilities that have friable asbestos-containing materials. Such a program should include:

1. Development of an inventory of all asbestos-containing materials in the facility.
2. Periodic examination of all asbestos-containing materials to detect deterioration.
3. Written procedures for handling asbestos materials during the performance of small-scale, short-duration maintenance and renovation activities.
4. Written procedures for asbestos disposal.
5. Written procedures for dealing with asbestos-related emergencies.

Members of the building's maintenance engineering staff (electricians, heating/air conditioning engineers, plumbers, etc.) who may be required to handle asbestos-containing materials should be trained in safe procedures. Such training should include at a minimum:

1. Information regarding types of ACM and its various uses and forms.
2. Information on the health effects associated with asbestos exposure.
3. Descriptions of the proper methods of handling asbestos-containing materials.
4. Information on the use of HEPA-equipped dual-cartridge respirators and other personal protection during maintenance activities.

Prohibited activities. The training program for the maintenance engineering staff should describe methods of handling asbestos-containing materials as well as routine maintenance activities that are prohibited when asbestos-containing materials are involved. For example, maintenance staff employees should be instructed:

1. *Not* to drill holes in asbestos-containing materials.
2. *Not* to hang plants or pictures on structures covered with asbestos-containing materials.
3. *Not* to sand asbestos-containing floor tile.
4. *Not* to damage asbestos-containing materials while moving furniture or other objects.
5. *Not* to install curtains, drapes, or dividers in such a way that they damage asbestos-containing materials.
6. *Not* to dust floors, ceilings, moldings or other surfaces in asbestos-contaminated environments with a dry brush or sweep with a dry broom.
7. *Not* to use an ordinary vacuum to clean up asbestos-containing debris.
8. *Not* to remove ceiling tiles below asbestos-containing materials without wearing the proper respiratory protec-

tion, clearing the area of other people, and observing asbestos removal waste disposal procedures.

9. *Not* to remove ventilation system filters dry.

10. *Not* to shake ventilation system filters.

[52 FR 41894, Oct. 30, 1987]

Pt. 763, Subpt. E, App. C

APPENDIX C TO SUBPART E—ASBESTOS MODEL ACCREDITATION PLAN

I. Asbestos Model Accreditation Plan for States

The Asbestos Model Accreditation Plan (MAP) for States has eight components:

- (A) Definitions
- (B) Initial Training
- (C) Examinations
- (D) Continuing Education
- (E) Qualifications
- (F) Recordkeeping Requirements for Training Providers
- (G) Deaccreditation
- (H) Reciprocity

A. Definitions

For purposes of Appendix C:

1. “Friable asbestos-containing material (ACM)” means any material containing more than one percent asbestos which has been applied on ceilings, walls, structural members, piping, duct work, or any other part of a building, which when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. The term includes non-friable asbestos-containing material after such previously non-friable material becomes damaged to the extent that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure.

2. “Friable asbestos-containing building material (ACBM)” means any friable ACM that is in or on interior structural members or other parts of a school or public and commercial building.

3. “Inspection” means an activity undertaken in a school building, or a public and commercial building, to determine the presence or location, or to assess the condition of, friable or non-friable asbestos-containing building material (ACBM) or suspected ACBM, whether by visual or physical examination, or by collecting samples of such material. This term includes reinspections of friable and non-friable known or assumed ACBM which has been previously identified. The term does not include the following:

a. Periodic surveillance of the type described in 40 CFR 763.92(b) solely for the purpose of recording or reporting a change in the condition of known or assumed ACBM;

b. Inspections performed by employees or agents of Federal, State, or local government solely for the purpose of determining compliance with applicable statutes or regulations; or

c. visual inspections of the type described in 40 CFR 763.90(i) solely for the purpose of determining completion of response actions.

4. “Major fiber release episode” means any uncontrolled or unintentional disturbance of ACBM, resulting in a visible emission, which involves the falling or dislodging of more than 3 square or linear feet of friable ACBM.

5. “Minor fiber release episode” means any uncontrolled or unintentional disturbance of ACBM, resulting in a visible emission, which involves the falling or dislodging of 3 square or linear feet or less of friable ACBM.

6. “Public and commercial building” means the interior space of any building which is not a school building, except that the term does not include any residential apartment building of fewer than 10 units or detached single-family homes. The term includes, but is not limited to: industrial and office buildings, residential apartment buildings and condominiums of 10 or more dwelling units, government-owned buildings, colleges, museums, airports, hospitals, churches, preschools, stores, warehouses and factories. Interior space includes exterior hallways connecting buildings, porticos, and mechanical systems used to condition interior space.

7. “Response action” means a method, including removal, encapsulation, enclosure, repair, and operation and maintenance, that protects human health and the environment from friable ACBM.

8. “Small-scale, short-duration activities (SSSD)” are tasks such as, but not limited to:

- a. Removal of asbestos-containing insulation on pipes.
- b. Removal of small quantities of asbestos-containing insulation on beams or above ceilings.
- c. Replacement of an asbestos-containing gasket on a valve.
- d. Installation or removal of a small section of drywall.
- e. Installation of electrical conduits through or proximate to asbestos-containing materials.

SSSD can be further defined by the following considerations:

f. Removal of small quantities of ACM only if required in the performance of another maintenance activity not intended as asbestos abatement.

g. Removal of asbestos-containing thermal system insulation not to exceed amounts greater than those which can be contained in a single glove bag.

h. Minor repairs to damaged thermal system insulation which do not require removal.

i. Repairs to a piece of asbestos-containing wallboard.

j. Repairs, involving encapsulation, enclosure, or removal, to small amounts of friable ACM only if required in the performance of emergency or routine maintenance activity and not intended solely as asbestos abatement. Such work may not exceed amounts greater than those which can be contained in a single prefabricated mini-enclosure. Such an enclosure shall conform spatially and geometrically to the localized work area, in order to perform its intended containment function.

B. Initial Training

Training requirements for purposes of accreditation are specified both in terms of required subjects of instruction and in terms of length of training. Each initial training course has a prescribed curriculum and number of days of training. One day of training equals 8 hours, including breaks and lunch. Course instruction must be provided by EPA or State-approved instructors. EPA or State instructor approval shall be based upon a review of the instructor’s academic credentials and/or field experience in asbestos abatement.

Beyond the initial training requirements, individual States may wish to consider requiring additional days of training for purposes of supplementing hands-on activities or for reviewing relevant state regulations. States also may wish to consider the relative merits of a worker apprenticeship program. Further, they might consider more stringent minimum qualification standards for the approval of training instructors. EPA recommends that the enrollment in any given course be limited to 25 students

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so that adequate opportunities exist for individual hands-on experience.

States have the option to provide initial training directly or approve other entities to offer training. The following requirements are for the initial training of persons required to have accreditation under TSCA Title II.

Training requirements for each of the five accredited disciplines are outlined below. Persons in each discipline perform a different job function and distinct role. Inspectors identify and assess the condition of ACBM, or suspect ACBM. Management planners use data gathered by inspectors to assess the degree of hazard posed by ACBM in schools to determine the scope and timing of appropriate response actions needed for schools. Project designers determine how asbestos abatement work should be conducted. Lastly, workers and contractor/supervisors carry out and oversee abatement work. In addition, a recommended training curriculum is also presented for a sixth discipline, which is not federally-accredited, that of "Project Monitor." Each accredited discipline and training curriculum is separate and distinct from the others. A person seeking accreditation in any of the five accredited MAP disciplines cannot attend two or more courses concurrently, but may attend such courses sequentially.

In several instances, initial training courses for a specific discipline (e.g., workers, inspectors) require hands-on training. For asbestos abatement contractor/supervisors and workers, hands-on training should include working with asbestos-substitute materials, fitting and using respirators, use of glovebags, donning protective clothing, and constructing a decontamination unit as well as other abatement work activities.

1. WORKERS

A person must be accredited as a worker to carry out any of the following activities with respect to friable ACBM in a school or public and commercial building: (1) A response action other than a SSSD activity, (2) a maintenance activity that disturbs friable ACBM other than a SSSD activity, or (3) a response action for a major fiber release episode. All persons seeking accreditation as asbestos abatement workers shall complete at least a 4-day training course as outlined below. The 4-day worker training course shall include lectures, demonstrations, at least 14 hours of hands-on training, individual respirator fit testing, course review, and an examination. Hands-on training must permit workers to have actual experience performing tasks associated with asbestos abatement. A person who is otherwise accredited as a contractor/supervisor may perform in the role of a worker without possessing separate accreditation as a worker.

Because of cultural diversity associated with the asbestos workforce, EPA recommends that States adopt specific standards for the approval of foreign language courses for abatement workers. EPA further recommends the use of audio-visual materials to complement lectures, where appropriate.

The training course shall adequately address the following topics:

(a) *Physical characteristics of asbestos.* Identification of asbestos, aerodynamic characteristics, typical uses, and physical appearance, and a summary of abatement control options.

(b) *Potential health effects related to asbestos exposure.* The nature of asbestos-related diseases; routes of exposure; dose-response relationships and the lack of a safe exposure level; the synergistic effect between cigarette

smoking and asbestos exposure; the latency periods for asbestos-related diseases; a discussion of the relationship of asbestos exposure to asbestosis, lung cancer, mesothelioma, and cancers of other organs.

(c) *Employee personal protective equipment.* Classes and characteristics of respirator types; limitations of respirators; proper selection, inspection; donning, use, maintenance, and storage procedures for respirators; methods for field testing of the facepiece-to-face seal (positive and negative-pressure fit checks); qualitative and quantitative fit testing procedures; variability between field and laboratory protection factors that alter respiratory fit (e.g., facial hair); the components of a proper respiratory protection program; selection and use of personal protective clothing; use, storage, and handling of non-disposable clothing; and regulations covering personal protective equipment.

(d) *State-of-the-art work practices.* Proper work practices for asbestos abatement activities, including descriptions of proper construction; maintenance of barriers and decontamination enclosure systems; positioning of warning signs; lock-out of electrical and ventilation systems; proper working techniques for minimizing fiber release; use of wet methods; use of negative pressure exhaust ventilation equipment; use of high-efficiency particulate air (HEPA) vacuums; proper clean-up and disposal procedures; work practices for removal, encapsulation, enclosure, and repair of ACM; emergency procedures for sudden releases; potential exposure situations; transport and disposal procedures; and recommended and prohibited work practices.

(e) *Personal hygiene.* Entry and exit procedures for the work area; use of showers; avoidance of eating, drinking, smoking, and chewing (gum or tobacco) in the work area; and potential exposures, such as family exposure.

(f) *Additional safety hazards.* Hazards encountered during abatement activities and how to deal with them, including electrical hazards, heat stress, air contaminants other than asbestos, fire and explosion hazards, scaffold and ladder hazards, slips, trips, and falls, and confined spaces.

(g) *Medical monitoring.* OSHA and EPA Worker Protection Rule requirements for physical examinations, including a pulmonary function test, chest X-rays, and a medical history for each employee.

(h) *Air monitoring.* Procedures to determine airborne concentrations of asbestos fibers, focusing on how personal air sampling is performed and the reasons for it.

(i) *Relevant Federal, State, and local regulatory requirements, procedures, and standards.* With particular attention directed at relevant EPA, OSHA, and State regulations concerning asbestos abatement workers.

(j) *Establishment of respiratory protection programs.*

(k) *Course review.* A review of key aspects of the training course.

2. CONTRACTOR/SUPERVISORS

A person must be accredited as a contractor/supervisor to supervise any of the following activities with respect to friable ACBM in a school or public and commercial building: (1) A response action other than a SSSD activity, (2) a maintenance activity that disturbs friable ACBM other than a SSSD activity, or (3) a response action for a major fiber release episode. All persons seeking accreditation as asbestos abatement contractor/supervisors shall complete at least a 5-day training course as outlined below. The training course must include lectures, dem-

onstrations, at least 14 hours of hands-on training, individual respirator fit testing, course review, and a written examination. Hands-on training must permit supervisors to have actual experience performing tasks associated with asbestos abatement.

EPA recommends the use of audiovisual materials to complement lectures, where appropriate.

Asbestos abatement supervisors include those persons who provide supervision and direction to workers performing response actions. Supervisors may include those individuals with the position title of foreman, working foreman, or leadman pursuant to collective bargaining agreements. At least one supervisor is required to be at the worksite at all times while response actions are being conducted. Asbestos workers must have access to accredited supervisors throughout the duration of the project.

The contractor/supervisor training course shall adequately address the following topics:

(a) *The physical characteristics of asbestos and asbestos-containing materials.* Identification of asbestos, aerodynamic characteristics, typical uses, physical appearance, a review of hazard assessment considerations, and a summary of abatement control options.

(b) *Potential health effects related to asbestos exposure.* The nature of asbestos-related diseases; routes of exposure; dose-response relationships and the lack of a safe exposure level; synergism between cigarette smoking and asbestos exposure; and latency period for diseases.

(c) *Employee personal protective equipment.* Classes and characteristics of respirator types; limitations of respirators; proper selection, inspection, donning, use, maintenance, and storage procedures for respirators; methods for field testing of the facepiece-to-face seal (positive and negative-pressure fit checks); qualitative and quantitative fit testing procedures; variability between field and laboratory protection factors that alter respiratory fit (e.g., facial hair); the components of a proper respiratory protection program; selection and use of personal protective clothing; and use, storage, and handling of non-disposable clothing; and regulations covering personal protective equipment.

(d) *State-of-the-art work practices.* Proper work practices for asbestos abatement activities, including descriptions of proper construction and maintenance of barriers and decontamination enclosure systems; positioning of warning signs; lock-out of electrical and ventilation systems; proper working techniques for minimizing fiber release; use of wet methods; use of negative pressure exhaust ventilation equipment; use of HEPA vacuums; and proper clean-up and disposal procedures. Work practices for removal, encapsulation, enclosure, and repair of ACM; emergency procedures for unplanned releases; potential exposure situations; transport and disposal procedures; and recommended and prohibited work practices. New abatement-related techniques and methodologies may be discussed.

(e) *Personal hygiene.* Entry and exit procedures for the work area; use of showers; and avoidance of eating, drinking, smoking, and chewing (gum or tobacco) in the work area. Potential exposures, such as family exposure, shall also be included.

(f) *Additional safety hazards.* Hazards encountered during abatement activities and how to deal with them, including electrical hazards, heat stress, air contaminants other than asbestos, fire and explosion hazards, scaffold and ladder hazards, slips, trips, and falls, and confined spaces.

(g) *Medical monitoring.* OSHA and EPA Worker Protection Rule requirements for physical examinations, including a pulmonary function test, chest X-rays and a medical history for each employee.

(h) *Air monitoring.* Procedures to determine airborne concentrations of asbestos fibers, including descriptions of aggressive air sampling, sampling equipment and methods, reasons for air monitoring, types of samples and interpretation of results.

EPA recommends that transmission electron microscopy (TEM) be used for analysis of final air clearance samples, and that sample analyses be performed by laboratories accredited by the National Institute of Standards and Technology's (NIST) National Voluntary Laboratory Accreditation Program (NVLAP).

(i) *Relevant Federal, State, and local regulatory requirements, procedures, and standards, including:*

(i) Requirements of TSCA Title II.

(ii) National Emission Standards for Hazardous Air Pollutants (40 CFR part 61), Subparts A (General Provisions) and M (National Emission Standard for Asbestos).

(iii) OSHA standards for permissible exposure to airborne concentrations of asbestos fibers and respiratory protection (29 CFR 1910.134).

(iv) OSHA Asbestos Construction Standard (29 CFR 1926.58). (v) EPA Worker Protection Rule, (40 CFR part 763, Subpart G).

(j) *Respiratory Protection Programs and Medical Monitoring Programs.*

(k) *Insurance and liability issues.* Contractor issues; worker's compensation coverage and exclusions; third-party liabilities and defenses; insurance coverage and exclusions.

(l) *Recordkeeping for asbestos abatement projects.* Records required by Federal, State, and local regulations; records recommended for legal and insurance purposes.

(m) *Supervisory techniques for asbestos abatement activities.* Supervisory practices to enforce and reinforce the required work practices and discourage unsafe work practices.

(n) *Contract specifications.* Discussions of key elements that are included in contract specifications.

(o) *Course review.* A review of key aspects of the training course.

3. INSPECTOR

All persons who inspect for ACBM in schools or public and commercial buildings must be accredited. All persons seeking accreditation as an inspector shall complete at least a 3-day training course as outlined below. The course shall include lectures, demonstrations, 4 hours of hands-on training, individual respirator fit-testing, course review, and a written examination.

EPA recommends the use of audiovisual materials to complement lectures, where appropriate. Hands-on training should include conducting a simulated building walk-through inspection and respirator fit testing. The inspector training course shall adequately address the following topics:

(a) *Background information on asbestos.* Identification of asbestos, and examples and discussion of the uses and locations of asbestos in buildings; physical appearance of asbestos.

(b) *Potential health effects related to asbestos exposure.* The nature of asbestos-related diseases; routes of exposure; dose-response relationships and the lack of a safe exposure level; the synergistic effect between cigarette

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smoking and asbestos exposure; the latency periods for asbestos-related diseases; a discussion of the relationship of asbestos exposure to asbestosis, lung cancer, mesothelioma, and cancers of other organs.

(c) *Functions/qualifications and role of inspectors.* Discussions of prior experience and qualifications for inspectors and management planners; discussions of the functions of an accredited inspector as compared to those of an accredited management planner; discussion of inspection process including inventory of ACM and physical assessment.

(d) *Legal liabilities and defenses.* Responsibilities of the inspector and management planner; a discussion of comprehensive general liability policies, claims-made, and occurrence policies, environmental and pollution liability policy clauses; state liability insurance requirements; bonding and the relationship of insurance availability to bond availability.

(e) *Understanding building systems.* The interrelationship between building systems, including: an overview of common building physical plan layout; heat, ventilation, and air conditioning (HVAC) system types, physical organization, and where asbestos is found on HVAC components; building mechanical systems, their types and organization, and where to look for asbestos on such systems; inspecting electrical systems, including appropriate safety precautions; reading blueprints and as-built drawings.

(f) *Public/employee/building occupant relations.* Notifying employee organizations about the inspection; signs to warn building occupants; tact in dealing with occupants and the press; scheduling of inspections to minimize disruptions; and education of building occupants about actions being taken.

(g) *Pre-inspection planning and review of previous inspection records.* Scheduling the inspection and obtaining access; building record review; identification of probable homogeneous areas from blueprints or as-built drawings; consultation with maintenance or building personnel; review of previous inspection, sampling, and abatement records of a building; the role of the inspector in exclusions for previously performed inspections.

(h) *Inspecting for friable and non-friable ACM and assessing the condition of friable ACM.* Procedures to follow in conducting visual inspections for friable and non-friable ACM; types of building materials that may contain asbestos; touching materials to determine friability; open return air plenums and their importance in HVAC systems; assessing damage, significant damage, potential damage, and potential significant damage; amount of suspected ACM, both in total quantity and as a percentage of the total area; type of damage; accessibility; material's potential for disturbance; known or suspected causes of damage or significant damage; and deterioration as assessment factors.

(i) *Bulk sampling/documentation of asbestos.* Detailed discussion of the "Simplified Sampling Scheme for Friable Surfacing Materials (EPA 560/5-85-030a October 1985)"; techniques to ensure sampling in a randomly distributed manner for other than friable surfacing materials; sampling of non-friable materials; techniques for bulk sampling; inspector's sampling and repair equipment; patching or repair of damage from sampling; discussion of polarized light microscopy; choosing an accredited laboratory to analyze bulk samples; quality control and quality assurance procedures. EPA's recommendation that all bulk samples collected from school or public and com-

mercial buildings be analyzed by a laboratory accredited under the NVLAP administered by NIST.

(j) *Inspector respiratory protection and personal protective equipment.* Classes and characteristics of respirator types; limitations of respirators; proper selection, inspection; donning, use, maintenance, and storage procedures for respirators; methods for field testing of the facepiece-to-face seal (positive and negative-pressure fit checks); qualitative and quantitative fit testing procedures; variability between field and laboratory protection factors that alter respiratory fit (e.g., facial hair); the components of a proper respiratory protection program; selection and use of personal protective clothing; use, storage, and handling of non-disposable clothing.

(k) *Recordkeeping and writing the inspection report.* Labeling of samples and keying sample identification to sampling location; recommendations on sample labeling; detailing of ACM inventory; photographs of selected sampling areas and examples of ACM condition; information required for inclusion in the management plan required for school buildings under TSCA Title II, section 203 (i)(1). EPA recommends that States develop and require the use of standardized forms for recording the results of inspections in schools or public or commercial buildings, and that the use of these forms be incorporated into the curriculum of training conducted for accreditation.

(l) *Regulatory review.* The following topics should be covered: National Emission Standards for Hazardous Air Pollutants (NESHAP; 40 CFR part 61, Subparts A and M); EPA Worker Protection Rule (40 CFR part 763, Subpart G); OSHA Asbestos Construction Standard (29 CFR 1926.58); OSHA respirator requirements (29 CFR 1910.134); the Asbestos-Containing Materials in School Rule (40 CFR part 763, Subpart E; applicable State and local regulations, and differences between Federal and State requirements where they apply, and the effects, if any, on public and nonpublic schools or commercial or public buildings.

(m) *Field trip.* This includes a field exercise, including a walk-through inspection; on-site discussion about information gathering and the determination of sampling locations; on-site practice in physical assessment; classroom discussion of field exercise.

(n) *Course review.* A review of key aspects of the training course.

4. MANAGEMENT PLANNER

All persons who prepare management plans for schools must be accredited. All persons seeking accreditation as management planners shall complete a 3-day inspector training course as outlined above and a 2-day management planner training course. Possession of current and valid inspector accreditation shall be a prerequisite for admission to the management planner training course. The management planner course shall include lectures, demonstrations, course review, and a written examination.

EPA recommends the use of audiovisual materials to complement lectures, where appropriate.

TSCA Title II does not require accreditation for persons performing the management planner role in public and commercial buildings. Nevertheless, such persons may find this training and accreditation helpful in preparing them to design or administer asbestos operations and maintenance programs for public and commercial buildings.

The management planner training course shall adequately address the following topics:

(a) *Course overview.* The role and responsibilities of the management planner; operations and maintenance programs; setting work priorities; protection of building occupants.

(b) *Evaluation/interpretation of survey results.* Review of TSCA Title II requirements for inspection and management plans for school buildings as given in section 203(i)(1) of TSCA Title II; interpretation of field data and laboratory results; comparison of field inspector's data sheet with laboratory results and site survey.

(c) *Hazard assessment.* Amplification of the difference between physical assessment and hazard assessment; the role of the management planner in hazard assessment; explanation of significant damage, damage, potential damage, and potential significant damage; use of a description (or decision tree) code for assessment of ACM; assessment of friable ACM; relationship of accessibility, vibration sources, use of adjoining space, and air plenums and other factors to hazard assessment.

(d) *Legal implications.* Liability; insurance issues specific to planners; liabilities associated with interim control measures, in-house maintenance, repair, and removal; use of results from previously performed inspections.

(e) *Evaluation and selection of control options.* Overview of encapsulation, enclosure, interim operations and maintenance, and removal; advantages and disadvantages of each method; response actions described via a decision tree or other appropriate method; work practices for each response action; staging and prioritizing of work in both vacant and occupied buildings; the need for containment barriers and decontamination in response actions.

(f) *Role of other professionals.* Use of industrial hygienists, engineers, and architects in developing technical specifications for response actions; any requirements that may exist for architect sign-off of plans; team approach to design of high-quality job specifications.

(g) *Developing an operations and maintenance (O&M) plan.* Purpose of the plan; discussion of applicable EPA guidance documents; what actions should be taken by custodial staff; proper cleaning procedures; steam cleaning and HEPA vacuuming; reducing disturbance of ACM; scheduling O&M for off-hours; rescheduling or canceling renovation in areas with ACM; boiler room maintenance; disposal of ACM; in-house procedures for ACM—bridging and penetrating encapsulants; pipe fittings; metal sleeves; polyvinyl chloride (PVC), canvas, and wet wraps; muslin with straps, fiber mesh cloth; mineral wool, and insulating cement; discussion of employee protection programs and staff training; case study in developing an O&M plan (development, implementation process, and problems that have been experienced).

(h) *Regulatory review.* Focusing on the OSHA Asbestos Construction Standard found at 29 CFR 1926.58; the National Emission Standard for Hazardous Air Pollutants (NESHAP) found at 40 CFR part 61, Subparts A (General Provisions) and M (National Emission Standard for Asbestos); EPA Worker Protection Rule found at 40 CFR part 763, Subpart G; TSCA Title II; applicable State regulations.

(i) *Recordkeeping for the management planner.* Use of field inspector's data sheet along with laboratory results; on-going recordkeeping as a means to track asbestos disturbance; procedures for recordkeeping. EPA recommends that States require the use of standardized forms for purposes of management plans and incorporate the use of such forms into the initial training course for management planners.

(j) *Assembling and submitting the management plan.* Plan requirements for schools in TSCA Title II section 203(i)(1); the management plan as a planning tool.

(k) *Financing abatement actions.* Economic analysis and cost estimates; development of cost estimates; present costs of abatement versus future operation and maintenance costs; Asbestos School Hazard Abatement Act grants and loans.

(l) *Course review.* A review of key aspects of the training course.

5. PROJECT DESIGNER

A person must be accredited as a project designer to design any of the following activities with respect to friable ACM in a school or public and commercial building: (1) A response action other than a SSSD maintenance activity, (2) a maintenance activity that disturbs friable ACM other than a SSSD maintenance activity, or (3) a response action for a major fiber release episode. All persons seeking accreditation as a project designer shall complete at least a minimum 3-day training course as outlined below. The project designer course shall include lectures, demonstrations, a field trip, course review and a written examination.

EPA recommends the use of audiovisual materials to complement lectures, where appropriate.

The abatement project designer training course shall adequately address the following topics:

(a) *Background information on asbestos.* Identification of asbestos; examples and discussion of the uses and locations of asbestos in buildings; physical appearance of asbestos.

(b) *Potential health effects related to asbestos exposure.* Nature of asbestos-related diseases; routes of exposure; dose-response relationships and the lack of a safe exposure level; the synergistic effect between cigarette smoking and asbestos exposure; the latency period of asbestos-related diseases; a discussion of the relationship between asbestos exposure and asbestosis, lung cancer, mesothelioma, and cancers of other organs.

(c) *Overview of abatement construction projects.* Abatement as a portion of a renovation project; OSHA requirements for notification of other contractors on a multi-employer site (29 CFR 1926.58).

(d) *Safety system design specifications.* Design, construction, and maintenance of containment barriers and decontamination enclosure systems; positioning of warning signs; electrical and ventilation system lock-out; proper working techniques for minimizing fiber release; entry and exit procedures for the work area; use of wet methods; proper techniques for initial cleaning; use of negative-pressure exhaust ventilation equipment; use of HEPA vacuums; proper clean-up and disposal of asbestos; work practices as they apply to encapsulation, enclosure, and repair; use of glove bags and a demonstration of glove bag use.

(e) *Field trip.* A visit to an abatement site or other suitable building site, including on-site discussions of abatement design and building walk-through inspection. Include discussion of rationale for the concept of functional spaces during the walk-through.

(f) *Employee personal protective equipment.* Classes and characteristics of respirator types; limitations of respirators; proper selection, inspection; donning, use, maintenance, and storage procedures for respirators; methods for field testing of the facepiece-to-face seal (positive and negative-pressure fit checks); qualitative and quantitative

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fit testing procedures; variability between field and laboratory protection factors that alter respiratory fit (e.g., facial hair); the components of a proper respiratory protection program; selection and use of personal protective clothing; use, storage, and handling of non-disposable clothing.

(g) *Additional safety hazards.* Hazards encountered during abatement activities and how to deal with them, including electrical hazards, heat stress, air contaminants other than asbestos, fire, and explosion hazards.

(h) *Fiber aerodynamics and control.* Aerodynamic characteristics of asbestos fibers; importance of proper containment barriers; settling time for asbestos fibers; wet methods in abatement; aggressive air monitoring following abatement; aggressive air movement and negative-pressure exhaust ventilation as a clean-up method.

(i) *Designing abatement solutions.* Discussions of removal, enclosure, and encapsulation methods; asbestos waste disposal.

(j) *Final clearance process.* Discussion of the need for a written sampling rationale for aggressive final air clearance; requirements of a complete visual inspection; and the relationship of the visual inspection to final air clearance.

EPA recommends the use of TEM for analysis of final air clearance samples. These samples should be analyzed by laboratories accredited under the NIST NVLAP.

(k) *Budgeting/cost estimating.* Development of cost estimates; present costs of abatement versus future operation and maintenance costs; setting priorities for abatement jobs to reduce costs.

(l) *Writing abatement specifications.* Preparation of and need for a written project design; means and methods specifications versus performance specifications; design of abatement in occupied buildings; modification of guide specifications for a particular building; worker and building occupant health/medical considerations; replacement of ACM with non-asbestos substitutes.

(m) *Preparing abatement drawings.* Significance and need for drawings, use of as-built drawings as base drawings; use of inspection photographs and on-site reports; methods of preparing abatement drawings; diagramming containment barriers; relationship of drawings to design specifications; particular problems related to abatement drawings.

(n) *Contract preparation and administration.*

(o) *Legal/liabilities/defenses.* Insurance considerations; bonding; hold-harmless clauses; use of abatement contractor's liability insurance; claims made versus occurrence policies.

(p) *Replacement.* Replacement of asbestos with asbestos-free substitutes.

(q) *Role of other consultants.* Development of technical specification sections by industrial hygienists or engineers; the multi-disciplinary team approach to abatement design.

(r) *Occupied buildings.* Special design procedures required in occupied buildings; education of occupants; extra monitoring recommendations; staging of work to minimize occupant exposure; scheduling of renovation to minimize exposure.

(s) *Relevant Federal, State, and local regulatory requirements, procedures and standards, including, but not limited to:*

(i) Requirements of TSCA Title II.

(ii) National Emission Standards for Hazardous Air Pollutants, (40 CFR part 61) subparts A (General Provisions) and M (National Emission Standard for Asbestos).

(iii) OSHA Respirator Standard found at 29 CFR 1910.134.

(iv) EPA Worker Protection Rule found at 40 CFR part 763, subpart G.

(v) OSHA Asbestos Construction Standard found at 29 CFR 1926.58.

(vi) OSHA Hazard Communication Standard found at 29 CFR 1926.59.

(t) *Course review.* A review of key aspects of the training course.

6. PROJECT MONITOR

EPA recommends that States adopt training and accreditation requirements for persons seeking to perform work as project monitors. Project monitors observe abatement activities performed by contractors and generally serve as a building owner's representative to ensure that abatement work is completed according to specification and in compliance with all relevant statutes and regulations. They may also perform the vital role of air monitoring for purposes of determining final clearance. EPA recommends that a State seeking to accredit individuals as project monitors consider adopting a minimum 5-day training course covering the topics outlined below. The course outlined below consists of lectures and demonstrations, at least 6 hours of hands-on training, course review, and a written examination. The hands-on training component might be satisfied by having the student simulate participation in or performance of any of the relevant job functions or activities (or by incorporation of the workshop component described in item "n" below of this unit).

EPA recommends that the project monitor training course adequately address the following topics:

(a) *Roles and responsibilities of the project monitor.* Definition and responsibilities of the project monitor, including regulatory/specification compliance monitoring, air monitoring, conducting visual inspections, and final clearance monitoring.

(b) *Characteristics of asbestos and asbestos-containing materials.* Typical uses of asbestos; physical appearance of asbestos; review of asbestos abatement and control techniques; presentation of the health effects of asbestos exposure, including routes of exposure, dose-response relationships, and latency periods for asbestos-related diseases.

(c) *Federal asbestos regulations.* Overview of pertinent EPA regulations, including: NESHAP, 40 CFR part 61, subparts A and M; AHERA, 40 CFR part 763, subpart E; and the EPA Worker Protection Rule, 40 CFR part 763, subpart G. Overview of pertinent OSHA regulations, including: Construction Industry Standard for Asbestos, 29 CFR 1926.58; Respirator Standard, 29 CFR 1910.134; and the Hazard Communication Standard, 29 CFR 1926.59. Applicable State and local asbestos regulations; regulatory interrelationships.

(d) *Understanding building construction and building systems.* Building construction basics, building physical plan layout; understanding building systems (HVAC, electrical, etc.); layout and organization, where asbestos is likely to be found on building systems; renovations and the effect of asbestos abatement on building systems.

(e) *Asbestos abatement contracts, specifications, and drawings.* Basic provisions of the contract; relationships between principle parties, establishing chain of command;

types of specifications, including means and methods, performance, and proprietary and nonproprietary; reading and interpreting records and abatement drawings; discussion of change orders; common enforcement responsibilities and authority of project monitor.

(f) *Response actions and abatement practices.* Pre-work inspections; pre-work considerations, precleaning of the work area, removal of furniture, fixtures, and equipment; shutdown/modification of building systems; construction and maintenance of containment barriers, proper demarcation of work areas; work area entry/exit, hygiene practices; determining the effectiveness of air filtration equipment; techniques for minimizing fiber release, wet methods, continuous cleaning; abatement methods other than removal; abatement area clean-up procedures; waste transport and disposal procedures; contingency planning for emergency response.

(g) *Asbestos abatement equipment.* Typical equipment found on an abatement project; air filtration devices, vacuum systems, negative pressure differential monitoring; HEPA filtration units, theory of filtration, design/construction of HEPA filtration units, qualitative and quantitative performance of HEPA filtration units, sizing the ventilation requirements, location of HEPA filtration units, qualitative and quantitative tests of containment barrier integrity; best available technology.

(h) *Personal protective equipment.* Proper selection of respiratory protection; classes and characteristics of respirator types, limitations of respirators; proper use of other safety equipment, protective clothing selection, use, and proper handling, hard/bump hats, safety shoes; breathing air systems, high pressure v. low pressure, testing for Grade D air, determining proper backup air volumes.

(i) *Air monitoring strategies.* Sampling equipment, sampling pumps (low v. high volume), flow regulating devices (critical and limiting orifices), use of fibrous aerosol monitors on abatement projects; sampling media, types of filters, types of cassettes, filter orientation, storage and shipment of filters; calibration techniques, primary calibration standards, secondary calibration standards, temperature/pressure effects, frequency of calibration, recordkeeping and field work documentation, calculations; air sample analysis, techniques available and limitations of AHERA on their use, transmission electron microscopy (background to sample preparation and analysis, air sample conditions which prohibit analysis, EPA's recommended technique for analysis of final air clearance samples), phase contrast microscopy (background to sample preparation, and AHERA's limits on the use of phase contrast microscopy), what each technique measures; analytical methodologies, AHERA TEM protocol, NIOSH 7400, OSHA reference method (non clearance), EPA recommendation for clearance (TEM); sampling strategies for clearance monitoring, types of air samples (personal breathing zone v. fixed-station area) sampling location and objectives (pre-abatement, during abatement, and clearance monitoring), number of samples to be collected, minimum and maximum air volumes, clearance monitoring (post-visual-inspection) (number of samples required, selection of sampling locations, period of sampling, aggressive sampling, interpretations of sampling results, calculations), quality assurance; special sampling problems, crawl spaces, acceptable samples for laboratory analysis, sampling in occupied buildings (barrier monitoring).

(j) *Safety and health issues other than asbestos.* Confined-space entry, electrical hazards, fire and explosion

concerns, ladders and scaffolding, heat stress, air contaminants other than asbestos, fall hazards, hazardous materials on abatement projects.

(k) *Conducting visual inspections.* Inspections during abatement, visual inspections using the ASTM E1368 document; conducting inspections for completeness of removal; discussion of "how clean is clean?"

(l) *Legal responsibilities and liabilities of project monitors.* Specification enforcement capabilities; regulatory enforcement; licensing; powers delegated to project monitors through contract documents.

(m) *Recordkeeping and report writing.* Developing project logs/daily logs (what should be included, who sees them); final report preparation; recordkeeping under Federal regulations.

(n) *Workshops (6 hours spread over 3 days).* Contracts, specifications, and drawings: This workshop could consist of each participant being issued a set of contracts, specifications, and drawings and then being asked to answer questions and make recommendations to a project architect, engineer or to the building owner based on given conditions and these documents.

Air monitoring strategies/asbestos abatement equipment: This workshop could consist of simulated abatement sites for which sampling strategies would have to be developed (i.e., occupied buildings, industrial situations). Through demonstrations and exhibition, the project monitor may also be able to gain a better understanding of the function of various pieces of equipment used on abatement projects (air filtration units, water filtration units, negative pressure monitoring devices, sampling pump calibration devices, etc.).

Conducting visual inspections: This workshop could consist, ideally, of an interactive video in which a participant is "taken through" a work area and asked to make notes of what is seen. A series of questions will be asked which are designed to stimulate a person's recall of the area. This workshop could consist of a series of two or three videos with different site conditions and different degrees of cleanliness.

C. Examinations

1. Each State shall administer a closed book examination or designate other entities such as State-approved providers of training courses to administer the closed-book examination to persons seeking accreditation who have completed an initial training course. Demonstration testing may also be included as part of the examination. A person seeking initial accreditation in a specific discipline must pass the examination for that discipline in order to receive accreditation. For example, a person seeking accreditation as an abatement project designer must pass the State's examination for abatement project designer.

States may develop their own examinations, have providers of training courses develop examinations, or use standardized examinations developed for purposes of accreditation under TSCA Title II. In addition, States may supplement standardized examinations with questions about State regulations. States may obtain commercially developed standardized examinations, develop standardized examinations independently, or do so in cooperation with other States, or with commercial or non-profit providers on a regional or national basis. EPA recommends the use of standardized, scientifically-validated testing instruments, which may be beneficial in terms of both pro-

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moting competency and in fostering accreditation reciprocity between States.

Each examination shall adequately cover the topics included in the training course for that discipline. Each person who completes a training course, passes the required examination, and fulfills whatever other requirements the State imposes must receive an accreditation certificate in a specific discipline. Whether a State directly issues accreditation certificates, or authorizes training providers to issue accreditation certificates, each certificate issued to an accredited person must contain the following minimum information:

- a. A unique certificate number
- b. Name of accredited person
- c. Discipline of the training course completed.
- d. Dates of the training course.
- e. Date of the examination.
- f. An expiration date of 1 year after the date upon which the person successfully completed the course and examination.
- g. The name, address, and telephone number of the training provider that issued the certificate.
- h. A statement that the person receiving the certificate has completed the requisite training for asbestos accreditation under TSCA Title II.

States or training providers who reaccredit persons based upon completion of required refresher training must also provide accreditation certificates with all of the above information, except the examination date may be omitted if a State does not require a refresher examination for reaccreditation.

Where a State licenses accredited persons but has authorized training providers to issue accreditation certificates, the State may issue licenses in the form of photo-identification cards. Where this applies, EPA recommends that the State licenses should include all of the same information required for the accreditation certificates. A State may also choose to issue photo-identification cards in addition to the required accreditation certificates.

Accredited persons must have their initial and current accreditation certificates at the location where they are conducting work.

2. The following are the requirements for examination in each discipline:

- a. Worker:
 - i. 50 multiple-choice questions
 - ii. Passing score: 70 percent correct
- b. Contractor/Supervisor:
 - i. 100 multiple-choice questions
 - ii. Passing score: 70 percent correct
- c. Inspector:
 - i. 50 Multiple-choice questions
 - ii. Passing score: 70 percent correct
- d. Management Planner:
 - i. 50 Multiple-choice questions
 - ii. Passing score: 70 percent correct
- e. Project Designer:
 - i. 100 multiple-choice questions
 - ii. Passing score: 70 percent correct

D. Continuing Education

For all disciplines, a State's accreditation program shall include annual refresher training as a requirement for reaccreditation as indicated below:

1. Workers: One full day of refresher training.
2. Contractor/Supervisors: One full day of refresher training.

3. Inspectors: One half-day of refresher training.

4. Management Planners: One half-day of inspector refresher training and one half-day of refresher training for management planners.

5. Project Designers: One full day of refresher training.

The refresher courses shall be specific to each discipline. Refresher courses shall be conducted as separate and distinct courses and not combined with any other training during the period of the refresher course. For each discipline, the refresher course shall review and discuss changes in Federal, State, and local regulations, developments in state-of-the-art procedures, and a review of key aspects of the initial training course as determined by the State. After completing the annual refresher course, persons shall have their accreditation extended for an additional year from the date of the refresher course. A State may consider requiring persons to pass reaccreditation examinations at specific intervals (for example, every 3 years).

EPA recommends that States formally establish a 12-month grace period to enable formerly accredited persons with expired certificates to complete refresher training and have their accreditation status reinstated without having to re-take the initial training course.

E. Qualifications

In addition to requiring training and an examination, a State may require candidates for accreditation to meet other qualification and/or experience standards that the State considers appropriate for some or all disciplines. States may choose to consider requiring qualifications similar to the examples outlined below for inspectors, management planners and project designers. States may modify these examples as appropriate. In addition, States may want to include some requirements based on experience in performing a task directly as a part of a job or in an apprenticeship role. They may also wish to consider additional criteria for the approval of training course instructors beyond those prescribed by EPA.

1. Inspectors: Qualifications - possess a high school diploma. States may want to require an Associate's Degree in specific fields (e.g., environmental or physical sciences).

2. Management Planners: Qualifications - Registered architect, engineer, or certified industrial hygienist or related scientific field.

3. Project Designers: Qualifications - registered architect, engineer, or certified industrial hygienist.

4. Asbestos Training Course Instructor: Qualifications - academic credentials and/or field experience in asbestos abatement.

EPA recommends that States prescribe minimum qualification standards for training instructors employed by training providers.

F. Recordkeeping Requirements for Training Providers

All approved providers of accredited asbestos training courses must comply with the following minimum recordkeeping requirements.

1. Training course materials. A training provider must retain copies of all instructional materials used in the delivery of the classroom training such as student manuals, instructor notebooks and handouts.

2. Instructor qualifications. A training provider must retain copies of all instructors' resumes, and the documents approving each instructor issued by either EPA or a State.

Instructors must be approved by either EPA or a State before teaching courses for accreditation purposes. A training provider must notify EPA or the State, as appropriate, in advance whenever it changes course instructors. Records must accurately identify the instructors that taught each particular course for each date that a course is offered.

3. Examinations. A training provider must document that each person who receives an accreditation certificate for an initial training course has achieved a passing score on the examination. These records must clearly indicate the date upon which the exam was administered, the training course and discipline for which the exam was given, the name of the person who proctored the exam, a copy of the exam, and the name and test score of each person taking the exam. The topic and dates of the training course must correspond to those listed on that person's accreditation certificate. States may choose to apply these same requirements to examinations for refresher training courses.

4. Accreditation certificates. The training providers or States, whichever issues the accreditation certificate, shall maintain records that document the names of all persons who have been awarded certificates, their certificate numbers, the disciplines for which accreditation was conferred, training and expiration dates, and the training location. The training provider or State shall maintain the records in a manner that allows verification by telephone of the required information.

5. Verification of certificate information. EPA recommends that training providers of refresher training courses confirm that their students possess valid accreditation before granting course admission. EPA further recommends that training providers offering the initial management planner training course verify that students have met the prerequisite of possessing valid inspector accreditation at the time of course admission.

6. Records retention and access. (a) The training provider shall maintain all required records for a minimum of 3 years. The training provider, however, may find it advantageous to retain these records for a longer period of time.

(b) The training provider must allow reasonable access to all of the records required by the MAP, and to any other records which may be required by States for the approval of asbestos training providers or the accreditation of asbestos training courses, to both EPA and to State Agencies, on request. EPA encourages training providers to make this information equally accessible to the general public.

(c) If a training provider ceases to conduct training, the training provider shall notify the approving government body (EPA or the State) and give it the opportunity to take possession of that providers asbestos training records.

G. Deaccreditation

1. States must establish criteria and procedures for deaccrediting persons accredited as workers, contractor/supervisors, inspectors, management planners, and project designers. States must follow their own administrative procedures in pursuing deaccreditation actions. At a minimum, the criteria shall include:

(a) Performing work requiring accreditation at a job site without being in physical possession of initial and current accreditation certificates;

(b) Permitting the duplication or use of one's own accreditation certificate by another;

(c) Performing work for which accreditation has not been received; or

(d) Obtaining accreditation from a training provider that does not have approval to offer training for the particular discipline from either EPA or from a State that has a contractor accreditation plan at least as stringent as the EPA MAP.

EPA may directly pursue deaccreditation actions without reliance on State deaccreditation or enforcement authority or actions. In addition to the above-listed situations, the Administrator may suspend or revoke the accreditation of persons who have been subject to a final order imposing a civil penalty or convicted under section 16 of TSCA, 15 U.S.C. 2615 or 2647, for violations of 40 CFR part 763, or section 113 of the Clean Air Act, 42 U.S.C. 7413, for violations of 40 CFR part 61, subpart M.

2. Any person who performs asbestos work requiring accreditation under section 206(a) of TSCA, 15 U.S.C. 2646(a), without such accreditation is in violation of TSCA. The following persons are not accredited for purposes of section 206(a) of TSCA:

(a) Any person who obtains accreditation through fraudulent representation of training or examination documents;

(b) Any person who obtains training documentation through fraudulent means;

(c) Any person who gains admission to and completes refresher training through fraudulent representation of initial or previous refresher training documentation; or

(d) Any person who obtains accreditation through fraudulent representation of accreditation requirements such as education, training, professional registration, or experience.

H. Reciprocity

EPA recommends that each State establish reciprocal arrangements with other States that have established accreditation programs that meet or exceed the requirements of the MAP. Such arrangements might address cooperation in licensing determinations, the review and approval of training programs and/or instructors, candidate testing and exam administration, curriculum development, policy formulation, compliance monitoring, and the exchange of information and data. The benefits to be derived from these arrangements include a potential cost-savings from the reduction of duplicative activity and the attainment of a more professional accredited workforce as States are able to refine and improve the effectiveness of their programs based upon the experience and methods of other States.

II. EPA Approval Process for State Accreditation Programs

A. States may seek approval for a single discipline or all disciplines as specified in the MAP. For example, a State that currently only requires worker accreditation may receive EPA approval for that discipline alone. EPA encourages States that currently do not have accreditation requirements for all disciplines required under section 206(b)(2) of TSCA, 15 U.S.C. 2646(b)(2), to seek EPA approval for those disciplines the State does accredit. As States establish accreditation requirements for the remaining disciplines, the requested information outlined below should be submitted to EPA as soon as possible. Any State that had an accreditation program approved by EPA

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under an earlier version of the MAP may follow the same procedures to obtain EPA approval of their accreditation program under this MAP.

B. Partial approval of a State Program for the accreditation of one or more disciplines does not mean that the State is in full compliance with TSCA where the deadline for that State to have adopted a State Plan no less stringent than the MAP has already passed. State Programs which are at least as stringent as the MAP for one or more of the accredited disciplines may, however, accredit persons in those disciplines only.

C. States seeking EPA approval or reapproval of accreditation programs shall submit the following information to the Regional Asbestos Coordinator at their EPA Regional office:

1. A copy of the legislation establishing or upgrading the State's accreditation program (if applicable).

2. A copy of the State's accreditation regulations or revised regulations.

3. A letter to the Regional Asbestos Coordinator that clearly indicates how the State meets the program requirements of this MAP. Addresses for each of the Regional Asbestos Coordinators are shown below:

EPA, Region I, (ATC-111) Asbestos Coordinator, JFK Federal Bldg., Boston, MA 02203-2211, (617) 565-3836.

EPA, Region II, (MS-500), Asbestos Coordinator, 2890 Woodbridge Ave., Edison, NJ 08837-3679, (908) 321-6671.

EPA, Region III, (3AT-33), Asbestos Coordinator, 841 Chestnut Bldg., Philadelphia, PA 19107, (215) 597-3160.

EPA, Region IV, Asbestos Coordinator, 345 Courtland St., N.E., Atlanta, GA 30365, (404) 347-5014.

EPA, Region V, (SP-14J), Asbestos Coordinator, 77 W. Jackson Blvd., Chicago, IL 60604-3590, (312) 886-6003.

EPA, Region VI, (6T-PT), Asbestos Coordinator, 1445 Ross Ave. Dallas, TX 75202-2744, (214) 655-7244.

EPA, Region VII, (ARTX/ASBS), Asbestos Coordinator, 726 Minnesota Ave., Kansas City, KS 66101, (913) 551-7020.

EPA, Region VIII, (8AT-TS), Asbestos Coordinator, 1 Denver Place, Suite 500 999 - 18th St., Denver, CO 80202-2405, (303) 293-1442.

EPA, Region IX, (A-4-4), Asbestos Coordinator, 75 Hawthorne St., San Francisco, CA 94105, (415) 744-1128.

EPA, Region X, (AT-083), Asbestos Coordinator, 1200 Sixth Ave., Seattle, WA 98101, (206) 553-4762.

EPA maintains a listing of all those States that have applied for and received EPA approval for having accreditation requirements that are at least as stringent as the MAP for one or more disciplines. Any training courses approved by an EPA-approved State Program are considered to be EPA-approved for purposes of accreditation.

III. Approval of Training Courses

Individuals or groups wishing to sponsor training courses for disciplines required to be accredited under section 206(b)(1)(A) of TSCA, 15 U.S.C. 2646(b)(1)(A), may apply for approval from States that have accreditation program requirements that are at least as stringent as this MAP. For a course to receive approval, it must meet the requirements for the course as outlined in this MAP, and any other requirements imposed by the State from which approval is being sought. Courses that have been approved by a State with an accreditation program at least

as stringent as this MAP are approved under section 206(a) of TSCA, 15 U.S.C. 2646(a), for that particular State, and also for any other State that does not have an accreditation program as stringent as this MAP.

A. Initial Training Course Approval

A training provider must submit the following minimum information to a State as part of its application for the approval of each training course:

1. The course provider's name, address, and telephone number.

2. A list of any other States that currently approve the training course.

3. The course curriculum.

4. A letter from the provider of the training course that clearly indicates how the course meets the MAP requirements for:

- a. Length of training in days.

- b. Amount and type of hands-on training.

- c. Examination (length, format, and passing score).

- d. Topics covered in the course.

5. A copy of all course materials (student manuals, instructor notebooks, handouts, etc.).

6. A detailed statement about the development of the examination used in the course.

7. Names and qualifications of all course instructors. Instructors must have academic and/or field experience in asbestos abatement.

8. A description of and an example of the numbered certificates issued to students who attend the course and pass the examination.

B. Refresher Training Course Approval

The following minimum information is required for approval of refresher training courses by States:

1. The length of training in half-days or days.

2. The topics covered in the course.

3. A copy of all course materials (student manuals, instructor notebooks, handouts, etc.).

4. The names and qualifications of all course instructors. Instructors must have academic and/or field experience in asbestos abatement.

5. A description of and an example of the numbered certificates issued to students who complete the refresher course and pass the examination, if required.

C. Withdrawal of Training Course Approval

States must establish criteria and procedures for suspending or withdrawing approval from accredited training programs. States should follow their own administrative procedures in pursuing actions for suspension or withdrawal of approval of training programs. At a minimum, the criteria shall include:

- (1) Misrepresentation of the extent of a training course's approval by a State or EPA;

- (2) Failure to submit required information or notifications in a timely manner;

- (3) Failure to maintain requisite records;

- (4) Falsification of accreditation records, instructor qualifications, or other accreditation information; or

- (5) Failure to adhere to the training standards and requirements of the EPA MAP or State Accreditation Program, as appropriate.

In addition to the criteria listed above, EPA may also suspend or withdraw a training course's approval where an approved training course instructor, or other person

with supervisory authority over the delivery of training has been found in violation of other asbestos regulations administered by EPA. An administrative or judicial finding of violation, or execution of a consent agreement and order under 40 CFR 22.18, constitutes evidence of a failure to comply with relevant statutes or regulations. States may wish to adopt this criterion modified to include their own asbestos statutes or regulations. EPA may also suspend or withdraw approval of training programs where a training provider has submitted false information as a part of the self-certification required under Unit V.B. of the revised MAP.

Training course providers shall permit representatives of EPA or the State which approved their training courses to attend, evaluate, and monitor any training course without charge. EPA or State compliance inspection staff are not required to give advance notice of their inspections. EPA may suspend or withdraw State or EPA approval of a training course based upon the criteria specified in this Unit III.C.

IV. EPA Procedures for Suspension or Revocation of Accreditation or Training Course Approval.

A. If the Administrator decides to suspend or revoke the accreditation of any person or suspend or withdraw the approval of a training course, the Administrator will notify the affected entity of the following:

1. The grounds upon which the suspension, revocation, or withdrawal is based.
2. The time period during which the suspension, revocation, or withdrawal is effective, whether permanent or otherwise.
3. The conditions, if any, under which the affected entity may receive accreditation or approval in the future.
4. Any additional conditions which the Administrator may impose.
5. The opportunity to request a hearing prior to final Agency action to suspend or revoke accreditation or suspend or withdraw approval.

B. If a hearing is requested by the accredited person or training course provider pursuant to the preceding paragraph, the Administrator will:

1. Notify the affected entity of those assertions of law and fact upon which the action to suspend, revoke, or withdraw is based.
2. Provide the affected entity an opportunity to offer written statements of facts, explanations, comments, and arguments relevant to the proposed action.
3. Provide the affected entity such other procedural opportunities as the Administrator may deem appropriate to ensure a fair and impartial hearing.
4. Appoint an EPA attorney as Presiding Officer to conduct the hearing. No person shall serve as Presiding Officer if he or she has had any prior connection with the specific case.

C. The Presiding Officer appointed pursuant to the preceding paragraph shall:

1. Conduct a fair, orderly, and impartial hearing, without unnecessary delay.
2. Consider all relevant evidence, explanation, comment, and argument submitted pursuant to the preceding paragraph.
3. Promptly notify the affected entity of his or her decision and order. Such an order is a final Agency action.
- D. If the Administrator determines that the public health, interest, or welfare warrants immediate action to

suspend the accreditation of any person or the approval of any training course provider, the Administrator will:

1. Notify the affected entity of the grounds upon which the emergency suspension is based;
2. Notify the affected entity of the time period during which the emergency suspension is effective.
3. Notify the affected entity of the Administrator's intent to suspend or revoke accreditation or suspend or withdraw training course approval, as appropriate, in accordance with Unit IV.A. above. If such suspension, revocation, or withdrawal notice has not previously been issued, it will be issued at the same time the emergency suspension notice is issued.

E. Any notice, decision, or order issued by the Administrator under this section, and any documents filed by an accredited person or approved training course provider in a hearing under this section, shall be available to the public except as otherwise provided by section 14 of TSCA or by 40 CFR part 2. Any such hearing at which oral testimony is presented shall be open to the public, except that the Presiding Officer may exclude the public to the extent necessary to allow presentation of information which may be entitled to confidential treatment under section 14 of TSCA or 40 CFR part 2.

V. Implementation Schedule

The various requirements of this MAP become effective in accordance with the following schedules:

A. Requirements applicable to State Programs

1. Each State shall adopt an accreditation plan that is at least as stringent as this MAP within 180 days after the commencement of the first regular session of the legislature of the State that is convened on or after April 4, 1994.

2. If a State has adopted an accreditation plan at least as stringent as this MAP as of April 4, 1994, the State may continue to:

- a. Conduct TSCA training pursuant to this MAP.
- b. Approve training course providers to conduct training and to issue accreditation that satisfies the requirements for TSCA accreditation under this MAP.
- c. Issue accreditation that satisfies the requirements for TSCA accreditation under this MAP.

3. A State that had complied with an earlier version of the MAP, but has not adopted an accreditation plan at least as stringent as this MAP by April 4, 1994, may:

- a. Conduct TSCA training which remains in compliance with the requirements of Unit V.B. of this MAP. After such training has been self-certified in accordance with Unit V.B. of this MAP, the State may issue accreditation that satisfies the requirement for TSCA accreditation under this MAP.
- b. Sustain its approval for any training course providers to conduct training and issue TSCA accreditation that the State had approved before April 4, 1994, and that remain in compliance with Unit V.B. of this MAP.
- c. Issue accreditation pursuant to an earlier version of the MAP that provisionally satisfies the requirement for TSCA accreditation until October 4, 1994.

Such a State may not approve new TSCA training course providers to conduct training or to issue TSCA accreditation that satisfies the requirements of this MAP until the State adopts an accreditation plan that is at least as stringent as this MAP.

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4. A State that had complied with an earlier version of the MAP, but fails to adopt a plan as stringent as this MAP by the deadline established in Unit V.A.1., is subject to the following after that deadline date:

a. The State loses any status it may have held as an EPA-approved State for accreditation purposes under section 206 of TSCA, 15 U.S.C. 2646.

b. All training course providers approved by the State lose State approval to conduct training and issue accreditation that satisfies the requirements for TSCA accreditation under this MAP.

c. The State may not:

i. Conduct training for accreditation purposes under section 206 of TSCA, 15 U.S.C. 2646.

ii. Approve training course providers to conduct training or issue accreditation that satisfies the requirements for TSCA accreditation; or

iii. Issue accreditation that satisfies the requirement for TSCA accreditation.

EPA will extend EPA-approval to any training course provider that loses State approval because the State does not comply with the deadline, so long as the provider is in compliance with Unit V.B. of this MAP, and the provider is approved by a State that had complied with an earlier version of the MAP as of the day before the State loses its EPA approval.

5. A State that does not have an accreditation program that satisfies the requirements for TSCA accreditation under either an earlier version of the MAP or this MAP, may not:

a. Conduct training for accreditation purposes under section 206 of TSCA, 15 U.S.C. 2646;

b. Approve training course providers to conduct training or issue accreditation that satisfies the requirements for TSCA accreditation; or

c. Issue accreditation that satisfies the requirement for TSCA accreditation.

B. Requirements applicable to Training Courses and Providers

As of October 4, 1994, an approved training provider must certify to EPA and to any State that has approved the provider for TSCA accreditation, that each of the provider's training courses complies with the requirements of this MAP. The written submission must document in specific detail the changes made to each training course in order to comply with the requirements of this MAP and clearly state that the provider is also in compliance with all other requirements of this MAP, including the new recordkeeping and certificate provisions. Each submission must include the following statement signed by an authorized representative of the training provider: "Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the training described in this submission complies with all applicable requirements of Title II of TSCA, 40 CFR part 763, Appendix C to Subpart E, as revised, and any other applicable Federal, state, or local requirements." A consolidated self-certification submission from each training provider that addresses all of its approved training courses is permissible and encouraged.

The self-certification must be sent via registered mail, to EPA Headquarters at the following address: Attn. Self-Certification Program, Field Programs Branch, Chemical Management Division (7404), Office of Pollution Prevention and Toxics, Environmental Protection Agency, 401

M St., SW., Washington, DC 20460. A duplicate copy of the complete submission must also be sent to any States from which approval had been obtained.

The timely receipt of a complete self-certification by EPA and all approving States shall have the effect of extending approval under this MAP to the training courses offered by the submitting provider. If a self-certification is not received by the approving government bodies on or before the due date, the affected training course is not approved under this MAP. Such training providers must then reapply for approval of these training courses pursuant to the procedures outlined in Unit III.

C. Requirements applicable to Accredited Persons.

Persons accredited by a State with an accreditation program no less stringent than an earlier version of the MAP or by an EPA-approved training provider as of April 3, 1994, are accredited in accordance with the requirements of this MAP, and are not required to retake initial training. They must continue to comply with the requirements for annual refresher training in Unit I.D. of the revised MAP.

D. Requirements applicable to Non-Accredited Persons.

In order to perform work requiring accreditation under TSCA Title II, persons who are not accredited by a State with an accreditation program no less stringent than an earlier version of the MAP or by an EPA-approved training provider as of April 3, 1994, must comply with the upgraded training requirements of this MAP by no later than October 4, 1994. Non-accredited persons may obtain initial accreditation on a provisional basis by successfully completing any of the training programs approved under an earlier version of the MAP, and thereby perform work during the first 6 months after this MAP takes effect. However, by October 4, 1994, these persons must have successfully completed an upgraded training program that fully complies with the requirements of this MAP in order to continue to perform work requiring accreditation under section 206 of TSCA, 15 U.S.C. 2646.

[59 FR 5251, Feb. 3, 1994, as amended at 60 FR 31922, June 19, 1995]

Pt. 763, Subpt. E, App. D

APPENDIX D TO SUBPART E—TRANSPORT AND DISPOSAL OF ASBESTOS WASTE

For the purposes of this appendix, transport is defined as all activities from receipt of the containerized asbestos waste at the generation site until it has been unloaded at the disposal site. Current EPA regulations state that there must be no visible emissions to the outside air during waste transport. However, recognizing the potential hazards and subsequent liabilities associated with exposure, the following additional precautions are recommended.

Recordkeeping. Before accepting wastes, a transporter should determine if the waste is properly wetted and containerized. The transporter should then require a chain-of-custody form signed by the generator. A chain-of-custody form may include the name and address of the generator, the name and address of the pickup site, the estimated quantity of asbestos waste, types of containers used, and the destination of the waste. The chain-of-custody form should then be signed over to a disposal site operator to transfer responsibility for the asbestos waste. A copy of the form signed by the disposal site operator should be

maintained by the transporter as evidence of receipt at the disposal site.

Waste handling. A transporter should ensure that the asbestos waste is properly contained in leak-tight containers with appropriate labels, and that the outside surfaces of the containers are not contaminated with asbestos debris adhering to the containers. If there is reason to believe that the condition of the asbestos waste may allow significant fiber release, the transporter should not accept the waste. Improper containerization of wastes is a violation of the NESHAPs regulation and should be reported to the appropriate EPA Regional Asbestos NESHAPs contact below:

Region I

Asbestos NESHAPs Contact, Air Management Division, USEPA, Region I, JFK Federal Building, Boston, MA 02203, (617) 223-3266.

Region II

Asbestos NESHAPs Contact, Air & Waste Management Division, USEPA, Region II, 26 Federal Plaza, New York, NY 10007, (212) 264-6770.

Region III

Asbestos NESHAPs Contact, Air Management Division, USEPA, Region III, 841 Chestnut Street, Philadelphia, PA 19107, (215) 597-9325.

Region IV

Asbestos NESHAPs Contact, Air, Pesticide & Toxic Management, USEPA, Region IV, 345 Courtland Street, NE., Atlanta, GA 30365, (404) 347-4298.

Region V

Asbestos NESHAPs Contact, Air Management Division, USEPA, Region V, 77 West Jackson Boulevard, Chicago, IL 60604, (312) 353-6793.

Region VI

Asbestos NESHAPs Contact, Air & Waste Management Division, USEPA, Region VI, 1445 Ross Avenue, Dallas, TX 75202, (214) 655-7229.

Region VII

Asbestos NESHAPs Contact, Air & Waste Management Division, USEPA, Region VII, 726 Minnesota Avenue, Kansas City, KS 66101, (913) 236-2896.

Region VIII

Asbestos NESHAPs Contact, Air & Waste Management Division, USEPA, Region VIII, 999 18th Street, Suite 500, Denver, CO 80202, (303) 293-1814.

Region IX

Asbestos NESHAPs Contact, Air Management Division, USEPA, Region IX, 215 Fremont Street, San Francisco, CA 94105, (415) 974-7633.

Region X

Asbestos NESHAPs Contact, Air & Toxics Management Division, USEPA, Region X, 1200 Sixth Avenue, Seattle, WA 98101, (206) 442-2724.

Once the transporter is satisfied with the condition of the asbestos waste and agrees to handle it, the containers should be loaded into the transport vehicle in a careful manner to prevent breaking of the containers. Similarly, at the disposal site, the asbestos waste containers should be transferred carefully to avoid fiber release.

Waste transport. Although there are no regulatory specifications regarding the transport vehicle, it is recommended that vehicles used for transport of containerized asbestos waste have an enclosed carrying compartment or utilize a canvas covering sufficient to contain the transported waste, prevent damage to containers, and prevent fiber release. Transport of large quantities of asbestos waste is commonly conducted in a 20-cubic-yard "roll off" box, which should also be covered. Vehicles that use compactors to reduce waste volume should not be used because these will cause the waste containers to rupture. Vacuum trucks used to transport waste slurry must be inspected to ensure that water is not leaking from the truck.

Disposal involves the isolation of asbestos waste material in order to prevent fiber release to air or water. Landfilling is recommended as an environmentally sound isolation method because asbestos fibers are virtually immobile in soil. Other disposal techniques such as incineration or chemical treatment are not feasible due to the unique properties of asbestos. EPA has established asbestos disposal requirements for active and inactive disposal sites under NESHAPs (40 CFR Part 61, subpart M) and specifies general requirements for solid waste disposal under RCRA (40 CFR Part 257). Advance EPA notification of the intended disposal site is required by NESHAPs.

Selecting a disposal facility. An acceptable disposal facility for asbestos wastes must adhere to EPA's requirements of no visible emissions to the air during disposal, or minimizing emissions by covering the waste within 24 hours. The minimum required cover is 6 inches of non-asbestos material, normally soil, or a dust-suppressing chemical. In addition to these Federal requirements, many state or local government agencies require more stringent handling procedures. These agencies usually supply a list of "approved" or licensed asbestos disposal sites upon request. Solid waste control agencies are listed in local telephone directories under state, county, or city headings. A list of state solid waste agencies may be obtained by calling the RCRA hotline: 1-800-424-9346 (382-3000 in Washington, DC). Some landfill owners or operators place special requirements on asbestos waste, such as placing all bagged waste into 55-gallon metal drums. Therefore, asbestos removal contractors should contact the intended landfill before arriving with the waste.

Receiving asbestos waste. A landfill approved for receipt of asbestos waste should require notification by the waste hauler that the load contains asbestos. The landfill operator should inspect the loads to verify that asbestos waste is properly contained in leak-tight containers and labeled appropriately. The appropriate EPA Regional Asbestos NESHAPs Contact should be notified if the landfill operator believes that the asbestos waste is in a condition that may cause significant fiber release during disposal. In situations when the wastes are not properly containerized, the landfill operator should thoroughly soak the asbestos with a water spray prior to unloading, rinse out the truck, and immediately cover the wastes with nonasbestos material prior to compacting the waste in the landfill.

Waste deposition and covering. Recognizing the health dangers associated with asbestos exposure, the following

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procedures are recommended to augment current federal requirements:

- Designate a separate area for asbestos waste disposal. Provide a record for future landowners that asbestos waste has been buried there and that it would be hazardous to attempt to excavate that area. (Future regulations may require property deeds to identify the location of any asbestos wastes and warn against excavation.)

- Prepare a separate trench to receive asbestos wastes. The size of the trench will depend upon the quantity and frequency of asbestos waste delivered to the disposal site. The trenching technique allows application of soil cover without disturbing the asbestos waste containers. The trench should be ramped to allow the transport vehicle to back into it, and the trench should be as narrow as possible to reduce the amount of cover required. If possible, the trench should be aligned perpendicular to prevailing winds.

- Place the asbestos waste containers into the trench carefully to avoid breaking them. Be particularly careful with plastic bags because when they break under pressure asbestos particles can be emitted.

- Completely cover the containerized waste within 24 hours with a minimum of 6 inches of nonasbestos material. Improperly containerized waste is a violation of the NESHAPs and EPA should be notified.

However, if improperly containerized waste is received at the disposal site, it should be covered immediately after unloading. Only after the wastes, including properly containerized wastes, are completely covered, can the wastes be compacted or other heavy equipment run over it. During compacting, avoid exposing wastes to the air or tracking asbestos material away from the trench.

- For final closure of an area containing asbestos waste, cover with at least an additional 30 inches of compacted nonasbestos material to provide a 36-inch final cover. To control erosion of the final cover, it should be properly graded and vegetated. In areas of the United States where excessive soil erosion may occur or the frost line exceeds 3 feet, additional final cover is recommended. In desert areas where vegetation would be difficult to maintain, 3–6 inches of well graded crushed rock is recommended for placement on top of the final cover.

Controlling public access. Under the current NESHAPs regulation, EPA does not require that a landfill used for asbestos disposal use warning signs or fencing if it meets the requirement to cover asbestos wastes. However, under RCRA, EPA requires that access be controlled to prevent exposure of the public to potential health and safety hazards at the disposal site. Therefore, for liability protection of operators of landfills that handle asbestos, fencing and warning signs are recommended to control public access when natural barriers do not exist. Access to a landfill should be limited to one or two entrances with gates that can be locked when left unattended. Fencing should be installed around the perimeter of the disposal site in a manner adequate to deter access by the general public. Chain-link fencing, 6-ft high and topped with a barbed wire guard, should be used. More specific fencing requirements may be specified by local regulations. Warning signs should be displayed at all entrances and at intervals of 330 feet or less along the property line of the landfill or perimeter of the sections where asbestos waste is deposited. The sign should read as follows:

ASBESTOS WASTE DISPOSAL SITE

BREATHING ASBESTOS DUST MAY CAUSE LUNG DISEASE AND CANCER

Recordkeeping. For protection from liability, and considering possible future requirements for notification on disposal site deeds, a landfill owner should maintain documentation of the specific location and quantity of the buried asbestos wastes. In addition, the estimated depth of the waste below the surface should be recorded whenever a landfill section is closed. As mentioned previously, such information should be recorded in the land deed or other record along with a notice warning against excavation of the area.

[52 FR 41897, Oct. 30, 1987, as amended at 62 FR 1834, Jan. 14, 1997]

Pt. 763, Subpt. E, App. E

APPENDIX E TO SUBPART E—INTERIM METHOD OF THE DETERMINATION OF ASBESTOS IN BULK INSULATION SAMPLES

SECTION 1, POLARIZED LIGHT MICROSCOPY

1.1 Principle and Applicability

Bulk samples of building materials taken for asbestos identification are first examined for homogeneity and preliminary fiber identification at low magnification. Positive identification of suspect fibers is made by analysis of subsamples with the polarized light microscope.

The principles of optical mineralogy are well established.^{1,2} A light microscope equipped with two polarizing filters is used to observe specific optical characteristics of a sample. The use of plane polarized light allows the determination of refractive indices along specific crystallographic axes. Morphology and color are also observed. A retardation plate is placed in the polarized light path for determination of the sign of elongation using orthoscopic illumination. Orientation of the two filters such that their vibration planes are perpendicular (crossed polars) allows observation of the birefringence and extinction characteristics of anisotropic particles.

Quantitative analysis involves the use of point counting. Point counting is a standard technique in petrography for determining the relative areas occupied by separate minerals in thin sections of rock. Background information on the use of point counting² and the interpretation of point count data³ is available.

This method is applicable to all bulk samples of friable insulation materials submitted for identification and quantitation of asbestos components.

1.2 Range

The point counting method may be used for analysis of samples containing from 0 to 100 percent asbestos. The upper detection limit is 100 percent. The lower detection limit is less than 1 percent.

1.3 Interferences

Fibrous organic and inorganic constituents of bulk samples may interfere with the identification and quantitation of the asbestos mineral content. Spray-on binder materials may coat fibers and affect color or obscure optical characteristics to the extent of masking fiber identity. Fine particles of other materials may also adhere to fibers to an

extent sufficient to cause confusion in identification. Procedures that may be used for the removal of interferences are presented in Section 1.7.2.2.

1.4 Precision and Accuracy

Adequate data for measuring the accuracy and precision of the method for samples with various matrices are not currently available. Data obtained for samples containing a single asbestos type in a simple matrix are available in the EPA report *Bulk Sample Analysis for Asbestos Content: Evaluation of the Tentative Method*.⁴

1.5 Apparatus

1.5.1 Sample Analysis

A low-power binocular microscope, preferably stereoscopic, is used to examine the bulk insulation sample as received.

- *Microscope*: binocular, 10–45X (approximate).
- *Light Source*: incandescent or fluorescent.
- *Forceps, Dissecting Needles, and Probes*
- *Glassine Paper or Clean Glass Plate*

Compound microscope requirements: A polarized light microscope complete with polarizer, analyzer, port for wave retardation plate, 360° graduated rotating stage, substage condenser, lamp, and lamp iris.

- *Polarized Light Microscope*: described above.
- *Objective Lenses*: 10X, 20X, and 40X or near equivalent.
- *Dispersion Staining Objective Lens* (optional)
- *Ocular Lens*: 10X minimum.
- *Eye-piece Reticle*: cross hair or 25 point Chalkley Point Array.
- *Compensator Plate*: 550 millimicron retardation.

1.5.2 Sample Preparation

Sample preparation apparatus requirements will depend upon the type of insulation sample under consideration. Various physical and/or chemical means may be employed for an adequate sample assessment.

- *Ventilated Hood* or negative pressure glove box.
- *Microscope Slides*
- *Coverslips*
- *Mortar and Pestle*: agate or porcelain. (optional)
- *Wylie Mill* (optional)
- *Beakers and Assorted Glassware* (optional)
- *Centrifuge* (optional)
- *Filtration apparatus* (optional)
- *Low temperature asher* (optional)

1.6 Reagents

1.6.1 Sample Preparation

- *Distilled Water* (optional)
- *Dilute CH₃COOH*: ACS reagent grade (optional)
- *Dilute HCl*: ACS reagent grade (optional)
- *Sodium metaphosphate* (NaPO₃)₆ (optional)

1.6.2 Analytical Reagents

Refractive Index Liquids: 1.490–1.570, 1.590–1.720 in increments of 0.002 or 0.004.

- *Refractive Index Liquids for Dispersion Staining*: high-dispersion series, 1.550, 1.605, 1.630 (optional).
- *UICC Asbestos Reference Sample Set*: Available from: UICC MRC Pneumoconiosis Unit, Llandough Hospital,

Penarth, Glamorgan CF6 1XW, UK, and commercial distributors.

- *Tremolite-asbestos* (source to be determined)
- *Actinolite-asbestos* (source to be determined)

1.7 Procedures

NOTE: Exposure to airborne asbestos fibers is a health hazard. Bulk samples submitted for analysis are usually friable and may release fibers during handling or matrix reduction steps. All sample and slide preparations should be carried out in a ventilated hood or glove box with continuous airflow (negative pressure). Handling of samples without these precautions may result in exposure of the analyst and contamination of samples by airborne fibers.

1.7.1 Sampling

Samples for analysis of asbestos content shall be taken in the manner prescribed in Reference 5 and information on design of sampling and analysis programs may be found in Reference 6. If there are any questions about the representative nature of the sample, another sample should be requested before proceeding with the analysis.

1.7.2 Analysis

1.7.2.1 Gross Examination

Bulk samples of building materials taken for the identification and quantitation of asbestos are first examined for homogeneity at low magnification with the aid of a stereomicroscope. The core sample may be examined in its container or carefully removed from the container onto a glassine transfer paper or clean glass plate. If possible, note is made of the top and bottom orientation. When discrete strata are identified, each is treated as a separate material so that fibers are first identified and quantified in that layer only, and then the results for each layer are combined to yield an estimate of asbestos content for the whole sample.

1.7.2.2 Sample Preparation

Bulk materials submitted for asbestos analysis involve a wide variety of matrix materials. Representative subsamples may not be readily obtainable by simple means in heterogeneous materials, and various steps may be required to alleviate the difficulties encountered. In most cases, however, the best preparation is made by using forceps to sample at several places from the bulk material. Forcep samples are immersed in a refractive index liquid on a microscope slide, teased apart, covered with a cover glass, and observed with the polarized light microscope.

Alternatively, attempts may be made to homogenize the sample or eliminate interferences before further characterization. The selection of appropriate procedures is dependent upon the samples encountered and personal preference. The following are presented as possible sample preparation steps.

A mortar and pestle can sometimes be used in the size reduction of soft or loosely bound materials though this may cause matting of some samples. Such samples may be reduced in a Wylie mill. Apparatus should be clean and extreme care exercised to avoid cross-contamination of samples. Periodic checks of the particle sizes should be made during the grinding operation so as to preserve any fiber bundles present in an identifiable form. These procedures are not recommended for samples that contain amphibole minerals or vermiculite. Grinding of

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amphiboles may result in the separation of fiber bundles or the production of cleavage fragments with aspect ratios greater than 3:1. Grinding of vermiculite may also produce fragments with aspect ratios greater than 3:1.

Acid treatment may occasionally be required to eliminate interferences. Calcium carbonate, gypsum, and bassanite (plaster) are frequently present in sprayed or trowelled insulations. These materials may be removed by treatment with warm dilute acetic acid. Warm dilute hydrochloric acid may also be used to remove the above materials. If acid treatment is required, wash the sample at least twice with distilled water, being careful not to lose the particulates during decanting steps. Centrifugation or filtration of the suspension will prevent significant fiber loss. The pore size of the filter should be 0.45 micron or less. Caution: prolonged acid contact with the sample may alter the optical characteristics of chrysotile fibers and should be avoided.

Coatings and binding materials adhering to fiber surfaces may also be removed by treatment with sodium metaphosphate.⁷ Add 10 mL of 10g/L sodium metaphosphate solution to a small (0.1 to 0.5 mL) sample of bulk material in a 15-mL glass centrifuge tube. For approximately 15 seconds each, stir the mixture on a vortex mixer, place in an ultrasonic bath and then shake by hand. Repeat the series. Collect the dispersed solids by centrifugation at 1000 rpm for 5 minutes. Wash the sample three times by suspending in 10 mL distilled water and recentrifuging. After washing, resuspend the pellet in 5 mL distilled water, place a drop of the suspension on a microscope slide, and dry the slide at 110° C.

In samples with a large portion of cellulosic or other organic fibers, it may be useful to ash part of the sample and view the residue. Ashing should be performed in a low temperature asher. Ashing may also be performed in a muffle furnace at temperatures of 500° C or lower. Temperatures of 550° C or higher will cause

dehydroxylation of the asbestos minerals, resulting in changes of the refractive index and other key parameters. If a muffle furnace is to be used, the furnace thermostat should be checked and calibrated to ensure that samples will not be heated at temperatures greater than 550° C.

Ashing and acid treatment of samples should not be used as standard procedures. In order to monitor possible changes in fiber characteristics, the material should be viewed microscopically before and after any sample preparation procedure. Use of these procedures on samples to be used for quantitation requires a correction for percent weight loss.

1.7.2.3 Fiber Identification

Positive identification of asbestos requires the determination of the following optical properties.

- Morphology
- Color and pleochroism
- Refractive indices
- Birefringence
- Extinction characteristics
- Sign of elongation

Table 1-1 lists the above properties for commercial asbestos fibers. Figure 1-1 presents a flow diagram of the examination procedure. Natural variations in the conditions under which deposits of asbestiform minerals are formed will occasionally produce exceptions to the published values and differences from the UICC standards. The sign of elongation is determined by use of the compensator plate and crossed polars. Refractive indices may be determined by the Becke line test. Alternatively, dispersion staining may be used. Inexperienced operators may find that the dispersion staining technique is more easily learned, and should consult Reference 9 for guidance. Central stop dispersion staining colors are presented in Table 1-2. Available high-dispersion (HD) liquids should be used.

TABLE 1-1—OPTICAL PROPERTIES OF ASBESTOC FIBERS

Mineral	Morphology, color ^a	Refractive indices ^b		Birefringence	Extinction	Sign of elongation
		α	γ			
Chrysotile (asbestiform serpentine).	Wavy fibers. Fiber bundles have splayed ends and "kinks". Aspect ratio typically >10:1. Colorless ³ , nonpleochroic.	1.493–1.560	1.517–1.562 ^f (normally 1.556).	.008	to fiber length.	+ (length slow)
Amosite (asbestiform grunerite).	Straight, rigid fibers. Aspect ratio typically >10:1. Colorless to brown, nonpleochroic or weakly so. Opaque inclusions may be present.	1.635–1.696	1.655–1.729 ^f (normally 1.696–1.710).	.020–.033	to fiber length.	+ (length slow)
Crocidolite (asbestiform riebeckite).	Straight, rigid fibers. Thick fibers and bundles common, blue to purple-blue in color. Pleochroic. Birefringence is generally masked by blue color.	1.654–1.701	1.668–1.717 ^{3e} (normally close to 1.700).	.014–.016	to fiber length.	- (length fast)
Anthophyllite-asbestos.	Straight fibers and acicular cleavage fragments. ^d Some composite fibers. Aspect ratio <10:1. Colorless to light brown.	1.596–1.652	1.615–1.676 ^f .	.019–.024	to fiber length.	+ (length slow)

TABLE 1-1—OPTICAL PROPERTIES OF ASBESTOC FIBERS—Continued

Mineral	Morphology, color ^a	Refractive indices ^b		Birefringence	Extinction	Sign of elongation
		α	γ			
Tremolite-actinolite-asbestos.	Normally present as acicular or prismatic cleavage fragments. ^d Single crystals predominate, aspect ratio <10:1. Colorless to pale green.	1.599–1.668	1.622–1.688 ^e	.023–.020	Oblique extinction, 10–20° for fragments. Composite fibers show extinction.	+ (length slow)

^a From reference 5; colors cited are seen by observation with plane polarized light.

^b From references 5 and 8.

^c Fibers subjected to heating may be brownish.

^d Fibers defined as having aspect ratio >3:1.

^e \perp to fiber length.

^f \parallel to fiber length.

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TABLE 1-2—CENTRAL STOP DISPERSION STAINING COLORS_a

Mineral	RI Liquid	η_{\perp}	η_{\parallel}
Chrysotile	1.550 ^{HD}	Blue	Blue-magenta
Amosite	1.680	Blue-magenta to pale blue.	Golden-yellow
Crocidolite ^b	1.550 ^{HD}	Yellow to white.	Yellow to white
	1.700	Red magenta	Blue-magenta
Anthophyllite	1.550 ^{HD}	Yellow to white.	Yellow to white
	1.605 ^{HD}	Blue	Gold to gold-magenta
Tremolite	1.605 ^{HD c}	Pale blue	Gold
Actinolite	1.605 ^{HD}	Gold-magenta to blue.	Gold
	1.630 ^{HD c}	Magenta	Golden-yellow

^a From reference 9.

^b Blue absorption color.

^c Oblique extinction view.

1.7.2.4 Quantitation of Asbestos Content

Asbestos quantitation is performed by a point-counting procedure or an equivalent estimation method. An ocular reticle (cross-hair or point array) is used to visually superimpose a point or points on the microscope field of view. Record the number of points positioned directly above each kind of particle or fiber of interest. Score only points directly over asbestos fibers or nonasbestos matrix material. Do not score empty points for the closest particle. If an asbestos fiber and a matrix particle overlap so that a point is superimposed on their visual intersection, a point is scored for both categories. Point counting provides a determination of the area percent asbestos. Reliable conversion of area percent to percent of dry weight is not currently feasible unless the specific gravities and relative volumes of the materials are known.

For the purpose of this method, “asbestos fibers” are defined as having an aspect ratio greater than 3:1 and being positively identified as one of the minerals in Table 1-1.

A total of 400 points superimposed on either asbestos fibers or nonasbestos matrix material must be counted over at least eight different preparations of representative subsamples. Take eight forcep samples and mount each separately with the appropriate refractive index liquid. The preparation should not be heavily loaded. The sample should be uniformly dispersed to avoid overlapping particles and allow 25–50 percent empty area within the fields of view. Count 50 nonempty points on each preparation, using either

- A cross-hair reticle and mechanical stage; or
- A reticle with 25 points (Chalkley Point Array) and counting at least 2 randomly selected fields.

For samples with mixtures of isotropic and anisotropic materials present, viewing the sample with slightly uncrossed polars or the addition of the compensator plate to the polarized light path will allow simultaneous discrimination of both particle types. Quantitation should be performed at 100X or at the lowest magnification of the polarized light microscope that can effectively distinguish the sample components. Confirmation of the quantitation result by a second analyst on some percentage of analyzed samples should be used as standard quality control procedure.

The percent asbestos is calculated as follows:

$$\% \text{ asbestos} = (a/n) 100\%$$

where

a=number of asbestos counts,

n=number of nonempty points counted (400).

If a=0, report “No asbestos detected.” If 0<a≤3, report “<1% asbestos”.

The value reported should be rounded to the nearest percent.

1.8 References

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SECTION 2, X-RAY POWDER DIFFRACTION

2.1 Principle and Applicability

The principle of X-ray powder diffraction (XRD) analysis is well established.^{1,2} Any solid, crystalline material will diffract an impinging beam of parallel, monochromatic X-rays whenever Bragg's Law,

$$\lambda = 2d \sin \theta,$$

is satisfied for a particular set of planes in the crystal lattice, where

λ = the X-ray wavelength, Å;

d = the interplanar spacing of the set of reflecting lattice planes, Å; and

θ = the angle of incidence between the X-ray beam and the reflecting lattice planes.

By appropriate orientation of a sample relative to the incident X-ray beam, a diffraction pattern can be generated that, in most cases, will be uniquely characteristic of both the chemical composition and structure of the crystalline phases present.

Unlike optical methods of analysis, however, XRD cannot determine crystal morphology. Therefore, in asbestos analysis, XRD does not distinguish between fibrous and nonfibrous forms of the serpentine and amphibole minerals (Table 2-1). However, when used in conjunction with optical methods such as polarized light microscopy (PLM), XRD techniques can provide a reliable analytical method for the identification and characterization of asbestiform minerals in bulk materials.

For *qualitative analysis* by XRD methods, samples are initially scanned over limited diagnostic peak regions for the serpentine (~7.4 Å) and amphibole (8.2–8.5 Å) minerals (Table 2-2). Standard slow-scanning methods for bulk sample analysis may be used for materials shown by PLM to contain significant amounts of asbestos (>5–10 percent). Detection of minor or trace amounts of asbestos may require special sample preparation and step-scanning analysis. All samples that exhibit diffraction peaks in the diagnostic regions for asbestiform minerals are submitted to a full (5°–60° 2 θ ; 1° 2 θ /min) qualitative XRD scan, and their diffraction patterns are compared with standard reference powder diffraction patterns³ to verify initial peak assignments and to identify possible matrix interferences when subsequent quantitative analysis will be performed.

TABLE 2-1—THE ASBESTOS MINERALS AND THEIR NONASBESTIFORM ANALOGS

Asbestiform	Nonasbestiform
SERPENTINE	
Chrysotile	Antigorite, lizardite
AMPHIBOLE	
Anthophyllite asbestos	Anthophyllite
Cummingtonite-grunerite	Cummingtonite-grunerite
asbestos ("Amosite")	
Crocidolite	Riebeckite
Tremolite asbestos	Tremolite
Actinolite asbestos	Actinolite

TABLE 2-2—PRINCIPAL LATTICE SPACINGS OF ASBESTIFORM MINERALS^a

Minerals	Principal d-spacings (Å) and relative intensities			JCPDS Powder diffraction file ³ number
Chrysotile	7.37 ₁₀₀	3.65 ₇₀	4.57 ₅₀	21-543 ^b
	7.36 ₁₀₀	3.66 ₈₀	2.45 ₆₅	25-645
	7.10 ₁₀₀	2.33 ₈₀	3.55 ₇₀	22-1162 (theoretical)
"Amosite"	8.33 ₁₀₀	3.06 ₇₀	2.756 ₇₀	17-745 (nonfibrous)
	8.22 ₁₀₀	3.060 ₈₅	3.25 ₇₀	27-1170 (UICC)
Anthophyllite	3.05 ₁₀₀	3.24 ₆₀	8.26 ₅₅	9-455
	3.06 ₁₀₀	8.33 ₇₀	3.23 ₅₀	16-401 (synthetic)
Anthophyllite	2.72 ₁₀₀	2.54 ₁₀₀	3.480 ₈₀	25-157
Crocidolite	8.35 ₁₀₀	3.10 ₅₅	2.720 ₂₅	27-1415 (UICC)
Tremolite	8.36 ₁₀₀	3.12 ₁₀₀	2.705 ₉₀	13-437 ^b
	2.706 ₁₀₀	3.14 ₉₅	8.43 ₄₀	20-1310 ^b (synthetic)
	3.13 ₁₀₀	2.706 ₆₀	8.44 ₄₀	23-666 (synthetic mixture with richterite)

^aThis information is intended as a guide, only. Complete powder diffraction data, including mineral type and source, should be referred to, to ensure comparability of sample and reference materials where possible. Additional precision XRD data on amosite, crocidolite, tremolite, and chrysotile are available from the U.S. Bureaus of Mines.⁴

^bFibrosity questionable.

Accurate *quantitative analysis* of asbestos in bulk samples by XRD is critically dependent on particle size distribution, crystallite size, preferred orientation and matrix absorption effects, and comparability of standard reference and sample materials. The most intense diffraction peak that has been shown to be free from interference by prior qualitative XRD analysis is selected for quantitation of each asbestiform mineral. A "thin-layer" method of analysis^{5,6} is recommended in which, subsequent to comminution of the bulk material to ~10 µm by suitable cryogenic milling techniques, an accurately known amount of the sample is deposited on a silver membrane filter. The mass of asbestiform material is determined by measuring the integrated area of the selected diffraction peak using a step-scanning mode, correcting for matrix absorption effects, and comparing with suitable calibration standards. Alternative "thick-layer" or bulk methods,^{7,8} may be used for *semiquantitative analysis*.

This XRD method is applicable as a confirmatory method for identification and quantitation of asbestos in bulk material samples that have undergone prior analysis by PLM or other optical methods.

2.2 Range and Sensitivity

The range of the method has not been determined.

The sensitivity of the method has not been determined. It will be variable and dependent upon many factors, including matrix effects (absorption and interferences), diagnostic reflections selected, and their relative intensities.

2.3 Limitations

2.3.1 Interferences

Since the fibrous and nonfibrous forms of the serpentine and amphibole minerals (Table 2-1) are indistinguishable by XRD techniques unless special sample preparation techniques and instrumentation are used,⁹ the presence of nonasbestiform serpentines and amphiboles in a sample will pose severe interference problems in the identification and quantitative analysis of their asbestiform analogs.

The use of XRD for identification and quantitation of asbestiform minerals in bulk samples may also be limited by the presence of other interfering materials in the sample. For naturally occurring materials the commonly associated asbestos-related mineral interferences can usually be anticipated. However, for fabricated materials the nature of the interferences may vary greatly (Table 2-3) and present more serious problems in identification and quantitation.¹⁰ Potential interferences are summarized in Table 2-4 and include the following:

- *Chlorite* has major peaks at 7.19 Å and 3.58 Å. That interfere with both the primary (7.36 Å) and secondary (3.66 Å) peaks for chrysotile. Resolution of the primary peak to give good quantitative results may be possible when a step-scanning mode of operation is employed.
- *Halloysite* has a peak at 3.63 Å that interferes with the secondary (3.66 Å) peak for chrysotile.
- *Kaolinite* has a major peak at 7.15 Å that may interfere with the primary peak of chrysotile at 7.36 Å when present at concentrations of >10 percent. However, the

secondary chrysotile peak at 3.66 Å may be used for quantitation.

- *Gypsum* has a major peak at 7.5 Å that overlaps the 7.36 Å peak of chrysotile when present as a major sample constituent. This may be removed by careful washing with distilled water, or by heating to 300° C to convert gypsum to plaster of paris.
- *Cellulose* has a broad peak that partially overlaps the secondary (3.66 Å) chrysotile peak.⁸
- Overlap of major diagnostic peaks of the amphibole asbestos minerals, amosite, anthophyllite, crocidolite, and tremolite, at approximately 8.3 Å and 3.1 Å causes mutual interference when these minerals occur in the presence of one another. In some instances, adequate resolution may be attained by using step-scanning methods and/or by decreasing the collimator slit width at the X-ray port.

TABLE 2-3—COMMON CONSTITUENTS IN INSULATION AND WALL MATERIALS

A. Insulation materials

Chrysotile
 "Amosite"
 Crocidolite
 *Rock wool
 *Slag wool
 *Fiber glass
 Gypsum (CaSO₄ • 2H₂O)
 Vermiculite (micas)
 *Perlite
 Clays (kaolin)
 *Wood pulp
 *Paper fibers (talc, clay, carbonate fillers)
 Calcium silicates (synthetic)
 Opaques (chromite, magnetite inclusions in serpentine)
 Hematite (inclusions in "amosite")
 Magnesite
 *Diatomaceous earth

B. Spray finishes or paints

Bassanite
 Carbonate minerals (calcite, dolomite, vaterite)
 Talc
 Tremolite
 Anthophyllite
 Serpentine (including chrysotile)
 Amosite
 Crocidolite
 *Mineral wool
 *Rock wool
 *Slag wool
 *Fiber glass
 Clays (kaolin)
 Micas
 Chlorite
 Gypsum (CaSO₄ • 2H₂O)
 Quartz
 *Organic binders and thickeners
 Hydromagnesite
 Wollastonite
 Opaques (chromite, magnetite inclusions in serpentine)
 Hematite (inclusions in "amosite")
 *Amorphous materials—contribute only to overall scattered radiation and increased background radiation.

TABLE 2—INTERFERENCES IN XRD ANALYSIS
ASBESTIFORM MINERALS

Asbestiform mineral	Primary diagnostic peaks (approximate d-spacings, in Å)	Interference
Serpentine Chrysotile	7.4	Nonasbestiform serpentines (antigorite, lizardite)
	3.7	Chlorite Kaolinite Gypsum Chlorite Halloysite Cellulose
Amphibole "Amosite" Anthophyllite Crocidolite Tremolite	3.1	Nonasbestiform amphiboles (cummingtonite-grunerite, anthophyllite, riebeckite, tremolite)
	8.3	Mutual interferences Carbonates Talc Mutual interferences

- Carbonates may also interfere with quantitative analysis of the amphibole asbestos minerals, amosite, anthophyllite, crocidolite, and tremolite. Calcium carbonate (CaCO_3) has a peak at 3.035 Å that overlaps major amphibole peaks at approximately 3.1 Å when present in concentrations of >5 percent. Removal of carbonates with a dilute acid wash is possible; however, if present, chrysotile may be partially dissolved by this treatment.¹¹

- A major talc peak at 3.12 Å interferes with the primary tremolite peak at this same position and with secondary peaks of crocidolite (3.10 Å), amosite (3.06 Å), and anthophyllite (3.05 Å). In the presence of talc, the major diagnostic peak at approximately 8.3 Å should be used for quantitation of these asbestiform minerals.

The problem of intraspecies and matrix interferences is further aggravated by the variability of the silicate mineral powder diffraction patterns themselves, which often makes definitive identification of the asbestos minerals by comparison with standard reference diffraction patterns difficult. This variability results from alterations in the crystal lattice associated with differences in isomorphous substitution and degree of crystallinity. This is especially true for the amphiboles. These minerals exhibit a wide variety of very similar chemical compositions, with the result being that their diffraction patterns are characterized by having major (110) reflections of the monoclinic amphiboles and (210) reflections of the orthorhombic anthophyllite separated by less than 0.2 Å.¹²

2.3.2 Matrix Effects

If a copper X-ray source is used, the presence of iron at high concentrations in a sample will result in significant X-ray fluorescence, leading to loss of peak intensity along with increased background intensity and an overall decrease in sensitivity. This situation may be corrected by choosing an X-ray source other than copper; however, this is often accompanied both by loss of intensity and by decreased resolution of closely spaced reflections. Alter-

natively, use of a diffracted beam monochromator will reduce background fluorescent radiation, enabling weaker diffraction peaks to be detected.

X-ray absorption by the sample matrix will result in overall attenuation of the diffracted beam and may seriously interfere with quantitative analysis. Absorption effects may be minimized by using sufficiently "thin" samples for analysis.^{5 13 14} However, unless absorption effects are known to be the same for both samples and standards, appropriate corrections should be made by referencing diagnostic peak areas to an internal standard^{7 8} or filter substrate (Ag) peak.^{5 6}

2.3.3 Particle Size Dependence

Because the intensity of diffracted X-radiation is particle-size dependent, it is essential for accurate quantitative analysis that both sample and standard reference materials have similar particle size distributions. The optimum particle size range for quantitative analysis of asbestos by XRD has been reported to be 1 to 10 μm .¹⁵ Comparability of sample and standard reference material particle size distributions should be verified by optical microscopy (or another suitable method) prior to analysis.

2.3.4 Preferred Orientation Effects

Preferred orientation of asbestiform minerals during sample preparation often poses a serious problem in quantitative analysis by XRD. A number of techniques have been developed for reducing preferred orientation effects in "thick layer" samples.^{7 8 15} However, for "thin" samples on membrane filters, the preferred orientation effects seem to be both reproducible and favorable to enhancement of the principal diagnostic reflections of asbestos minerals, actually increasing the overall sensitivity of the method.^{12 14} (Further investigation into preferred orientation effects in both thin layer and bulk samples is required.)

2.3.5 Lack of Suitably Characterized Standard Materials

The problem of obtaining and characterizing suitable reference materials for asbestos analysis is clearly recognized. NIOSH has recently directed a major research effort toward the preparation and characterization of analytical reference materials, including asbestos standards;^{16 17} however, these are not available in large quantities for routine analysis.

In addition, the problem of ensuring the comparability of standard reference and sample materials, particularly regarding crystallite size, particle size distribution, and degree of crystallinity, has yet to be adequately addressed. For example, Langer et al.¹⁸ have observed that in insulating matrices, chrysotile tends to break open into bundles more frequently than amphiboles. This results in a line-broadening effect with a resultant decrease in sensitivity. Unless this effect is the same for both standard and sample materials, the amount of chrysotile in the sample will be underestimated by XRD analysis. To minimize this problem, it is recommended that standardized matrix reduction procedures be used for both sample and standard materials.

2.4 Precision and Accuracy

Precision of the method has not been determined.
Accuracy of the method has not been determined.

2.5 Apparatus

2.5.1 Sample Preparation

Sample preparation apparatus requirements will depend upon the sample type under consideration and the kind of XRD analysis to be performed.

- *Mortar and Pestle*: Agate or porcelain.
- *Razor Blades*
- *Sample Mill*: SPEX, Inc., freezer mill or equivalent.
- *Bulk Sample Holders*
- *Silver Membrane Filters*: 25-mm diameter, 0.45- μ m pore size. Selas Corp. of America, Flotronics Div., 1957 Pioneer Road, Huntingdon Valley, PA 19006.
- *Microscope Slides*
- *Vacuum Filtration Apparatus*: Gelman No. 1107 or equivalent, and side-arm vacuum flask.
- *Microbalance*
- *Ultrasonic Bath or Probe*: Model W140, Ultrasonics, Inc., operated at a power density of approximately 0.1 W/mL, or equivalent.
- *Volumetric Flasks*: 1-L volume.
- *Assorted Pipettes*
- *Pipette Bulb*
- *Nonserrated Forceps*
- *Polyethylene Wash Bottle*
- *Pyrex Beakers*: 50-mL volume.
- *Desiccator*
- *Filter Storage Cassettes*
- *Magnetic Stirring Plate and Bars*
- *Porcelain Crucibles*
- *Muffle Furnace or Low Temperature Asher*

2.5.2 Sample Analysis

Sample analysis requirements include an X-ray diffraction unit, equipped with:

- *Constant Potential Generator; Voltage and mA Stabilizers*
- *Automated Diffractometer with Step-Scanning Mode*
- *Copper Target X-Ray Tube*: High intensity, fine focus, preferably.
- *X-Ray Pulse Height Selector*
- *X-Ray Detector* (with high voltage power supply): Scintillation or proportional counter.
- *Focusing Graphite Crystal Monochromator*; or *Nickel Filter* (if copper source is used, and iron fluorescence is not a serious problem).
- *Data Output Accessories*:
 - *Strip Chart Recorder*
 - *Decade Scaler/Timer*
 - *Digital Printer*
- *Sample Spinner* (optional).
- *Instrument Calibration Reference Specimen*: α -quartz reference crystal (Arkansas quartz standard, #180-147-00, Philips Electronics Instruments, Inc., 85 McKee Drive, Mahwah, NJ 07430) or equivalent.

2.6 Reagents

2.6.1 Standard Reference Materials

The reference materials listed below are intended to serve as a guide. Every attempt should be made to acquire pure reference materials that are comparable to sample materials being analyzed.

- *Chrysotile*: UICC Canadian, or NIEHS Plastibest. (UICC reference materials available from: UICC, MRC

Pneumoconiosis Unit, Llandough Hospital, Penarth, Glamorgan, CF61XW, UK).

- *Crocidolite*: UICC
- *Amosite*: UICC
- *Anthophyllite*: UICC
- *Tremolite Asbestos*: Wards Natural Science Establishment, Rochester, N.Y.; Cyprus Research Standard, Cyprus Research, 2435 Military Ave., Los Angeles, CA 90064 (washed with dilute HCl to remove small amount of calcite impurity); India tremolite, Rajasthan State, India.
- *Actinolite Asbestos*

2.6.2 Adhesive

Tape, petroleum jelly, etc. (for attaching silver membrane filters to sample holders).

2.6.3 Surfactant

1 percent aerosol OT aqueous solution or equivalent.

2.6.4 Isopropanol

ACS Reagent Grade.

2.7 Procedure

2.7.1 Sampling

Samples for analysis of asbestos content shall be collected as specified in EPA Guidance Document #C0090, *Asbestos-Containing Materials in School Buildings*.¹⁰

2.7.2 Analysis

All samples must be analyzed initially for asbestos content by PLM. XRD should be used as an auxiliary method when a second, independent analysis is requested.

NOTE: Asbestos is a toxic substance. All handling of dry materials should be performed in an operating fume hood.

2.7.2.1 Sample Preparation

The method of sample preparation required for XRD analysis will depend on: (1) The condition of the sample received (sample size, homogeneity, particle size distribution, and overall composition as determined by PLM); and (2) the type of XRD analysis to be performed (qualitative, quantitative, thin layer or bulk).

Bulk materials are usually received as inhomogeneous mixtures of complex composition with very wide particle size distributions. Preparation of a homogeneous, representative sample from asbestos-containing materials is particularly difficult because the fibrous nature of the asbestos minerals inhibits mechanical mixing and stirring, and because milling procedures may cause adverse lattice alterations.

A discussion of specific matrix reduction procedures is given below. Complete methods of sample preparation are detailed in Sections 2.7.2.2 and 2.7.2.3.

NOTE: All samples should be examined microscopically before and after each matrix reduction step to monitor changes in sample particle size, composition, and crystallinity, and to ensure sample representativeness and homogeneity for analysis.

2.7.2.1.1 *Milling*—Mechanical milling of asbestos materials has been shown to decrease fiber crystallinity, with a resultant decrease in diffraction intensity of the specimen; the degree of lattice alteration is related to the dura-

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tion and type of milling process.^{19, 22} Therefore, all milling times should be kept to a minimum.

For *qualitative analysis*, particle size is not usually of critical importance and initial characterization of the material with a minimum of matrix reduction is often desirable to document the composition of the sample as received. Bulk samples of very large particle size (>2–3 mm) should be comminuted to ~100 μm . A mortar and pestle can sometimes be used in size reduction of soft or loosely bound materials though this may cause matting of some samples. Such samples may be reduced by cutting with a razor blade in a mortar, or by grinding in a suitable mill (e.g., a microhammer mill or equivalent). When using a mortar for grinding or cutting, the sample should be moistened with ethanol, or some other suitable wetting agent, to minimize exposures.

For accurate, reproducible *quantitative analysis*, the particle size of both sample and standard materials should be reduced to ~10 μm (see Section 2.3.3). Dry ball milling at liquid nitrogen temperatures (e.g., Spex Freezer Mill, or equivalent) for a maximum time of 10 min. is recommended to obtain satisfactory particle size distributions while protecting the integrity of the crystal lattice.⁵ Bulk samples of very large particle size may require grinding in two stages for full matrix reduction to <10 μm .^{8, 16}

Final particle size distributions should always be verified by optical microscopy or another suitable method.

2.7.2.1.2 Low temperature ashing—For materials shown by PLM to contain large amounts of gypsum, cellulosic, or other organic materials, it may be desirable to ash the samples prior to analysis to reduce background radiation or matrix interference. Since chrysotile undergoes dehydroxylation at temperatures between 550° C and 650° C, with subsequent transformation to forsterite,^{23, 24} ashing temperatures should be kept below 500° C. Use of a low temperature asher is recommended. In all cases, calibration of the oven is essential to ensure that a maximum ashing temperature of 500° C is not exceeded.

2.7.2.1.3 Acid leaching—Because of the interference caused by gypsum and some carbonates in the detection of asbestiform minerals by XRD (see Section 2.3.1), it may be necessary to remove these interferents by a simple acid leaching procedure prior to analysis (see Section 1.7.2.2).

2.7.2.2 Qualitative Analysis

2.7.2.2.1 Initial screening of bulk material—Qualitative analysis should be performed on a representative, homogeneous portion of the sample with a minimum of sample treatment.

1. Grind and mix the sample with a mortar and pestle (or equivalent method, see Section 2.7.2.1.1.) to a final particle size sufficiently small (~100 μm) to allow adequate packing into the sample holder.

2. Pack the sample into a standard bulk sample holder. Care should be taken to ensure that a representative portion of the milled sample is selected for analysis. Particular care should be taken to avoid possible size segregation of the sample. (Note: Use of a back-packing method²⁵ of bulk sample preparation may reduce preferred orientation effects.)

3. Mount the sample on the diffractometer and scan over the diagnostic peak regions for the serpentine (~67.4 Å) and amphibole (8.2–8.5 Å) minerals (see Table 2–2). The X-ray diffraction equipment should be optimized for intensity. A slow scanning speed of 1° 2 θ /min is rec-

ommended for adequate resolution. Use of a sample spinner is recommended.

4. Submit all samples that exhibit diffraction peaks in the diagnostic regions for asbestiform minerals to a full qualitative XRD scan (5°–60° 2 θ ; 1°2 θ /min) to verify initial peak assignments and to identify potential matrix interferences when subsequent quantitative analysis is to be performed.

5. Compare the sample XRD pattern with standard reference powder diffraction patterns (i.e., JCPDS powder diffraction data³ or those of other well-characterized reference materials). Principal lattice spacings of asbestiform minerals are given in Table 2–2; common constituents of bulk insulation and wall materials are listed in Table 2–3.

2.7.2.2.2 Detection of minor or trace constituents—Routine screening of bulk materials by XRD may fail to detect small concentrations (<5 percent) of asbestos. The limits of detection will, in general, be improved if matrix absorption effects are minimized, and if the sample particle size is reduced to the optimal 1 to 10 μm range, provided that the crystal lattice is not degraded in the milling process. Therefore, in those instances where confirmation of the presence of an asbestiform mineral at very low levels is required, or where a negative result from initial screening of the bulk material by XRD (see Section 2.7.2.2.1) is in conflict with previous PLM results, it may be desirable to prepare the sample as described for quantitative analysis (see Section 2.7.2.3) and step-scan over appropriate 2 θ ranges of selected diagnostic peaks (Table 2–2). Accurate transfer of the sample to the silver membrane filter is not necessary unless subsequent quantitative analysis is to be performed.

2.7.2.3 Quantitative Analysis

The proposed method for quantitation of asbestos in bulk samples is a modification of the NIOSH-recommended thin-layer method for chrysotile in air.⁵ A thick-layer or bulk method involving pelletizing the sample may be used for semiquantitative analysis;^{7, 8} however, this method requires the addition of an internal standard, use of a specially fabricated sample press, and relatively large amounts of standard reference materials. Additional research is required to evaluate the comparability of thin- and thick-layer methods for quantitative asbestos analysis.

For quantitative analysis by thin-layer methods, the following procedure is recommended:

1. Mill and size all or a substantial representative portion of the sample as outlined in Section 2.7.2.1.1.
2. Dry at 100° C for 2 hr; cool in a desiccator.
3. Weigh accurately to the nearest 0.01 mg.
4. Samples shown by PLM to contain large amounts of cellulosic or other organic materials, gypsum, or carbonates, should be submitted to appropriate matrix reduction procedures described in Sections 2.7.2.1.2 and 2.7.2.1.3. After ashing and/or acid treatment, repeat the drying and weighing procedures described above, and determine the percent weight loss; L.
5. Quantitatively transfer an accurately weighed amount (50–100 mg) of the sample to a 1-L volumetric flask with approximately 200 mL isopropanol to which 3 to 4 drops of surfactant have been added.
6. Ultrasonicate for 10 min at a power density of approximately 0.1 W/mL, to disperse the sample material.
7. Dilute to volume with isopropanol.
8. Place flask on a magnetic stirring plate. Stir.

9. Place a silver membrane filter on the filtration apparatus, apply a vacuum, and attach the reservoir. Release the vacuum and add several milliliters of isopropanol to the reservoir. Vigorously hand shake the asbestos suspension and immediately withdraw an aliquot from the center of the suspension so that total sample weight, W_T , on the filter will be approximately 1 mg. Do not adjust the volume in the pipet by expelling part of the suspension; if more than the desired aliquot is withdrawn, discard the aliquot and resume the procedure with a clean pipet. Transfer the aliquot to the reservoir. Filter rapidly under vacuum. Do not wash the reservoir walls. Leave the filter apparatus under vacuum until dry. Remove the reservoir, release the vacuum, and remove the filter with forceps. (Note: Water-soluble matrix interferences such as gypsum may be removed at this time by careful washing of the filtrate with distilled water. Extreme care should be taken not to disturb the sample.)

10. Attach the filter to a flat holder with a suitable adhesive and place on the diffractometer. Use of a sample spinner is recommended.

11. For each asbestos mineral to be quantitated select a reflection (or reflections) that has been shown to be free from interferences by prior PLM or qualitative XRD analysis and that can be used unambiguously as an index of the amount of material present in the sample (see Table 2-2).

12. Analyze the selected diagnostic reflection(s) by step scanning in increments of $0.02^\circ 2\theta$ for an appropriate fixed time and integrating the counts. (A fixed count scan may be used alternatively; however, the method chosen should be used consistently for all samples and standards.) An appropriate scanning interval should be selected for each peak, and background corrections made. For a fixed time scan, measure the background on each side of the peak for one-half the peak-scanning time. The net intensity, I_n , is the difference between the peak integrated count and the total background count.

13. Determine the net count, I_{Ag} , of the filter 2.36 \AA silver peak following the procedure in step 12. Remove the filter from the holder, reverse it, and reattach it to the holder. Determine the net count for the unattenuated silver peak, I_{Ag} . Scan times may be less for measurement of silver peaks than for sample peaks; however, they should be constant throughout the analysis.

14. Normalize all raw, net intensities (to correct for instrument instabilities) by referencing them to an external standard (e.g., the 3.34 \AA peak of an α -quartz reference crystal). After each unknown is scanned, determine the net count, I_r , of the reference specimen following the procedure in step 12. Determine the normalized intensities by dividing the peak intensities by I_r :

EC01AP92.018

2.8 Calibration

2.8.1 Preparation of Calibration Standards

1. Mill and size standard asbestos materials according to the procedure outlined in Section 2.7.2.1.1. *Equivalent, standardized matrix reduction and sizing techniques should be used for both standard and sample materials.*

2. Dry at 100°C for 2 hr; cool in a desiccator.

3. Prepare two suspensions of each standard in isopropanol by weighing approximately 10 and 50 mg of the dry material to the nearest 0.01 mg. Quantitatively transfer each to a 1-L volumetric flask with approxi-

mately 200 mL isopropanol to which a few drops of surfactant have been added.

4. Ultrasonicate for 10 min at a power density of approximately 0.1 W/mL, to disperse the asbestos material.

5. Dilute to volume with isopropanol.

6. Place the flask on a magnetic stirring plate. Stir.

7. Prepare, in triplicate, a series of at least five standard filters to cover the desired analytical range, using appropriate aliquots of the 10 and 50 mg/L suspensions and the following procedure.

Mount a silver membrane filter on the filtration apparatus. Place a few milliliters of isopropanol in the reservoir. Vigorously hand shake the asbestos suspension and immediately withdraw an aliquot from the center of the suspension. Do not adjust the volume in the pipet by expelling part of the suspension; if more than the desired aliquot is withdrawn, discard the aliquot and resume the procedure with a clean pipet. Transfer the aliquot to the reservoir. Keep the tip of the pipet near the surface of the isopropanol. Filter rapidly under vacuum. Do not wash the sides of the reservoir. Leave the vacuum on for a time sufficient to dry the filter. Release the vacuum and remove the filter with forceps.

2.8.2 Analysis of Calibration Standards

1. Mount each filter on a flat holder. Perform step scans on selected diagnostic reflections of the standards and reference specimen using the procedure outlined in Section 2.7.2.3, step 12, and the same conditions as those used for the samples.

2. Determine the normalized intensity for each peak measured, \hat{I}_{std} , as outlined in Section 2.7.2.3, step 14.

2.9 Calculations

For each asbestos reference material, calculate the exact weight deposited on each standard filter from the concentrations of the standard suspensions and aliquot volumes. Record the weight, w , of each standard. Prepare a calibration curve by regressing \hat{I}_{std} on w . Poor reproducibility (± 15 percent RSD) at any given level indicates problems in the sample preparation technique, and a need for new standards. The data should fit a straight line equation.

Determine the slope, m , of the calibration curve in counts/microgram. The intercept, b , of the line with the \hat{I}_{std} axis should be approximately zero. A large negative intercept indicates an error in determining the background. This may arise from incorrectly measuring the baseline or from interference by another phase at the angle of background measurement. A large positive intercept indicates an error in determining the baseline or that an impurity is included in the measured peak.

Using the normalized intensity, \hat{I}_{Ag} , for the attenuated silver peak of a sample, and the corresponding normalized intensity from the unattenuated silver peak, \hat{I}_{Ag} , of the sample filter, calculate the transmittance, T , for each sample as follows:^{26 27}

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Determine the correction factor, $f(T)$, for each sample according to the formula:

$$f(T) = \frac{-R (\ln T)}{1 - T^R}$$

where

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$$R = \frac{\sin \Theta_{Ag}}{\sin \Theta_a}$$

Θ_{Ag} =angular position of the measured silver peak (from Bragg's Law), and

Θ_a =angular position of the diagnostic asbestos peak.

Calculate the weight, W_a , in micrograms, of the asbestos material analyzed for in each sample, using the appropriate calibration data and absorption corrections:

EC01AP92.020

Calculate the percent composition, P_a , of each asbestos mineral analyzed for in the parent material, from the total sample weight, W_T , on the filter:

$$P_a = \frac{W_a(1-.01L)}{W_T} \times 100$$

where

P_a =percent asbestos mineral in parent material;

W_a =mass of asbestos mineral on filter, in μg ;

W_T =total sample weight on filter, in μg ;

L =percent weight loss of parent material on ashing and/or acid treatment (see Section 2.7.2.3).

2.10 References

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Subpart F [Reserved]

Subpart G—Asbestos Abatement Projects

SOURCE: 52 FR 5623, Feb. 25, 1987, unless otherwise noted.

§ 763.120 Scope

(a) This part establishes requirements which must be followed during asbestos abatement projects by employers of State and local government employees not covered by the Asbestos Standard of the Occupational Safety and Health Administration (OSHA), 29 CFR 1926.58, an Asbestos Standard adopted by a State as part of a State plan approved by OSHA under section 18 of the Occupational Safety and Health Act, or a State asbestos regulation which EPA has determined to be comparable to or more stringent than this part. The rule covers those employees who take part in asbestos abatement work.

(b) [Reserved]

§ 763.121 Regulatory requirements.

(a) [Reserved]

(b) *Definitions.* *Action level* means an airborne concentration of asbestos of 0.1 fiber per cubic centimeter (f/cc) of air calculated as an 8-hour time-weighted average.

Administrator means the Administrator, U.S. Environmental Protection Agency, or designee.

Asbestos means the asbestiform varieties of chrysotile (serpentine); crocidolite (riebeckite); amosite (cummingtonite—grunerite); tremolite; anthophyllite, and actinolite.

Asbestos abatement project means any activity involving the removal, enclosure, or encapsulation of friable asbestos material.

Authorized person means any person authorized by the employer and required by work duties to be present in regulated areas.

Clean room means an uncontaminated room having facilities for the storage of employees' street clothing and uncontaminated materials and equipment.

Competent person means one who is capable of identifying existing asbestos hazards in the workplace and who has the authority to take prompt corrective measures to eliminate them. The duties of the competent person include at least the following: Establishing the negative-pressure enclosure, ensuring its integrity, and controlling entry to and exit from the enclosure; supervising any em-

ployee exposure monitoring required by this subpart, ensuring that all employees working within such an enclosure wear the appropriate personal protective equipment, are trained in the use of appropriate methods of exposure control, and use the hygiene facilities and decontamination procedures specified in this subpart; and ensuring that engineering controls in use are in proper operating condition and are functioning properly.

Decontamination area means an enclosed area adjacent and connected to the regulated area and consisting of an equipment room, shower area, and clean room, which is used for the decontamination of workers, materials, and equipment contaminated with asbestos.

Demolition means the wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of asbestos products.

Emergency project means a project involving the removal, enclosure, or encapsulation of friable asbestos-containing material that was not planned but results from a sudden unexpected event.

Employee exposure means that exposure to airborne asbestos would occur if the employee were not using respiratory protective equipment.

Employer means the public department, agency, or entity which hires an employee. The term includes, but is not limited to, any State, County, City, or other local governmental entity which operates or administers schools, a department of health or human services, a library, a police department, a fire department, or similar public service agencies or offices.

Equipment room (change room) means a contaminated room located within the decontamination area that is supplied with impermeable bags or containers for the disposal of contaminated protective clothing and equipment.

Fiber means a particulate form of asbestos, 5 micrometers or longer, with a length-to-diameter ratio of at least 3 to 1.

Friable asbestos material means any material containing more than 1 percent asbestos by weight which, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure.

High-efficiency particulate air (HEPA) filter means a filter capable of trapping and retaining at least 99.97 percent of all monodispersed particles of 0.3 micrometer in diameter or larger.

Regulated area means an area established by the employer to demarcate areas where airborne concentrations of asbestos exceed or can reasonably be expected to exceed the permissible exposure limit. The regulated area may take the form of: (1) A temporary enclosure, as required by paragraph (e)(6) of this section, or (2) an area demarcated in any manner that minimizes the number of employees exposed to asbestos.

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Removal means the taking out or stripping of asbestos or materials containing asbestos.

Renovation means the modifying of any existing structure, or portion thereof, where exposure to airborne asbestos may result.

Repair means overhauling, rebuilding, reconstructing, or reconditioning of structures or substrates where asbestos is present.

(c) *Permissible exposure limit (PEL)*. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.2 fiber per cubic centimeter of air as an 8-hour time-weighted average (TWA), as determined by the method prescribed in appendix A of this section, or by an equivalent method.

(d) *Communication among employers*. On multi-employer worksites, an employer performing asbestos work requiring the establishment of a regulated area shall inform other employers (as defined by this subpart and by 29 U.S.C. section 652(5)) on the site of the nature of the employer's work with asbestos and of the existence of and requirements pertaining to regulated areas.

(e) *Regulated areas*—(1) *General*. The employer shall establish a regulated area in work areas where airborne concentrations of asbestos exceed or can reasonably be expected to exceed the permissible exposure limit prescribed in paragraph (c) of this section.

(2) *Demarcation*. The regulated area shall be demarcated in any manner that minimizes the number of persons within the area and protects persons outside the area from exposure to airborne concentrations of asbestos in excess of the permissible exposure limit.

(3) *Access*. Access to regulated areas shall be limited to authorized persons.

(4) *Respirators*. All persons entering a regulated area shall be supplied with a respirator, selected in accordance with paragraph (h)(2) of this section.

(5) *Prohibited activities*. The employer shall ensure that employees do not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the regulated area.

(6) *Requirements for asbestos removal, demolition, and renovation operations*. (i) Wherever feasible, the employer shall establish negative-pressure enclosures before commencing removal, demolition, and renovation operations.

(ii) The employer shall designate a competent person to perform or supervise the following duties:

- (A) Set up the enclosure.
- (B) Ensure the integrity of the enclosure.
- (C) Control entry to and exit from the enclosure.
- (D) Supervise all employee exposure monitoring required by this section.

(E) Ensure that employees working within the enclosure wear respirators and protective clothing as required by paragraphs (h) and (i) of this section.

(F) Ensure that employees are trained in the use of engineering controls, work practices, and personal protective equipment.

(G) Ensure that employees use the hygiene facilities and observe the decontamination procedures specified in paragraph (j) of this section.

(H) Ensure that engineering controls are functioning properly.

(iii)(A) In addition to the qualifications specified in paragraph (b) of this section, the competent person shall be trained in all aspects of asbestos abatement, the contents of this subpart, the identification of asbestos and its removal procedures, and other practices for reducing the hazard. Such training shall be obtained in a comprehensive course, such as a course conducted by an EPA Asbestos Training Center, or an equivalent course.

(B) For small-scale, short-duration operations, such as pipe repair, valve replacement, installing electrical conduits, installing or removing drywall, roofing, and other general building maintenance or renovation, the employer is not required to comply with the requirements of paragraph (e)(6) of this section.

(f) *Exposure monitoring*—(1) *General*. (i) Each employer who has a workplace or work operation covered by this subpart shall perform monitoring to determine accurately the airborne concentrations of asbestos to which employees may be exposed.

(ii) Determinations of employee exposure shall be made from breathing zone air samples that are representative of the 8-hour TWA of each employee.

(iii) Representative 8-hour TWA employee exposure shall be determined on the basis of one or more samples representing fullshift exposure for employees in each work area.

(2) *Initial monitoring*. (i) Each employer who has a workplace or work operation covered by this subpart, except as provided for in paragraphs (f)(2)(ii) and (iii) of this section, shall perform initial monitoring at the initiation of each asbestos job to determine accurately the airborne concentrations of asbestos to which employees may be exposed.

(ii) The employer may demonstrate that employee exposures are below the action level by means of objective data demonstrating that the product or material containing asbestos cannot release airborne fibers in concentrations exceeding the action level under those work conditions having the greatest potential for releasing asbestos.

(iii) Where the employer has monitored each asbestos job, and the data were obtained during work operations conducted under workplace conditions closely resembling the processes, type of ma-

terial, control methods, work practices, and environmental conditions used and prevailing in the employer's current operations, the employer may rely on such earlier monitoring results to satisfy the requirements of paragraph (f)(2)(i) of this section.

(3) *Periodic monitoring within regulated areas.*

(i) The employer shall conduct daily monitoring that is representative of the exposure of each employee who is assigned to work within a regulated area.

(ii) When all employees within a regulated area are equipped with supplied-air respirators operated in the positive-pressure mode, the employer may dispense with the daily monitoring required by this paragraph.

(4) *Termination of monitoring.* If the periodic monitoring required by paragraph (f)(3)(i) of this section reveals that employee exposures, as indicated by statistically reliable measurements, are below the action level, the employer may discontinue monitoring for those employees whose exposures are represented by such monitoring.

(5) *Method of monitoring.* (i) All samples taken to satisfy the monitoring requirements of paragraph (f) of this section shall be personal samples collected following the procedures specified in appendix A of this section.

(ii) All samples taken to satisfy the monitoring requirements of paragraph (f) of this section shall be evaluated using the EPA/OSHA Reference Method (ORM) specified in appendix A, or an equivalent counting method.

(iii) If an equivalent method to the ORM is used, the employer shall ensure that the method meets the following criteria:

(A) Replicate exposure data used to establish equivalency are collected in side-by-side field and laboratory comparisons.

(B) The comparison indicates that 90 percent of the samples collected in the range 0.5 to 2.0 times the permissible limit have an accuracy range of plus or minus 25 percent of the ORM results with a 95 percent confidence level as demonstrated by a statistically valid protocol.

(C) The equivalent method is documented and the results of the comparison testing are maintained.

(iv) To satisfy the monitoring requirements of paragraph (f) of this section, employers shall rely on the results of monitoring analysis performed by laboratories that have instituted quality assurance programs that include the elements prescribed in appendix A of this section.

(6) *Employee notification of monitoring results.*

(i) The employer shall notify affected employees of the monitoring results that represent the employees' exposure as soon as possible following receipt of monitoring results.

(ii) The employer shall notify affected employees of the results of monitoring representing the employees' exposure in writing either individually or by posting at a centrally located place that is accessible to affected employees.

(7) *Observation of monitoring.* (i) The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to asbestos conducted in accordance with this section

(ii) When observation of the monitoring of employee exposure to asbestos requires entry into an area where the use of protective clothing or equipment is required, the observer shall be provided with and be required to use such clothing and equipment and shall comply with all other applicable safety and health procedures.

(g) *Methods of compliance—(1) Engineering controls and work practices.* (i) The employer shall use one or any combination of the following control methods to achieve compliance with the permissible exposure limit prescribed by paragraph (c) of this section:

(A) Local exhaust ventilation equipped with HEPA filter dust collection systems.

(B) General ventilation systems.

(C) Vacuum cleaners equipped with HEPA filters.

(D) Enclosure or isolation of processes producing asbestos dust.

(E) Use of wet methods, wetting agents, or removal encapsulants to control employee exposures during asbestos handling, mixing, removal, cutting, application, and cleanup.

(F) Prompt disposal of wastes contaminated with asbestos in leak-tight containers.

(G) Use of work practices or other engineering controls that the Administrator can show to be feasible.

(ii) Wherever the feasible engineering and work practice controls described in this paragraph are not sufficient to reduce employee exposure to or below the limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

(2) *Prohibitions.* (i) High-speed abrasive disc saws that are not equipped with appropriate engineering controls shall not be used for work related to asbestos.

(ii) Compressed air shall not be used to remove asbestos materials containing asbestos unless the compressed air is used in conjunction with an enclosed ventilation system designed to capture the dust cloud created by the compressed air.

(iii) Materials containing asbestos shall not be applied by spray methods.

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(3) *Employee rotation.* The employer shall not use employee rotation as a means of compliance with the exposure limit prescribed in paragraph (c) of this section.

(h) *Respiratory protection—(1) General.* The employer shall provide respirators, and ensure that they are used, where required by this section. Respirators shall be used in the following circumstances:

(i) During the interval necessary to install or implement feasible engineering and work practice controls.

(ii) In work operations such as maintenance and repair activities, or other activities for which engineering and work practice controls are not feasible.

(iii) In work situations where feasible engineering and work practice controls are not yet sufficient to reduce exposure to or below the exposure limit.

(iv) In emergencies.

(2) *Respirator selection.* (i) Where respirators are used, the employer shall select and provide, at no cost to the employee, the appropriate respirator as specified in Table 1 in paragraph (h)(2)(iv) of this section, and shall ensure that the employee uses the respirator provided.

(ii) The employer shall select respirators from among those jointly approved as being acceptable for protection by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR part 11.

(iii) The employer shall provide a powered, air-purifying respirator in lieu of any negative-pressure respirator specified in Table 1 whenever:

(A) An employee chooses to use this type of respirator; and

(B) This respirator will provide adequate protection to the employee.

(iv) Table 1—Respiratory Protection for Asbestos Fibers.

TABLE 1—RESPIRATORY PROTECTION FOR ASBESTOS FIBERS

Airborne concentration of asbestos	Required respirator
Not in excess of 2 f/cc (10×PEL).	1. Half-mask air-purifying respirator other than a disposable respirator equipped with high-efficiency filters.
Not in excess of 10 f/cc (50×PEL).	1. Full facepiece air-purifying respirator equipped with high-efficiency filters.
Not in excess of 20 f/cc (100×PEL).	1. Any powered air-purifying respirator equipped with high-efficiency filters. 2. Any supplied-air respirator operated in continuous flow mode.
Not in excess of 200 f/cc (1,000×PEL).	1. Full facepiece supplied-air respirator operated in pressure demand mode.

TABLE 1—RESPIRATORY PROTECTION FOR ASBESTOS FIBERS—Continued

Airborne concentration of asbestos	Required respirator
Greater than 200 f/cc (>1,000×PEL) or unknown concentration.	1. Full facepiece supplied air respirator operated in pressure demand mode equipped with an auxiliary positive pressure self-contained breathing apparatus.

NOTE: a. Respirators assigned for higher environmental concentrations may be used at lower concentrations.

b. A high-efficiency filter means a filter that is at least 99.97 percent efficient against mono-dispersed particles of 0.3 micrometers in diameter or larger.

(3) *Respirator program.* (i) Where respiratory protection is used, the employer shall institute a respirator program. This should include all information and guidance necessary for their proper selection, use, and care. Possible emergency uses of respirators should be anticipated and planned for.

(ii) The employer shall permit each employee who uses a filter respirator to change the filter elements whenever an increase in breathing resistance is detected and shall maintain an adequate supply of filter elements for this purpose.

(iii) Employees who wear respirators shall be permitted to leave work areas to wash their faces and respirator facepieces whenever necessary to prevent skin irritation associated with respirator use.

(iv) No employee shall be assigned to tasks requiring the use of respirators if, based on his or her most recent examination, an examining physician determines that the employee will be unable to function normally wearing a respirator, or that the safety or health of the employee or of other employees will be impaired by the use of a respirator. Such employee shall be assigned to another job or given the opportunity to transfer to a different position, the duties of which he or she is able to perform, with the same employer, in the same geographical area, and with the same seniority, status, and rate of pay he or she had just prior to such transfer, if such a different position is available.

(4) *Respirator fit testing.* (i) The employer shall ensure that the respirator issued to the employee exhibits the least possible facepiece leakage and that the respirator is fitted properly.

(ii) Employers shall perform either quantitative or qualitative face fit tests at the time of initial fitting and at least every 6 months thereafter for each employee wearing a negative-pressure respirator. The qualitative fit tests may be used only for testing the fit of half-mask respirators where they are permitted to be worn, and shall be conducted in accordance with appendix C of this section. The tests shall be used to select facepieces

that provide the required protection as prescribed in Table 1.

(i) *Protective clothing*—(1) *General*. The employer shall provide and require the use of protective clothing, such as coveralls or similar whole-body clothing, head coverings, gloves, and foot coverings for any employee exposed to airborne concentrations of asbestos that exceed the permissible exposure limit prescribed in paragraph (c) of this section.

(2) *Laundering*. (i) The employer shall ensure that laundering of contaminated clothing is done so as to prevent the release of airborne asbestos in excess of the exposure limit prescribed in paragraph (c) of this section.

(ii) Any employer who gives contaminated clothing to another person for laundering shall inform such person of the requirement in paragraph (i)(2)(i) of this section effectively to prevent the release of airborne asbestos in excess of the exposure limit prescribed in paragraph (c) of this section.

(3) *Contaminated clothing*. Contaminated clothing shall be transported in sealed impermeable bags, or other closed, impermeable containers, and be labeled in accordance with paragraph (k) of this section.

(4) *Protective clothing for removal, demolition, and renovation operations*. (i) The competent person shall periodically examine worksuits worn by employees for rips or tears that may occur during performance of work.

(ii) When rips or tears are detected while an employee is working within a negative-pressure enclosure, rips and tears shall be immediately mended, or the worksuit shall be immediately replaced.

(j) *Hygiene facilities and practices*—(1) *General*. (i)(A) The employer shall provide clean change areas for employees required to work in regulated areas or required by paragraph (i)(1) of this section to wear protective clothing.

(B) In lieu of the change area requirement specified in paragraph (j)(1)(i), the employer may permit employees engaged in small-scale, short-duration operations, as described in paragraph (e)(6) of this section, to clean their protective clothing with a portable HEPA-equipped vacuum before such employees leave the area where maintenance was performed.

(ii) The employer shall ensure that change areas are equipped with separate storage facilities for protective clothing and street clothing.

(iii) Whenever food or beverages are consumed at the worksite and employees are exposed to airborne concentrations of asbestos in excess of the permissible exposure limit, the employer shall provide lunch areas in which the airborne concentrations of asbestos are below the action level.

(2) *Requirements for removal, demolition, and renovation operations*—(i) *Decontamination area*. Except for small-scale, short-duration operations, as described in paragraph (e)(6) of this section, the employer shall establish a decontamination area that is adjacent and connected to the regulated area for the decontamination of employees contaminated with asbestos. The decontamination area shall consist of an equipment room, shower area, and clean room in series. The employer shall ensure that employees enter and exit the regulated area through the decontamination area.

(ii) *Clean room*. The clean room shall be equipped with a locker or appropriate storage container for each employee's use.

(iii) *Shower area*. Where feasible, shower facilities shall be provided. The showers shall be contiguous both to the equipment room and the clean change room, unless the employer can demonstrate that this location is not feasible. Where the employer can demonstrate that it is not feasible to locate the shower between the equipment room and the clean change room, the employer shall ensure that employees:

(A) Remove asbestos contamination from their worksuits using a HEPA vacuum before proceeding to a shower that is not contiguous to the work area; or

(B) Remove their contaminated worksuits, don clean worksuits, and proceed to a shower that is not contiguous to the work area.

(iv) *Equipment room*. The equipment room shall be supplied with impermeable, labeled bags and containers for the containment and disposal of contaminated protective clothing and equipment.

(v) *Decontamination area entry procedures*. (A) The employer shall ensure that employees:

(1) Enter the decontamination area through the clean room.

(2) Remove and deposit street clothing within a locker provided for their use.

(3) Put on protective clothing and respiratory protection before leaving the clean room.

(B) The employer shall ensure that employees pass through the equipment room before entering the enclosure.

(vi) *Decontamination area exit procedures*. (A) The employer shall ensure that employees remove all gross contamination and debris from their protective clothing before leaving the regulated area.

(B) The employer shall ensure that employees remove their protective clothing in the equipment room and deposit the clothing in labeled impermeable bags or containers.

(C) The employer shall ensure that employees do not remove their respirators in the equipment room.

(D) The employer shall ensure that employees shower prior to entering the clean room.

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(E) The employer shall ensure that, after showering, employees enter the clean room before changing into street clothes.

(k) *Communication of hazards to employees—*

(1) *Signs.* (i) Warning signs that demarcate the regulated area shall be provided and displayed at each location where airborne concentrations of asbestos may be in excess of the exposure limit prescribed in paragraph (c) of this section. Signs shall be posted at such a distance from such a location that an employee may read the signs and take necessary protective steps before entering the area marked by the signs.

(ii) The warning signs required by paragraph (k)(1)(i) of this section shall bear the following information:

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

(2) *Labels.* (i) Labels shall be affixed to all products containing asbestos and to all containers containing such products, including waste containers. Where feasible, installed asbestos products shall contain a visible label.

(ii) Labels shall be printed in large, bold letters on a contrasting background.

(iii) Labels shall be used and shall contain the following information:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

(iv) [Reserved]

(v) Labels shall contain a warning statement against breathing airborne asbestos fibers.

(vi) The provisions for labels required by paragraph (k)(2)(i) of this section do not apply where:

(A) Asbestos fibers have been modified by a bonding agent, coating, binder, or other material, provided that the manufacturer can demonstrate that, during any reasonably foreseeable use, handling, storage, disposal, processing, or transportation, no airborne concentrations of asbestos fibers in excess of the action level will be released or

(B) Asbestos is present in a product in concentrations less than 0.1 percent by weight.

(3) *Employee information and training.* (i) The employer shall institute a training program for all employees exposed to airborne concentrations of asbestos at or above the action level and shall ensure their participation in the program.

(ii) Training shall be provided prior to or at the time of initial assignment, [unless the employee

has received equivalent training within the previous 12 months] and at least annually thereafter.

(iii) The training program shall be conducted in a manner that the employee is able to understand. The employer shall ensure that each employee is informed of the following:

(A) Methods of recognizing asbestos.

(B) The health effects associated with asbestos exposure.

(C) The relationship between smoking and asbestos in producing lung cancer.

(D) The nature of operations that could result in exposure to asbestos, the importance of necessary protective controls to minimize exposure including, as applicable, engineering controls, work practices, respirators, housekeeping procedures, hygiene facilities, protective clothing, decontamination procedures, emergency procedures, and waste disposal procedures, and any necessary instruction in the use of these controls and procedures.

(E) The purpose, proper use, fitting instructions, and limitations of respirators.

(F) The appropriate work practices for performing the asbestos job; and

(G) Medical surveillance program requirements; and

(H) The content of this subpart, including appendices.

(4) *Access to training materials.* (i) The employer shall make readily available to all affected employees without cost all written materials relating to the employee training program, including a copy of this regulation.

(ii) The employer shall provide to the Administrator upon request, all information and training materials relating to the employee information and training program.

(1) *Housekeeping—*(1) *Vacuuming.* Where vacuuming methods are selected, HEPA filtered vacuuming equipment must be used. The equipment shall be used and emptied in a manner that minimizes the reentry of asbestos into the workplace.

(2) *Waste disposal.* Asbestos waste, scrap, debris, bags, containers, equipment, and contaminated clothing consigned for disposal shall be collected and disposed of in sealed, labeled, impermeable bags or other closed, labeled, impermeable containers.

(m) *Medical surveillance—*(1) *General—*(i) *Employees covered.* The employer shall institute a medical surveillance program for all employees engaged in work involving levels of asbestos at or above the action level for 30 or more days per year, or who are required by this section to wear negative-pressure respirators.

(ii) *Examination by a physician.* (A) The employer shall ensure that all medical examinations and procedures are performed by or under the su-

pervision of a licensed physician, and are provided at no cost to the employee and at a reasonable time and place.

(B) Persons other than such licensed physicians who administer the pulmonary function testing required by this section shall complete a training course in spirometry sponsored by an appropriate academic or professional institution.

(2) *Medical examinations and consultation*—(i) *Frequency.* The employer shall make available medical examinations and consultations to each employee covered under paragraph (m)(1)(i) of this section on the following schedules:

(A) Prior to assignment of the employee to an area where negative-pressure respirators are worn.

(B)(1) When the employee is assigned to an area where exposure to asbestos may be at or above the action level for 30 or more days per year, a medical examination must be given within 10 working days following the thirtieth day of exposure.

(2) No medical examination is required of any employee if adequate records show that the employee has been examined in accordance with this paragraph within the past 1-year period.

(C) At least annually thereafter.

(D) If the examining physician determines that any of the examinations should be provided more frequently than specified, the employer shall provide such examinations to affected employees at the frequencies specified by the physician.

(ii) *Content.* Medical examinations made available pursuant to paragraphs (m)(2)(i) (A), (B), and (C) of this section shall include:

(A) A medical and work history with special emphasis directed to the pulmonary, cardiovascular, and gastrointestinal systems.

(B) On initial examination, the standardized questionnaire contained in appendix D, part 1 of this section and, on annual examination, the abbreviated standardized questionnaire contained in appendix D, part 2 of this section.

(C) A physical examination directed to the pulmonary and gastrointestinal systems, including a chest roentgenogram to be administered at the discretion of the physician, and pulmonary function tests of forced vital capacity (FVC) and forced expiratory volume at one second (FEV₁). Interpretation and classification of chest roentgenograms shall be conducted in accordance with appendix E of this section.

(D) Any other examinations or tests deemed necessary by the examining physician.

(3) *Information provided to the physician.* The employer shall provide the following information to the examining physician:

(i) A copy of this rule and Appendices D and E of this section.

(ii) A description of the affected employee's duties as they relate to the employee's exposure.

(iii) The employee's representative exposure level or anticipated exposure level.

(iv) A description of any personal protective and respiratory equipment used or to be used.

(v) Information from previous medical examinations of the affected employee that is not otherwise available to the examining physician.

(4) *Physician's written opinion.* (i) The employer shall obtain a written opinion from the examining physician. This written opinion shall contain the results of the medical examination and shall include:

(A) The physician's opinion as to whether the employee has any detected medical conditions that would place the employee at an increased risk of material health impairment from exposure to asbestos.

(B) Any recommended limitations on the employee or on the use of personal protective equipment such as respirators.

(C) A statement that the employee has been informed by the physician of the results of the medical examinations and of any medical conditions that may result from asbestos exposure.

(ii) The employer shall instruct the physician not to reveal in the written opinion given to the employer specific findings or diagnoses unrelated to occupational exposure to asbestos.

(iii) The employer shall provide a copy of the physician's written opinion to the affected employee within 30 days from its receipt.

(n) *Recordkeeping*—(1) *Objective data for exempted operations.* (i) Where the employer has relied on objective data that demonstrate that products made from or containing asbestos are not capable of releasing fibers of asbestos in concentrations at or above the action level under the expected conditions of processing, use, or handling to exempt such operations from the initial monitoring requirements under paragraph (f)(2) of this section, the employer shall establish and maintain an accurate record of objective data reasonably relied upon in support of the exemption.

(ii) The record shall include at least the following information:

(A) The product qualifying for exemption.

(B) The source of the objective data.

(C) The testing protocol, results of testing, and/or analysis of the material for the release of asbestos.

(D) A description of the operation exempted and how the data support the exemption.

(E) Other data relevant to the operations, materials, processing, or employee exposures covered by the exemption.

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(iii) The employer shall maintain this record for the duration of the employer's reliance upon such objective data.

(2) *Exposure measurements.* (i)(A) The employer shall keep an accurate record of all measurements taken to monitor employee exposure to asbestos as prescribed in paragraph (f) of this section.

(B) The employer may utilize the services of competent organizations such as employee associations to maintain the records required by this section.

(ii) This record shall include at least the following information:

(A) The date of measurement.

(B) The operation involving exposure to asbestos that is being monitored.

(C) Sampling and analytical methods used and evidence of their accuracy.

(D) Number, duration, and results of samples taken.

(E) Type of protective devices worn, if any.

(F) Name, social security number, and exposure of the employees whose exposures are represented.

(iii) The employer shall maintain this record for at least 30 years.

(3) *Medical surveillance.* (i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance by paragraph (m) of this section.

(ii) The record shall include at least the following information:

(A) The name and social security number of the employee.

(B) A copy of the employee's medical examination results, including the medical history, questionnaire responses, results of any tests, and physician's recommendations.

(C) Physician's written opinions.

(D) Any employee medical complaints related to exposure to asbestos.

(E) A copy of the information provided to the physician as required by paragraph (m) of this section.

(iii) The employer shall ensure that this record is maintained for the duration of employment plus 30 years.

(4) *Training records.* The employer shall maintain all employee training records for 1 year beyond the last date of employment by that employer.

(5) *Availability.* (i) The employer, upon request, shall make all records required to be maintained by this section available to the Administrator for examination and copying.

(ii) The employer, upon request, shall make any exposure records required by paragraphs (f) and (n) of this section available for examination and

copying to affected employees, former employees, designated representatives, and the Administrator.

(iii) The employer, upon request, shall make employee medical records required by paragraphs (m) and (n) of this section available for examination and copying to the subject employee, anyone having the specific written consent of the subject employee, and the Administrator.

(6) *Transfer of records.* Whenever the employer ceases to operate and there is no successor employer to receive and retain the records for the prescribed period, the employer shall notify the Administrator at least 90 days prior to disposal and, upon request, transmit them to the Administrator.

(o) *Effective date.* This section shall become effective March 27, 1987.

(p) *Appendices.* (1) Appendices A, C, D, and E to this section are incorporated as part of this section and the contents of these appendices are mandatory.

(2) Appendix B to this section is informational and is not intended to create any additional obligations not otherwise imposed or to detract from any existing obligations.

APPENDIX A TO § 763.121—EPA/OSHA REFERENCE METHOD—MANDATORY

This mandatory appendix specifies the procedure for analyzing air samples for asbestos and specifies quality control procedures that must be implemented by laboratories performing the analysis. The sampling and analytical methods described below represent the elements of the available monitoring methods essential to achieve adequate employee exposure monitoring while allowing employers to use methods that are already established within their organizations. All employers who are required to conduct air monitoring under § 763.121(f) are required to utilize analytical laboratories that use this procedure, or an equivalent method for collecting and analyzing samples.

Sampling and Analytical Procedure

1. The sampling medium for air samples shall be mixed cellulose ester filter membranes. These shall be designated by the manufacturer as suitable for asbestos counting. See below for rejection of blanks.

2. The preferred collection device shall be the 25-mm diameter cassette with an open-faced 50-mm electrically conductive extension bowl. The 37-mm cassette may be used if necessary, but only if written justification for the need to use the 37-mm filter cassette accompanies the sample results in the employee's exposure monitoring record.

3. An air flow rate between 0.5 liter/min and 2.5 liters/min shall be selected for the 25-mm cassette. If the 37-mm cassette is used, an air flow rate between 1 liter/min and 2.5 liters/min shall be selected.

4. Where possible, a sufficient air volume for each air sample shall be collected to yield between 100 and 1,300 fibers per square millimeter on the membrane filter. If a filter darkens in appearance or if loose dust is seen on the filter, a second sample shall be started.

5. Ship the samples in a rigid container with sufficient packing material to prevent dislodging the collected fibers. Packing material that has a high electrostatic charge on its surface (e.g., expanded polystyrene) cannot be used because such material can cause loss of fibers to the sides of the cassette.

6. Calibrate each personal sampling pump before and after use with a representative filter cassette installed between the pump and the calibration devices.

7. Personal samples shall be taken in the "breathing zone" of the employee (i.e., attached to or near the collar or lapel near the worker's face).

8. Fiber counts shall be made by positive phase contrast using a microscope with an 8 to 10 X eyepiece and a 40 to 45 X objective for a total magnification of approximately 400 X and a numerical aperture of 0.65 to 0.75. The microscope shall also be fitted with a green or blue filter.

9. The microscope shall be fitted with a Walton-Beckett eyepiece graticule calibrated for a field diameter of 100 micrometers (± 2 micrometers).

10. The phase-shift detection limit of the microscope shall be about 3 degrees measured using the HSE phase shift test slide as outlined below.

a. Place the test slide on the microscope stage and center it under the phase objective.

b. Bring the blocks of grooved lines into focus.

NOTE: The slide consists of seven sets of grooved lines (ca. 20 grooves to each block) in descending order of visibility from sets 1 to 7, seven being the least visible. The requirements for asbestos counting are that the microscope optics must resolve the grooved lines in set 3 completely, although they may appear somewhat faint, and that the grooved lines in sets 6 and 7 must be invisible. Sets 4 and 5 must be at least partially visible but may vary slightly in visibility between microscopes. A microscope that fails to meet these requirements has either too low or too high a resolution to be used for asbestos counting.

c. If the image deteriorates, clean and adjust the microscope optics. If the problem persists, consult the microscope manufacturer.

11. Each set of samples taken will include 10 percent blanks or a minimum of 2 blanks. The blank results shall be averaged and subtracted from the analytical results before reporting. Any samples represented by a blank having a fiber count in excess of 7 fibers/100 fields shall be rejected.

12. The samples shall be mounted by the acetone/triacetin method or a method with an equivalent index of refraction and similar clarity.

13. Observe the following counting rules.

a. Count only fiber equal to or longer than 5 micrometers. Measure the length of curved fibers along the curve.

b. In the absence of other information, count all particles as asbestos that have a length-to-width ratio (aspect ratio) of 3:1 or greater.

c. Fibers lying entirely within the boundary of the Walton-Beckett graticule field shall receive a count of 1. Fibers crossing the boundary once, having one end within the circle, shall receive the count of one-half ($1/2$). Do not count any fiber that crosses the graticule boundary more than once. Reject and do not count any other fibers even though they may be visible outside the graticule area.

d. Count bundles of fibers as one fiber unless individual fibers can be identified by observing both ends of an individual fiber.

e. Count enough graticule fields to yield 100 fibers. Count a minimum of 20 fields; stop counting at 100 fields regardless of fiber count.

14. Blind recounts shall be conducted at the rate of 10 percent.

Quality Control Procedures

1. *Intralaboratory program.* Each laboratory and/or each company with more than one microscopist counting slides shall establish a statistically designed quality assurance program involving blind recounts and comparisons between microscopists to monitor the variability of counting by each microscopist and between microscopists. In a company with more than one laboratory, the program shall include all laboratories and shall also evaluate the laboratory-to-laboratory variability.

2. *Interlaboratory program.* Each laboratory analyzing asbestos samples for compliance determination shall implement an interlaboratory quality assurance program that as a minimum includes participation of at least two other independent laboratories. Each laboratory shall participate in round robin testing at least once every 6 months with at least all the other laboratories in its interlaboratory quality assurance group. Each laboratory shall submit slides typical of its own work load for use in this program. The round robin shall be designed and results analyzed using appropriate statistical methodology.

3. All individuals performing asbestos analysis must have taken the NIOSH course for sampling and evaluating airborne asbestos dust or an equivalent course.

4. When the use of different microscopes contributes to differences between counters and laboratories, the effect of the different microscope shall be evaluated and the microscope shall be replaced, as necessary.

5. Current results of these quality assurance programs shall be posted in each laboratory to keep the microscopists informed.

APPENDIX B TO § 763.121—DETAILED PROCEDURE FOR ASBESTOS SAMPLING AND ANALYSIS—NON-MANDATORY

This appendix contains a detailed procedure for sampling and analysis and includes those critical elements specified in Appendix A of this section. Employers are not required to use this procedure, but they are required to use Appendix A of this section. The purpose of Appendix B of this section is to provide a detailed step-by-step sampling and analysis procedure that conforms to the elements specified in Appendix A of this section. Since this procedure may also standardize the analysis and reduce variability, EPA encourages employers to use this appendix.

Technique: Microscopy, Phase Contrast.

Analyte: Fibers (manual count).

Sample Preparation: Acetone/triacetin method.

Calibration: Phase-shift detection limit about 3 degrees.

Range: 100 to 1,300 fibers/mm² filter area.

Estimated Limit of Detection: 7 fibers/mm² filter area.

Sampler: Filter (0.8–1.2 μ m mixed cellulose ester membrane, 25-mm diameter).

Flow Rate: 0.5 L/min to 2.5 L/min (25-mm cassette); 1.0 L/min to 2.5 L/min (37-mm cassette).

Sample Volume: Adjust to obtain 100 to 1,300 fibers/mm².

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Shipment: Routine.

Sample Stability: Indefinite.

Blanks: 10% of samples (minimum 2).

Standard Analytical Error: 0.25.

Applicability: The working range is 0.02 f/cc (1920-L air sample) to 1.25 f/cc (400-L sample). The method gives an index of airborne asbestos fibers but may be used for other materials such as fibrous glass by inserting suitable parameters into the counting rules. The method does not differentiate between asbestos and other fibers. Asbestos fibers less than ca. 0.25 μm diameter will not be detected by this method.

Interferences: Any other airborne fiber may interfere since all particles meeting the counting criteria are counted. Chain-like particles may appear fibrous. High levels of nonfibrous dust particles may obscure fibers in the field of view and raise the detection limit.

Reagents:

1. Acetone.

2. Triacetin (glycerol triacetate), reagent grade.

Special Precautions: Acetone is an extremely flammable liquid and precautions must be taken not to ignite it. Heating of acetone must be done in a ventilated laboratory fume hood using a flameless, spark-free heat source.

Equipment:

1. *Collection device:* 25-mm cassette with 50-mm electrically conductive extension cowl with cellulose ester filter, 0.8 to 1.2 mm pore size and backup pad.

NOTE: Analyze representative filters for fiber background before use and discard the filter lot if more than 5 fibers/100 fields are found.

2. Personal sampling pump, greater than or equal to 0.5 l/min, with flexible connecting tubing.

3. Microscope, phase contrast, with green or blue filter, 8 to 10X eyepiece, and 40 to 45X phase objective (total magnification ca. 400X); numerical aperture=0.65 to 0.75.

4. Slides, glass, single-frosted, pre-cleaned, 25 x 75 mm.

5. Cover slips, 25 x 25 mm, No. 1½ unless otherwise specified by microscope manufacturer.

6. Knife, #1 surgical steel, curved blade.

7. Tweezers.

8. Flask, Guth-type, insulated neck, 250 to 500 mL (with single-holed rubber stopper and elbow-jointed glass tubing, 16 to 22 cm long).

9. Hotplate, spark-free, stirring type; heating mantle; or infrared lamp and magnetic stirrer.

10. Syringe, hypodermic, with 22-gauge needle.

11. Graticule, Walton-Beckett type with 100 μm diameter circular field at the specimen plane (area=0.00785 mm^2), (Type G-22).

NOTE: The graticule is custom-made for each microscope.

12. HSE/NPL phase contrast test slide, Mark II.

13. Telescope, ocular phase-ring centering.

14. Stage micrometer (0.01 mm divisions).

Sampling

1. Calibrate each personal sampling pump with a representative sampler in line.

2. Fasten the sampler to the worker's lapel as close as possible to the worker's mouth. Remove the top cover from the end of the cowl extension (open face) and orient face down. Wrap the joint between the extender and the monitor's body with shrink tape to prevent air leaks.

3. Submit at least two blanks (or 10 percent of the total samples, whichever is greater) for each set of samples. Remove the caps from the field blank cassettes and store the caps and cassettes in a clean area (bag or box) during the sampling period. Replace the caps in the cassettes when sampling is completed.

4. Sample at 0.5 L/min or greater. Do not exceed 1 mg total dust loading on the filter. Adjust sampling flow rate, Q (L/min), and time to produce a fiber density, E (fibers/ mm^2), of 100 to 1,300 fibers/ mm^2 [3.85×10^4 to 5×10^5 fibers per 25-mm filter with effective collection area ($A_c=385 \text{ mm}^2$)] for optimum counting precision (see step 21 below). Calculate the minimum sampling time, 'minimum (min) at the action level (one-half of the current standard), L (f/cc) of the fibrous aerosol being sampled:

$$\text{minimum} = \frac{(A_c)(E)}{(Q)(L)10}$$

5. Remove the field monitor at the end of sampling, replace the plastic top cover and small end caps, and store the monitor.

6. Ship the samples in a rigid container with sufficient packing material to prevent jostling or damage.

NOTE: Do not use polystyrene foam in the shipping container because of electrostatic forces which may cause fiber loss from the sample filter.

Sample Preparation

NOTE: The object is to produce samples with a smooth (nongrainy) background in a medium with a refractive index equal to or less than 1.46. The method below collapses the filter for easier focusing and produces permanent mounts which are useful for quality control and interlaboratory comparison. Other mounting techniques meeting the above criteria may also be used, e.g., the nonpermanent field mounting technique used in P & CAM 239.

7. Ensure that the glass slides and cover slips are free of dust and fibers.

8. Place 40 to 60 ml of acetone into a Guth-type flask. Stopper the flask with a single-hole rubber stopper through which a glass tube extends 5 to 8 cm into the flask. The portion of the glass tube that exits the top of the stopper (8 to 10 cm) is bent downward in an elbow that makes an angle of 20 to 30 degrees with the horizontal.

9. Place the flask in a stirring hotplate or wrap in a heating mantle. Heat the acetone gradually to its boiling temperature (ca. 58 °C).

Caution. The acetone vapor must be generated in a ventilated fume hood away from all open flames and spark sources. Alternate heating methods can be used, providing no open flame or sparks are present.

10. Mount either the whole sample filter or a wedge cut from the sample filter on a clean glass slide.

a. Cut wedges of ca. 25 percent of the filter area with a curved-blade steel surgical knife using a rocking motion to prevent tearing.

b. Place the filter or wedge, dust side up, on the slide. Static electricity will usually keep the filter on the slide until it is cleared.

c. Hold the glass slide supporting the filter approximately 1 to 2 cm from the glass tube port where the ace-

tone vapor is escaping from the heated flask. The acetone vapor stream should cause a condensation spot on the glass slide ca. 2 to 3 cm in diameter. Move the glass slide gently in the vapor stream. The filter should clear in 2 to 5 sec. If the filter curls, distorts, or is otherwise rendered unusable, the vapor stream is probably not strong enough. Periodically wipe the outlet port with tissue to prevent liquid acetone dripping onto the filter.

d. Using the hypodermic syringe with a 22-gauge needle, place 1 to 2 drops of triacetin on the filter. Gently lower a clean 25-mm square cover slip down onto the filter at a slight angle to reduce the possibility of forming bubbles. If too many bubbles form or the amount of triacetin is insufficient, the cover slip may become detached within a few hours.

e. Glue the edges of the cover slip to the glass slide using a lacquer or nail polish.

NOTE: If clearing is slow, the slide preparation may be heated on a hotplate (surface temperature 50°C) for 15 min. to hasten clearing. Counting may proceed immediately after clearing and mounting are completed.

Calibration and Quality Control

11. *Calibration of the Walton-Beckett graticule.* The diameter, d_c (mm), of the circular counting area and the disc diameter must be specified when ordering the graticule.

a. Insert any available graticule into the eyepiece and focus so that the graticule lines are sharp and clear.

b. Set the appropriate interpupillary distance and, if applicable, reset the binocular head adjustment so that the magnification remains constant.

c. Install the 40 to 45 X phase objective.

d. Place a stage micrometer on the microscope object stage and focus the microscope on the graduated lines.

e. Measure the magnified grid length, L_o (um), using the stage micrometer.

f. Remove the graticule from the microscope and measure its actual grid length, L_a (mm). This can best be accomplished by using a stage fitted with verniers.

g. Calculate the circle diameter, d_c (mm), for the Walton-Beckett graticule:

$$d_c = \frac{L_a \times D}{L_o}$$

Example: If $L_o=108$ um, $L_a=2.93$ mm and $D=100$ um, then $d_c=2.71$ mm.

h. Check the field diameter, D (acceptable range 100 mm \pm 2 mm) with a stage micrometer upon receipt of the graticule from the manufacturer. Determine field area (mm²).

12. *Microscope adjustments.* Follow the manufacturer's instructions and also the following:

a. Adjust the light source for even illumination across the field of view at the condenser iris.

NOTE: Kohler illumination is preferred, where available.

b. Focus on the particulate material to be examined.

c. Make sure that the field iris is in focus, centered on the sample, and open only enough to fully illuminate the field of view.

d. Use the telescope ocular supplied by the manufacturer to ensure that the phase rings (annular diaphragm and phase-shifting elements) are concentric.

13. Check the phase-shift detection limit of the microscope periodically.

a. Remove the HSE/NPL phase-contrast test slide from its shipping container and center it under the phase objective.

b. Bring the blocks of grooved lines into focus.

NOTE: The slide consists of seven sets of grooves (ca. 20 grooves to each block) in descending order of visibility from sets 1 to 7. The requirements for counting are that the microscope optics must resolve the grooved lines in set 3 completely, although they may appear somewhat faint, and that the grooved lines in sets 6 to 7 must be invisible. Sets 4 and 5 must be at least partially visible but may vary slightly in visibility between microscopes. A microscope which fails to meet these requirements has either too low or too high a resolution to be used for asbestos counting.

c. If the image quality deteriorates, clean the microscope optics and, if the problem persists, consult the microscope manufacturer.

14. Quality control of fiber counts.

a. Prepare and count field blanks along with the field samples. Report the counts on each blank. Calculate the mean of the field blank counts and subtract this value from each sample count before reporting the results.

NOTE 1: The identity of the blank filters should be unknown to the counter until all counts have been completed.

NOTE 2: If a field blank yields fiber counts greater than 7 fibers/100 fields, report possible contamination of the samples.

b. Perform blind recounts by the same counter on 10 percent of filters counted (slides relabeled by a person other than the counter).

15. Use the following test to determine whether a pair of counts on the same filter should be rejected because of possible bias. This statistic estimates the counting repeatability at the 95 percent confidence level. Discard the sample if the difference between the two counts exceeds 2.77 (F) s_r where F=average of the two fiber counts and s_r =relative standard deviation, which should be derived by each laboratory based on historical in-house data.

NOTE: If a pair of counts is rejected as a result of this test, recount the remaining samples in the set and test the new counts against the first counts. Discard all rejected paired counts.

16. Enroll each new counter in a training course that compares performance of counters on a variety of samples using this procedure.

NOTE: To ensure good reproducibility, all laboratories engaged in asbestos counting are required to participate in the Proficiency Analytical Testing (PAT) Program and should routinely participate with other asbestos fiber counting laboratories in the exchange of field samples to compare performance of counters.

Measurement

17. Place the slide on the mechanical stage of the calibrated microscope with the center of the filter under the objective lens. Focus the microscope on the plane of the filter.

18. Regularly check phase-ring alignment and Kohler illumination.

19. The following are the counting rules:

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- a. Count only fibers longer than 5 μm . Measure the length of curved fibers along the curve.
- b. Count only fibers with a length-to-width ratio equal to or greater than 3:1.
- c. For fibers that cross the boundary of the graticule field, do the following:
 - (1) Count any fiber longer than 5 μm that lies entirely within the graticule area.
 - (2) Count as $\frac{1}{2}$ fiber any fiber with only one end lying within the graticule area.
 - (3) Do not count any fiber that crosses the graticule boundary more than once.
 - (4) Reject and do not count all other fibers.
- d. Count bundles of fibers as one fiber unless individual fibers can be identified by observing both ends of a fiber.
- e. Count enough graticule fields to yield 100 fibers. Count a minimum of 20 fields. Stop at 100 fields regardless of fiber count.

20. Start counting from one end of the filter and progress along a radial line to the other end, shift either up or down on the filter, and continue in the reverse direction. Select fields randomly by looking away from the eyepiece briefly while advancing the mechanical stage. When an agglomerate covers ca. $\frac{1}{6}$ or more of the field of view, reject the field and select another. Do not report rejected fields in the number of total fields counted.

NOTE: When counting a field, continuously scan a range of focal planes by moving the fine focus knob to detect very fine fibers which have become embedded in the filter. The small-diameter fibers will be very faint but are an important contribution to the total count.

Calculations

21. Calculate and report fiber density on the filter, E (fibers/ mm^2); by dividing the total fiber count, F ; minus the mean field blank count, B , by the number of fields, n ; and the field area, A_f (0.00785 mm^2 for a properly calibrated Walton-Beckett graticule):

$$E = \frac{F/n_f - (B/n_b) \text{ fibers/mm}^2}{A_f}$$

where:

- n_f —number of fields in submission sample
 n_b —number of fields in bulk sample

22. Calculate the concentration, C (f/cc), of fibers in the air volume sampled, V (L), using the effective collection area of the filter, A_c (385 mm^2 for a 25-mm filter):

$$C = \frac{E(A_c)}{V(10^3)}$$

NOTE: Periodically check and adjust the value of A_c , if necessary.

APPENDIX C TO § 763.121—QUALITATIVE AND QUANTITATIVE FIT TESTING PROCEDURES—MANDATORY

Qualitative Fit Test Protocols

I. Isoamyl Acetate Protocol

A. *Odor Threshold Screening.* 1. Three 1-liter glass jars with metal lids (e.g. Mason or Bell jars) are required.

2. Odor-free water (e.g. distilled or spring water) at approximately 25° shall be used for the solutions.

3. The isoamyl acetate (IAA) (also known as isopentyl acetate) stock solution is prepared by adding 1 cc of pure IAA to 800 cc of odor-free water in a 1-liter jar and shaking for 30 seconds. This solution shall be prepared new at least weekly.

4. The screening test shall be conducted in a room separate from the room used for actual fit testing. The two rooms shall be well ventilated but shall not be connected to the same recirculating ventilation system.

5. The odor test solution is prepared in a second jar by placing 0.4 cc of the stock solution into 500 cc of odor-free water using a clean dropper or pipette. Shake for 30 seconds and allow to stand for two to three minutes so that the IAA concentration above the liquid may reach equilibrium. This solution may be used for only one day.

6. A test blank is prepared in a third jar by adding 500 cc of odor-free water.

7. The odor test and test blank jars shall be labeled 1 and 2 for jar identification. If the labels are put on the lids they can be periodically peeled, dried off and switched to maintain the integrity of the test.

8. The following instructions shall be typed on a card and placed on the table in front of the two test jars (i.e. 1 and 2): "The purpose of this test is to determine if you can smell banana oil at a low concentration. The two bottles in front of you contain water. One of these bottles also contains a small amount of banana oil. Be sure the covers are on tight, then shake each bottle for two seconds. Unscrew the lid of each bottle, one at a time, and sniff at the mouth of the bottle. Indicate to the test conductor which bottle contains banana oil."

9. The mixtures used in the IAA odor detection test shall be prepared in an area separate from where the test is performed, in order to prevent olfactory fatigue in the subject.

10. If the test subject is unable to identify correctly the jar containing the odor test solution, the IAA qualitative fit test may not be used.

11. If the test subject correctly identifies the jar containing the odor test solution, the test subject may proceed to respirator selection and fit testing.

B. *Respirator selection.* 1. The test subject shall be allowed to pick the most comfortable respirator from a selection including respirators of various sizes from different manufacturers. The selection shall include at least five sizes of elastomeric half facepieces, from at least two manufacturers.

2. The selection process shall be conducted in a room separate from the fit-test chamber to prevent odor fatigue. Prior to the selection process, the test subject shall be shown how to put on a respirator, how it should be positioned on the face, how to set strap tension and how to determine a "comfortable" respirator. A mirror shall be available to assist the subject in evaluating the fit and positioning of the respirator. This instruction may not constitute the subject's formal training on respirator use, as it is only a review.

3. The test subject should understand that the employee is being asked to select the respirator which provides the most comfortable fit. Each respirator represents a different size and shape and, if fitted properly and used properly, will provide adequate protection.

4. The test subject holds each facepiece up to the face and eliminates those which obviously do not give a comfortable fit. Normally, selection will begin with a half-

mask and if a good fit cannot be found, the subject will be asked to test the full facepiece respirators. (A small percentage of users will not be able to wear any half-mask.)

5. The more comfortable facepieces are noted; the most comfortable mask is donned and worn at least five minutes to assess comfort. All donning and adjustments of the facepieces shall be performed by the test subject without assistance from the test conductor or other person. Assistance in assessing comfort can be given by discussing the points of #6 below. If the test subject is not familiar with using a particular respirator, the test subject shall be directed to don the mask several times and to adjust the straps each time to become adept at setting proper tension on the straps.

6. Assessment of comfort shall include reviewing the following points with the test subject and allowing the test subject adequate time to determine the comfort of the respirator:

- Positioning of mask on nose.
- Room for eye protection.
- Room to talk
- Positioning mask on face and cheeks.

7. The following criteria shall be used to help determine the adequacy of the respirator fit:

- Chin properly placed.
- Strap tension.
- Fit across nose bridge.
- Distance from nose to chin.
- Tendency to slip.
- Self-observation in mirror.

8. The test subject shall conduct the conventional negative and positive-pressure fit checks (e.g. see ANSI Z88.2-1980). Before conducting the negative- or positive-pressure test, the subject shall be told to "seat" the mask by rapidly moving the head from side-to-side and up and down, while taking a few deep breaths.

9. The test subject is now ready for fit testing.

10. After passing the fit test, the test subject shall be questioned again regarding the comfort of the respirator. If it has become uncomfortable, another model of respirator shall be tried.

11. The employee shall be given the opportunity to select a different facepiece and be retested if the chosen facepiece becomes increasingly uncomfortable at any time.

C. *Fit test.* 1. The fit test chamber shall be similar to a clear 55 gallon drum liner suspended inverted over a 2 foot diameter frame, so that the top of the chamber is about 6 inches above the test subject's head. The inside top center of the chamber shall have a small hook attached.

2. Each respirator used for the fitting and fit testing shall be equipped with organic vapor cartridges or offer protection against organic vapors. The cartridges or masks shall be changed at least weekly.

3. After selection, donning, and properly adjusting a respirator, the test subject shall wear it to the fit testing room. This room shall be separate from the room used for odor threshold screening and respirator selection, and shall be well ventilated, as by an exhaust fan or lab hood, to prevent general room contamination.

4. A copy of the following test exercises and rainbow passage shall be taped to the inside of the test chamber:

Test Exercises

i. Breathe normally.

ii. Breathe deeply. Be certain breaths are *deep* and *regular*.

iii. Turn head all the way from one side to the other. Inhale on each side. Be certain movement is complete. Do not bump the respirator against the shoulders.

iv. Nod head up-and-down. Inhale when head is in the full up position (looking toward ceiling). Be certain motions are complete and made about every second. Do not bump the respirator on the chest.

v. *Talking.* Talk aloud and slowly for several minutes. The following paragraph is called the Rainbow Passage. Reading it will result in a wide range of facial movements, and thus be useful to satisfy this requirement. Alternative passages which serve the same purpose may also be used.

vi. Jogging in place.

vii. Breathe normally.

Rainbow Passage. When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.

5. Each test subject shall wear the respirator for at least 10 minutes before starting the fit test.

6. Upon entering the test chamber, the test subject shall be given a 6 inch by 5 inch piece of paper towel or other porous absorbent single ply material, folded in half and wetted with three-quarters of one cc of pure IAA. The test subject shall hang the wet towel on the hook at the top of the chamber.

7. Allow two minutes for the IAA test concentration to be reached before starting the fit-test exercises. This would be an appropriate time to talk with the test subject, to explain the fit test, the importance of cooperation, the purpose for the head exercises, or to demonstrate some of the exercises.

8. Each exercise described in #4 above shall be performed for at least one minute.

9. If at any time during the test, the subject detects the banana-like odor of IAA, the test has failed. The subject shall quickly exit from the test chamber and leave the test area to avoid olfactory fatigue.

10. If the test is failed, the subject shall return to the selection room and remove the respirator, repeat the odor sensitivity test, select and put on another respirator, return to the test chamber, and again begin the procedure described in the c(4) through c(8) above. The process continues until a respirator that fits well has been found. Should the odor sensitivity test be failed, the subject shall wait about 5 minutes before retesting. Odor sensitivity will usually have returned by this time.

11. If a person cannot pass the fit test described above wearing a half-mask respirator from the available selection, full facepiece models must be used.

12. When a respirator is found that passes the test, the subject breaks the faceseal and takes a breath before exiting the chamber. This is to assure that the reason the test subject is not smelling the IAA is the good fit of the respirator facepiece seal and not olfactory fatigue.

13. When the test subject leaves the chamber, the subject shall remove the saturated towel and return it to the person conducting the test. To keep the area from becoming

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ing contaminated, the used towels shall be kept in a self-sealing bag so there is no significant IAA concentration buildup in the test chamber during subsequent tests.

14. At least two facepieces shall be selected for the IAA test protocol. The test subject shall be given the opportunity to wear them for one week to choose the one which is more comfortable to wear.

15. Persons who have successfully passed this fit test with a half-mask respirator may be assigned the use of the test respirator in atmospheres with up to 10 times the PEL of airborne asbestos.

16. The test shall not be conducted if there is any hair growth between the skin and the facepiece sealing surface.

17. If hair growth or apparel interfere with a satisfactory fit, then they shall be altered or removed so as to eliminate interference and allow a satisfactory fit. If a satisfactory fit is still not attained, the test subject must use a positive-pressure respirator such as powered air-purifying respirators, supplied air respirator, or self-contained breathing apparatus.

18. If a test subject exhibits difficulty in breathing during the tests, she or he shall be referred to a physician trained in respirator diseases or pulmonary medicine to determine whether the test subject can wear a respirator while performing her or his duties.

19. Qualitative fit testing shall be repeated at least every six months.

20. In addition, because the sealing of the respirator may be affected, qualitative fit testing shall be repeated immediately when the test subject has a:

- (1) Weight change of 20 pounds or more,
- (2) Significant facial scarring in the area of the facepiece seal.
- (3) Significant dental changes; i.e., multiple extractions without prosthesis, or acquiring dentures.
- (4) Reconstructive or cosmetic surgery, or
- (5) Any other condition that may interfere with facepiece sealing.

D. Recordkeeping. A summary of all test results shall be maintained in each office for 3 years. The summary shall include:

- (1) Name of test subject.
- (2) Date of testing.
- (3) Name of the test conductor.
- (4) Respirators selected (indicate manufacturer, model, size and approval number).
- (5) Testing agent.

II. Saccharin Solution Aerosol Protocol

A. Respirator selection. Respirators shall be selected as described in section IB (respirator selection) above, except that each respirator shall be equipped with a particulate filter.

B. Taste threshold screening. 1. An enclosure about head and shoulders shall be used for threshold screening (to determine if the individual can taste saccharin) and for fit testing. The enclosure shall be approximately 12 inches in diameter by 14 inches tall with at least the front clear to allow free movement of the head when a respirator is worn.

2. The test enclosure shall have a three-quarter inch hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.

3. The entire screening and testing procedure shall be explained to the test subject prior to conducting the screening test.

4. During the threshold screening test, the test subject shall don the test enclosure and breathe with mouth open with tongue extended.

5. Using a DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent, the test conductor shall spray the threshold check solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the fit test solution nebulizer.

6. The threshold check solution consists of 0.83 gram of sodium saccharin, USP in water. It can be prepared by putting 1 cc of the test solution (see C.7 below) in 100 cc of water.

7. To produce the aerosol, the nebulizer bulb is firmly squeezed so that it collapses completely, then is released and allowed to expand fully.

8. Ten squeezes of the nebulizer bulb are repeated rapidly and then the test subject is asked whether the saccharin can be tasted.

9. If the first response is negative, ten more squeezes of the nebulizer bulb are repeated rapidly and the test subject is again asked whether the saccharin can be tasted.

10. If the second response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin can be tasted.

11. The test conductor will take note of the number of squeezes required to elicit a taste response.

12. If the saccharin is not tasted after 30 squeezes (Step 10), the saccharin fit test cannot be performed on the test subject.

13. If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.

14. Correct use of the nebulizer means that approximately 1 cc of liquid is used at a time in the nebulizer body.

15. The nebulizer shall be thoroughly rinsed in water, shaken dry, and refilled at least every four hours.

C. Fit Test. 1. The test subject shall don and adjust the respirator without assistance from any person.

2. The fit test uses the same enclosure described in IIB above.

3. Each test subject shall wear the respirator for at least 10 minutes before starting the fit test.

4. The test subject shall don the enclosure while wearing the respirator selected in section IB above. This respirator shall be properly adjusted and equipped with a particulate filter.

5. The test subject may not eat, drink (except plain water), or chew gum for 15 minutes before the test.

6. A second DeVilbiss Model 40 Inhalation Medication Nebulizer is used to spray the fit test solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the screening test solution nebulizer.

7. The fit test solution is prepared by adding 83 grams of sodium saccharin to 100 cc of warm water.

8. As before, the test subject shall breathe with mouth open and tongue extended.

9. The nebulizer is inserted into the hole in the front of the enclosure and the fit test solution is sprayed into the enclosure using the same technique as for the taste threshold screening and the same number of squeezes required to elicit a taste response in the screening. (See B.8 through B.10 above).

10. After generation of the aerosol, read the following instructions to the test subject. The test subject shall perform the exercises for one minute each.

- i. Breathe normally.
- ii. Breathe deeply. Be certain breaths are *deep* and *regular*.
- iii. Turn head all the way from one side to the other. Be certain movement is complete. Inhale on each side. Do not bump the respirator against the shoulders.
- iv. Nod head up-and-down. Be certain motions are complete. Inhale when head is in the full up position (when looking toward the ceiling). Do not bump the respirator on the chest.
- v. *Talking*. Talk aloud and slowly for several minutes. The following paragraph is called the Rainbow Passage. Reading it will result in a wide range of facial movements, and thus be useful to satisfy this requirement. Alternative passages which serve the same purpose may also be used.

Rainbow Passage. When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond his reach, his friends say he is looking for the pot of gold at the end of the rainbow.

- vi. Jogging in place.
- vii. Breathe normally.
- 11. At the beginning of each exercise, the aerosol concentration shall be replenished using one-half the number of squeezes as initially described in C.9.
- 12. The test subject shall indicate to the test conductor, if at any time during the fit test, the taste of saccharin is detected.
- 13. If the saccharin is detected, the fit is deemed unsatisfactory and a different respirator shall be tried.
- 14. At least two facepieces shall be selected by the saccharin solution aerosol test protocol. The test subject shall be given the opportunity to wear them for one week to choose the one which is more comfortable to wear.
- 15. Successful completion of the test protocol shall allow the use of the half mask tested respirator in contaminated atmospheres up to 10 times the PEL of asbestos. In other words this protocol may be used to assign protection factors no higher than ten.
- 16. The test shall not be conducted if there is any hair growth between the skin and the facepiece sealing surface.
- 17. If hair growth or apparel interfere with a satisfactory fit, then they shall be altered or removed so as to eliminate interference and allow a satisfactory fit. If a satisfactory fit is still not attained, the test subject must use a positive-pressure respirator such as powered air-purifying respirators, supplied air respirator, or self-contained breathing apparatus.
- 18. If a test subject exhibits difficulty in breathing during the tests, she or he shall be referred to a physician trained in respirator diseases or pulmonary medicine to determine whether the test subject can wear a respirator while performing her or his duties.
- 19. Qualitative fit testing shall be repeated at least every six months.
- 20. In addition, because the sealing of the respirator may be affected, qualitative fit testing shall be repeated immediately when the test subject has a:
 - (1) Weight change of 20 pounds or more,

- (2) Significant facial scarring in the area of the face-piece seal,
 - (3) Significant dental changes; i.e., multiple extractions without prosthesis, or acquiring dentures,
 - (4) Reconstructive or cosmetic surgery, or
 - (5) Any other condition that may interfere with face-piece sealing.
- D. Recordkeeping*. A summary of all test results shall be maintained in each office for 3 years. The summary shall include:
- (1) Name of test subject.
 - (2) Date of testing.
 - (3) Name of test conductor.
 - (4) Respirators selected (indicate manufacturer, model, size and approval number).
 - (5) Testing agent.

III. Irritant Fume Protocol

A. Respirator selection. Respirators shall be selected as described in section IB above, except that each respirator shall be equipped with a high-efficiency cartridge.

B. Fit test. 1. The test subject shall be allowed to smell a weak concentration of the irritant smoke to familiarize the subject with the characteristic odor.

2. The test subject shall properly don the respirator selected as above, and wear it for at least 10 minutes before starting the fit test.

3. The test conductor shall review this protocol with the test subject before testing.

4. The test subject shall perform the conventional positive pressure and negative pressure fit checks (see ANSI Z88.2 1980). Failure of either check shall be cause to select an alternate respirator.

5. Break both ends of a ventilation smoke tube containing stannic oxychloride, such as the MSA part #5645, or equivalent. Attach a short length of tubing to one end of the smoke tube. Attach the other end of the smoke tube to a low pressure air pump set to deliver 200 milliliters per minute.

6. Advise the test subject that the smoke can be irritating to the eyes and instruct the subject to keep the eyes closed while the test is performed.

7. The test conductor shall direct the stream of irritant smoke from the tube towards the facepiece area of the test subject. The person conducting the test shall begin with the tube at least 12 inches from the facepiece and gradually move to within one inch, moving around the whole perimeter of the mask.

8. The test subject shall be instructed to do the following exercises while the respirator is being challenged by the smoke. Each exercise shall be performed for one minute.

- i. Breathe normally.
- ii. Breathe deeply. Be certain breaths are *deep* and *regular*.
- iii. Turn head all the way from one side to the other. Be certain movement is complete. Inhale on each side. Do not bump the respirator against the shoulders.
- iv. Nod head up-and-down. Be certain motions are complete and made every second. Inhale when head is in the full up position (looking toward ceiling). Do not bump the respirator against the chest.
- v. *Talking*. Talk aloud and slowly for several minutes. The following paragraph is called the Rainbow Passage. Repeating it after the test conductor (keeping eyes closed) will result in a wide range of facial movements, and thus

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be useful to satisfy this requirement. Alternative passages which serve the same purpose may also be used.

Rainbow Passage. When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond his reach, his friends say he is looking for the pot of gold at the end of the rainbow.

vi. Jogging in place.

vii. Breathe normally.

9. The test subject shall indicate to the test conductor if the irritant smoke is detected. If smoke is detected, the test conductor shall stop the test. In this case, the tested respirator is rejected and another respirator shall be selected.

10. Each test subject passing the smoke test (i.e. without detecting the smoke) shall be given a sensitivity check of smoke from the same tube to determine if the test subject reacts to the smoke. Failure to evoke a response shall void the fit test.

11. Steps B4, B9, B10 of this fit test protocol shall be performed in a location with exhaust ventilation sufficient to prevent general contamination of the testing area by the test agents.

12. At least two facepieces shall be selected by the irritant fume test protocol. The test subject shall be given the opportunity to wear them for one week to choose the one which is more comfortable to wear.

13. Respirators successfully tested by the protocol may be used in contaminated atmospheres up to ten times the PEL of asbestos.

14. The test shall not be conducted if there is any hair growth between the skin and the facepiece sealing surface.

15. If hair growth or apparel interfere with a satisfactory fit, then they shall be altered or removed so as to eliminate interference and allow a satisfactory fit. If a satisfactory fit is still not attained, the test subject must use a positive-pressure respirator such as powered air-purifying respirators, supplied air respirator, or self-contained breathing apparatus.

16. If a test subject exhibits difficulty in breathing during the tests, she or he shall be referred to a physician trained in respiratory diseases or pulmonary medicine to determine whether the test subject can wear a respirator while performing her or his duties.

17. Qualitative fit testing shall be repeated at least every six months.

18. In addition, because the sealing of the respirator may be affected, qualitative fit testing shall be repeated immediately when the test subject has a:

(1) Weight change of 20 pounds or more,

(2) Significant facial scarring in the area of the facepiece seal,

(3) Significant dental changes; i.e., multiple extractions without prosthesis, or acquiring dentures,

(4) Reconstructive or cosmetic surgery, or

(5) Any other condition that may interfere with facepiece sealing.

C. Recordkeeping. A summary of all test results shall be maintained in each office for 3 years. The summary shall include:

(1) Name of test subject.

(2) Date of testing.

(3) Name of test conductor.

(4) Respirators selected (indicate manufacturer, model, size and approval number).

(5) Testing agent.

Quantitative Fit Test Procedures

1. General

a. The method applies to the negative-pressure nonpowered air-purifying respirators only.

b. The employer shall assign one individual who shall assume the full responsibility for implementing the respirator quantitative fit test program.

2. Definitions

a. "Quantitative Fit Test" means the measurement of the effectiveness of a respirator seal in excluding the ambient atmosphere. The test is performed by dividing the measured concentration of challenge agent in a test chamber by the measured concentration of the challenge agent inside the respirator facepiece when the normal air purifying element has been replaced by an essentially perfect purifying element.

b. "Challenge Agent" means the air contaminant introduced into a test chamber so that its concentration inside and outside the respirator may be compared.

c. "Test Subject" means the person wearing the respirator for quantitative fit testing.

d. "Normal Standing Position" means standing erect and straight with arms down along the sides and looking straight ahead.

e. "Fit Factor" means the ratio of challenge agent concentration outside with respect to the inside of a respirator inlet covering (facepiece or enclosure).

3. Apparatus

a. *Instrumentation.* Corn oil, sodium chloride or other appropriate aerosol generation, dilution, and measurement systems shall be used for quantitative fit test.

b. *Test chamber.* The test chamber shall be large enough to permit all test subjects to perform freely all required exercises without distributing the challenge agent concentration or the measurement apparatus. The test chamber shall be equipped and constructed so that the challenge agent is effectively isolated from the ambient air yet uniform in concentration throughout the chamber.

c. When testing air-purifying respirators, the normal filter or cartridge element shall be replaced with a high-efficiency particulate filter supplied by the same manufacturer.

d. The sampling instrument shall be selected so that a strip chart record may be made of the test showing the rise and fall of challenge agent concentration with each inspiration and expiration at fit factors of at least 2,000.

e. The combination of substitute air-purifying elements (if any), challenge agent, and challenge agent concentration in the test chamber shall be such that the test subject is not exposed in excess of PEL to the challenge agent at any time during the testing process.

f. The sampling port on the test specimen respirator shall be placed and constructed so that there is no detectable leak around the port, a free air flow is allowed into the sampling line at all times and so there is no interference with the fit or performance of the respirator.

g. The test chamber and test set-up shall permit the person administering the test to observe one test subject inside the chamber during the test.

h. The equipment generating the challenge atmosphere shall maintain the concentration of challenge agent constant within a 10 percent variation for the duration of the test.

i. The time lag (interval between an event and its being recorded on the strip chart) of the instrumentation may not exceed 2 seconds.

j. The tubing for the test chamber atmosphere and for the respirator sampling port shall be the same diameter, length and material. It shall be kept as short as possible. The smallest diameter tubing recommended by the manufacturer shall be used.

k. The exhaust flow from the test chamber shall pass through a high-efficiency filter before release to the room.

l. When sodium chloride aerosol is used, the relative humidity inside the test chamber shall not exceed 50 percent.

4. Procedural Requirements

a. The fitting of half-mask respirators should be started with those having multiple sizes and a variety of interchangeable cartridges and canisters such as the MSA Comfo II-M, North M, Survivair M, A-O M, or Scott-M. Use either of the tests outlined below to assure that the facepiece is properly adjusted.

(1) *Positive pressure test.* With the exhaust port(s) blocked, the negative pressure of slight inhalation should remain constant for several seconds.

(2) *Negative pressure test.* With the intake port(s) blocked, the negative pressure of slight inhalation should remain constant for several seconds.

b. After a facepiece is adjusted, the test subject shall wear the facepiece for at least 5 minutes before conducting a qualitative test by using either of the methods described below and using the exercise regime described in 5.a., b., c., d. and e.

(1) *Isoamyl acetate test.* When using organic vapor cartridges, the test subject who can smell the odor should be unable to detect the odor of isoamyl acetate squirted into the air near the most vulnerable portions of the facepiece seal. In a location which is separated from the test area, the test subject shall be instructed to close her/his eyes during the test period. A combination cartridge or canister with organic vapor and high-efficiency filters shall be used when available for the particular mask being tested. The test subject shall be given an opportunity to smell the odor of isoamyl acetate before the test is conducted.

(2) *Irritant fume test.* When using high-efficiency filters, the test subject should be unable to detect the odor of irritant fume (stannic chloride or titanium tetrachloride ventilation smoke tubes) squirted into the air near the most vulnerable portions of the facepiece seal. The test subject shall be instructed to close her/his eyes during the test period.

c. The test subject may enter the quantitative testing chamber only if she or he has obtained a satisfactory fit as stated in 4.b. of this Appendix.

d. Before the subject enters the test chamber, a reasonably stable challenge agent concentration shall be measured in the test chamber.

e. Immediately after the subject enters the test chamber, the challenge agent concentration inside the respirator shall be measured to ensure that the peak penetration does

not exceed 5 percent for a half-mask and 1 percent for a full facepiece.

f. A stable challenge agent concentration shall be obtained prior to the actual start of testing.

g. Respirator restraining straps may not be overtightened for testing. The straps shall be adjusted by the wearer to give a reasonably comfortable fit typical of normal use.

5. Exercise Regime

Prior to entering the test chamber, the test subject shall be given complete instructions as to her/his part in the test procedures. The test subject shall perform the following exercises, in the order given, for each independent test.

a. *Normal Breathing (NB).* In the normal standing position, without talking, the subject shall breathe normally for at least one minute.

b. *Deep Breathing (DB).* In the normal standing position the subject shall do deep breathing for at least one minute pausing so as not to hyperventilate.

c. *Turning head side to side (SS).* Standing in place the subject shall slowly turn his/her head from side between the extreme positions to each side. The head shall be held at each extreme position for at least 5 seconds. Perform for at least three complete cycles.

d. *Moving head up and down (UD).* Standing in place, the subject shall slowly move his/her head up and down between the extreme position straight up and the extreme position straight down. The head shall be held at each extreme position for at least 5 seconds. Perform for at least three complete cycles.

e. *Reading (R).* The subject (keeping eyes closed) shall repeat after the test conductor or the 'rainbow passage' at the end of this section. The subject shall talk slowly aloud so as to be heard clearly by the test conductor or monitor.

f. *Grimace (G).* The test subject shall grimace, smile, frown, and generally contort the face using the facial muscles. Continue for at least 15 seconds.

g. *Bend over and touch toes (B).* The test subject shall bend at the waist and touch toes and return to upright position. Repeat for at least 30 seconds.

h. *Jogging in place (J).* The test subject shall jog in place for at least 30 seconds.

i. *Normal Breathing (NB).* Same as exercise a.

Rainbow Passage. When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.

6. Termination of Test

The test shall be terminated whenever any single peak penetration exceeds 5 percent for halfmasks and 1 percent for full facepieces. The test subject may be refitted and retested. If two of the three required tests are terminated, the fit shall be deemed inadequate.

7. Calculation of Fit Factors

a. The fit factor determined by the quantitative fit test equals the average concentration inside the respirator.

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b. The average test chamber concentration is the arithmetic average of the test chamber concentration at the beginning and the end of the test.

c. The average peak concentration of the challenge agent inside the respirator shall be the arithmetic average peak concentrations for each of the nine exercises of the test which are computed as the arithmetic average of the peak concentrations found for each breath during the exercise.

d. The average peak concentration for an exercise may be determined graphically if there is not a great variation in the peak concentrations during a single exercise.

8. Interpretation of Test Results

The fit factor measured by the quantitative fit testing shall be the lowest of the three protection factors resulting from three independent tests.

9. Other Requirements

a. The test subject shall not be permitted to wear a halfmask or full facepiece mask if the minimum fit factor of 100 or 1,000, respectively, cannot be obtained. If hair growth or apparel interfere with a satisfactory fit, then they shall be altered or removed so as to eliminate interference and allow a satisfactory fit. If a satisfactory fit is still not attained, the test subject must use a positive-pressure respirator such as powered air-purifying respirators, supplied air respirator, or self-contained breathing apparatus.

b. The test shall not be conducted if there is any hair growth between the skin and the facepiece sealing surface.

c. If a test subject exhibits difficulty in breathing during the tests, she or he shall be referred to a physician trained in respirator diseases or pulmonary medicine to determine whether the test subject can wear a respirator while performing her or his duties.

d. The test subject shall be given the opportunity to wear the assigned respirator for one week. If the respirator does not provide a satisfactory fit during actual use, the test subject may request another QNFT which shall be performed immediately.

e. A respirator fit factor card shall be issued to the test subject with the following information:

- (1) Name.
- (2) Date of fit test.
- (3) Protection factors obtained through each manufacturer, model and approval number of respirator tested.
- (4) Name and signature of the person that conducted the test.

f. Filters used for qualitative or quantitative fit testing shall be replaced weekly, whenever increased breathing resistance is encountered, or when the test agent has altered the integrity of the filter media. Organic vapor cartridges/canisters shall be replaced daily or sooner if there is any indication of breakthrough by the test agent.

10. Retesting

In addition, because the sealing of the respirator may be affected, quantitative fit testing shall be repeated immediately when the test subject has a:

- a. Weight change of 20 pounds or more,
- b. Significant facial scarring in the area of the facepiece seal,
- c. Significant dental changes; i.e., multiple extractions without prosthesis, or acquiring dentures,

- d. Reconstructive or cosmetic surgery, or
- e. Any other condition that may interfere with facepiece sealing.

11. Recordkeeping

A summary of all test results shall be maintained for 3 years. The summary shall include:

- a. Name of test subject.
- b. Date of testing.
- c. Name of the test conductor.
- d. Fit factors obtained from every respirator tested (indicate manufacturer, model, size and approval number).

APPENDIX D TO § 763.121—MEDICAL QUESTIONNAIRES—MANDATORY

This mandatory appendix contains the medical questionnaires that must be administered to all employees who are exposed to asbestos above the action level, and who will therefore be included in their employer's medical surveillance program. Part 1 of the appendix contains the Initial Medical Questionnaire, which must be obtained for all new hires who will be covered by the medical surveillance requirements. Part 2 includes the abbreviated Periodical Medical Questionnaire, which must be administered to all employees who are provided periodic medical examinations under the medical surveillance provisions of the standard.

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APPENDIX E TO § 763.121—INTERPRETATION AND CLASSIFICATION OF CHEST ROENTGENOGRAMS—MANDATORY

(a) Chest roentgenograms shall be interpreted and classified in accordance with a professionally accepted classification system and recorded on an interpretation form following the format of the CDC/NIOSH (M) 2.8 form. As a minimum, the content within the boldlines of this form (items 1 through 4) shall be included. This form is not to be submitted to NIOSH.

(b) Roentgenograms shall be interpreted and classified only by a B-reader, a board eligible/certified radiologist, or an experienced physician with known expertise in pneumoconioses.

(c) All interpreters, whenever interpreting chest roentgenograms made under this section, shall have immediately available for reference a complete set of the ILO-U/C International Classification of Radiographs for Pneumoconioses, 1980.

[52 FR 5623, Feb. 25, 1987; 52 FR 10817, Mar. 30, 1987; 53 FR 1022, Jan. 15, 1988]

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§ 763.122 Exclusions for States.

(a) The States of Idaho, Kansas, Oklahoma, and Wisconsin have 6 months or such other reasonable time as suggested by the particular State and approved by the Director of the Office of Pollution Prevention and Toxics to make their regulations comparable to or more stringent than this part, and to submit their regulations to EPA's Office of Pollution Prevention and Toxics for review. If in such reasonable time after March 27, 1987, any of these States have not so revised their regulations and submitted them to EPA, State and local government employees in such States shall be covered by the requirements of this part.

(b) Any other State that wishes to be excluded from this rule shall send a copy of a regulation which it considers to be comparable to or more stringent than this part to EPA's Office of Pollution Prevention and Toxics for review. EPA will review the regulation and tentatively determine whether the regulation is comparable to or more stringent than this part. If EPA makes a positive tentative determination, EPA will propose an amendment to this rule excluding that State from coverage. Interested persons may comment on the proposed exclusion during the period for public comment. After considering any comments, EPA may promulgate the final amendment to the rule.

§ 763.124 Reporting.

(a) Employers subject to this rule must report to the Regional Asbestos Coordinator for the EPA Region in which the asbestos abatement project is located at least 10 days before they begin any asbestos abatement project, except one that involves less than either 3 linear feet or 3 square feet of friable asbestos material, and an emergency project. Employers must report any emergency project covered by this rule as soon as possible but in no case more than 48 hours after the project begins. A list of the EPA Regional Offices is given under § 1.7(b) of this chapter.

(b) The report must include:

(1) The employer's name and address.

(2) The location, including street address, of the asbestos abatement project.

(3) The scheduled starting and completion dates for the asbestos abatement project.

(c) If a report is mailed to EPA, the report must be postmarked at least 10 days before the asbestos abatement project begins unless the report is for an emergency project. In such a case, the report must be postmarked as soon as possible but in no case more than 48 hours after the project begins.

(d) Employers do not have to report under this section if they submit a notice to EPA under the National Emission Standard for Asbestos, § 61.146 of this chapter, at least 10 days before they begin the asbestos abatement project and that notice

clearly indicates that employees covered by this rule will perform some or all of the asbestos abatement work.

[47 FR 23369, May 27, 1982, as amended at 58 FR 34205, June 23, 1993]

§ 763.125 Enforcement.

(a) Failure to comply with any provision of this part is a violation of section 15 of the Act (15 U.S.C. 2614).

(b) Failure or refusal to establish and maintain records or to permit access to or copying of records, as required by the Act, is a violation of section 15 of the Act (15 U.S.C. 2614).

(c) Failure or refusal to permit entry or inspection as required by section 11 of the Act (15 U.S.C. 2610) is a violation of section 15 of the Act (15 U.S.C. 2614).

(d) Violators may be subject to the civil and criminal penalties in section 16 of the Act (15 U.S.C. 2615) for each violation.

(e) EPA may seek to enjoin an asbestos abatement project in violation of this part, or take other actions under the authority of section 7 or 17 of the Act (15 U.S.C. 2606 or 2616).

§ 763.126 Inspections.

EPA will conduct inspections under section 11 of the Act (15 U.S.C. 2610) to ensure compliance with this part.

Subpart H [Reserved]

Subpart I—Prohibition of the Manufacture, Importation, Processing, and Distribution in Commerce of Certain Asbestos-Containing Products; Labeling Requirements

SOURCE: 54 FR 29507, July 12, 1989, unless otherwise noted.

§ 763.160 Scope.

This subpart prohibits the manufacture, importation, processing, and distribution in commerce of the asbestos-containing products identified and at the dates indicated in §§ 763.165, 763.167, and 763.169. This subpart requires that products subject to this rule's bans, but not yet subject to a ban on distribution in commerce, be labeled. This subpart also includes general exemptions and procedures for requesting exemptions from the provisions of this subpart.

§ 763.163 Definitions.

For purposes of this subpart:

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Act means the Toxic Substances Control Act, 15 U.S.C. 2601 *et seq.*

Agency means the United States Environmental Protection Agency.

Asbestos means the asbestiform varieties of: chrysotile (serpentine); crocidolite (riebeckite); amosite (cummingtonite-grunerite); tremolite; anthophyllite; and actinolite.

Asbestos-containing product means any product to which asbestos is deliberately added in any concentration or which contains more than 1.0 percent asbestos by weight or area.

Chemical substance, has the same meaning as in section 3 of the Act.

Commerce has the same meaning as in section 3 of the Act.

Commercial paper means an asbestos-containing product which is made of paper intended for use as general insulation paper or muffler paper. Major applications of commercial papers are insulation against fire, heat transfer, and corrosion in circumstances that require a thin, but durable, barrier.

Corrugated paper means an asbestos-containing product made of corrugated paper, which is often cemented to a flat backing, may be laminated with foils or other materials, and has a corrugated surface. Major applications of asbestos corrugated paper include: thermal insulation for pipe coverings; block insulation; panel insulation in elevators; insulation in appliances; and insulation in low-pressure steam, hot water, and process lines.

Customs territory of the United States means the 50 States, Puerto Rico, and the District of Columbia.

Distribute in commerce has the same meaning as in section 3 of the Act, but the term does not include actions taken with respect to an asbestos-containing product (to sell, resale, deliver, or hold) in connection with the end use of the product by persons who are users (persons who use the product for its intended purpose after it is manufactured or processed). The term also does not include distribution by manufacturers, importers, and processors, and other persons solely for purposes of disposal of an asbestos-containing product.

Flooring felt means an asbestos-containing product which is made of paper felt intended for use as an underlayer for floor coverings, or to be bonded to the underside of vinyl sheet flooring.

Import means to bring into the customs territory of the United States, except for: (1) Shipment through the customs territory of the United States for export without any use, processing, or disposal within the customs territory of the United States; or (2) entering the customs territory of the United States as a component of a product during normal personal or business activities involving use of the product.

Importer means anyone who imports a chemical substance, including a chemical substance as part of a mixture or article, into the customs territory of the United States. *Importer* includes the person primarily liable for the payment of any duties on the merchandise or an authorized agent acting on his or her behalf. The term includes as appropriate:

(1) The consignee.

(2) The importer of record.

(3) The actual owner if an actual owner's declaration and superseding bond has been filed in accordance with 19 CFR 141.20.

(4) The transferee, if the right to withdraw merchandise in a bonded warehouse has been transferred in accordance with subpart C of 19 CFR part 144.

Manufacture means to produce or manufacture in the United States.

Manufacturer means a person who produces or manufactures in the United States.

New uses of asbestos means commercial uses of asbestos not identified in § 763.165 the manufacture, importation or processing of which would be initiated for the first time after August 25, 1989.

Person means any natural person, firm, company, corporation, joint-venture, partnership, sole proprietorship, association, or any other business entity; any State or political subdivision thereof, or any municipality; any interstate body and any department, agency, or instrumentality of the Federal Government.

Process has the same meaning as in section 3 of the Act.

Processor has the same meaning as in section 3 of the Act.

Rollboard means an asbestos-containing product made of paper that is produced in a continuous sheet, is flexible, and is rolled to achieve a desired thickness. Asbestos rollboard consists of two sheets of asbestos paper laminated together. Major applications of this product include: office partitioning; garage paneling; linings for stoves and electric switch boxes; and fire-proofing agent for security boxes, safes, and files.

Specialty paper means an asbestos-containing product that is made of paper intended for use as filters for beverages or other fluids or as paper fill for cooling towers. Cooling tower fill consists of asbestos paper that is used as a cooling agent for liquids from industrial processes and air conditioning systems.

State has the same meaning as in section 3 of the Act.

Stock-on-hand means the products which are in the possession, direction, or control of a person and are intended for distribution in commerce.

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United States has the same meaning as in section 3 of the Act.

[59 FR 33208, June 28, 1994]

§ 763.165 Manufacture and importation prohibitions.

(a) After August 27, 1990, no person shall manufacture or import the following asbestos-containing products, either for use in the United States or for export: flooring felt and new uses of asbestos.

(b) After August 26, 1996, no person shall manufacture or import the following asbestos-containing products, either for use in the United States or for export: commercial paper, corrugated paper, rollboard, and specialty paper.

(c) The import prohibitions of this subpart do not prohibit:

(1) The import into the customs territory of the United States of products imported solely for shipment outside the customs territory of the United States, unless further repackaging or processing of the product is performed in the United States; or

(2) Activities involving purchases or acquisitions of small quantities of products made outside the customs territory of the United States for personal use in the United States.

[59 FR 33209, June 28, 1994]

§ 763.167 Processing prohibitions.

(a) After August 27, 1990, no person shall process for any use, either in the United States or for export, any of the asbestos-containing products listed at § 763.165(a).

(b) After August 26, 1996, no person shall process for any use, either in the United States or for export, any of the asbestos-containing products listed at § 763.165(b).

[59 FR 33209, June 28, 1994]

§ 763.169 Distribution in commerce prohibitions.

(a) After August 25, 1992, no person shall distribute in commerce, either for use in the United States or for export, any of the asbestos-containing products listed at § 763.165(a).

(b) After August 25, 1997, no person shall distribute in commerce, either for use in the United States or for export, any of the asbestos-containing products listed at § 763.165(b).

(c) A manufacturer, importer, processor, or any other person who is subject to a ban on distribution in commerce in paragraph (a) or (b) of this section must, within 6 months of the effective date of the ban of a specific asbestos-containing product from distribution in commerce, dispose of all their remaining stock-on-hand of that product, by means that are in compliance with applicable

local, State, and Federal restrictions which are current at that time.

[59 FR 33209, June 28, 1994]

§ 763.171 Labeling requirements.

(a) After August 27, 1990, manufacturers, importers, and processors of all asbestos-containing products that are identified in § 763.165(a) shall label the products as specified in this subpart at the time of manufacture, import, or processing. This requirement includes labeling all manufacturers', importers', and processors' stock-on-hand as of August 27, 1990.

(b) After August 25, 1995, manufacturers, importers, and processors of all asbestos-containing products that are identified in § 763.165(b), shall label the products as specified in this subpart at the time of manufacture, import, or processing. This requirement includes labeling all manufacturers', importers', and processors' stock-on-hand as of August 25, 1995.

(c) The label shall be placed directly on the visible exterior of the wrappings and packaging in which the product is placed for sale, shipment, or storage. If the product has more than one layer of external wrapping or packaging, the label must be attached to the innermost layer adjacent to the product. If the innermost layer of product wrapping or packaging does not have a visible exterior surface larger than 5 square inches, either a tag meeting the requirements of paragraph (d) of this section must be securely attached to the product's innermost layer of product wrapping or packaging, or a label must be attached to the next outer layer of product packaging or wrapping. Any products that are distributed in commerce to someone other than the end user, shipped, or stored without packaging or wrapping must be labeled or tagged directly on a visible exterior surface of the product as described in paragraph (d) of this section.

(d)(1) Labels must be either printed directly on product packaging or in the form of a sticker or tag made of plastic, paper, metal, or other durable substances. Labels must be attached in such a manner that they cannot be removed without defacing or destroying them. Product labels shall appear as in paragraph (d)(2) of this section and consist of block letters and numerals of color that contrasts with the background of the label or tag. Labels shall be sufficiently durable to equal or exceed the life, including storage and disposal, of the product packaging or wrapping. The size of the label or tag must be at least 15.25 cm (6 inches) on each side. If the product packaging is too small to accommodate a label of this size, the label may be reduced in size proportionately to the size of the product packaging or wrapping down to a minimum 2.5 cm (1 inch) on each side if the product

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wrapping or packaging has a visible exterior surface larger than 5 square inches.

(2) Products subject to this subpart shall be labeled in English as follows:

NOTICE

This product contains *ASBESTOS*. The U.S. Environmental Protection Agency has banned the distribution in U.S. commerce of this product under section 6 of the Toxic Substances Control Act (15 U.S.C. 2605) as of (insert effective date of ban on distribution in commerce). Distribution of this product in commerce after this date and intentionally removing or tampering with this label are violations of Federal law.

(e) No one may intentionally remove, deface, cover, or otherwise obscure or tamper with a label or sticker that has been applied in compliance with this section, except when the product is used or disposed of.

[59 FR 33209, June 28, 1994]

§ 763.173 Exemptions.

(a) Persons who are subject to the prohibitions imposed by §§ 763.165, 763.167, or 763.169 may file an application for an exemption. Persons whose exemption applications are approved by the Agency may manufacture, import, process, or distribute in commerce the banned product as specified in the Agency's approval of the application. No applicant for an exemption may continue the banned activity that is the subject of an exemption application after the effective date of the ban unless the Agency has granted the exemption or the applicant receives an extension under paragraph (b)(4) or (5) of this section.

(b) Application filing dates. (1) Applications for products affected by the prohibitions under §§ 763.165(a) and 763.167(a) may be submitted at any time and will be either granted or denied by EPA as soon as is feasible.

(2) Applications for products affected by the ban under § 763.169(a) may be submitted at any time and will be either granted or denied by EPA as soon as is feasible.

(3) Applications for products affected by the ban under §§ 763.165(b) and 763.167(b) may not be submitted prior to February 27, 1995. Complete applications received after that date, but before August 25, 1995, will be either granted or denied by the Agency prior to the effective date of the ban for the product. Applications received after August 25, 1995, will be either granted or denied by EPA as soon as is feasible.

(4) Applications for products affected by the ban under § 763.169(b) may not be submitted prior to February 26, 1996. Complete applications received after that date, but before August 26, 1996, will be either granted or denied by the Agency prior to the effective date of the ban for the prod-

uct. Applications received after August 26, 1996, will be either granted or denied by EPA as soon as is feasible.

(5) The Agency will consider an application for an exemption from a ban under § 763.169 for a product at the same time the applicant submits an application for an exemption from a ban under § 763.165 or § 763.167 for that product. EPA will grant an exemption at that time from a ban under § 763.169 if the Agency determines it appropriate to do so.

(6) If the Agency denies an application less than 30 days before the effective date of a ban for a product, the applicant can continue the activity for 30 days after receipt of the denial from the Agency.

(7) If the Agency fails to meet the deadlines stated in paragraphs (b)(3) and (b)(4) of this section for granting or denying a complete application in instances in which the deadline is before the effective date of the ban to which the application applies, the applicant will be granted an extension of 1 year from the Agency's deadline date. During this extension period the applicant may continue the activity that is the subject of the exemption application. The Agency will either grant or deny the application during the extension period. The extension period will terminate either on the date the Agency grants the application or 30 days after the applicant receives the Agency's denial of the application. However, no extension will be granted if the Agency is scheduled to grant or deny an application at some date after the effective date of the ban, pursuant to the deadlines stated in paragraphs (b)(3) and (b)(4) of this section.

(c) Where to file. All applications must be submitted to the following location: TSCA Docket Receipts Office (7407), Office of Pollution Prevention and Toxics, U.S. Environmental Protection Agency, Rm E-G99, 401 M St., SW., Washington, DC 20460, ATTENTION: Asbestos Exemption. For information regarding the submission of exemptions containing information claimed as confidential business information (CBI), see § 763.179.

(d) Content of application and criteria for decisionmaking.

(1) Content of application. Each application must contain the following:

(i) Name, address, and telephone number of the applicant.

(ii) Description of the manufacturing, import, processing, and/or distribution in commerce activity for which an exemption is requested, including a description of the asbestos-containing product to be manufactured, imported, processed, or distributed in commerce.

(iii) Identification of locations at which the exempted activity would take place.

(iv) Length of time requested for exemption (maximum length of an exemption is 4 years).

(v) Estimated amount of asbestos to be used in the activity that is the subject of the exemption application.

(vi) Data demonstrating the exposure level over the life cycle of the product that is the subject of the application.

(vii) Data concerning:

(A) The extent to which non-asbestos substitutes for the product that is the subject of the application fall significantly short in performance under necessary product standards or requirements, including laws or ordinances mandating product safety standards.

(B) The costs of non-asbestos substitutes relative to the costs of the asbestos-containing product and, in the case in which the product is a component of another product, the effect on the cost of the end use product of using the substitute component.

(C) The extent to which the product or use serves a high-valued use.

(viii) Evidence of demonstrable good faith attempts by the applicant to develop and use a non-asbestos substance or product which may be substituted for the asbestos-containing product or the asbestos in the product or use that is the subject to the application.

(ix) Evidence, in addition to that provided in the other information required with the application, showing that the continued manufacture, importation, processing, distribution in commerce, and use, as applicable, of the product will not present an unreasonable risk of injury to human health.

(2) Criteria for decision (existing products). After considering all the information provided by an applicant under paragraphs (d)(1) and (e) of this section, and any other information available to EPA, EPA will grant an exemption from the prohibitions in §§ 763.165, 763.167, or 763.169 for an applicant's asbestos-containing product only if EPA determines both of the following:

(i) The applicant has made good faith attempts to develop and use a non-asbestos substance or product which may be substituted for the asbestos-containing product or the asbestos in the product or use, and those attempts have failed to produce a substitute or a substitute that results in a product that can be economically produced.

(ii) Continued manufacturing, processing, distribution in commerce, and use, as applicable, of the product will not present an unreasonable risk of injury to human health.

(3) Criteria for decision (new products). Requests to develop and use an asbestos substance or product will be treated as a petition pursuant to section 21 of TSCA.

(e) The Agency reserves the right to request further information from an exemption applicant if necessary to complete the Agency's evaluation of an application.

(f) Upon receipt of a complete application, the Agency will issue a notice in the FEDERAL REGISTER announcing its receipt and invite public comments on the merits of the application.

(g) If the application does not include all of the information required in paragraph (d) of this section, the Agency will return it to the applicant as incomplete and any resubmission of the application will be considered a new application for purposes of the availability of any extension period. If the application is substantially inadequate to allow the Agency to make a reasoned judgment on any of the information required in paragraph (d) of this section and the Agency chooses to request additional information from the applicant, the Agency may also determine that an extension period provided for in paragraph (b)(5) of this section is unavailable to the applicant.

(h) When denying an application, the Agency will notify the applicant by registered mail of its decision and rationale. Whenever possible, the Agency will send this letter prior to the appropriate ban. This letter will be considered a final Agency action for purposes of judicial review. A notice announcing the Agency's denial of the application will be published in the FEDERAL REGISTER.

(i) If the Agency proposes to approve an exemption, it will issue a notice in the FEDERAL REGISTER announcing this intent and invite public comments. If, after considering any timely comments received, the Agency approves an exemption, its decision will be published in the FEDERAL REGISTER. This notice will be considered a final Agency action for purposes of judicial review.

(j) The length of an exemption period will be specified by the agency when it approves the exemption. To extend an exemption period beyond the period stipulated by EPA, applicants must submit a new application to the Agency, following the application procedures described in this section. Applications may not be submitted prior to 15 months before the expiration of the exemption period, unless stated otherwise in the notice granting the exemption. Applications received between 15 months and 1 year before the end of the exemption period will be either granted or denied by the Agency before the end of the exemption period. Applications received after the date 1 year prior to the end of the exemption period will be either granted or denied by the Agency as soon as is feasible. Applicants may not continue the activity that

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is the subject of the renewal application after the date of the end of the exemption period.

[54 FR 29507, July 12, 1989; 54 FR 37531, Sept. 11, 1989, as amended at 54 FR 46898, Nov. 8, 1989; 59 FR 33210, June 28, 1994]

§ 763.175 Enforcement.

(a) Failure to comply with any provision of this subpart is a violation of section 15 of the Act (15 U.S.C. 2614).

(b) Failure or refusal to establish and maintain records, or to permit access to or copying of records as required by section 11 of the Act (15 U.S.C. 2610) is a violation of section 15 of the Act (15 U.S.C. 2614).

(c) Failure or refusal to permit entry or inspection as required by section 11 of the Act (15 U.S.C. 2610) is a violation of section 15 of the Act (15 U.S.C. 2614).

(d) Violators may be subject to the civil and criminal penalties in section 16 of the Act (15 U.S.C. 2615) for each violation.

(e) The Agency may seek to enjoin the manufacture, import, processing, or distribution in commerce of asbestos-containing products in violation of this subpart, or act to seize any asbestos-containing products manufactured, imported, processed, or distributed in commerce in violation of this subpart, or take any other actions under the authority of section 7 or 17 of the Act (15 U.S.C. 2606 or 2616) that are appropriate.

§ 763.176 Inspections.

The Agency will conduct inspections under section 11 of the Act (15 U.S.C. 2610) to ensure compliance with this subpart.

§ 763.178 Recordkeeping.

(a) *Inventory.* (1) Each person who is subject to the prohibitions imposed by §§ 763.165 and 763.167 must perform an inventory of the stock-on-hand of each banned product as of the effective date of the ban for that product for the applicable activity.

(2) The inventory shall be in writing and shall include the type of product, the number of product units currently in the stock-on-hand of the person performing the inventory, and the location of the stock.

(3) Results of the inventory for a banned product must be maintained by the person for 3 years after the effective date of the § 763.165 or § 763.167 ban on the product.

(b) *Records.* (1) Each person whose activities are subject to the bans imposed by §§ 763.165, 763.167, and 763.169 for a product must, between the effective date of the § 763.165 or § 763.167 ban on the product and the § 763.169 ban on the product, keep records of all commercial trans-

actions regarding the product, including the dates of purchases and sales and the quantities purchased or sold. These records must be maintained for 3 years after the effective date of the § 763.169 ban for the product.

(2) Each person who is subject to the requirements of § 763.171 must, for each product required to be labeled, maintain a copy of the label used in compliance with § 763.171. These records must be maintained for 3 years after the effective date of the ban on distribution in commerce for the product for which the § 763.171 requirements apply.

[54 FR 29507, July 12, 1989, as amended by 54 FR 46898, Nov. 8, 1989; 58 FR 34205, June 23, 1993]

§ 763.179 Confidential business information claims.

(a) Applicants for exemptions under § 763.173 may assert a Confidential Business Information (CBI) claim for information in an exemption application or supplement submitted to the Agency under this subpart only if the claim is asserted in accordance with this section, and release of the information would reveal trade secrets or confidential commercial or financial information, as provided in section 14(a) of the Act. Information covered by a CBI claim will be treated in accordance with the procedures set forth in 40 CFR part 2, subpart B. The Agency will place all information not claimed as CBI in the manner described in this section in a public file without further notice to the applicant.

(b) Applicants may assert CBI claims only at the time they submit a completed exemption application and only in the specified manner. If no such claim accompanies the information when it is received by the Agency, the information may be made available to the public without further notice to the applicant. Submitters that claim information as business confidential must do so by writing the word "Confidential" at the top of the page on which the information appears and by underlining, circling, or placing brackets ([]) around the information claimed CBI.

(c) Applicants who assert a CBI claim for submitted information must provide the Agency with two copies of their exemption application. The first copy must be complete and contain all information being claimed as CBI. The second copy must contain only information not claimed as CBI. The Agency will place the second copy of the submission in a public file. Failure to furnish a second copy of the submission when information is claimed as CBI in the first copy will be considered a presumptive waiver of the claim of confidentiality. The Agency will notify the applicant by certified mail that a finding of a presumptive waiver of the claim of confidentiality has been

made. The applicant has 30 days from the date of receipt of notification to submit the required second copy. Failure to submit the second copy will cause the Agency to place the first copy in a public file.

(d) Applicants must substantiate all claims of CBI at the time the applicant asserts the claim, i.e., when the exemption application or supplement is submitted, by responding to the questions in paragraph (e) of this section. Failure to provide substantiation of a claim at the time the applicant submits the application will result in a waiver of the CBI claim, and the information may be disclosed to the public without further notice to the applicant.

(e) Applicants who assert any CBI claims must substantiate all claims by providing detailed responses to the following:

(1) Is this information subject to a patent or patent application in the United States or elsewhere? If so, why is confidentiality necessary?

(2) For what period do you assert a claim of confidentiality? If the claim is to extend until a certain event or point in time, please indicate that event or time period. Explain why such information should remain confidential until such point.

(3) Has the information that you are claiming as confidential been disclosed to persons outside of your company? Will it be disclosed to such persons in the future? If so, what restrictions, if any, apply to use or further disclosure of the information?

(4) Briefly describe measures taken by your company to guard against undesired disclosure of

the information you are claiming as confidential to others.

(5) Does the information claimed as confidential appear or is it referred to in advertising or promotional materials for the product or the resulting end product, safety data sheets or other similar materials for the product or the resulting end product, professional or trade publications, or any other media available to the public or to your competitors? If you answered yes, indicate where the information appears.

(6) If the Agency disclosed the information you are claiming as confidential to the public, how difficult would it be for the competitor to enter the market for your product? Consider in your answer such constraints as capital and marketing cost, specialized technical expertise, or unusual processes.

(7) Has the Agency, another Federal agency, or a Federal court made any confidentiality determination regarding this information? If so, provide copies of such determinations.

(8) How would your company's competitive position be harmed if the Agency disclosed this information? Why should such harm be considered substantial? Describe the causal relationship between the disclosure and harm.

(9) In light of section 14(b) of TSCA, if you have claimed information from a health and safety study as confidential, do you assert that disclosure of this information would disclose a process used in the manufacturing or processing of a product or information unrelated to the effects of asbestos on human health and the environment? If your answer is yes, explain.