

SPECIFICATION
FOR
ASBESTOS AND LEAD PAINT REMOVAL
VARIOUS BUILDINGS
MARSHALL COURTS
NEWPORT NEWS, VIRGINIA

Prepared for:

Newport News Housing & Redevelopment
P.O. Box 797
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Prepared by:

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1.0 GENERAL

The Contractor shall furnish all labor, materials, training, services, fees, insurance and equipment necessary to carry out the asbestos removal, decontamination operations, and disposal of asbestos-containing materials and lead painted component removal and disposal from various buildings, Marshall Courts, Newport News, Virginia in accordance with EPA, OSHA, DOT and NIOSH regulations and all other applicable Federal, State, and local government laws, ordinances, rules, regulations and these specifications.

2.0 DESCRIPTION OF WORK

2.1 Newport News Housing & Redevelopment Authority requests bids for the removal of asbestos-containing materials at the following locations: **Please note: This scope of work only covers buildings inspected by Marine Chemist for phase 2. Refer to Addendum #1 for additional scope of work at residential units and refer to previous asbestos and lead based paint inspection reports and LBP specifications prepared by others for additional scope of work. All abatement procedures shall comply with this specification unless otherwise noted.**

- 2.1.1. Approximately 1,560 square feet of asbestos roof shingles/felt on Building 801 A & B, 33rd Street.
- 2.1.2. Approximately 2,620 square feet of asbestos roof shingles/felt on Building 3300 A & B, Marshall Avenue.
- 2.1.3. Approximately 2,620 square feet of asbestos roof shingles/felt on Building 3302 A & B, Marshall Avenue.
- 2.1.4. Approximately 2,620 square feet of asbestos roof shingles/felt on Building 3400 A & B, Marshall Avenue.
- 2.1.5. Approximately 2,620 square feet of asbestos roof shingles/felt on Building 3402 A & B, Marshall Avenue.
- 2.1.6. The following asbestos containing materials at 3301 Marshall Avenue:
 - 2.1.6.1. Approximately 1,530 square feet of front lower roof membrane.
 - 2.1.6.2. Approximately 1,148 square feet of lower parapet wall sealer.
 - 2.1.6.3. Approximately 528 square feet of upper roof parapet wall sealer.
 - 2.1.6.4. Approximately 16 square feet of upper roof curb flashing material.

- 2.1.6.5. Approximately 528 square feet of upper roof parapet wall flashing material.
 - 2.1.6.6. Approximately 1 square foot of upper roof vent pipe material.
 - 2.1.6.7. Approximately 1,500 square feet of back lower roof membrane.
 - 2.1.6.8. Approximately 1,148 square feet of back lower parapet wall flashing material.
 - 2.1.6.9. Approximately 1 square foot of back lower roof drain material.
 - 2.1.6.10. Approximately 3 square feet of back lower roof vent pipe material.
 - 2.1.6.11. Approximately 194 linear feet of back lower roof caulking material.
 - 2.1.6.12. Approximately 1,400 square feet of floor tile/black mastic(2 layers) in the auditorium.
 - 2.1.6.13. Approximately 430 linear feet (36 square feet) of exterior window caulking.
 - 2.1.6.14. A unit price per linear foot for asbestos pipe removal located above ceilings or behind walls must be submitted with the bid.
- 2.1.7. The following asbestos containing materials at 741 – 34th Street:
- 2.1.7.1. Approximately 50 linear feet of upper roof curb flashing material.
 - 2.1.7.2. Approximately 1,149 square feet of lower parapet wall flashing material.
 - 2.1.7.3. Approximately 67 linear feet of lower roof curb flashing material.
 - 2.1.7.4. Approximately 2 each of lower roof drain material.
 - 2.1.7.5. Approximately 1,057 square feet of floor tile mastic (two layers in some locations).
 - 2.1.7.6. Approximately 2,129 square feet of carpet glue under pink/blue carpet.
 - 2.1.7.7. Approximately 72 square feet of carpet glue under gray carpet.
 - 2.1.7.8. Approximately 120 square feet of a double layer of carpet glue under pink/blue and gray carpet.
 - 2.1.7.9. A unit price per linear foot for asbestos pipe removal (aerocel or solid white), some located above ceilings or behind walls must be submitted with the bid.
- 2.2 The following lead painted components must be removed:
- 2.2.1. Exterior door casing and door header at 741 34th Street.
 - 2.2.2. Interior door casings of the mechanical room and kitchen at 3301 Marshall Avenue.
- 2.3 Price must also be provided for the disposal of lead hazardous/non-hazardous waste.
- 2.4 Quantities are approximate and must be field verified by each prospective bidder.
- 2.5 Please note that there are detectable amounts of lead in the paint in 741 34th Street and 3301 Marshall Avenue. OSHA’s Lead in Construction Standards, 29 CFR 1926.62, may apply.
- 2.6 Bid award is contingent upon the availability of funds.

3.0 DEFINITIONS

ABATEMENT: Procedures to control fiber release from asbestos containing materials, includes securing the work area, removing the materials, cleaning the area and disposal of material.

ACM: Asbestos-containing material(s).

ACTION LEVEL: Employee exposure without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter calculated as an 8 hour time weighted average (TWA).

AMBIENT SAMPLING: Air sampling of an area performed under normal or "as found" activity conditions.

AMENDED WATER: Water containing a wetting agent or surfactant.

ASBESTOS: The term asbestos includes Chrysotile, Amosite, Crocidolite, Tremolite, Anthrophyllite, and Actinolite.

ASBESTOS AND/OR LEAD REGULATED AREA: An area where asbestos or lead removal operations are performed which is isolated by physical boundaries to prevent the spread of lead or asbestos dust, fibers or debris. Within this area, the airborne concentration of asbestos and/or lead exceeds or can be reasonably expected to exceed the permissible exposure limit.

AREA MONITORING: Sampling of asbestos fiber or lead concentrations within the asbestos or lead control area which is representative of the airborne concentrations of asbestos fibers or lead which may reach the breathing zone.

CLEAN ROOM: An uncontaminated room having facilities for the storage of employees' street clothing, uncontaminated materials and equipment.

CONTRACTOR: The person, firm or corporation selected to perform the work described within this Contract, of which this document is an integral part. The Contractor must have been issued a license by the Department of Professional and Occupational Regulation permitting the firm to enter into contracts to perform asbestos and lead abatement activities.

DECONTAMINATION AREA: An enclosed area adjacent or convenient to the regulated area and consisting of an equipment room, shower area and clean room which is used for the decontamination of workers, materials and equipment contaminated with asbestos and/or lead.

DOT: Department of Transportation

EQUIPMENT ROOM (CHANGE ROOM): A contaminated room located within the decontamination area that is supplied with impermeable bags or containers for the disposal of contaminated protective clothing and equipment.

EXCURSION LIMIT: The Contractor shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fibers per cubic centimeter of air (f/cc) as averaged over a sampling period of thirty (30) minutes. Additional airborne asbestos concentration level requirements are indicated in this specification.

FRIABLE ASBESTOS MATERIAL: Material that contains more than 1% asbestos by volume and that can be crumbled, pulverized or reduced to powder by hand pressure when dry or which under normal use or maintenance emits or can be expected to emit asbestos fibers to the air.

GENERATOR: The facility owner or operator or person who first creates or produces the hazardous waste.

HAZARDOUS WASTE: Paint debris is classified as hazardous due to the characteristics of toxicity, if after testing by Toxicity Characteristic Leachate Procedure (TCLP) the leachate contains lead at or greater than 5 ppm. Other elements and characteristics can cause a material to be hazardous as defined in 40 CFR 261 and must be taken into consideration.

HEPA FILTER EQUIPMENT: High efficiency particulate absolute filtered vacuuming equipment with a filter system capable of collecting and retaining 99.97 percent of particles and fibers with a minimum dimension of 0.3 micrometers or larger.

LEAD-CONTAINING PAINT: Paint is classified as lead containing if it contains 0.5% lead or greater (EPA/HUD/Virginia) or contains any detectable amounts of lead by chemical analysis (OSHA). This can be determined from prior knowledge of the coating or through XRF or laboratory testing.

LOGBOOK: A notebook or other book containing essential project data and daily project information and daily project diary. This book is kept on the project site at all times.

NIOSH: National Institute for Occupational Safety and Health

OSHA: United States Occupational Safety and Health Administration and Virginia Occupational Safety and Health Division of the Department of Labor and Industry.

OWNER: Newport News Housing & Redevelopment Authority

PAT PROGRAM: Proficiency Analytical Testing Program.

PERMISSIBLE EXPOSURE LIMIT (PEL): The Contractor shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fibers per cubic centimeter of air as an eight (8) hour time weighted average (TWA) as determined in accordance with 29 CFR 1926.1101, Appendix A or lead concentrations greater than 50 $\mu\text{g}/\text{M}^3$ averaged over an 8 hour time weighted average. Additional airborne asbestos concentration level requirements are indicated in this specification.

PERSONAL MONITORING: Sampling of asbestos fiber or lead concentrations within the breathing zone of an employee (i.e. attached to or near the collar or lapel near the worker's face).

PROJECT MONITOR: An individual licensed by the Commonwealth of Virginia whose

duties and functions include, but are not limited to, observing and monitoring the activities of an asbestos abatement contractor on asbestos projects to determine that proper work practices are used and compliance with all federal, state and local laws and regulations is maintained.

TIME WEIGHTED AVERAGE (TWA): Representative samples are required to establish the eight-(8) hour time weighted average. The TWA is an eight-hour time weighted average airborne concentration of fibers, longer than five (5) micrometers per cubic centimeter of air. Work shifts which differ from an eight hour duration may require adjustments of the standard which applies.

USEPA: United States Environmental Protection Agency

WET CLEANING: The process of eliminating lead or asbestos-contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with water, and by afterwards disposing of these cleaning tools as lead or asbestos-contaminated waste.

WORK AREA: Designated rooms, spaces, or areas of the project in which asbestos or lead abatement actions are to be undertaken or which may become contaminated as a result of such abatement actions. A contained work area is a work area which has been sealed, plasticized, and equipped with a decontamination enclosure system. A non-contained work area is an isolated or controlled access work area which has not been plasticized nor equipped with a decontamination enclosure system.

4.0 SPECIFICATIONS FOR LEAD PAINT AND ASBESTOS-CONTAINING MATERIAL REMOVAL

4.1 The Contractor shall provide Newport News Housing & Redevelopment Authority with a summary of prior experience in asbestos and lead removal. Such documentation shall include the names and addresses of previous purchasers of the service, the location where previous work has been performed, a record of previous air monitoring for asbestos and lead, whether or not uncontrolled or unmeasured emissions or exposure to asbestos or lead occurred, and a statement that the Contractor either has or has not been subject to inspections by State or Federal agencies, and owner's hygienist and the result of those inspections. The Contractor must give evidence to Newport News Housing & Redevelopment Authority's satisfaction of his possessing the necessary knowledge of practices and procedures and adequate equipment to perform the work in conformance to the contract specifications. Since this knowledge can only be demonstrated on the job, the Contractor is advised that uncorrected poor work practices at any point may disqualify him from continuing the job. If the job is not being performed pursuant to this contract, Newport News Housing & Redevelopment Authority or its representative assigned to monitor the execution of this contract may stop the Contractor from continuing the job until Newport News Housing & Redevelopment Authority or its representative is assured that the requirements of this contract will be met. If Newport News Housing & Redevelopment Authority and its said representative reasonably determine that the Contractor cannot or will not perform the contract, Newport News

Housing & Redevelopment Authority may declare a breach of contract by the Contractor and terminate the contract.

4.2 The Contractor shall show to the complete satisfaction of Newport News Housing & Redevelopment Authority that it has the necessary facilities, ability and financial resources to successfully fulfill the requirements of this specification.

4.3 In addition, the Contractor shall provide three financial references, a Dun and Bradstreet number and financial history to Newport News Housing & Redevelopment Authority, including any previous or pending litigation concerned with financial or liability matters.

4.4 Due to the hazardous nature of the material being removed (i.e. asbestos and lead), the Contractor will provide written verification that it has primary and excess liability insurance coverage in force totaling a minimum of \$1,000,000 that specifically covers asbestos and lead. Such policies will name Newport News Housing & Redevelopment Authority as an additional insured for the full duration of the project.

5.0 REGULATIONS

5.1 The Contractor shall comply with all applicable federal, state, and local laws, statutes, codes, ordinances, rules, and regulations, including without limitation EPA and OSHA Regulations, and will follow EPA and ANSI workplace guidelines. Pertinent OSHA standards are the applicable section of 29 CFR 1910 and 29 CFR 1926, including but not limited to 29 CFR 1910.1001, 1910.134, 1926.62 and 1926.1101. EPA workplace guidelines include the pertinent sections of EPA guidelines document C00090 "Asbestos-Containing Materials in School Buildings", EPA guideline document 560/5-85-024, "Guidance for Controlling Asbestos-Containing Materials in Buildings", and 40 CFR Part 61, and Part 763 as requirements except where they are in conflict with specific requirements of this specification. In this event, the most stringent specifications shall govern.

5.2 The Contractor shall remove, transport and dispose of the asbestos and lead from the job site in compliance with Section 61.25 of the EPA Regulations, Sections 40 CFR 261,262,263,264 and 265 of EPA's Hazardous Waste Regulations, the Virginia Department of Waste Management solid waste management regulations VR672-20-10), DOT regulations and these specifications. The Contractor shall be responsible for obtaining the approval document for a waste disposal site in compliance with 61.25 of the EPA Regulations and other governing regulations. The roofing material may be disposed of as Category I non-friable asbestos waste.

6.0 PERMITS AND NOTIFICATIONS

The Contractor shall secure the necessary permits in conjunction with asbestos and lead removal, hauling and disposal and provide timely notifications of such actions as may be required by federal, state, regional, and local authorities. Notifications will be sent to the Virginia Department of Labor and Industry and USEPA Region III prior to commencement of the removal of lead painted components and friable asbestos. Copies of all permits and notifications will the

provided to Newport News Housing & Redevelopment Authority.

7.0 QUALIFICATIONS OF THE CONTRACTOR'S PERSONNEL AND PERSONNEL TRAINING

7.1 Prior approval by Newport News Housing & Redevelopment Authority is required of all proposed asbestos and lead removal personnel. Approval shall be based on review and acceptance of Contractor's written submittals that all of its personnel working in this asbestos/lead project:

7.1.1 Are regularly and presently performing asbestos and lead removal as a principal service.

7.1.2 Have training prior to the time of initial assignment and at least annually thereafter. The training program must have been conducted in a manner that the employee understood and it must have covered at least the following:

7.1.2.1 Methods of recognizing asbestos and lead paint.

7.1.2.2 The health effects associated with asbestos and lead exposure.

7.1.2.3 The relationship between smoking and asbestos in producing lung cancer.

7.1.2.4 The importance of necessary protective controls to minimize exposure including, as applicable, engineering controls, work practices, respirators, housekeeping procedures, hygiene facilities, protective clothing, decontamination procedures, emergency procedures and waste disposal procedures.

7.1.2.5 The purpose, proper use, fitting instructions and limitations of respirators as required by 29 CFR 1910.134.

7.1.2.6 The appropriate work practices for performing the asbestos and lead removal job.

7.1.2.7 Medical surveillance program requirements.

7.1.2.8 DOT job specific training

7.1.3 Have been provided with a respirator fit test in accordance with 29 CFR 1910.134 at

the time of initial fitting and at least annually thereafter for each employee wearing a negative or positive pressure tight fitting respirator.

- 7.1.4 The asbestos and lead abatement contractor, supervisors and workers must possess the required state licenses and have these licenses on the job site available upon request by Newport News Housing & Redevelopment Authority or its representative.

8.0 RESPIRATORY PROGRAM

8.1 The Asbestos/Lead Abatement Contractor must comply with the following requirements:

- 8.1.1 A written respiratory program in compliance with OSHA regulations must be available for inspection by Newport News Housing & Redevelopment Authority or its representative.
- 8.1.2 Records must be maintained of all respirator fit tests for at least three years. The records shall include no less than the requirements of 29 CFR 1926.1101, 29 CFR 1926.62 and 29 CFR 1910.134.

9.0 MEDICAL REQUIREMENTS

9.1 Medical Examinations: Before exposure to lead and airborne asbestos fibers, the Contractor shall institute a medical surveillance program for all employees engaged in work involving levels of asbestos at or above the PEL for 30 or more days per year, workers exposed above the lead action level for 30 or more days per year, or who are required to wear tight fitting respirators. A medical examination and completed medical questionnaire in accordance with 29 CFR 1926.1101, 29 CFR 1926.62 and 29 CFR 1910.134 must be provided annually (or as required by the physician, i.e. blood lead testing every 6 months as applicable) and within 30 calendar days before and after the termination of employment to those employees meeting the above criteria. This examination is not required if adequate records show the employee has been examined as required by 29 CFR 1926.1101 and 29 CFR 1926.62 requirements within the past year. The Contractor shall ensure that all medical examinations and procedures are performed by or under the supervision of a licensed physician and provided at no cost to the employee and at a reasonable time and place.

9.2 Medical Records: Complete and accurate records of employee's medical examination will be maintained for a period of thirty (30) years after termination of employment and make records of the required medical examinations available for inspection and copying to: The Assistant Secretary of Labor for Occupational Safety and Health, the Director of the National Institute for Occupational Safety and Health (NIOSH), authorized representatives of either of them, the employee and the employee's physician upon the request of the employee or former employee.

10.0 NEWPORT NEWS HOUSING & REDEVELOPMENT AUTHORITY' S RIGHTS

10.1 Newport News Housing & Redevelopment Authority reserves the right to halt the project work until hazardous or potentially hazardous conditions are corrected by the Contractor.

10.2 Newport News Housing & Redevelopment Authority reserves the right, at their discretion, to employ an independent consultant to inspect the abatement and perform the necessary testing that Newport News Housing & Redevelopment Authority may require.

10.3 If any instance of non-conformance is discovered, it will be the responsibility of the Contractor to pay for the consultant service and the cost involved to correct the non-compliance.

11.0 NEWPORT NEWS HOUSING & REDEVELOPMENT AUTHORITY'S AND CONSULTANT'S LIABILITY

11.1 Contractor agrees to guarantee and hold harmless Owner, Owner's agents and employees, against any and all claims arising out of the infringement or alleged infringement by Contractor, or any of Contractor's agents, employees or subcontractors, of any rights secured under copyright, trademark, or patent protection. The Contractor shall, at its own cost, secure such approvals as are necessary from the holders of any applicable patents, copyrights, or trademarks, in order to perform all of the Contractor's obligations hereunder.

12.0 PROTECTION OF NEWPORT NEWS HOUSING & REDEVELOPMENT AUTHORITY

12.1 The Contractor shall be responsible for any damage to adjacent buildings and the contents, including fixed equipment, resulting from leakage or spillage of water, or from any other intentional or negligent acts or omissions.

12.2 The Contractor shall be responsible for any lead and/or asbestos fiber contamination of adjoining areas and/or properties which occurs as a result of the asbestos and lead abatement and demolition activities. All equipment and/or materials within these areas and/or properties shall be totally decontaminated or disposed of and replaced by the Contractor with equipment and/or materials of equal or higher quality at the Contractor's sole expense.

13.0 PERSONAL PROTECTION

13.1 Workers shall wear properly fitted respirators in the work area. Respirator selection shall be based on personal air monitoring as required by 29 CFR 1926.1101 and 29 CFR 1926.62. Long sideburns, beards, etc., which interfere with the proper fit are unacceptable.

13.2 At minimum, the abatement of the non-friable asbestos containing materials and lead painted components requires the use of half mask, negative pressure, air purifying respirators equipped with HEPA filters or respiratory protection with a higher protection factor. For the abatement of any friable pipe insulation, workers are required to use type C respirators unless respirators with a lower protection factor are approved by Newport News Housing & Redevelopment Authority based upon initial monitoring or historical documentation. It is required

that the Contractor utilizes respirators with protection factors that maintain the concentration of airborne asbestos fibers inside the respirators to less than 0.01 fibers/cc.

13.3 All protective equipment requires the approval of Newport News Housing & Redevelopment Authority or its designated representative. Workers shall wear disposable, full body coveralls (two layers for a remote decontamination facility for the asbestos abatement), disposable head covers and disposable footwear in the asbestos and lead removal work area; required protective equipment also include goggles if half-face masks are used, and disposable gloves taped to the sleeves of the suit. If heavy reusable gloves are necessary, they shall be of a type approved by Newport News Housing & Redevelopment Authority. Such gloves shall be rinsed at the end of each day. .

13.4 All workers shall use the following procedure: Put on all personal protective equipment prior to entering the work area. All coveralls, head covers, boots, etc., shall be cleaned with a HEPA vacuum and removed at the perimeter of the work area. Workers will then either proceed to the adjacent decontamination facility to shower or wearing the inner coveralls proceed to the remote decontamination facility to shower prior to leaving the work area. The respirator shall be worn in such a manner to prevent the hood from interfering with the proper fit of the respirator seal during decontamination.

13.5 Respirators will be sanitized by the Contractor daily or between wearings if more than one person is using a respirator.

13.6 Eating, drinking, smoking, and chewing are not allowed in the work area. Prior to smoking, eating, or drinking, workers will fully decontaminate by HEPA vacuuming and removing their coveralls. . Each worker will then dress into a clean disposable coverall to eat, smoke, or drink. This new coverall can then be used to re-enter the work area. The Contractor shall provide respirator and disposable coveralls, head cover, and footwear to any official representative of Newport News Housing & Redevelopment Authority, or anyone else who inspects the job site.

13.7 All personnel, without exception, entering the asbestos or lead removal area shall wear an approved respirator, disposable coveralls, head cover, and footwear.

14.0 WORK AREA PREPARATION AND DECONTAMINATION FACILITY

14.1 Prior to work beginning, a decontamination facility will be set up adjacent to the work area if feasible or conveniently to the work area. The area shall include a clean room connected by a suitable barrier to a walk-through shower that is also connected by a suitable barrier to an equipment room.

14.2 The clean room, shower, and equipment room shall be cleaned daily.

14.3 An enclosure will be constructed for the pipe insulation and/or floor tile and adhesive removals.

14.4 Before the asbestos removal begins, objects that cannot be removed from the work area should be covered with two layers of polyethylene plastic sheeting that is securely taped with duct tape or plastic tape to achieve an air tight seal around the object. When all objects have either been removed from the work area or covered with plastic, all penetrations of the floor, ceilings and/or walls should be sealed with 6-mil polyethylene plastic and tape to prevent airborne asbestos from escaping into the areas outside the enclosure work area or from lodging in cracks around the penetrations. Penetrations that require sealing are typically found around electrical conduits, telephone and/or computer wires, water supply pipes, and supply and return air grills. A single entrance to be used for access and egress to the work area should be selected, and all other doors and windows should be sealed with tape or be covered with 6-mil polyethylene plastic sheeting and securely taped. Two layers of 6-mil polyethylene plastic sheeting will be attached to the walls and floors as applicable to form a continuous barrier. For the flooring only removals, critical barriers will be sealed and a splashguard of 6-mil plastic will extend up the walls five to six feet.

14.5 The enclosure work areas shall be isolated in a manner that maintains the negative pressure and meets with the approval of Newport News Housing and Redevelopment Authority.

14.6 After construction of any enclosure is completed, a ventilation system(s) will be installed by the Contractor to create a differential pressure within the enclosure with respect to the area outside the enclosure. Such ventilation systems must be equipped with HEPA filters in compliance with ANSI 20.2-79 to prevent the release of asbestos fibers to the environment outside the enclosure and should be operated 24 hours a day during the entire project until the final cleanup is completed and the results of final air samples are received from the laboratory. A sufficient amount of air should be exhausted to create a pressure of 0.02 inches of water within the enclosure with respect to the area outside the enclosure. In addition, the ventilation system must provide a minimum of four air changes per hour.

14.7 The differential pressure system shall be operated in accordance to Appendix J, Pages J-1 through J-8, of the EPA Guidance Manual No. EPA 560/85/024, entitled "Recommended Specifications and Operating Procedures for the Use of Negative Pressure System for Asbestos Abatement". These ventilation systems should exhaust the HEPA filtered clean air outside the building in which the asbestos removal is taking place and away from the workers. All work areas will be inspected and smoke tested prior to the start of work and before each shift by the Contractor. Documentation must be provided to Newport News Housing & Redevelopment Authority within 24 hours.

14.8 If during the removal process, differential pressure is not maintained in the work area, all removal operations are to stop immediately, the Authority notified, and work shall be halted until the cause of the problem is identified, corrected, and differential pressure is re-established and working properly.

14.9 A direct reading and recording device to record (tape) differential pressure readings is mandatory and shall operate continuously throughout the duration of the job. Recorded tapes to become the property of the Authority.

14.10 The Contractor shall visually inspect enclosures at the beginning and end of each work period. Damaged asbestos barriers and defects must be repaired immediately upon discovery. Doors used as the main entrance to the work area to be locked after working hours. An enclosure or a 20 foot roped off perimeter will be designated around each work area. A caution sign shall be posted at the entrance/perimeter conforming to 29 CFR 1926.1101 and shall read as follows:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING
ARE REQUIRED IN THIS AREA

14.11 For the removal of the lead painted components, the interior side will have 6- mil polyethylene sheeting loosely taped to form a protective barrier for the building interiors. A layer of 6-mil polyethylene sheeting will be placed on the exterior ground next to the abatement job and a roped off barrier set up with the following warning signs:

WARNING
LEAD WORK AREA
POISON
NO SMOKING OR EATING

14.12 In addition to English, signs will be in the native language of the workers.

14.13 The Contractor shall establish emergency and fire procedures and designate exits from the work area. Emergency and fire procedures shall have priority over decontamination procedures. Two (2) emergency half-face respirators shall be available at work entrance for use by emergency personnel. Appropriate emergency fire-fighting equipment shall be furnished by the Contractor and present in the immediate vicinity of the work area.

15.0 LABELS

15.1 The Contractor shall provide labels and affix to all friable asbestos materials, scrap, waste, debris, and other products contaminated with asbestos in accordance with 29 CFR 1910.1200 of OSHA's Hazard Communication Standard, Virginia Solid Waste Management Regulation VR672-20-10, and DOT regulations. Caution labels shall be of sufficient size to be clearly legible, and displaying the following:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
AVOID BREATHING AIRBORNE ASBESTOS

RQ (ASBESTOS)
 CLASS 9
 NA 2212, III

15.2 In accordance with 40 CFR 61.150, the Contractor will label all asbestos-containing friable waste material with the name of the waste generator and the location at which the waste was generated. The floor tile/adhesive and roofing debris may be handled as Category I non-friable asbestos waste.

15.3 The Owner and Contractor are considered to be co-generators of any hazardous waste from this project. The Contractor is responsible for the proper testing, storage, labeling and disposal of any lead hazardous waste generated.

16.0 INSPECTION OF WORK SITE PREPARATION BY NEWPORT NEWS HOUSING & REDEVELOPMENT AUTHORITY AND IT'S REPRESENTATIVE

16.1 After setup of the enclosures, decontamination facility and roped off perimeters around each work site prior to removal of any asbestos-containing or lead materials, each work site shall be inspected by Newport News Housing & Redevelopment Authority or its representative to ensure it is adequately and properly set up. No asbestos removal work can be started until this inspection has been made and the asbestos removal checklist (Enclosure No. 1 from the Federal Register Vol. 51, No. 1199, Friday, June 29, 1986, pp. 22782) for each work site is satisfactorily completed.

17.0 AIR MONITORING

17.1 Throughout the entire asbestos removal job, air monitoring will be performed by the Contractor to ensure that all EPA and OSHA regulations and these specifications are being adhered to.

17.2 These samples will be analyzed by a Virginia licensed asbestos analytical laboratory in accordance with 29 CFR 1926.1101. Air monitoring shall be performed to provide the following samples prior to, during and following the period of asbestos removal:

AREA	MINIMUM NUMBER OF REQUIRED SAMPLES & FREQUENCY (PER WORK SITE/PER DAY)	MINIMUM SAMPLE VOLUME EACH
Work site monitoring during removal & cleanup	personal 1 for each job description*	Continuous throughout removal & cleanup; Daily monitoring for short term exposure limit

Outside of work site during removal & cleaning operations

1 minimum. 1 at work perimeter for roped off areas; 2 for enclosures 1 at exhaust; 1 at entrance

Continuous monitoring

*I.e., one individual bagging and one individual removing would each require personal monitoring.

17.3 Personal and perimeter air monitoring will be performed during the entire lead removal operation.

17.4 Clearance air monitoring in the work areas will be performed for all enclosures following a satisfactory visual inspection to ensure that airborne concentrations do not exceed 0.01 fibers/cc. Clearance air monitoring in the roped off areas will only be performed following a satisfactory visual inspection by a representative of Newport News Housing & Redevelopment Authority prior to release of the job site if personal samples exceed 0.01 f/cc. Lead clearance floor wipe samples will be taken in the area adjacent to the interior polyethylene sheeting to verify that the floor lead dust level is below 40 $\mu\text{g}/\text{ft}^2$. In addition, Newport News Housing & Redevelopment Authority or its representative shall have the option to perform unannounced inspections and/or tests inside and outside the work area to determine whether or not the Contractor is in compliance with these specifications.

17.5 If sampling results outside the work area are found to be in excess of 0.01 f/cc or 30 $\mu\text{g}/\text{m}^3$ for lead, the Contractor shall immediately stop work and perform whatever action is necessary to reduce these fiber and/or lead concentrations to acceptable levels. The Contractor shall notify Newport News Housing & Redevelopment Authority immediately. Additional samples shall be taken in adjacent areas as determined to be necessary by Newport News Housing & Redevelopment Authority at the Contractor's expense. All sampling and analysis will be done in accordance with 29 CFR 1926.1101 and verified by Newport News Housing & Redevelopment Authority.

17.6 All written analytical results from the laboratory's monitoring shall be presented within three working days to Newport News Housing & Redevelopment Authority as signed "Certificates of Analysis". The form shall state:

17.6.1 Date and time sampling began.

17.6.2 Flow rate of samples.

17.6.3 Sampling time elapsed.

17.6.4 Concentration of lead or fibers (fibers greater than five microns/cc air).

17.6.5 Location from which sample taken (building, floor, room, area within room).

17.6.6 Activity occurring during sampling (removal, clean up, clean-air, etc.).

17.6.7 Name and phone number of person taking sample.

17.6.8 Name, phone number, and signature of person analyzing sample.

17.7 Daily monitoring results will be posted by the Contractor at the job site on the next workday.

17.8 Exposure Records: The Contractor shall maintain records of any personal or environmental monitoring required by this specification. Records shall be maintained for a period of at least 30 years and shall be made available upon request to Newport News Housing & Redevelopment Authority, the Secretary of Labor for Occupational Safety and Health, the Director of the National Institute for Occupational Safety and Health, and to authorized representatives of either.

18.0 REMOVAL OPERATIONS

18.1 The Contractor will designate in writing to Newport News Housing & Redevelopment Authority one individual as the job's competent person to ensure that the regulated areas and employees are in compliance with all EPA (including NESHAPs) and OSHA regulations and these specifications and will be available on site at all times when work is in progress. The competent person shall also ensure that the daily log is maintained and copies supplied to Newport News Housing & Redevelopment Authority, that the non-friable material be maintained intact and non-friable, that unauthorized personnel do not enter asbestos or lead regulated areas and that all employees and other personnel who enter the work area use the proper decontamination procedures. Proper work practices are necessary during asbestos and lead removal to ensure that the concentration of asbestos fibers or lead inside the work area remains as low as possible. One of the most important work practices is to wet the asbestos-containing material before it is disturbed. Asbestos-containing materials shall be thoroughly wetted, removed as intact as possible and immediately placed in properly labeled asbestos waste bags. Any residue that remains on the surface of the contaminated building component from which asbestos is being removed shall be scraped and wet wiped. The sealable asbestos waste bags shall be 6-mil thick and labeled as prescribed by the federal and state regulations referenced in these specifications. The Contractor must submit the floor tile mastic remover for approval by Newport News Housing & Redevelopment Authority. The floor tile/mastic and roofing material may be handled as Category I asbestos waste.

18.2 The Contractor must mark vehicles used to transport friable asbestos-containing waste material during loading and unloading of the waste. These signs should be visible to anyone in or around the truck.

18.3 The markings must be displayed in such a manner and location that a person can easily read:

DANGER

ASBESTOS DUST HAZARD
CANCER AND LUNG DISEASE HAZARD

19.0 CLEAN UP OPERATIONS

19.1 After all of the asbestos-containing material is removed and/or bagged or the lead painted components removed, the entire work area shall be cleaned until it is free of all visible asbestos or lead dust. All surfaces from which asbestos has been removed or locations where lead painted components were removed should be cleaned by brushing the surfaces, HEPA vacuuming these surfaces, and wiping them with amended water. Newport News Housing & Redevelopment Authority or its representative will visually inspect each area for the detection of any visible asbestos dust, lead or contamination following abatement.

19.2 Following a satisfactory visual inspection, a final air clearance test will be taken to indicate that contamination levels do not exceed 0.01 f/cc (for the roped off areas only if during samples exceed that level). A floor clearance wipe sample will be taken for the lead.

19.3 A clearance checklist (Enclosure No. 2 from the Federal Register, Volume 51, No. 119, Friday, June 20, 1986, pp. 22784) will be satisfactorily completed for each work site by Newport News Housing & Redevelopment Authority or their representative.

19.4 If the results of the final testing are not satisfactory, the thorough wet cleaning and/or HEPA vacuuming shall be repeated until the required decontamination levels and visual inspections have been achieved. A final check will be carried out by Newport News Housing & Redevelopment Authority to ensure that no dust or debris remains on surfaces as the result of dismantling operations.

20.0 INSPECTION

20.1 The performance and execution of the work shall be monitored by a representative of Newport News Housing & Redevelopment Authority to ensure full compliance with these specifications and all applicable regulations. Newport News Housing & Redevelopment Authority will bear the cost in connection with the laboratory and inspection work required for the initial final inspections and any clearance testing in this specification; however, the cost of Contractor delays and subsequent visual inspections and laboratory analyses for personal and area samples taken because the limits specified were exceeded in the initial tests shall be borne by the Contractor.

21.0 BUILDING CONTAMINATION AND/OR DAMAGE

21.1 If it is determined by exceeding emission limits on air samples and/or analysis of surface dust samples that building and surrounding area contamination has occurred as the result of negligence and/or poor work practices of the Contractor, as reasonably determined by Newport News Housing & Redevelopment Authority, the Contractor agrees to clean the premises at no charge to Newport News Housing & Redevelopment Authority and to accept all liability for

damages claimed or law suits brought by persons exposed to such contamination.

22.0 DISPOSAL OF ASBESTOS AND LEAD WASTE

22.1 Procedures for hauling and disposal of waste shall comply with 40 CFR 61 (Subpart B), state, regional and local standards. All friable asbestos waste, scrap, debris, containers and asbestos contaminated clothing and equipment which may produce airborne concentrations of asbestos fibers shall be collected and placed in sealed and properly labeled, 6-mil, impermeable bags or handled as category I non-friable asbestos waste (floor tile/mastic and roofing debris). For temporary storage, store sealed impermeable bags in asbestos waste containers (drums, skips, etc.). This waste material shall be transported in sealed, properly labeled, DOT approved containers and disposed of only at an USEPA or state approved sanitary landfills. The procedure for hauling and disposal shall comply with 40 CFR (Subpart B), Virginia Hazardous Waste Regulations VF672-20-10, DOT regulations and state and local regulations. Sealed plastic bags may be hand placed from containers into the burial site unless the bags have been broken or damaged. Damaged bags shall remain in the container and the entire contaminated container shall be buried. Uncontaminated containers may be recycled. Workers unloading the sealed containers shall wear appropriate respirators and personal protective equipment when handling asbestos materials at the disposal site.

22.2 The Contractor will collect representative samples of the lead debris in accordance with the requirements of SW 846, and tested for TCLP lead in accordance with Appendix II of 40 CFR 261. If the test of the debris indicate that the waste is hazardous, the Contractor will pay strict attention to the requirements of 40 CFR 262 & 265 for the on-site handling of debris including time of storage, amount of material stored at any given time, use of proper containers, personnel training and confirmation that EPA identification number was obtained.

22.3 The Contractor will provide preparedness, prevention, and contingency plans (PPCP) in accordance with 40 CFR 265 Subparts C & D for the steps to be taken in the event of an unplanned release or emergency.

22.4 The Contractor will arrange to have the debris transported from the site in accordance with the requirements of 40 CFR 263, and disposed of properly in accordance with 40 CFR 264 and 40 CFR 268 including the necessary notifications and certifications with the shipments.

22.5 Only licensed transporters and disposal facilities will be used, and prior approval must be obtained from Newport News Housing and Redevelopment Authority. A signed manifest must be returned to the Owner to verify that all steps of the handling and disposal process have been completed properly.

23.0 CONTRACTOR SUBMITTALS

23.1 With the bid submittal, the Contractor shall provide Newport News Housing & Redevelopment Authority with the following:

23.1.1 Insurance and Financial Records: Submit written verification and references as required by this specification.

23.1.2 Prior Work Summary: Submit a summary of prior work as required by this specification.

23.2 Twenty days prior to the commencement of work, the Contractor shall also provide Newport News Housing & Redevelopment Authority with the following:

23.2.1 Certificates of Compliance: A copy of the manufacturer's certificate of compliance with ANSI 9.2 for each brand and model vacuum, ventilation, and other equipment used by the Contractor to contain or remove asbestos fibers or lead.

23.2.2 Asbestos and Lead Compliance Plans: Submit a detailed plan of the work procedures to be used in the removal of materials containing asbestos or lead. Such plans shall include:

23.2.2.1 the location of asbestos and lead removal areas,

23.2.2.2 interfaces of trades involved in the construction,

23.2.2.3 sequencing of asbestos and lead related work,

23.2.2.4 disposal plan,

23.2.2.5 type of wetting agent, encapsulant, lockdown, asbestos sealer to be used,

23.2.2.6 detailed description of the method to be employed in order to control pollution. This plan must be used to start any asbestos or lead work.

23.2.2.8 emergency/fire procedures.

23.2.3 Disposal: Submit written evidence that landfill for disposal is approved for asbestos disposal by the USEPA and state or local regulatory agencies during the course of the work, submit written evidence that the landfill received the asbestos material. Submit written evidence that the transporter and disposal facility are permitted to handle lead waste.

23.2.4 Training: Submit the certificates of the EPA/Virginia Department of Professional and Occupational Regulation approved training and licenses for the supervisors and workers handling the asbestos and lead indicating that the employee:

-has received training in the proper handling of materials containing asbestos or lead;

-understands the health implications and risks involved, including the illnesses possible from exposure to airborne asbestos fibers and lead;

-understands the use and limits of the respiratory equipment to be used;

-understands the results of monitoring of airborne quantities of asbestos or leadas related to health and respiratory equipment.

23.2.5 Hazard Communication Program: Submit copy of written program.

23.2.6 Respiratory Protection: Submit a written respiratory protection plan and results of respirator fit testing.

23.2.7 Medical Records: Submit written verification that all employees have passed the specified medical examination.

23.2.8 Notifications: Submit written verification of permits and notifications sent to EPA and the Virginia Department of Labor and Industry.

23.2.9 Copies of asbestos and lead contractor's, workers', supervisors' licenses.

23.2.10 Copies of the laboratory's asbestos license and recognition under EPA National Lead Laboratory Accreditation Program.

23.2.11 Certification that all asbestos and lead abatement personnel have had fire extinguisher training as required by 1926.105A(5) and job specific DOT training.

23.3 During the course of the contract work, the Contractor shall submit the following to Newport News Housing & Redevelopment Authority:

23.3.1 Disposal: Within one week of the deposit of a load of asbestos removal waste at a sanitary landfill approved by USEPA or the state for asbestos disposal, the Contractor shall submit a legible copy of written evidence that the landfill received the asbestos material. Within one week of the disposal of lead hazardous waste, the Contractor shall submit a legible copy of written evidence that the disposal site received the lead material. Full payment will not be made until all hazardous waste manifests are received.

23.3.2 Daily log book entries: Within 24 hours, copies of the daily log book entries will be provided to Newport News Housing & Redevelopment Authority including detailed records of all entries and exits from the work area.

23.3.3 Differential Pressure Readings: Smoke test results and differential pressure readings must be submitted within 24 hours.