**SECTION 02 82 00**

**ASBESTOS REMOVAL**

**PART 1 GENERAL**

**1.01 SCOPE OF WORK**

A. This asbestos abatement Project will consist of the removal and disposal of asbestos-containing materials (ACMs) and presumed asbestos-containing materials (PACMs) at XXX (Name of facility, building ID(s), address, project name and number).

B. The work shall include but not be limited to the removal of the following materials:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Floor/level /location**  | **Work Area Designation** | **Description of Asbestos Materials** | **Removal Method(s)** | **Approximate Quantity****(SF/Unit)** | **Approximate Quantity****(LF/Unit)** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  | **Total Quantity (SF/LF/Units)** |  |  |

C. The Contractor shall be aware of all conditions of the Project and is responsible for verifying quantities and locations of all Work to be performed. Failure to do so shall not relieve the Contractor of its obligation to furnish all labor and materials necessary to perform the Work.

D. All Work shall be performed in strict accordance with the Project Documents and all governing codes, rules, and regulations. Where conflicts occur between the Project Documents and applicable codes, rules, and regulations, the more stringent shall apply.

E. Working hours shall be as required and approved by the Owner. Asbestos abatement activities including, but not limited to, work area preparation, gross removal activities, cleaning activities, waste removal, etc. may need to be performed during ‘off-hours’ (including nights and weekends). In addition, multiple mobilizations may be required to perform the work identified in this project. The Contractor shall coordinate and schedule all Work with the facility and Owner’s representative.

**1.02 SPECIAL JOB CONDITIONS**

1. Any special job conditions, including Variances obtained by the Owner, are described below:

(Describe in detail or indicate “None”)

**1.03 PERMITS AND COMPLIANCE**

A. The Contractor shall assume full responsibility and liability for compliance with all applicable Federal, State, and local laws, rules, and regulations pertaining to Work practices, protection of Workers, authorized visitors to the site, persons, and property adjacent to the Work.

B. Perform asbestos related Work in accordance with New York State Industrial Code Rule 56 (herein referred to as Code Rule 56), 40 CFR 61, and 29 CFR 1926. Where more stringent requirements are specified, adhere to the more stringent requirements.

C. The Contractor must maintain current licenses, permits and certifications pursuant to New York State Department of Labor and Department of Environmental Conservation for all Work related to this Project, including the removal, handling, transport, and disposal of asbestos-containing materials.

D. The Contractor must maintain current licenses pursuant to New York State Department of Labor, and New York State Department of Environmental Conservation for all Work related to this Project, including the removal, handling, transport, and disposal of asbestos-containing materials.

E. The Contractor must have and submit proof upon request that any persons employed by the Contractor to engage in or supervise Work on any asbestos Project have valid NYS asbestos handling and supervisor certificates pursuant to Code Rule 56 regulations.

F. The Contractor shall comply fully with any existing or new Variance secured from regulatory agencies by the Owner or the Owner’s Representative in the performance of the Work. Any Variance applications previously submitted are included as an appendix of this specification.

G. The Contractor shall be responsible for obtaining all other Variances as may be required for the Project or as requested by the Owner. Approval of the Owner is required prior to submission of a Variance application to any regulatory agency. Failure to obtain Owner approval may result in Owner not permitting variance to be used on the Project.

H. The Contractor shall be responsible for compliance with The New York State Uniform Fire Prevention and Building Code, or its successor during all Work at the site.

1. Failure to adhere to the Project Documents shall constitute a breach of the Contract and the Owner shall have the right to and may terminate the Contract provided, however, the failure of the Owner to so terminate shall not relieve the Contractor from future compliance.

**1.04 SUBMITTALS**

1. Pre-Work Submittals: Within 7 days prior to the pre-construction conference, the Contractor shall submit an electronic copy of the documents listed below to the DASNY Project Manager, the DASNY Code Compliance Unit and the Environmental Consultant for review and approval prior to the commencement of asbestos abatement activities::
2. Contractor license issued by New York State Department of Labor.
3. A list of Projects performed within the past two (2) years and include the dollar value of all Projects. Provide Project references to include Owner, Environmental Consultant, and air monitoring firm's name, contact persons, address, and phone number.

2. Progress Schedule:

a. Show the complete sequence of abatement activities for each work area and the sequencing of Work within each building or building section listed in the contract.

b. Show the dates and hours of work for the beginning and completion of each major element of Work for wall work areas including substantial completion dates for each Work Area, building, or phase.

3. Building Occupant Notification: Provide the following information, as required by regulatory agencies:

1. Owner, DASNY Project Number, Site Name and Address, Building, Asbestos Project Location at Building, Start and End Dates.
2. Quantity and type of material to be removed.
3. Asbestos Contractor Name, Address, Contact Name and Phone Number, NYSDOL License Number.
4. Third Party Air Monitor Name, Address, Contact Name and Phone Number, NYSDOL License Number.
5. Air Monitoring Laboratory Name, Address, Contact Name and Phone Number, New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) Number.
6. NYSDOL Regional Office Phone Number.
7. DASNY Project Manager Name and Phone Number.
8. General Contractor Project Manager Name and Phone Number, if applicable

4. Abatement Work Plan and Drawing(s): Provide a written work plan description of work and drawing(s) that clearly indicates the following:

a. All work areas/containments numbered sequentially.

b. Locations and types of all decontamination enclosures for each work area.

c. Entrances and exits to each work areas/containments.

d. Type of abatement activity/technique for each work area/containment.

e. Number and location of negative air units and exhaust for each work area, when applicable. Also provide calculations for determining number of negative air pressure units.

f. Proposed location and construction of storage facilities and field office.

1. Location of water and electrical connections to building services for each work area/containment.
2. Waste transport routes through the building, or exterior to the waste storage container for each work area/containment.
3. Disposal Site/Landfill Permit from applicable regulatory agency.
4. Transfer Facility Permit (if used) from applicable regulatory agency.
5. Valid Waste Transporter NYS Part 364 permit for all transporters.
6. Valid State Waste Transport vehicle permit for all transporters for each State the waste is being transported through to reach the Disposal Facility/Landfill.
7. Valid US DOT vehicle permits for all Transporters.
8. Special Waste Characterization Profile, if required by the disposal site/landfill.
9. Current ELAP Certificate for laboratory performing analysis of OSHA personal air monitoring samples. Refer to Section 1.09.
10. On-Site Submittals: Refer to Part 3.01.B, C, D and E for all submittals, documentation, and postings required to be maintained on-site during abatement activities.
11. Project Close-out Submittals: Within 30 days of the completion of each abatement phase, the **Abatement Contractor** shall submit an electronic copy of the documents listed below to DASNY Code Compliance and the Environmental Consultant for review and Code Compliance approval prior to Contractor’s final payment. Once DASNY Code Compliance approves the close-out submittal, the Contractor shall provide 3 hard copy sets of the approved close-out documents (double-sided and bound) to DASNY Project Management for appropriate distribution, including 1 set to be distributed to the facility and 1 set (with original waste records) to Code Compliance.
12. All Waste Shipment Records and Waste Shipment Record Logs (**Original** Waste Shipment Record(s) shall be sent to DASNY Code Compliance).
13. OSHA compliance air monitoring records (laboratory reports and chain of custodies) conducted during the Work (compiled in chronological order).
14. Daily progress log, and the Work Area entry/exit log (s).
15. Contractor’s Acknowledgement Statement (Appendix C) that lists all Workers used in the performance of the Project, including name, NYS DOL certification numbers and type of certification (i.e. supervisor, asbestos handler, etc.). The Statement shall be notarized (**Original** notarized statement shall be sent to DASNY Code Compliance).
16. Supervisor and Handlers/Workers NYS DOL Asbestos (current at time of asbestos abatement) Certifications.
17. Contractor licensed issued by New York State Department of Labor.
18. Disposal Site/Landfill Permit from applicable regulatory agency.
19. Transfer Facility Permit (if used) from applicable regulatory agency.
20. Valid Waste Transporter NYS Part 364 permit for all transporters.
21. Valid State Waste Transport vehicle permit for all transporters for each State the waste is being transported through to reach the Disposal Facility/Landfill.
22. Valid US DOT vehicle permits for all Transporters.
23. Special Waste Characterization Profile, if required by the disposal site/landfill.
24. Current ELAP Certificate for laboratory performing analysis of OSHA personal air monitoring samples. Refer to Section 1.09.
25. NYS DOL Site-Specific Variances/Applicable Variances, if applicable.
26. Project Close-out Submittals: Within 30 days of the completion of the abatement phase, the **Environmental Consultant** shall submit 1 electronic copy of the closure report, including the documents listed below to DASNY Code Compliance for review and Code Compliance approval. Once DASNY Code Compliance approves the final closeout submittals, the Environmental Consultant shall provide 3 hard copy sets of the approved submittals (double-sided and bound) to DASNY Project Management for appropriate distribution, including 1 set to be distributed to the facility and 1 set to Code Compliance.
27. Upon completion of the Project, the Environmental Consultant shall certify to the Owner, in writing, that the work is complete, acceptable and was performed in compliance with the Project Documents and all Local, State and Federal Regulation in an Executive Summary of the work.
28. The Environmental Consultant shall review and approve or disapprove all necessary guarantees, certificates of compliance, and all other close-out documentation, which the Asbestos Contractor is required to submit.
29. The Environmental Consultant shall provide to the Owner the final/closeout project report which must include
30. Consultant license issued by New York State Department of Labor.
31. Project Monitor(s) Certificate issued by New York State Department of Labor.
32. All daily logs and daily worker/handler rosters.
33. Summary of all visual inspections with the date of inspection and the date of signoff on the supervisor’s log.
34. Air sampling logs, final lab reports (no drafts-must be signed by analyst and reviewer), chain of custody forms, and sample location plans.
35. Copies of Waste Shipment Records and Waste Shipment Record Logs.
36. NYS DOL Site-Specific Variances/Applicable Variances, if applicable.
37. All pertinent correspondence related to the Project, including re-occupancy letters and elevated air results submission to NYS DOL documentation per 56-4.10 (a).

**1.05 PRE‑CONSTRUCTION CONFERENCE**

A. Prior to start of preparatory Work under this Contract, the Contractor shall attend a pre-construction conference attended by Owner, Facility Personnel, and Environmental Consultant.

B. Agenda for this conference shall include but not necessarily be limited to:

1. Contractor's scope of Work, Work plan, and schedule to include number of workers and shifts.

2. Contractor's safety and health precautions including protective clothing and equipment and decontamination procedures.

3. Environmental Consultant's duties, functions, and authority.

4. Contractor's Work procedures including:

a. Methods of job site preparation and removal methods.

b. Respiratory protection.

c. Disposal procedures.

d. Cleanup procedures.

e. Fire exits and emergency procedures.

5. Contractor’s required pre-work and on-site submittals, documentation, and postings.

6. Contractor's plan for twenty-four (24) hour Project security both for prevention of theft and for barring entry of unauthorized personnel into Work Areas.

7. Temporary utilities.

8. Handling of furniture and other movable objects.

9. Storage of removed asbestos-containing materials.

10. Waste disposal requirements and procedures, including use of the Owner supplied Waste Shipment Record and Waste Shipment Record Log.

C. In conjunction with the conference the Contractor shall accompany the Owner and Environmental Consultant on a pre-construction walk-through documenting existing condition of finishes and furnishings, reviewing overall Work plan, location of fire exits, fire protection equipment, water supply and temporary electric tie-in.

**1.06 APPLICABLE STANDARDS AND REGULATIONS**

A. The Contractor shall comply with the following codes and standards, except where more stringent requirements are shown or specified:

B. Federal Regulations:

1. 29 CFR 1910.1001, "Asbestos" (OSHA)

2. 29 CFR 1910.1200, "Hazard Communication" (OSHA)

3. 29 CFR 1910.134, "Respiratory Protection" (OSHA)

4. 29 CFR 1910.145, "Specification for Accident Prevention Signs and Tags" (OSHA)

5. 29 CFR 1926, "Construction Industry" (OSHA)

6. 29 CFR 1926.1101, "Asbestos, Tremolite, Anthophyllite, and Actinolite" (OSHA)

7. 29 CFR 1926.500 "Guardrails, Handrails and Covers" (OSHA)

8. 40 CFR 61, Subpart A, "General Provisions" (EPA)

9. 40 CFR 61, Subpart M, "National Emission Standard for Asbestos" (EPA)

10. 49 CFR 171-172, Transportation Standards (DOT)

C. New York State Regulations:

1. 12 NYCRR, Part 56, "Asbestos", Industrial Code Rule 56 (DOL) (amended March 21, 2007).

2. 6 NYCRR, Parts 360, 364, Disposal and Transportation (DEC)

3. 10 NYCRR, Part 73, "Asbestos Safety Program Requirements" (DOH)

D. Standards and Guidance Documents:

1. American National Standards Institute (ANSI) Z88.2, Practices for Respiratory Protection

2. ANSI Z9.2‑79, Fundamentals Governing the Design and Operation of Local Exhaust Systems

3. EPA 560/585‑024, Guidance for Controlling Asbestos-containing Materials in Buildings (Purple Book)

1. EPA 530-SW-85-007, Asbestos Waste Management Guidance
2. ASTM Standard E1368 “Standard Practice for Visual Inspection of Asbestos Abatement Projects.”

**1.07 NOTICES**

A. The Contractor shall post and/or provide Building Occupant Notification at least 10 calendar days prior to beginning abatement activities as required by Code Rule 56.

**1.08 PROJECT MONITORING AND AIR SAMPLING**

A. The Owner shall engage the services of an Environmental Consultant who shall serve as the Owner's Representative in regard to the performance of the asbestos abatement Project and provide direction as required throughout the entire abatement Project period. The Environmental Consultant and all subconsultants shall not have any contractual relationship with the Contractor for the duration of the asbestos project.

B. The Contractor is required to ensure cooperation of its personnel with the Environmental Consultant for the air sampling and Project monitoring functions described in this section. The Contractor shall comply with all direction given by the Environmental Consultant during the course of the Project.

C. The Environmental Consultant shall provide the following administrative services:

1. Review and approve or disapprove all submittals, shop drawings, schedules, and samples.

2. Assure that all notifications to governmental agencies by the Contractor are submitted in a timely manner and are correct in content.

D. The Environmental Consultant shall staff the Project with a trained and certified person(s) to act on the Owner's behalf at the job site. This individual shall be designated as the Abatement Project Monitor (APM).

1. The APM shall be on-site at all times the Contractor is on-site. The Contractor shall not be permitted to conduct any Work unless the APM is on-site (except for inspection of barriers and negative air system during non-working days).

2. The APM shall have the authority to direct the actions of the Contractor verbally and in writing to ensure compliance with the Project documents and all regulations. The APM shall have the authority to Stop Work when gross Work practice deficiencies or unsafe practices are observed, or when ambient fiber concentrations outside the removal area are equal to or greater than 0.01 f/cc or background level, whichever is greater.

a. Such Stop Work order shall be effective immediately and remain in effect until corrective measures have been taken and the situation has been corrected.

b. Standby time, re-cleaning time, and air sample collection time and analysis cost required to resolve the situation shall be at the Contractor's expense.

c. The Environmental Consultant shall track and provide a summary of standby, re-cleaning, and/or air sampling time to achieve satisfactory clearance, as well as a summary of any equipment used. These summaries shall be provided to the DASNY Project Manager.

3. The APM shall provide the following services:

a. Inspection of the Contractor's Work, practices, and procedures, including temporary protection requirements, for compliance with all regulations and Project specifications including provisions required by Variances, the Work Place Safety Plan and Asbestos Work Permit.

b. Provide abatement Project air sampling as required by applicable regulations and the Owner. Sampling will include background, work area preparation, asbestos handling, final cleaning and aggressive clearance air sampling.

c. Verify daily that all Workers used in the performance of the Project are certified by the appropriate regulatory agency and include a worker roster in the daily log.

d. Monitor the progress of the Contractor's work and report any deviations from the schedule to the Owner.

e. Monitor, verify, and document all waste load-out operations.

1. Verify that the Contractor is performing personal air monitoring daily, and that results are being returned and posted at the site as required.
2. The APM shall maintain a daily log on site that documents all project related and Environmental Consultant and Contractor actions, activities, and occurrences.
3. Verify landfill to be used for waste disposal with waste transporter (driver) and Contractor prior to waste trailer/hardtop dumpster leaving site. Confirm the waste transporter firm and landfill are listed on the regulatory notifications for the project and the waste transport vehicle license number is listed on the current NYS DEC Waste Transporter permit.

4. The following minimum inspections shall be conducted by the APM, accompanied by the Contractor’s supervisor. Additional inspections shall be conducted as required by Project conditions and/or at the owner’s direction. Progression from one (1) phase of Work to the next by the Contractor is only permitted with the written approval of the APM.

a. Pre-Construction Inspection: The purpose of this inspection is to verify the existing conditions of the Work Areas and to document these conditions.

b. Pre-Commencement Inspection: The purpose of this inspection is to verify the integrity of each containment system prior to disturbance of any asbestos-containing material. This inspection shall take place only after the Work Area is fully prepped for removal.

c. Work Inspections: The purpose of this inspection is to monitor the Work practices and procedures employed on the Project and to monitor the continued integrity of the containment system. Inspections within the removal areas shall be conducted by the APM during all preparation, removal, and cleaning activities at least twice every Work shift. Additional inspections shall be conducted as warranted.

d. Pre-Encapsulation Inspection: The purpose of this inspection is to ensure the complete removal of Asbestos-Containing Material (ACM), from all surfaces in the Work Area prior to encapsulation.

e. Visual Clearance Inspection: The purpose of this inspection is to verify that: all materials in the scope of work have been properly removed; no visible asbestos debris/residue remains; no pools of liquid or condensation remains; and all required cleanings are complete. This inspection shall be conducted before final air clearance testing.

f. Post-Clearance Inspection: The purpose of this inspection is to ensure the complete removal of ACM, including debris, from the Work Area after satisfactory final clearance sampling and removal of all isolation and critical barriers and equipment from the Work Area.

g. Punch List Inspection: The purpose of this inspection is to verify the Contractor's certification that all Work has been completed as contracted and the existing condition of the area prior to its release to the Owner.

E. The Environmental Consultant shall provide abatement Project air sampling and analysis as required by applicable regulations. Sampling will include, but is not limited to, background, work area preparation, asbestos handling, and final cleaning and clearance air sampling.

1. Unless otherwise required by applicable regulations, the Environmental Consultant shall have samples analyzed by Phase Contrast Microscopy (PCM). Results shall be available at the Project site within 24 hours of completion of sampling.

2. Samples shall be collected as required by applicable regulations and these specifications. If Transmission Electron Microscopy (TEM) clearance air sampling is utilized by the owner, the clearance criteria and sampling protocols must be in compliance with AHERA. If PCM air sample analysis results exceed the satisfactory clearance criteria, then TEM analysis of the entire set of clearance air samples may be used, provided that a standard NIOSH/ELAP accepted laboratory analysis method is utilized that shall report each air sample result in fibers per cubic centimeter.

3. If the air sampling during any phase of the abatement project reveals airborne fiber levels at or above 0.01 fibers/cc or the established background level, whichever is greater, outside the regulated Work Area, Work shall stop immediately and corrective measures required by applicable regulations shall be initiated. Notify DASNY project personnel, as well as all employers and occupants in adjacent areas. The Contractor shall bear the burden of any and all costs incurred by this delay.

4. The Environmental Consultant shall submit copies of all elevated air sampling results collected during abatement and all elevated final air clearance results to the Commissioner of Labor, as required by regulation.

5. A minimum of 1,200 Liters for PCM air samples or 1,300 Liters for TEM air samples (whichever is applicable) shall be collected at a flow rate between 2 and 10 liters per minute (L/min) as necessary to achieve proper sample collection and work practice duration.

**1.09 CONTRACTOR AIR SAMPLING**

A. In addition to the requirements of OSHA 1926.1101, the Contractor shall be required to perform personal air monitoring **every Work shift in each Work Area** during which abatement activities occur in order to determine that appropriate respiratory protection is adequate and is being worn and utilized. Negative Exposure Assessments are not allowed to be used in lieu of personal air monitoring.

B. The Contractor shall conduct air sampling that is representative of both the 8-hour time weighted average and 30-minute short-term excursion level exposures to indicate compliance with the OSHA Permissible Exposure Limits (PELs).

C. The Contractor's laboratory analysis of air samples shall be conducted by an NYS DOH ELAP approved laboratory. The Environmental Consultant shall not collect or analyze the Contractor’s air samples.

D. Results of personal air sample analyses shall be available, verbally, within twenty-four 24 hours of sampling and results with associated chains of custody shall be posted upon receipt and documented in the supervisor’s daily log book. Written laboratory reports shall be delivered and posted at the Work site within five (5) days. Failure to comply with these requirements may result in all work being stopped until compliance is achieved.

**1.10 PROJECT SUPERVISOR**

A. The Contractor shall designate a full-time Project Supervisor who shall meet the following qualifications:

1. The Project Supervisor shall hold New York State DOL certification as an Asbestos Supervisor.

2. The Project Supervisor shall meet the requirements of a "Competent Person" as defined by OSHA 1926.1101 and shall have a minimum of one (1) year experience as a supervisor.

3. The Project Supervisor must be able to speak, read, and write English fluently, as well as communicate in the primary language of the Workers.

B. If the Project Supervisor is not on-site at any time whatsoever, all Work shall be stopped. The Project Supervisor shall remain on-site until the Project is complete. The Project Supervisor cannot be removed from the Project without the written consent of the Owner and the Environmental Consultant. The Project Supervisor shall be removed from the Project if so requested by the Owner.

C. The Project Supervisor shall maintain the bound Daily Project Log and separate work area entry/exit logs for each work area, as required by applicable regulations and section 2.03 of the specifications and the Waste Shipment Record Log required by section 4.03 of the specifications.

D. The Project Supervisor shall be responsible for the performance of the Work and shall represent the Contractor in all respects at the Project site. The Supervisor shall be the primary point of contact for the Abatement Project Monitor.

**1.11 MEDICAL REQUIREMENTS**

A. Before exposure to airborne asbestos fibers, provide Workers with a comprehensive medical examination as required by 29 CFR 1910.1001, and 29 CFR 1926.1101.

1. This examination is not required if adequate records show the employee has been examined as required by 29 CFR 1910.1001, and 29 CFR 1926.1101 within the past year.

2. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos fibers and within thirty 30 calendar days before or after the termination of employment in such occupations.

**1.12 TRAINING**

A. As required by applicable regulations, prior to assignment to asbestos Work instruct each employee with regard to the hazards of asbestos, safety and health precautions, and the use and requirements of protective clothing and equipment.

B. Establish a respirator program as required by ANSI Z88.2 and 29 CFR 1910.134, and 29 CFR 1926.1101. Provide respirator training and fit testing.

**1.13 RESPIRATORY PROTECTION**

A. Select respirators from those approved by the National Institute for Occupational Safety and Health (NIOSH).

B. Respirators shall be individually fit-tested to personnel under the direction of an Industrial Hygienist on a yearly basis. Fit-tested respirators shall be permanently marked to identify the individual fitted, and use shall be limited to that individual. Fit-test records shall be maintained on site for each employee.

C. Where fiber levels permit, and in compliance with regulatory requirements, Powered Air Purifying Respirators (PAPRs) are the minimum allowable respiratory protection permitted to be utilized during gross removal operations of OSHA Class I or OSHA Class II friable ACM.

D. No respirators shall be issued to personnel without such personnel participating in a respirator training program.

E. High Efficiency Particulate Air (HEPA) respirator filters shall be approved by NIOSH and shall conform to the OSHA requirements in 29 CFR 1910.134 and 29 CFR 1926.1101.

F. A storage area for respirators shall be provided by the Contractor in the clean room side of the personal decontamination enclosure where they will be kept in a clean environment.

G. The Contractor shall provide and make available a sufficient quantity of respirator filters so that filter changes can be made as necessary during the work day. Filters will be removed and discarded during the decontamination process. Filters cannot be reused. Filters must be changed if breathing becomes difficult.

H. Filters used with negative pressure air purifying respirators shall not be used any longer than one eight (8) hour work day. Any loose respirator filters found within the regulated area, must be disposed of as RACM asbestos waste.

I. Any authorized visitor, worker, or supervisor found in the Work Area not wearing the required respiratory protection shall be removed from the Project site and shall not be permitted to return.

J. The Contractor shall have at least two (2) Powered Air Purifying Respirators stored on site designated for authorized visitors use. Appropriate respirator filters for authorized visitors shall be made available by the Contractor.

**1.14 DELIVERY AND STORAGE**

A. Deliver all materials to the job site in original packages with containers bearing manufacturer's name and label.

B. Store all materials at the job site in a suitable and designated area.

1. Store materials subject to deterioration or damage away from wet or damp surfaces and under cover.

1. Protect materials from unintended contamination and theft.
2. Storage areas shall be kept clean and organized.

C. Remove damaged or deteriorated materials from the job site. Materials contaminated with asbestos shall be disposed of as asbestos debris as herein specified.

**1.15 TEMPORARY UTILITIES**

A. Shut down and lock out all electrical power to the asbestos Work Areas, including lighting circuits. Any electrical power passing through the Work Areas that can’t be shut down due to health and safety reasons, shall be protected as per the requirements of applicable regulations and shall not be utilized within the work area.

B. Provide temporary 120-240 volt, single phase, three (3) wire, 100 amp electric service with Ground Fault Circuit Interrupters (GFCIs) for all electric requirements within the asbestos Work Area.

1. Where available, obtain from Owner's existing system. Otherwise provide power from other sources (i.e. generator).

2. Provide temporary wiring and "weatherproof" receptacles in sufficient quantity and location to serve all HEPA equipment and tools.

3. Provide wiring and receptacles as required by the APM for air sampling equipment.

4. All power to the Work Area shall be brought in from outside the area through GFCI's at the source.

C. Provide temporary lighting with "weatherproof" fixtures for all Work Areas including decontamination chambers.

1. The entire Work Area shall be kept illuminated at all times.

2. Provide lighting as required by the Environmental Consultant for the purposes of performing required inspections.

D. All temporary devices and wiring used in the Work Area shall be capable of decontamination procedures including HEPA vacuuming and wet-wiping.

E. Utilize domestic water service, if available, from Owner's existing system. Provide hot water heaters with sufficient capacity to meet Project demands.

**PART 2 PRODUCTS**

**2.01 PROTECTIVE CLOTHING**

A. Provide personnel utilized during the Project with disposable protective whole body clothing, head coverings, gloves and foot coverings. Provide disposable plastic or rubber gloves to protect hands. Cloth gloves may be worn inside the plastic or rubber for comfort, but shall not be used alone. Make sleeves secure at the wrists and make foot coverings secure at the ankles by the use of tape, or provide disposable coverings with elastic wrists or tops.

B. Provide sufficient quantities of protective clothing to assure a minimum of four (4) complete disposable outfits per day for each individual performing abatement Work.

C. Eye protection and hard hats shall be provided and made available for all personnel entering any Work Area.

D. Authorized visitors shall be provided with suitable protective clothing, headgear, eye protection, and footwear whenever they enter the Work Area.

**2.02 SIGNS AND LABELS**

A. Provide warning signs and barrier tapes at all approaches to asbestos Work Areas. Locate signs at such distance that personnel may read the sign and take the necessary protective steps required before entering the area.

1. Provide danger signs in vertical format conforming to 29 CFR 1926.1101, minimum 20" x 14" displaying the following legend.

DANGER

ASBESTOS

MAY CAUSE CANCER

CAUSES DAMAGE TO LUNGS

AUTHORIZED PERSONNEL ONLY

WEAR RESPIRATORY PROTECTION AND

PROTECTIVE CLOTHING IN THIS AREA

1. Provide 3" wide red barrier tape printed with black lettered, "DANGER ASBESTOS REMOVAL". Locate barrier tape across all corridors, entrances and access routes to asbestos Work Area. Install tape 3' to 4' above finished floor (AFF).

B. Provide asbestos danger labels affixed to all asbestos materials, scrap, waste, debris and other products contaminated with asbestos.

1. Provide asbestos danger labels of sufficient size to be clearly legible, displaying the following legend:

DANGER

CONTAINS ASBESTOS FIBERS

MAY CAUSE CANCER

CAUSES DAMAGE TO LUNGS

DO NOT BREATHE DUST

AVOID CREATING DUST

2. Provide the following asbestos labels, of sufficient size to be clearly legible, for display on waste containers (bags or drums) which will be used to transport asbestos contaminated material in accordance with United States Department of Transportation 49 CFR Parts 171 and 172:

RQ, NA2212, RACM ASBESTOS, 9, PGIII

3. Generator identification information shall be affixed to each waste container or any packaging used to containerize RACM asbestos waste indicating the following printed in indelible ink:

Generator Name

Facility Name

Facility Address

Date

**2.03 DAILY PROJECT LOG & WORK AREA (Worker Decontamination Unit) ENTRY/EXIT LOG**

A. Provide a bound Daily Project Log. The log shall contain on title page the Project name and DASNY project number, name, address and phone number of Owner; name, address and phone number of Environmental Consultant; name, address and phone number of Abatement Contractor; emergency numbers including, but not limited to local Fire/Rescue department and all other regulatory requirements.

B. All entries into the log shall be made in non-washable, permanent ink and such pen shall be strung to or otherwise attached to the log to prevent removal from the log-in area. Under no circumstances shall pencil entries be permitted.

C. All persons entering and exiting the Work Area shall sign the Work Area (entry/exit log located in the decontamination unit clean room or airlock to the work area) and include name, certification number, and time.

D. The Project Supervisor shall document all work performed daily and note all regulatory required inspections, maintain entry log records and ensure that they are recorded in accordance with the provisions of all applicable regulations.

**2.04 SCAFFOLDING AND LADDERS**

A. Provide all scaffolding and/or staging as necessary to accomplish the Work of this Contract. Scaffolding may be of suspension type or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. All scaffolding shall be designed and constructed in accordance with OSHA, and any other applicable federal, state and local government regulations. Whenever there is a conflict or overlap of the above references the most stringent provisions are applicable.

B. Provide scaffolding and ladders as required by the Environmental Consultant for the purposes of performing required inspections.

**2.05 SURFACTANT (AMENDED WATER)**

A. Wet all asbestos-containing materials prior to removal with surfactant mixed and applied in accordance with manufacturer's printed instructions.

**2.06 ENCAPSULANT**

A. Encapsulant shall be tinted or pigmented so that application when dry is readily discernible.

B. The encapsulant solvent or vehicle shall not contain a volatile hydrocarbon.

**2.07 WASTE DISPOSAL BAGS, DRUMS, AND CONTAINERS**

A. Provide 6 mil polyethylene disposal bags printed with asbestos caution labels. Bags shall also be imprinted with U.S. Department of Transportation required markings.

B. Provide 30 or 55 gallon capacity fiber, plastic, or metal drums capable of being sealed air and water tight if asbestos waste has the potential to damage or puncture disposal bags. Affix asbestos caution labels on lids and at one-third points around drum circumference to assure ready identification.

C. Containers and bags must be labeled in accordance with 40 CFR Part 61 NESHAPS and applicable regulations. When the bags/containers are moved to the lockable hardtop dumpster from the waste decontamination system washroom, the bags must also be appropriately labeled with the date they are moved on the bag/container in waterproof markings.

D. Labeled ACM waste containers or bags shall not be used for non-ACM waste or trash. Any material placed in labeled containers or any material placed in bags, whether the bag is turned inside out or not, shall be handled and disposed of as RACM waste.

**2.08 HEPA VACUUM EQUIPMENT**

A. All vacuuming performed under this contract shall be performed with High Efficiency Particulate Air (HEPA) filter equipped industrial vacuums conforming to ANSI Z9.2.

B. Provide tools and specialized equipment including scraping nozzles with integral vacuum hoods connected to a HEPA vacuum with flexible hose.

**2.09 POWER TOOLS**

A. Any power tools used to drill, cut into, or otherwise disturb asbestos material shall be manufacturer equipped with HEPA filtered local exhaust ventilation

**2.10 FIRE RETARDANT POLYETHYLENE SHEETING**

A. All polyethylene (plastic) sheeting used on the Project (including but not limited to sheeting used for critical and isolation barriers, fixed objects, walls, floors, ceilings, waste container) shall be at least 6 mil fire retardant sheeting.

B. Decontamination enclosure systems shall utilize at least 6 mil opaque fire retardant plastic sheeting. At least two (2) layers of 6 mil reinforced fire retardant plastic sheeting shall be used for the flooring.

**PART 3 EXECUTION**

**3.01 GENERAL REQUIREMENTS**

A. Should visible emissions or water leaks be observed outside the Work Area, immediately stop Work and institute emergency procedures per applicable regulations. Should there be elevated fiber levels outside the Work Area, immediately stop Work and institute emergency procedures per applicable regulations. All costs incurred in decontaminating such non-Work Areas and the contents thereof shall be borne by the Contractor, at no additional cost to the Owner.

B. Current medical surveillance approval, fit test reports, Contractor’s Worker Acknowledgments, and valid NYS DOL Asbestos Handler certification cards shall be on site prior to admittance of any Contractor’s employees to the asbestos Work Area.

C. Hard Copies of the following submittals, documentation, and postings shall be maintained on-site by the Contractor during abatement activities at a location approved by the Abatement Project Monitor:

* + 1. Valid Contractor license issued by New York State Department of Labor.
		2. Certification, Worker Training, Medical Surveillance, Acknowledgment(s):
1. NYS DOL Asbestos Handler certification cards for each person employed in the removal, handling, or disturbance of asbestos.
2. Evidence that Workers have received proper training required by the regulations and the medical examinations required by OSHA 29 CFR 1926.1101.
3. Documentation that Workers have been fit tested specifically for respirators used on the Project.
4. Contractor’s Workers Acknowledgments (Appendix C): Statements listing all the employees and signed by the supervisor stating that the employee has received training in the proper handling of asbestos-containing materials; understands the health implications and risks involved; and understands the use and limitations of the respiratory equipment to be used.
	* 1. Daily OSHA personal air monitoring results.
		2. NYS Department of Health ELAP certification for the laboratory that will be analyzing the OSHA personal air samples.
		3. Disposal Site/Landfill Permit from applicable regulatory agency.
		4. Transfer Facility Permit (if used) from applicable regulatory agency.
		5. Valid Waste Transporter NYS Part 364 permit for all transporters.
		6. Valid State Waste Transport vehicle permit for all transporters for each State the waste is being transported through to reach the Disposal Facility/Landfill.
		7. Valid US DOT vehicle permits for all Transporters.
		8. Current ELAP Certificate for laboratory performing analysis of OSHA personal air monitoring samples
		9. Special Waste Characterization Profile, if required by the disposal site/landfill.
		10. Regulatory Project notifications and amended notifications.
		11. Applicable regulations.
		12. Safety Data Sheets of supplies/chemicals used on the Project.
		13. Approved Abatement Work Plan.
		14. List of emergency telephone numbers.
		15. Magnahelic manometer semi-annual calibration certification.
		16. Waste Shipment Record Log.
		17. Daily Project Log.
		18. Work Area Entry/Exit Logs, for each personal decontamination unit.
		19. Contract documents (environmental survey report, specifications and drawings).

D. A floor plan showing the areas of the building under abatement and the location of all fire exits in said areas shall be prominently posted in the building lobby or comparable location, along with a notice stating the location within the building of the negative air cutoff switch required under applicable regulations.

E. Hard Copies of the following documentation shall be maintained on-site by the Abatement Project Monitor during abatement activities:

1. Valid Contractor license issued by New York State Department of Labor.
2. Air Sample Log.
3. Air sample laboratory results with chain of custody and sample location plans.
4. Project monitor daily log and a daily list of workers/supervisors onsite.
5. A copy of ASTM Standard E1368 “Standard Practice for Visual Inspection of Asbestos Abatement Projects.”
6. Calibration Chart for rotometer(s) used on-site.
7. Project documents (environmental survey report, specifications and drawings).

F. The Work Area must be vacated by building occupants prior to decontamination enclosure construction and Work Area preparation.

G. All demolition necessary to access asbestos-containing materials for removal must be conducted within negative pressure enclosures by licensed asbestos handlers. Demolition debris may be disposed of as construction and demolition debris provided the Abatement Project Monitor determines that it is not contaminated with asbestos and there has been no disturbance of ACM within the enclosure. If the demolition debris is determined to be contaminated or ACM has been disturbed, it must be disposed of as RACM asbestos waste.

**3.02 PERSONAL/EQUIPMENT DECONTAMINATION ROOM OR AREA**

A. Provide personal/equipment decontamination room or area contiguous to the Work Area or as per Variance. An existing room or area that is adjacent to the regulated abatement work area shall be used for the decontamination of personnel and equipment. The room or area shall be covered by an impermeable dropcloth on the floor or horizontal working surface. The room or area must be of sufficient size to accommodate cleaning of equipment and removing personal protective equipment. Work clothing must be cleaned with a HEPA vacuum before it is removed. All equipment and surfaces of asbestos waste bags/containers must be cleaned prior to removing them from the decontamination room or area. All personnel must enter and exit the regulated abatement work area through the decontamination room or area. If the decontamination room or area is accessible to the public it shall be fully framed, sheathed, and lockable to prevent unauthorized entry.

B. Wash water shall be drained, collected and filtered through a system with at least a 5.0 micron particle size collection capability containing a series of several filters with progressively smaller pore sizes to avoid rapid clogging of the system. The filtered waste water shall then be discharged in accordance with applicable codes and the contaminated filters disposed of as asbestos waste.

C. The decontamination room or area shall be cleaned and disinfected minimally at the end of each Work shift and as otherwise directed by the Asbestos Project Monitor.

**3.03 WASTE DECONTAMINATION ENCLOSURE – Not Used**

**3.04 WORK AREA ENTRY AND EXIT PROCEDURES**

A. Access to and from the asbestos Work Area is permitted only through the personal decontamination enclosure unless otherwise stipulated in a Variance.

B. Workers shall sign the Work Area entry/exit log (located in the decontamination clean room) upon every entry and exit.

C. The following procedures shall be followed when entering the Work Area:

1. Before entering the Work Area, Workers shall proceed to the clean room, remove all street clothes, and don protective clothing, equipment, and respirators.

2. Workers shall proceed from the clean room through the shower room and the equipment room and into the Work Area.

D. The following procedures shall be followed when exiting the Work Area:

1. Before leaving the Work Area, gross asbestos contamination will be removed by brushing, wet cleaning and/or HEPA vacuuming.

2. Under no circumstances shall Workers enter public non-Work Areas in disposable protective clothing.

E. If remote decontamination enclosures are permitted by applicable regulations or a Variance, workers shall wear two disposable suits for all phases of Work. Workers exiting the work area shall HEPA vacuum the outer suit, enter the airlock, remove the outer suit and then place it back into the Work Area. A clean second suit shall be donned before exiting the airlock and proceeding to the decontamination enclosure or another work area via the designated pathway.

**3.05 WORK AREA PREPARATION**

A. Asbestos danger signs shall be posted at all approaches to the asbestos Work Area. Post all emergency exits as emergency exits only on the Work Area side; post with asbestos caution signs on the non-Work Area side. Provide all non-Work Area stairs and corridors accessible to the asbestos Work Area with warning tapes at the base of stairs and beginning of corridors. Warning tapes shall be in addition to caution signs.

B. Shut down and lock out the building heating, ventilating, and air conditioning (HVAC) systems. Electrical systems and circuits shall also be shut down unless permitted to remain active per applicable regulations and appropriately protected and labeled. Existing lighting sources shall not be utilized. Provide temporary electric power and lighting as specified herein.

C. All non-ACM surfaces and objects within the Work Area shall be pre-cleaned using HEPA vacuuming and/or wet-wiping methods. Dry sweeping and any other methods that raise dust shall be prohibited. ACM shall not be disturbed during pre-cleaning.

D. Movable objects within the Work Area shall be HEPA vacuumed and/or wet-wiped and removed from the Work Area.

E. All non-movable equipment in the Work Area shall be completely covered with two (2) layers of fire retardant polyethylene sheeting, at least 6 mil in thickness, and secured in place with duct tape and/or spray adhesive. Active Fire Protection System components in the Work Area shall not be covered with fire retardant plastic sheeting or any other obstruction.

F. Provide enclosure of the asbestos Work Area necessary to isolate it from unsealed areas of the building in accordance with the approved asbestos Work plan and as specified herein.

G. Provide critical barriers by sealing off all openings including but not limited to windows, diffusers, grills, electrical outlets and boxes, doors, floor drains, and any other penetrations of the Work Area enclosure, using two (2) layers of at least 6 mil fire retardant polyethylene sheeting.

H. Provide isolation barriers by installing temporary framing and sheathing at openings larger than 32 square feet forming the limits of the asbestos Work Area. Sheathing thickness must be a minimum of 3/8 inch and all sheathing shall be caulked and the Work Area side sealed with two (2) layers of 6 mil fire retardant polyethylene sheeting.

I. Isolation barriers shall be installed at all elevator openings in the Work Area. Elevators running through the regulated abatement work area shall be shut down or isolated as per applicable regulations. Elevator controls shall be modified so that elevators bypass the Work Area.

J. Provide two (2) independent layers of 6 mil fire retardant polyethylene sheeting over all floor, wall, and ceiling surfaces. Each sheet/layer shall be individually applied and secured with tape, not folded over. Isolation barriers shall also be covered with two (2) independent layers (for a total of four (4) layers). Sheets shall be secured with duct tape. All joints in fire retardant polyethylene sheeting shall overlap 12" minimum. Carpeting left in place shall be covered with 3/8-inch plywood sheathing prior to plasticizing.

K. Unless otherwise specified for removal, the Contractor shall either protect all fiberglass insulation on piping, ductwork, tanks, etc. in the Work Area using two (2) layers of 6 mil fire retardant polyethylene or remove the insulation as asbestos-containing waste. If the Contractor elects to remove the fiberglass insulation, he/she shall be responsible for reinsulation, if piping is required to be insulated.

L. Frame out emergency exits. Provide double layer 6 mil fire retardant polyethylene sheeting and tape seal opening. Post as emergency exits only and mark with photoluminescent paint or signage. Provide a cutting tool on the Work Area side of exit.

M. Remove all items attached to or in contact with ACM only after the Work Area enclosure is in place. HEPA vacuum and wet wipe with amended water all removed items prior to their removal from the Work Area and before the start of asbestos removal operations.

N. Suspended ceiling tiles shall only be removed after Work Area preparation is complete. If possible, non-contaminated ceiling tiles shall be HEPA vacuumed and removed from the Work Area before asbestos removals begin. Contaminated ceiling tiles and porous ceiling tiles in work areas with ACM debris located above the ceiling shall be disposed of as RACM asbestos waste.

**3.06 NEGATIVE AIR PRESSURE FILTRATION SYSTEM – see specific minor size abatement sections**

**3.07 REMOVAL OF ASBESTOS-CONTAINING MATERIALS**

A. If new (previously unidentified) suspect ACM is discovered during the course of a Project, the Owner or Owner’s Representative shall be notified. The Contractor is prohibited from collecting bulk samples. The Designer of Record shall have bulk samples collected by a dually certified NYS DOL asbestos inspector to determine asbestos content.

B. Definition of Substrate – The underlying support, foundation or base (e.g. wood lathe, wire screen, concrete, etc.) to which a single layer or multilayered system (e.g. plaster, roofing, etc.) is applied.

C. Asbestos-containing materials shall be removed in accordance with the Contract Documents and the approved Asbestos Work Plan. Only one (1) type of ACM shall be abated at a time within a Work Area. Where there are multiple types of ACM requiring abatement, applicable regulations procedures for sequential abatement shall be followed.

D. Sufficiently wet asbestos materials with a low pressure, airless fine spray of surfactant to ensure full penetration to substrate prior to material removal. Re-wet material that does not display evidence of saturation.

E. One (1) Worker shall continuously apply amended water while ACM is being removed. All layers of ACM shall be removed to the underlying substrate (e.g. concrete, roof deck, piping, etc.), unless stated otherwise in the contract documents.

F. Perform cutting, drilling, abrading, or any penetration or disturbance of asbestos-containing material in a manner to minimize the dispersal of asbestos fibers into the air and may require a NYS DOL site specific variance. Use equipment and methods specifically designed to limit generation of airborne asbestos particles. All power operated tools used shall be provided with manufacturer equipped HEPA filtered local exhaust ventilation.

G. Upon removal of ACM from the substrate, the newly exposed surfaces shall be HEPA vacuumed and/or wet cleaned. Surfaces must be thoroughly cleaned using necessary methods and any required solvents to completely remove any adhesive, mastic, etc.

H. All removed material shall be placed into 6 mil plastic disposal bags or other suitable container upon detachment from the substrate. ACM is not permitted to lie on the floor for any period of time. Cleanup of accumulations of loose debris or waste shall be performed whenever there is enough accumulation to fill a single bag or container and minimally at the end of each workshift.

I. Large components shall be wrapped in two (2) layers of 6 mil polyethylene sheeting. Sharp components likely to tear disposal bags shall be placed in fiber drums or boxes and then wrapped with sheeting.

J. Power or pressure washers are not permitted for asbestos removal. Power or pressure washers are allowed during clean-up procedures only if stated in an approved Site-Specific Variance and allowed by the Owner.

K. All open ends of pipe and duct insulation not scheduled for removal shall be encapsulated using lag cloth.

L. All construction and demolition debris determined by the Environmental Consultant to be contaminated with asbestos shall be handled and disposed of as RACM asbestos waste.

M. The use of metal shovels, metal dust pans, etc. are not permitted inside the work area.

**3.08 EQUIPMENT AND WASTE CONTAINER DECONTAMINATION AND REMOVAL PROCEDURES**

A. External surfaces of contaminated containers and equipment shall be cleaned by wet cleaning and/or HEPA vacuuming in the Work Area before moving such items into the waste decontamination room or area by persons assigned to this duty. The persons in the Work Area shall not enter the airlock. No gross removal operations are permitted when waste transfer is in progress.

B. The containers and equipment shall be removed from the airlock by persons stationed in the washroom during waste removal operations. The external surfaces of containers and equipment shall be cleaned a second time by wet cleaning.

C. The cleaned containers of asbestos material and equipment are to be dried of any excessive pooled or beaded liquid, placed in uncontaminated 6 mil plastic bags or sheeting, as the item's physical characteristics demand, and sealed airtight.

D. The clean recontainerized items shall be moved into the airlock that leads to the holding area.

E. Containers and equipment shall be moved from the airlock and into the holding area by persons dressed in clean personal protective equipment, who have entered from the holding area.

F. The cleaned containers of asbestos material and equipment shall be placed in water tight carts with doors or tops that shall be closed and secured. These carts shall be held in the holding area until transfer to the waste trailer/container. The carts shall be wet cleaned and/or HEPA vacuumed at least once each day.

**3.09 WORK AREA DECONTAMINATION, CLEANING, AND CLEARANCE PROCEDURES -see specific minor size abatement sections**

**3.10 MINOR SIZE TENT ENCLOSURES**

A. Tent enclosures may only be used where specifically permitted by Code Rule 56 or a Site Specific Variance issued by the NYS Department of Labor.

B. The Contractorshall restrict access to the immediate area where tent removal procedures are taking place using barrier tape and/or construction barriers. Caution signs shall be posted.

C. Personal/equipment decontamination rooms or areas shall be constructed. They shall be constructed contiguous to the tent enclosure work areas.

D. The Work Area shall be precleaned. All objects and equipment that will remain in the restricted area during abatement shall be sealed with two layers of six mil polyethylene and tape.

E. The tent shall be a single use barrier constructed with a rigid frame and at least two layers of six mil fire-retardant polyethylene unless one layer of six mil fire-retardant polyethylene is otherwise permitted by Code Rule 56. Tents with twenty (20) square feet or less of floor space or no gross removal of friable ACM shall be constructed of one (1) layer of six mil fire-retardant polyethylene and shall include walls, ceilings and a floor (except portions of walls, floors and ceilings that are the removal surface) with double folded seams. All seams shall be sealed airtight using duct tape and/or spray adhesive.

F. Negative air shall be maintained at four (4) air changes per hour. In a Minor size abatement tent enclosure work area a HEPA vacuum may be used to maintain the required air changes.

G. OSHA compliance air monitoring is required per section 1.09.

H. ACM removal shall follow procedures defined in section 3.07.

I. Waste material shall be placed in properly labeled 6 mil plastic bags or other appropriate containers. The outside of the bags or containers shall be wet wiped and/or HEPA vacuumed and shall then be placed in a second bag/container before being transferred to the waste storage container. All transportation of waste bags and containers outside the Work Area shall be in watertight carts. The carts shall be wet cleaned and/or HEPA vacuumed at least once each day.

J. Following completion of gross abatement and after all accumulations of asbestos waste materials have been containerized, the following decontamination procedures shall be followed:

1. All bagged asbestos waste and unnecessary equipment shall be decontaminated and removed from the Work Area.

2. All surfaces in the Work Area shall be wet cleaned. A wet‑purpose shop vacuum may be used to pick up excess liquid, and shall be decontaminated prior to removal from the Work Area.

3. The Contractor shall then apply a thin coat of encapsulant to all non-removal surfaces covered with plastic in the Work Area. In no event shall encapsulant be applied to any surface that was the subject of removal prior to obtaining satisfactory air monitoring results. Encapsulants shall be pigmented or tinted to provide an indication for completeness of coverage. The APM shall determine adequacy of coverage.

4. After the waiting/settling/drying time requirements have elapsed, the Asbestos Project Monitor shall conduct a visual inspection of the Work Area for cleanliness and completion of abatement. The APM shall document the results of the visual inspection in the Project Monitor Log and Contractor’s Daily Project Log.

5. After satisfactory APM visual inspection, aggressive final clearance air sampling shall then be conducted by the Environmental Consultant.

6. Upon receipt of satisfactory final clearance air sampling results, the tent shall be collapsed into itself, placed in suitable disposal bags, and transferred through the washroom to the waste storage container. Isolation and critical barriers shall then be removed and bagged as RACM asbestos waste followed by satisfactory visual inspections by the Project Supervisor and the APM for cleanliness.

**3.11 MINOR SIZE GLOVEBAG REMOVAL**

A. Glovebag removals may only be used as specifically permitted by Code Rule 56 or a Site Specific Variance issued by the NYS Department of Labor. Glovebags may only be used on pipe or duct insulation.

B. In addition to conformance with applicable regulations and variances, glovebag removals are only permitted to be conducted within tent enclosures complying with these specifications.

C. The Contractor shall restrict access to the immediate area where tent/glovebag removal procedures are taking place using barrier tape and/or construction barriers. Caution signs shall be posted.

D. Personal/equipment decontamination rooms or areas shall be constructed.

E. Glovebag removals shall utilize commercially available glovebags of at least six mil thickness. Use shall be in accordance with the manufacturer's instructions and the following minimum requirements:

1. The sides of the glovebag shall be cut to fit the size pipe being removed. Tools shall be inserted into the attached tool pocket.

2. The glovebag shall be placed around the pipe and the open edges shall be folded and sealed with staples and duct tape. The glovebag shall also be sealed at the pipe to form a tight seal.

3. Openings shall be made in the glovebag for the wetting tube and HEPA vacuum hose. The opening shall be sealed to form a tight seal.

4. All glovebags shall be smoke tested by the Asbestos Project Monitor under negative pressure using the HEPA vacuum before removal operations commence. Glovebags that do not pass the smoke test shall be resealed and then retested.

5. After first wetting the materials to be removed, removal may commence. ACM shall be continuously wetted. After removal of the ACM, the piping shall be scrubbed or brushed so that no visible ACM remains. Open ends of pipe insulation shall be encapsulated.

6. After the piping is cleaned, the inside of the glovebag shall be washed down and the wetting tube removed. Using the HEPA vacuum, the glovebag shall be collapsed and then twisted and sealed with tape with the ACM at the bottom of the bag.

7. A disposal bag shall be placed around the glovebag that is then detached from the pipe. The disposal bag is then sealed and transferred through the decontamination area to the waste storage container.

F. After glovebag removals are complete, tent decontamination procedures shall be followed.

**3.12 MINOR REMOVALS OF EXTERIOR NON-FRIABLE ACM**

A. Except as modified by this section, removal of exterior non-friable ACM shall conform to all provisions of this specification.

B. Unless Variances have been otherwise obtained, removals shall be conducted in accordance with the provisions of applicable regulations.

C. The Work Area shall be the area from which ACM materials are being removed and shall extend 25 feet from the perimeter of the removal area.

D. Non-certified Workers are not allowed in the Work Area until the Work Area is cleared by the Abatement Project Monitor.

E. Personal decontamination rooms or areas shall be constructed at a location in accordance with the approved Work Plan. Unless located outside the Work Area, decontamination rooms or areas are not permitted to be constructed on the roof. It shall be cordoned off at a distance of 25 feet to separate it from public areas.

F. All openings (including but not limited to operable windows, doors, hatches, vents, ducts, and grilles) one (1) story above, one (1) story below, and within 25 feet of the work area shall be sealed with two (2) layers of 6 mil fire retardant polyethylene.

1. The removal of the ACM may require the use of scrapers, solvents, mastic removal chemicals, or other methods/procedures to ensure complete removal. Use of mechanical equipment without a tent containment, including, but not limited to chipping gun/hammer is prohibited without an approved NYS DOL site specific variance. Refer to Section 2.10 for other Power tool requirements.
2. The Contractor is required to provide temporary protection of the building (i.e. roof, window openings, construction joints, etc.) at the end of each Work shift so as to maintain the building in a watertight condition.
3. All asbestos waste generated shall be containerized in the work area, prior to transfer to waste storage trailer/container/dumpster. No waste shall remain in the work area at the end of each work shift. All waste shall be disposed of as RACM asbestos waste including projects where waste transfer procedures are modified by Site Specific Variance.
4. Waste Containers used for waste storage shall be lined with two (2) layers of six mil polyethylene and shall have a hard top (fully enclosed). Canvas cover or open topped dumpsters shall not be used to store asbestos waste unless permitted by a Site-Specific Variance.
5. Personal protective equipment, including respirators, shall be utilized and worn during all removal operations until the Work Area is cleared by the Abatement Project Monitor.
6. The Owner may, at his discretion, choose to conduct air sampling. If air samples collected during abatement indicate any airborne asbestos fiber concentration(s) at or above 0.01 f/cc, or the established background level whichever is greater, work shall be stopped immediately and Work methods shall be altered to reduce the airborne asbestos fiber concentration(s).
7. Following completion of gross abatement and after all accumulations of asbestos waste materials have been containerized, the following decontamination procedures shall be followed:

1. All surfaces in the Work Area shall be HEPA vacuumed and then wet cleaned.

2. The Abatement Project Monitor shall conduct a visual inspection of the Work Area for cleanliness and completeness of abatement, prior to conducting final air clearance.

3. Upon obtaining satisfactory clearance air sample results, the isolation and critical barriers shall be removed and bagged as RACM asbestos waste. Following this, the decontamination enclosures shall be removed.

**3.13 NON-FRIABLE FLOORING AND/OR MASTIC REMOVALS – see minor size tent enclosures**

**3.14 RESTORATION OF UTILITIES, FIRESTOPPING, AND FINISHES**

A. After final clearance, remove locks and restore electrical and HVAC systems. All temporary power shall be disconnected, power lockouts removed and power restored. All temporary plumbing shall be removed.

B. Finishes damaged by asbestos abatement activities including, but not limited to, plaster/paint damage due to duct tape and spray adhesives, and floor tile lifted due to wet or humid conditions, shall be restored prior to final payment.

1. Finishes unable to be restored shall be replaced under this Contract.

2. All foam and expandable foam products and materials used to seal Work Area openings shall be completely removed upon completion of abatement activities.

C. All penetrations (including, but not limited to, pipes, ducts, etc.) through fire rated construction shall be firestopped using materials and systems tested in accordance with ASTM E814 on Projects where reinsulation is part of the required work.

**PART 4 DISPOSAL OF ASBESTOS WASTE**

**4.01 TRANSPORTATION AND DISPOSAL SITE**

A. The Contractor's Hauler and Disposal Site shall be approved by the Owner. All waste generated during the asbestos project shall be disposed of as RACM asbestos waste.

B. The Contractor shall give 24 hour notification prior to removing any waste from the site. Waste shall be removed from the site only during normal working hours unless otherwise specified. No waste may be taken from the site unless the Contractor and APM are present and the APM authorizes the release of the waste as described herein.

C. All waste generated as part of the asbestos project shall be removed from the site within ten (10) calendar days after successful completion of all asbestos abatement work.

D. Upon arrival at the Project Site, the Hauler must possess and present to the APM a valid US DOT Hazardous Waste Transporter Permit, New York State Department of Environmental Conservation Part 364 Asbestos Hauler's Permit required permit/license. The APM may verify the authenticity of the hauler's permit with the proper authority.

E. The Hauler, with the Contractor and the APM, shall inspect all material in the transport container prior to taking possession and signing the Asbestos Waste Shipment Records.

F. Unless specifically approved by the Owner, the Contractor shall not permit any off-site transfers of the waste or allow the waste to be transported or combined with any other off-site asbestos material. The Hauler must travel directly to the disposal site as identified on the notifications with no unauthorized stops.

G. The APM shall verify the landfill to be used for waste disposal with the waste transporter (driver) and Contractor prior to the waste trailer/dumpster leaving the site. The APM shall confirm the waste transporter firm and landfill are listed on the regulatory notifications for the project and the waste transport vehicle license number is listed on the current NYS DEC Waste Transporter permit.

**4.02 WASTE STORAGE CONTAINERS**

A. All waste containers shall be fully enclosed with a hard top and be lockable (i.e. enclosed dumpster, trailer, etc.). No open containers will be permitted on-site (i.e. open dumpster with canvas cover, etc.) unless specifically permitted by a Variance. When asbestos contaminated waste must be kept on the work site overnight or longer, it shall be double bagged and stored in accordance with Federal, State, and local laws, including New York City Department of Sanitation Title 16, Chapter 8 of the Rules of New York City.

B. The APM shall verify that the waste storage container and/or truck tags (license plates) match the information listed on the New York State Department of Environmental Conservation Part 364 permit. Any container not listed on the permit shall be removed from the site immediately.

C. The container shall be plasticized and sealed with two (2) layers of 6 mil polyethylene. Once on site, it shall be kept locked at all times, except during load out. The waste container shall not be used for storage of equipment or contractor supplies.

D. While on-site, the container shall be labeled with EPA Danger signage:

DANGER

CONTAINS ASBESTOS FIBERS

AVOID CREATING DUST

CANCER AND LUNG DISEASE HAZARD

E. The New York State Department of Environmental Conservation Asbestos Hauler's Permit number shall be stenciled on both sides and back of the container.

F. The container is not permitted to be loaded unless it is properly plasticized, has the appropriate danger signage affixed, and has the permit number appropriately stenciled on the container.

G. Waste generated off-site is not permitted to be brought onto the Project site and loaded into the waste container.

H. All asbestos waste removed from the Project site shall be transported directly to the disposal site without any additional waste being added to the container during transport.

I. The Owner may initiate random checks at the Disposal Site to ensure that the procedures outlined herein are complied with.

**4.03 OWNER’S AND HAULER'S ASBESTOS WASTE SHIPMENT RECORDS**

1. An Asbestos Waste Shipment Record shall be provided by the Owner (Appendix A) and shall be utilized in conjunction with the Asbestos Hauler's Waste Shipment Record.
2. The Owner’s Waste Shipment Record and the Hauler's Waste Shipment Record shall be completed by the Contractor and verified by the APM that all the information and amounts are accurate and the proper signatures are in place.
3. The Waste Shipment Records shall have the appropriate signatures of the APM, the Contractor, and the Hauler representatives prior to any waste being removed from the site.
4. Copies of the completed Owner’s Waste Shipment Record and the Hauler's Waste Shipment Record shall be retained by the APM and the Contractor and shall remain on site for inspection.
5. The Contractor shall utilize the Waste Shipment Record Log provided by the Owner. This log shall be maintained by the Project Supervisor and shall be kept on site at all times. (See Appendix B.)
6. Upon arrival at the Disposal Site, the Owner’s Waste Shipment Record and the Hauler's Waste Shipment Record shall be signed by the Disposal Facility operator to certify receipt of ACM covered by the Waste Shipment Record.
7. The Disposal Facility operator shall return the original Owner’s Waste Shipment Record and the Hauler's Waste Shipment Record to the Contractor.
8. The Contractor shall forward copies of the Owner’s Waste Shipment Record and the Hauler's Waste Shipment Record to the APM within 14 days of the waste container being removed from the site. Failure to do so may result in payment being withheld from the Contractor.
9. Originals of all Waste Shipment Records and Waste Shipment Record Logs shall be submitted by the Contractor to the Owner with the final close-out documentation.

END OF SECTION 02 82 00

APPENDIX A

SAMPLE ASBESTOS WASTE SHIPMENT RECORD



APPENDIX B

WASTE SHIPMENT RECORD LOG

|  |  |
| --- | --- |
| **DORMITORY AUTHORITY STATE OF NEW YORK** |  |
| **WASTE SHIPMENT RECORD LOG** |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Facility Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |  |  |  | **Building Name/Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Project Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |  |  | **DASNY Project Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Asbestos Contractor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |  |  | **Asbestos Project Monitor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Load No.** |  | **Hauler Name** |  | **NYSDEC #** |  | **License Plate No.** |  | **Size of Container** |  | **Disposal Facility Name** |  | **Date Depart from Site** |  | **Date Received at Disposal Site** |  | **Date Shipment Record Returned** |  |
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
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| **Comments:**  |  |
| **Page \_\_\_\_\_\_ of \_\_\_\_\_\_** |  |

APPENDIX C

CONTRACTOR’S ACKNOWLEGEMENT STATEMENT

**CONTRACTOR’S ACKNOWLEDGEMENT STATEMENT**

**Re: Abatement of Asbestos-containing Materials**

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 (DASNY Project Title)

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 (Project Location-Campus, Building ID, Floor)

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 (DASNY Project Number) Project Date(s) (Start/End)

**In consideration of the following individuals’ employment in connection with the abatement, handling, and disposal of RACM asbestos-containing materials at the referenced Project, I hereby certify that the employees: a) have received the medical examinations required by OSHA 29 CFR 1926.1101; b) have been fit tested specifically for respirators used on the Project; and c) have received training as required by OSHA 29 CFR 1926.1101 in the proper handling of asbestos-containing materials, including the health implications and risks involved, as well as the use and limitations of the respiratory equipment to be used.**

|  |  |  |
| --- | --- | --- |
| Employee Name(Supervisor and Handlers)(Print Name) | Asbestos NYS DOL Certificate Number | Asbestos NYC DEP Certificate Number(If Applicable) |
| **1.** |  |  |
|  |  |  |
| **3.** |  |  |
| **4.** |  |  |
| **5.** |  |  |
| **6.** |  |  |
| **7.** |  |  |
| **8.** |  |  |
| **9.** |  |  |
| **10.** |  |  |
| **11.** |  |  |
| **12.** |  |  |
| **13.** |  |  |
| **14.** |  |  |
| **15.** |  |  |

 Project Supervisor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Print Name Signature

 (Notary block here) Notary Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

APPENDIX D

NYS DOL DRAFT VARIANCES

(Project Designer: remove this cover sheet if not applicable to project

or delete this text (in red) from coversheet if this cover sheet is applicable to project)