

**DIVISION 2  
SECTION 02 82 13  
ASBESTOS ABATEMENT**

**PART 1 - GENERAL**

**1.01. GENERAL**

- A. The Contractor for this work is referred to the "Instructions to Bidders", "Form of Proposal", "General Conditions", "Contract Drawings" and all Amendments and Addenda thereto, if any, all of which are hereby made part of the Contract Documents.
- B. The Contractor is also directed to Division 01, General Conditions and Division 07, Section 07 50 00 Roofing replacement and related work of this specification. Divisions 01 and 07 include a description of additional work and procedures for roofing replacement at \_\_\_\_\_ Roof which apply to this Section for Asbestos Abatement.
- C. **Verifying all measurements required for proper execution of the work is the Contractors responsibility. Before submitting bid examine all existing conditions which may impact on the work and include them in the bid price.**
- D. Schedule and Coordinate Asbestos removal/abatement with roof protection: Coordinate abatement removals with roofing and masonry contractors who will provide post abatement temporary flashing and protect of the roof and building. **(NOTE: No asbestos-containing materials shall be permitted for any use, as either a temporary or permanent part of construction).**

**E. Destruction of Masonry substrate during asbestos removal/Abatement**

The abatement contractor must use the least destructive methods and tools which are approved by the DEP, to remove asbestos contaminated materials and residue so as to leave the substrate whole, structurally sound and not requiring excessive patching or brick replacement prior to temporary roofing, re-roofing and new construction. ***Excessive damage will be the responsibility of the Asbestos Abatement Contractor to all repair, patch or replace, as deemed necessary by the CM and NYCHA field inspector.***

**Therefore to prevent excessive damage to substrate the Asbestos contractor must:**

1. In lieu of the contract specified requirement or perform the asbestos removal manually, Only use the lowest weight and power of DEP approved tools like hand held low power chipping guns. All power tools must be manufacturer-equipped with HEPA filtered local exhaust ventilation.
2. When using removal tools, including for removing asbestos residue, aim tools so that they take off the minimal amount of surface from the substrate. For brick that means attempt to leave the brick fire skin intact.
3. On each building perform a sample test for asbestos removal (abatement) of 18 sq ft. and then allow inspection and approval by the NYCHA field inspector before proceeding. ***The approved sample will become the standard for all remaining removals on that building and the asbestos Contractor will be held responsible for damage which exceeds the approved sample.***

**1.02. SCOPE OF WORK**

- A. The work of this Division consists of abating and legally disposing of all existing asbestos containing or contaminated materials (ACM's) and related work of the following address at Todt Hill Hoses, Staten Island, N.Y. Tel: 718 – 698 - 4900.
- B. This development is six stories high. It was completed in 1950.
- C. Contractor shall provide all labor and materials necessary and required for this work.
- D. The work is to be performed at the following building.

Building No.	Stairhall No.	Address	Block No.	Lot No.
2	3	801 Manor Road	706	1
2	4	791 Manor Road	-- // --	-- // --
3	5	275 Westwood Ave.	-- // --	-- // --
3	6	289 Westwood Ave	-- // --	-- // --
6	11	34 Laguardia Ave.	-- // --	-- // --
6	12	204 Schmidts Lane	-- // --	-- // --
7	13	20 Laguardia Ave.	-- // --	-- // --
7	14	176 Schmidts Lane	-- // --	-- // --
Children Center		184 Schmidts Lane	-- // --	-- // --

- E. The asbestos abatement work is to be performed on the main roofs and bulkhead roofs of four (4) buildings and the Children Center attached to building #7.
- F. The following elements are asbestos contaminated and require removal as per Part II – ASBESTOS ABATEMENT (Also Refer to Asbestos test results):

Main Roof and Bulkhead				
Building No.	Bldg. #2	Bldg. #3	Bldg. #6	Bldg. #7
Roof Membrane	Negative	Negative	Negative	Negative
Vent Stack Flashing	-- // --	-- // --	-- // --	Positive
Drain Flashing	-- // --	-- // --	-- // --	Positive
Bulkheads/Incinerator Stack	-- // --	-- // --	Positive	Positive
Parapet Wall Flashing	-- // --	-- // --	Negative	Negative
Fascia / Gravel Stop	Positive	Negative	Positive	Positive
Ladder Pitch Pockets	Negative	Positive	Negative	Negative

<b>Children Center</b>	
<b>Roof Membrane</b>	<b>Negative</b>
<b>Gravel Stop Flashing</b>	<b>Positive</b>
<b>Pitch Pockets</b>	<b>Positive</b>
<b>Drain Flashing</b>	<b>Positive</b>
<b>Flashing along High-Rise Wall</b>	<b>Positive</b>
<b>Canopy Roof</b>	
<b>Roof Membrane</b>	<b>Positive</b>
<b>Gravel Stop Flashing</b>	<b>Positive</b>
<b>Flashing along High-Rise Wall</b>	<b>Positive</b>
<b>Gravel Stop Flashing</b>	<b>Positive</b>
<b>Pitch Pockets and Flashing</b>	<b>Positive</b>
<b>Drain Flashing</b>	<b>Positive</b>

G. All work shall be in accordance with the latest Rules and Regulations of all municipal and other public agencies having jurisdiction. Any requirements specified herein which conflict with such rules or regulations shall be referred to the Authority for decision. All asbestos removal and disposal to be performed under this Contract shall be in accordance with all applicable Federal, State and City Regulations. If there are variances involve, the contractor is responsible to obtaining approval for these.

**1.03. GENERAL REQUIREMENTS**

**A. GENERAL CONDITIONS.**

1. Furnish labor, materials, services, insurance and equipment necessary for the proper removal of asbestos-containing roof materials required by the general contract.
2. Violations to asbestos regulations governing this abatement will not be tolerated. At the Authority's discretion, the Asbestos Handler Supervisor of this project will be replaced.
3. The Contractor shall post on the job site the following regulations: NY State Industrial Code Rule 56, NY City DEP Title 15 Chapter 1, US EPA Regulations for Asbestos, 40 CFR 61 Subparts A and M, and OSHA 29 CFR 1926.58.
4. The Contractor shall carry asbestos insurance when removing asbestos and throughout the entire process, and assume full liability for failure to comply with Federal, State and City regulations.
5. The Contractor shall furnish and post approved signage indicating that asbestos work is to be conducted within the building. Signs shall be posted in areas that are accessible to the roof level work areas. Signs shall address the dates in

which abatement is to take place. This notification is to be approved by the Development Management.

6. Asbestos abatement activities are to be monitored by an Authority Inspector and/or a representative on behalf of the Authority acting as an Asbestos Project Monitor. The Asbestos Handler Supervisor shall adhere to the direction of NYCHA's field representative.
7. Non-certified persons can not enter the asbestos abatement regulated work area to apply the temporary seal on abated sections of the roof.
8. The Contractor shall be required to keep a daily log to be inspected by the Authority.
9. If at any time the Authority's representative or any agency having jurisdiction decides that work practices are violating pertinent regulations, or endangering workers, he will immediately notify the Contractor's Asbestos Handler Supervisor that operations will cease until all corrective action is taken.
10. Asbestos abatement shall not be scheduled or performed on days where the ambient temperatures are below 32° F.

#### B. SPECIAL CONDITIONS.

1. Prepare a schedule of work in consultation with the Manager/ Superintendent, the DPM and CPM the contract administering department, and the Environmental Inspection Unit of the Technical Services Department. The schedule is to be followed as closely as possible.
2. Special filing requirements will require that the Contractor apply for and obtain approval for specific variances from NYC DEP. All coordination of the special conditions must go through the NYCHA's Field representative.
3. The Asbestos Handler Supervisor shall adhere to the direction of the NYCHA's field Representative / Project Monitor.
4. Asbestos abatement activities shall be between the hours of (8:00 AM and 5:00 PM).
5. Equipment and materials are prohibited from being left loose on the roof between shifts. All equipment and materials are to be properly secured or removed so that materials and equipment can not be vandalized and thrown from the roof.
6. Materials, equipment, and waste are to be transported on to and off of the roof by a hoist. Use of the elevator for materials, equipment, and/or waste is prohibited.
7. Workers are not to work on the hoist within six feet of the edge of the roof without proper safety harnesses.
8. Particular attention is to be paid to fall protection of roof debris during abatement of coping stone materials, gravel stops, flashing, fascia, wood mailer, etc.
9. Hand tools used along the edge of the roof are to be properly tied off so that they can not be accidentally dropped from the roof.
10. Workers are not to work on the outside of the roof fence without proper safety harnesses.

11. Workers are not to work along the edge of a roof without proper safety harnesses.
12. Materials, equipment and waste are to be transported on to and off of the roof by a hoist. Use of the elevator for materials, equipment and/or waste is prohibited.

C. PROTECTION OF PROPERTY.

1. Where work is performed, the Contractor shall be held fully responsible for all damage to Housing Authority property. Any equipment furnished under this Contract and any property of the Authority damaged by this Contractor or his employees shall be restored to its original condition or replaced without cost of the Authority.
2. When there is the possibility that debris could fall from the roof, poly sheeting protection of the ground is required. In addition, caution tape shall cordon off an area up to 20' from the building. **Periodic inspection and cleaning of the poly is required.**

**1.04. ASBESTOS WORK PLAN**

**A. All asbestos abatement contractors shall always produce and submit Detail Asbestos Work Plan to NYCHA – Attention: Richard Morrison via electronic e-mail Richard.morrison@nycha.nyc.gov together with copy of asbestos filings and notification for review, it should consist but not limited to the following guideline items:**

1. **LOCATION – Name of Development and Address as per filing (ACP-7, DOL & EPA notification)**
2. **GENERAL INFORMATION – Owner, CM Firm Name, Prime Contractor Company Name, Asbestos contractor company name, and Air-monitoring Contractor Company Name.**
3. **SCHEDULE – Tentative Start and tentative completion date**
4. **DEVELOPMENT LOG BOOK – Location of NYCHA sign in/out development log book for contractors (construction trailer, development superintendent office or manager, etc) and who will sign-in and out.**
5. **WORK DESCRIPTION AND PROCEDURE – Provide work area location (roof, façade, underground pipe, etc) & quantities. List abatement procedure being used.**
6. **POSTING – List and identify locations of all necessary and required postings by law.**
7. **DECONTAMINATION UNITS – How many, location (roof, ground, basement etc.) type, (pop-up, wood structure, trailer etc) and when they will be broken down and demobilized etc.**
8. **WASTE – Description of waste route after it is bagged, container on site (waste condition daily log document), pickup information and waste receipt acknowledge or manifest.**
9. **UTILITIES – Brief description from where electric power and water will be collected and GFCI location. Name of electrical contractor and license number.**

10. CERTIFICATES – List licenses and certificates hold by workers, such as NYCDEP, NYSDOL, Federal EPA, NYCDOB (Scaffold), OSHA, etc. needed to perform work.
11. PERMITS AND AUTHORIZATIONS – List all permits, notifications, and authorizations needed to properly execute asbestos abatement work including NYCDEP, NYSDOL, Federal EPA, NYCDOB (CD5), OSHA, etc.
12. SAFETY – List and describe PPE for workers and visitors. Brief description of scaffold and safety line procedures including Safety Engineering stamp and daily report authorization where applicable as per NYCDOB codes and regulations.
13. Respiratory protection program – List name of company respiratory protection program administrator
14. OTHERS – List or briefly explain any additional relevant information, document or procedure necessary to maintain asbestos abatement work within the asbestos regulations and contract specification compliance (NYCDEP conditions, 2 phase abatement work, etc).

**B. DOCUMENTS:**

1. Asbestos building occupant notification to be posted (10 day occupant notification)
2. ACP-7s
3. NYSDOL Notification
4. EPA Notification
5. Permits, licenses and insurance for asbestos company, waste hauler and disposal site.
6. Written respiratory protection program (include title page and List Program Administrator Only)
7. Detailed emergency fire exit plan with diagram showing evacuation route for workers
8. Sample of original waste hauler manifest with all general applicable information typed.

- C. If at any time the Authority representative or any agency having jurisdiction decides that work practices are violating pertinent regulations, or endangering workers, he will immediately notify the Contractor's Asbestos Handler Supervisor that operations will cease until all corrective action is taken.

**1.05. APPLICABLE REGULATIONS, CODES AND STANDARDS**

- A. All asbestos removal and disposal to be performed under this Contract shall be in accordance with applicable regulations, guidelines and standards and are to include, but are not limited to:**

1. New York City D.E.P Title 15, Chapter 1.
2. N.Y. State Industrial Code Rule 56.
3. US EPA Regulations for Asbestos 40 CFR 61 Subparts A & M.

4. OSHA 29 CFR 1926 and 1910.
5. N.Y. State DEC- Article 27, Title 3 and 15.

#### **1.06. FILING & CERTIFICATION**

- A. Submit all filings with NYCHA for review and signature, as the Owner, prior to submittal to the required regulatory agencies.
- B. Contractor shall submit the following documents when requesting approval and signing of NYC DEP filing with the Contract Support Services Unit.
  1. Contractor's Asbestos Handler License from NYS Dept. of Labor..
  2. Sub-Contractor approval letter from the Capital Project Division - Procurement Unit.
  3. Filing notifications to the NYS Dept of Labor.
  4. Filing notifications to the E.P.A.
  5. Asbestos waste transporter permit from NYS DEC.
  6. Designated disposal site landfill permit.
  7. Approved Asbestos Abatement Work Plan
- C. The Contractor shall pay the filing fees for notification of asbestos work as required by the New York State Department of Labor, Division of Safety and Health and Federal Environmental Protection Agency. This cost shall be incorporated into the Contractor's bid.
- D. Work shall not begin until there is an approved schedule and if required, the NYCDEP V-2 form has been received by Construction Manager's Environmental Consultant.
- E. Roof materials are to be filed and abated by the NYC DEP § 1-107 Foam Procedure for Roof Removal.
- F. Caulking, Asphaltic mastic or tar (e.g., flashing on parapet walls), Sealants for coping stone caps or clay roofing tiles materials are to be abated following the NYC DEP § 1-109 Attachment from Vertical Exterior Surfaces.
- G. A protection plan to prevent falling debris from the removal of coping stone materials, gravel stops, flashing, fascia, wood nailers, etc. shall be submitted to the Environmental Inspector when filing the Abatement Project.
- H. The Contractor is required to submit procedures addressing special protection and access for the abatement of canopy roofs when filing the Project.

#### **1.07. SUBMISSIONS**

**SEE GENERAL CONDITIONS: SECTION 01 33 00- SUBMISSIONS, FOR SPECIFIC REQUIREMENTS.**

## PART 2 - PRODUCTS

### 2.01 MATERIALS

- A. Materials (chemical solutions) shall be delivered in their original containers, sealed by the Manufacturer. Don't use opened containers on this Project. **Clearly label containers with Manufacturer's name, product identification and lot numbers, and store out of the weather in their original, tightly sealed containers.** Mix materials according to Manufacturer's directions and Specifications.
- B. The material used to blanket or wet the asbestos containing roofing materials shall be an acceptable foam or viscous liquid approved by DEP, EPA and:

The following is a list of approved materials for use on this project. Approval of an equivalent product must be obtained prior to use of the product on this project. Approval must be requested prior to the filing of this project.

1. IDC Hydro-foam by IDC Corporation (800) 327-8482 or Asbestos Removal foam - BioFoam by Peter Staikos, 307-7th Ave., New York N.Y. 10001, (212) 627-1533 or Pronto Extra-Foam by Twin - Chem. Inc., 5010 Hickory Hills Dr., Woodstock, GA 30188, (800) 442-4958, or equal.
2. Chem:Plex AS-1000 chemical complexing wetting agent and penetrant (with blue tint) or Chem-Safe Gold wetting agent and penetrant by Aramsco 1665 Imperial Way Thorofare, N.J. 08088 Telephone (800) 767-6933
3. Encapsulant shall be Serpiflex Shield Formula #5 by International Protective Coatings Corp. (732) 531-3667, Chem - Safe 500 by ARAMSCO 1655 Imperial Way, Thorofare, NJ, 08086 (800) 767-6933 or equal.

## PART 3 - EXECUTION

### 3.01 ASBESTOS REMOVAL PROCESS

#### A. PREPARATION ACTIVITIES.

1. **Roofing materials; Abatement is to be performed in accordance with the NYC DEP § 1-107 Foam Procedure for Roof Removal.**
2. **Caulking materials are to be abated following the NYC DEP § 1-109 Abatement from Vertical Exterior Surfaces.**
3. Construct a fully functional remote decontamination enclosure system (DECON) prior to any work area preparation. The water and electrical sources for the DECON shall be those sources closest to the DECON. **Electricity from the elevator room is prohibited unless approval is granted by the Development Management.** For 1,000 square feet or more of ACRM removal, a separate waste decontamination facility shall be located at an entry/exit from each work area.
4. If the DECONTAMINATION UNIT is to remain in place overnight, the DECONTAMINATION UNIT shall be contained within a plywood fire retardant shell.
5. The Authority's Inspector and/or the Project Monitor is required to approve the DECONTAMINATION UNIT following the inspection by the Asbestos Handler Supervisor and prior to work area preparation.



6. When there is the possibility that debris could fall from the roof, a catch basin system must be constructed and poly sheeting protection of the ground is required. In addition, caution tape is to cordon off an area up to 25' from the building. Periodic inspection and cleaning of the poly is required.
7. Prior to any removal of parapet coping tiles, scupper and leader work, **fall protection must be in place**. This protection must be approved by the Environmental Inspector, prior to abatement of such materials.
8. Extend waste vent pipes to the height required by the NYC DEP Attachment. Covering of vent pipes is prohibited.
9. The Authority's Inspector and/or the Project Monitor are required to approve the pre-abatement work area preparation following the inspection by the Asbestos Handler Supervisor and prior to asbestos removal.
10. Movable objects shall be removed from the work area, or kept in place and wrapped in one sheet of fire retardant 6 mil plastic sheeting
11. Provisions shall be made to ensure a safe and adequate air supply to affected building(s). All vents, skylights, air intakes, windows and doors opening onto the roof, and all other openings shall be sealed with 2 layers of fire retardant 6 mil plastic or fitting with HEPA-filters when appropriate Temporary extensions may be installed to a height of 10 feet to ensure adequate air exchange instead of sealing vents, air intakes, etc, with 2 layers of plastic or HEPA-filters Drains may be equipped with 5 micron filtering system in lieu of being sealed.
12. Fixed objects including perimeter walls, bulkheads, cooling towers, ducts and other rooftop appurtenances shall be covered in one sheet of fire retardant 6 mil plastic up to a height of at least six feet.
13. Prior to actual removal, the built-up roofing shall be blanketed and wetted with a minimum 1" coating of the acceptable foam or viscous liquid which shall be maintained for the duration of the removal until the material is bagged. The foam or viscous liquid shall be confined to the work area.

#### B. ASBESTOS REMOVAL.

1. The use of hand held power tools must be approved by the Environmental Inspector. Only power tools that have a factory installed HEPA filtration attachment shall be considered for approval. Power tools used to drill, cut into, or otherwise disturb the ACRM shall be manufactured-equipped with HEPA-filtered local exhaust ventilation and operated to prevent potential fiber release
2. Power saws, of any type, are prohibited from use on asbestos-containing roofing materials.
3. Asbestos removal is prohibited until air-monitoring equipment is in place and operating.
4. Clean-up procedures shall include the removal and bagging of ACRM, the removal of all visible accumulations of asbestos containing waste, and the removal of all excess foam or similar viscous liquids. Following the removal of all debris, the work area shall be thoroughly wet cleaned.
5. The work area shall be allowed to dry completely before the visual inspection is conducted.

6. Prior to the temporary sealing of an abated section of a roof, the Contractor's Asbestos Handler Supervisor must inspect and approve the work area and document such inspection and approval on a Supervisor Inspection Report. The project monitor and asbestos handler supervisor shall confirm the absence in the work area of ACM, asbestos-containing waste or debris, and foam or other viscous liquid.
7. Remove only as much roofing per day that can be replaced within that given day. Do not install roofing materials during inclement weather, except for temporary work necessary to protect materials that are already installed. Remove all temporary work before installing permanent materials. Lay tarp in accordance to NRCA Regulations down on the concrete deck where the roofing materials were removed.
8. Under adverse working conditions such as rain, cover the roof as in "5" above.

C. RE-CLEANING REQUIREMENTS.

1. Abated sections of roofs that have been covered with a temporary seal, prior to an Inspection by the Authority and or Authority's representative, may require that the temporary seal be removed and further abatement/cleaning be performed.

D. PACKAGING AND DISPOSAL OF ASBESTOS AND RELATED DEBRIS.

1. Remove all asbestos and non-asbestos debris from the premises prior to the end of the work shift. **At no time shall asbestos debris be allowed to be stored on site once the Contractor has left the site.**
2. Both the initial and the doubled waste bag must be sealed with duct tape. **Sealing the outer bag only is prohibited. The outer bag must be an airtight gooseneck seal** (e.g., twist the bag, fold it over on itself, and wrap with duct tape)
3. Site specific generator labels shall include the building location address, City and State, the date of abatement, the abatement Contractor's name, and the words "New York City Housing Authority.
4. Affix generator labels to the waste bags prior to removing the bags from the roof. **Do not affix labels to the bags at the waste hauling truck.**
5. Transport all asbestos waste directly to a transfer station or the landfill. Don't store or transfer asbestos waste to another location prior to transport to a transfer station or the landfill.
6. Do not remove asbestos waste from the site without a properly documented Waste Manifest.
7. All asbestos waste shall also be required to comply with U.S. Environmental Protection Agency Regulations, Title 40, Part 61, Sub-part A & B (40 CFR A & B) and OSHA Regulations (29 CFR 1910) for Collecting, Packaging, Transporting and Disposing of Asbestos.

E. INDEPENDENT AIR MONITORING AND AIR CLEARANCE.

1. An independent Contractor selected and paid for by the Authority shall conduct air monitoring during asbestos removal.

2. Air sample results reported above 0.01 f/cc shall require that abatement practices be altered on the following shift so as to reduce the airborne fiber levels. The altered procedures must be documented by the asbestos handler supervisor and submitted to the Environmental Inspector, for approval.
3. **Clearance air monitoring is not required.**

### **3.02 WASTE MANIFEST**

- A. All asbestos waste shall be properly manifested prior to removal from the Authority's property
- B. Waste transporting shall follow all provisions of the Environmental Conservation Law, Title 3, of Article 27.
- C. Copies of the manifest, after all asbestos has been removed from specifying the location, and indicated where the waste will be transported, shall be given to the Authority's Inspector and/or the Project Monitor.
- D. A final copy signed by the landfill is to be submitted to the Manhattan Program Unit Project Administrator.

NOTE: All components which have tested POSITIVE for asbestos (ACM) and may be disturbed/impacted by the proposed work must be abated by a licensed asbestos abatement contractor in accordance with New York City Department of Environmental Protection rules and regulations.

The survey results used in defining the scope of asbestos work are based upon sampling of suspect asbestos containing materials in a representative number of locations.

A final copy signed by the landfill is to be submitted to the Authority's Environmental Liaison.

END OF SECTION