

SECTION 028213

ABATEMENT OF ASBESTOS-CONTAINING MATERIALS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Remove all asbestos-containing materials (ACM) that will be impacted by the proposed renovation and at all areas that will be affected or impacted by the work in this Contract. All asbestos material is to be disposed of as ACM waste. The Asbestos Contractor shall provide all plant, labor, equipment and materials complete for performance of the Work in accordance with the Contract Documents. Any materials not tested must be assumed to be asbestos-containing materials.

1.02 RELATED REQUIREMENTS

- A. Section 011000 "Summary of Work"
- B. Section 024119 "Selective Demolition and Removals"
- C. Section 017329 "Cutting and Patching" for cutting and patching procedures
- D. Section 037330 "Concrete Repair"
- E. Section 042000 "Unit Masonry"
- F. Division 7 – roofing and flashing-related work

1.03 GENERAL REQUIREMENTS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner.
- C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.04 SPECIAL 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 Representative's / Authority's discretion, the Asbestos Handler Supervisor of this Project will be required to 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. 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. 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 the Inspector and Project Monitor.
7. Non-certified persons cannot 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 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 40° F.

B. SPECIAL CONDITIONS

1. Asbestos abatement activities shall be between the hours of (8:00 AM and 4:00 PM), unless otherwise directed by the Authority's Representative in writing. Asbestos abatement work at parapet walls and replacement of five courses of brickwork above top floor lintels shall be stopped by 2:00 PM, unless directed in writing, whereby the final 2 hours of the day shall be for roofing Contractor to make temporary roof repairs to make the roof watertight and cleanup activities. No abatement work shall take place during inclement weather.
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 Authority's Representative's Environmental Consultant.

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.

D. MISCELLANEOUS

1. 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.
2. Contactor and asbestos Sub-Contractor shall attend an on site meeting (Asbestos walk through meeting) with Authority's Representative's Consultant and NYCHA prior to start of work to examine site conditions, and to plan sequence of operation.

E. REQUIREMENTS

1. Coordinate with the Environmental Inspection Unit Inspector all phases and hours for the work. Perform work only during regular working hours unless authorized otherwise.
2. Perform work in a manner that will be least disruptive to the normal use of the non-work areas in the building.
3. Contractor shall comply with all rules and regulations governing this Contract and with all governmental agencies with jurisdiction in this work; including but not limited to D.E.P. and O.S.H.A. All work shall be done in accordance with the applicable provision of DEP, N.Y.C. Rules and Regulations, Title 15, Chapter 1, 5-31-99 and N.Y.S. Labor Law Article 30 (Part 56), the latest amendment to these laws and as modified herein by these specifications.
4. Work of this Division shall be performed by persons knowledgeable, qualified, trained and certified in this work.
5. Take all necessary precautions to protect the property of the Authority and its residents during the work of this Contract. Damaged property shall be repaired and restored to its original condition or replaced at Contractor's expense if damaged beyond repair.
6. Workmanship shall be of good quality and subject to the approval of the Authority.
7. Do not transfer asbestos containing waste (ACW) from one vehicle to another, except at a transfer station certified by the N.Y. State D.E.C.
8. Provide all equipment as required for proper lowering of all contaminated materials (asbestos waste) from the roofs to containers in accordance with all applicable laws and regulations.
9. Contractor may have to install remote decontamination facilities. This added cost shall be included in the Contractor's bid. In addition, full body "TYVEK" disposable coveralls or approved equal, cotton gloves and towels shall be provided by the Contractor on as needed basis for the use of Authority personnel inspecting the work area. This added requirement shall be included and made part of the Contractor's bid.
10. Work clothes shall consist of full body coveralls, disposable head covers, boots, and respiratory protection equipment as required by the O.S.H.A. regulations. Eye protection and hard hats should be available as appropriate. Respirators shall comply with D.E.P. regulations.

1.05 SUBMITTALS

- C. Qualification Data: For refrigerant recovery technician.
- D. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property per section 013533, sidewalk shed per 015316, dust control per 015600, and temporary fence per 015626. Indicate proposed locations and construction of barriers.
- E. Schedule of Selective Demolition Activities: Indicate the following:
 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Authority's on-site operations are uninterrupted.
 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 3. Coordination for shutoff, capping, and continuation of utility services.
 4. Use of elevator and stairs.
 5. Coordination of Owner's continuing occupancy of portions of existing building and of Authority's partial occupancy of completed Work.
- F. Inventory: Submit a list of items to be removed and salvaged and deliver to Authority prior to start of demolition.
- G. Submit a written Conditions Report describing the operation and condition of items to remain that may be effected by the work, or items to be removed and reinstalled. Include the following items in tabular format in the report:
 1. Roof drains
 2. Light fixtures
 3. Electrical devices

4. Low voltage devices
5. Air conditioners
6. Any other items that will be effected by the work

Provide the report to development administration for verification and signature. Then submit to Authority and AOR. The approved Conditions Report will act as record of those appurtenant items that were damaged or defective prior to commencement of the work, which the Contractor is not responsible for repairing or replacing. All items that are not indicated as damaged or defective in the Report, or were not surveyed and listed in the Report, and which can reasonably be determined to have been damaged by construction activities or byproducts, are the responsibility of the Contractor to repair or replace to the satisfaction of the Authority.

- H. Predemolition Photographs or Video: Submit before Work begins. Comply with section 013233.
- I. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- J. Warranties: Documentation indicated that existing warranties are still in effect after completion of selective demolition.

1.05 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.
- B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.06 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

1.07 FIELD CONDITIONS

- A. The Authority will occupy the buildings continuously throughout the project. Conduct selective demolition so Authority's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Authority as far as practical.
 1. Before selective demolition, Owner will remove the following items:
 - a. < not used >
- C. Notify AOR of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: Hazardous materials are present in buildings and structures to be selectively demolished.
 1. Hazardous material remediation is specified elsewhere in the Contract Documents.

2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
- E. Sale of removed items or materials is not permitted without written permission of the Authority.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
1. Maintain fire-protection facilities in service during selective demolition operations.

1.08 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties. Notify warrantor before proceeding. Existing warranties include the following:
1. Roof Warranty: polyurethane spray foam & membrane, completed 2012
- B. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that utilities have been disconnected and capped as necessary before starting selective demolition operations.
- B. Review record documents of existing construction provided by Authority. Authority does not guarantee that existing conditions are same as those indicated in record documents.
- C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Engage a NY State-licensed professional engineer to perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned

collapse of any portion of structure or adjacent structures during selective building demolition operations, in compliance with NYC Code requirement for Structural Stability per .

1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities. In addition, the Structural Stability Engineer shall visit the site when directed by Authority to ensure safety.
- F. Survey of Existing Conditions: Record existing conditions by use of measured drawings per survey requirements of Contract, preconstruction photographs, and/or preconstruction videotapes.
1. Comply with requirements of section 013233 "Photographic Documentation."
 2. Inventory and record the condition of items to be removed and salvaged. Provide photographs of conditions that might be misconstrued as damage caused by salvage operations.
 3. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.
- G. Prior to start of demolition and removal of any item, Contractor shall first perform asbestos abatement and follow lead-safe work practices of affected items as indicated in sections 028213 and 028319 respectively.

3.02 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems to remain and protect them against damage.
1. Comply with requirements for existing services/systems interruptions per section 011000 "Summary of Work."
- B. Existing Services/Systems to be Temporarily Shut Off or Relocated: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
1. Authority will arrange to shut off indicated services/systems when requested by Contractor.
 2. Arrange to shut off indicated utilities with utility companies.
 3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 4. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components as necessary to complete the work of this Contract.
 - a. Piping to Be Removed: Remove portion of piping to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
 - f. Ducts to Be Removed: Remove portion of ducts to be removed and plug remaining ducts with same or compatible ductwork material.

- g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material.
- C. Refrigerant: Remove refrigerant from mechanical equipment to be selectively demolished according to 40 CFR 82 and regulations of authorities having jurisdiction.

3.03 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Comply with requirements for access and protection specified in section 015100 "Temporary Facilities and Controls."
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied areas of site and buildings.
 - 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - 3. Protect all surfaces that are to remain that are exposed during selective demolition operations.
 - 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
 - 5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in section 015100 "Temporary Facilities and Controls."
- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 - 1. Strengthen or add new supports when required during progress of selective demolition.

3.04 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.

5. Maintain adequate ventilation when using cutting torches.
6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
9. Dispose of demolished items and materials promptly. Comply with requirements in section 017419 "Construction Waste Management.

B. Removed and Salvaged Items:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Authority.
4. Transport items to Authority's storage area designated by Authority.
5. Protect items from damage during transport and storage.

C. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

- D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by AOR, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

3.05 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.
- B. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, then remove concrete between saw cuts.
- C. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts. See section 042000 for allowed methods of cutting mortar joints for repointing.
- D. Roofing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight. See section 075200 Modified Bituminous Membrane Roofing and section 075600 Fluid-Applied Resin Membrane Roofing for new roofing requirements.
1. Remove existing roof membrane, flashings and roof accessories.
 2. Remove existing roofing system down to substrate.

3.06 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Authority's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
 - 4. Comply with requirements specified in section 017419 "Construction Waste Management "
- B. Burning: Do not burn demolished materials.

3.07 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION