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# BUFFALO MUNICIPAL HOUSING AUTHORITY – KENSINGTON HEIGHTS

# WORK PLAN FOR COMPLIANCE WITH EPA ORDER CAA-02-2011-1021

**INTRODUCTION:**
On or about September 6, 2011 the Buffalo Municipal Housing Authority (BMHA) received compliance order CAA-02-2011-1021 from the US Environmental Protection Agency (EPA) with regard to the site known as Kensington Heights. Among other things, the EPA Compliance Order required the BMHA to "submit a comprehensive asbestos abatement plan for the entire site, wet and cover dumpsters, place covers on all windows and openings and create a daily perimeter air monitoring plan. The plan is to be submitted to the EPA for approval.

Kensington Heights, located at 1827 North Fillmore Ave., Buffalo, NY is an approximately 17 acre site, containing 6 high rise buildings. The site is owned by the BMHA and is slated for asbestos abatement and building demolition. Previous attempts at abatement of the 6 buildings have met with failure. What remains to be abated includes remnants of asbestos friable (EPA RACM) and non-friable (EPA Category 1 and Category 2) waste in various states of installation and debris form. Asbestos exists inside the buildings and at the exterior soils and hard surfaces. A chain link security fence is installed at the perimeter of the property line. Access to the site is provided at a locked gate off North Fillmore Ave.

**PURPOSE:**
The purpose of this work plan is to address the abatement, removal, clean-up, packaging and disposal of RACM, Category 1 non friable and Category 2 non friable installed and debris type asbestos at the entire site.

**BACKGROUND DATA:**
Included as appendices are, the October 2011 Stohl Environmental Assessment of Surficial Soils Asbestos Contamination Report, copies of previously approved NYSDOL variances and Perimeter Air Sampling Location Diagram.

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## WORK PLAN

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**Soil/Tarmac/Concrete Decontamination Method**

1. Exterior to the buildings, as documented in detail in the Stohl Environmental Surficial Soils Evaluation report, asbestos exists in debris form. The debris is confirmed to include limited RACM TSI debris and extensive Category 1 and Category 2 asbestos debris. Asbestos debris, that was available for inspection was located on the soil surface. Large fields of asbestos debris are located at what is believed to be asbestos contractor routes of travel from the buildings to the waste dumpsters. Scattered asbestos debris is located throughout the site. Debris is typically concentrated most heavily near the buildings and at pathways of previous contractor travel. The asbestos debris exterior to the building shall be cleaned prior to commencing significant vehicle and earth moving/wrecking access to the site. Access by vehicles and earth moving equipment, prior to soil decontamination, must be avoided, to the extent possible, to prevent further asbestos disturbance.

2. Perform work during periods when snow has not accumulated to obstruct a view of the ground. Areas where decontamination has not occurred due to snow accumulation or frozen soil which cannot be adequately wetted shall be off limits to vehicle and construction earth moving/wrecking equipment.

3. Areas to be the immediate subject of decontamination shall be wetted with amended water. Wetted vegetation shall be cut by string trimmers and/or farm type bailers and removed from the remediation area. The purpose of removing the vegetation is to allow a view of the soil surface for visual confirmation of the presence of asbestos debris. Upon completion of vegetation removal, the contractor shall lay out a grid system which breaks the site down into work areas not greater than 25 foot by 25 foot, to further assist in the locating and tracking of debris. The grid system shall be marked on the site/soil with paint, flags or posts and shall remain in a maintained and serviceable condition until a final visual inspection reveals that decontamination has been successfully completed within the demarcated grid.

4. In areas of significant density of debris, soil wetted with amended water shall be removed using construction equipment such as skidsteers, dozers and loaders. Soil shall be removed to a depth of 2" in heavy debris zones.

5. An area of significant debris, as defined for this document, is as marked on the Stohl Soil Report Aerial Photo, and shall be further delineated in the field once heavy vegetation is removed and/or as mandated by the EPA. The EPA mandated clean up zone includes all soils within 50 feet of all elevations of the buildings to a depth of at least 2". Decontaminating areas within 25 feet of the building, which may be subject to overhead hazards due to loose veneer brick, are to be excluded from the first phase soil cleaning operation. Areas within 25 feet of the building, which are subject to overhead hazards, are to be cleaned as part of the second phase building structure demolition. Hazardous areas are to be further defined and delineated by a Licensed Professional Engineer (P.E.).

6. An area of isolated debris, as defined for this document, is as marked by a single dot on the Stohl Soil Report Aerial Photo and/or as further delineated in the field once heavy vegetation is removed. In areas of isolated asbestos debris, the debris and the soil within a 2 foot perimeter of the debris shall be removed to a depth of 2".

7. Hard surface cleaning of contaminated concrete and tarmac shall be done using wet methods of shoveling, scraping, wet brooming and HEPA vacuuming. Determination of contaminated hard surfaces shall be done by observation of suspect materials.

8. All suspect debris shall be wetted, packaged, labeled and disposed as RACM. A waste shipment record shall be created for all asbestos RACM waste.

9. Upon completion of the decontamination of each grid, the Contractor's Supervisor shall visually inspect the grid and shall certify that the area is free of visible asbestos debris. A re-cleaning of the area shall be conducted upon discovery, by the Supervisor or other site representatives, of additional suspect asbestos debris. The cleaning shall continue until no visible suspect asbestos debris remains.

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**Dumpster Decontamination Method**

1. Two roll off, open top waste dumpsters remain on site from a previous contractor. The dumpsters are partially filled with Category 1 and Category 2 asbestos. The Cat 1 and 2 materials appear to have been subjected to chipping and, as such, shall be handled and disposed as RACM. The asbestos material in the dumpsters shall be wetted, sealed and covered. A 2X4 framed plywood enclosure shall be constructed over the top of the dumpsters to facilitate maintaining a weather proof barrier. Two layers of fire retardant six mil. polyethylene sheeting shall be applied over the plywood. Holes in the dumpster body shall be sealed.

2. A decontamination system, which complies with New York State Industrial Code Rule 56, shall be installed and attached to the dumpsters. A controlled HEPA filtered negative pressure regulated abatement work area shall be installed and maintained throughout the abatement process. HEPA filtered negative air shall be operational during all abatement activities and shall remain operational for at least 15 minutes past any disturbance of asbestos. Due to lack of electric power, generators shall be turned off and negative air machines shall be shut down during periods of inactivity ie. overnight and on weekends.

3. Air monitoring of the work area and perimeter fence shall be conducted throughout the abatement operation.

4. Waste inside the dumpsters shall be manually wetted and transferred into asbestos disposal containers. The properly containerized waste shall be double bagged in the waste enclosure area and relocated to a polyethylene lined waste disposal dumpster. Containers shall be labeled as required by regulation and shipped to an asbestos waste disposal facility.

5. Upon completion of bulk asbestos removal the dumpster shall be thoroughly cleaned using HEPA vacuums and wet methods. A final visual inspection shall be conducted prior to air monitoring of the work area. Final clearance air monitoring procedures shall be performed as required by NYSICR 56 and a New York State Site Specific Variance which shall be obtained for this project.

6. Upon successful final completion of remediation inside the dumpsters, the dumpsters shall be moved from their present location to clean the tarmac underneath. Asbestos chips, fines and other detriment shall be wetted, shoveled, vacuumed and cleaned in accordance with procedures laid out above for hard surface cleaning.

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Abatement of Interior of Buildings 1-6

1. Asbestos debris and installed asbestos exists within the buildings. Asbestos exists in debris form throughout the buildings, including the crawl spaces. Asbestos present within the buildings includes, boiler insulation, pipe insulation, possible internal boiler and incinerator components, light fixture wiring, floor tile, floor tile fragments, floor tile mastic, concrete lined water tanks, fire door insulation, window caulk, window glazing, transite cement board, contaminated polyethylene sheeting, contaminated PPE, bagged asbestos waste left over from previous abatement attempts and miscellaneous dust and contaminated plaster, concrete and other waste.

2. A Licensed P.E. shall be consulted to evaluate safety hazards associated with the access to and egress to buildings 1-6. Unsafe conditions, as determined by the P.E., shall be addressed by shoring of building systems and construction of covered walkways.

3. Air monitoring and project monitoring of the site shall be conducted by an independent third party monitoring firm hired directly by the building owner.

4. Due to handling procedures alleged to have taken place during the previous abatement attempts, and in accordance with previous discussions with the EPA and NYSDOL, all debris located within the buildings shall be handled and disposed as RACM. Removal of all RACM and cleaning of dust and debris shall be conducted in accordance with the requirements of NYS ICR 56 and procedures previously approved by the New York State Department of Labor in Variances for buildings 2-6. Variance procedures for Building 1 shall be addressed in a new variance application but shall be similar to the applicable sections of variances for Buildings 2-6.

5. Attached variances address the covering of all windows with two layers of six mil. poly sheeting to create a contained work area. HEPA filtered negative air machines shall be utilized within the work areas and exhausted to the exterior of the building. Wet methods of removal and cleaning shall be employed. RACM shall be containerized in accordance with the requirements of the regulation and shall be lowered or carried to the ground level. Asbestos shall not be dropped from height.

6. A Licensed P.E. shall be consulted to determine hazards associated with the installation of critical barriers on window openings. At a minimum, during actual asbestos removal activities, each floor shall be contained with polyethylene barriers on windows and openings. In the event that additional study by the Engineer and the shoring of existing unsafe conditions allows multiple floors to be contained with polyethylene at window openings the plasticizing may take place at multiple floors.

7. Selective demolition of non-asbestos components of the boiler and incinerator bases shall take place to locate possible interstitial asbestos materials. Abatement of interstitial asbestos components, if found, shall take place within HEPA filtered negative pressure work areas.

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8. Upon completion of abatement, the Third Party Air/Project Monitor shall perform a visual inspection of the work area to determine if asbestos debris remains. Upon successful completion of abatement and passing a final visual inspection, air monitoring shall be conducted within the work areas. Aggressive final air sampling shall take place in all areas except the crawl space. Air monitoring shall take place in accordance with procedures listed in the attached site specific variances. Critical barrier polyethylene and installed spray foam used as critical barriers shall be removed and containerized for disposal upon successful completion of abatement and air sampling and prior to building demolition.

9. Air monitoring outside the buildings at the perimeter fence shall take place in accordance with the EPA compliance order. 5 daily air samples shall be taken at the perimeter fence throughout the abatement and demolition of the buildings. Air sample locations shall be adjusted, as needed, to remain in the most proximate location to the work taking place. Air sample location examples, are on drawings, submitted as an attachment, as per the requirement of the EPA Compliance Order.

**Abatement of Tar and Through Wall Flashing and Building Demolition for Buildings 1-6**

1. Asbestos containing tar and through wall flashing is present on structural components of the building on steel reinforced spandrel beams and reinforced concrete columns and possible other interstitial locations and is situated in such a manner as to prevent the access and removal of the material prior to building demolition. The material is a Category 1 asbestos containing material that is not likely to become friable during building demolition.

2. Building demolition shall take place only after removal of all asbestos components with the exception of the exterior vapor barrier tar. The waste stream shall be segregated to separate the non-asbestos components from the asbestos tar and flashing. For instance, exterior face brick shall be peeled away from the structure and speed tile walls shall be pulled out, to the extent possible, while not disturbing tar located on the floor slab or spandrel beam. Concrete, steel, brick and other non asbestos materials shall be segregated by the equipment operator into piles for disposal or recycling as non asbestos. Asbestos tar/flashing contaminated materials shall be disposed of in compliance with applicable regulations for Category 1 asbestos.

3. Work shall take place in accordance with applicable sections of the attached NYSDOL site specific variances. Work procedures include the use of a constant spray of water at the point of demolition.

4. Soils located within 25 feet of the building, which have been deemed to contain asbestos contamination, and which have not been previously abated during the soil cleaning operation, shall be removed and disposed of as part of building demolition. All soil within 25 feet of the building shall be removed to a depth of 2"and disposed of as RACM. Removal and disposal of contaminated soil is as per the requirements of the EPA Compliance Order and is in keeping with agreements made during discussions between the BMHA, EPA and the NYSDOL.

5. Perimeter air sampling during demolition, conducted at the fence line, shall take place as discussed in previous sections above.

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## Alonge, Christopher G (LABOR)

**From:** Chris Stohl [cstohl@stohlenv.com]
**Sent:** Wednesday, February 15, 2012 8:32 AM
**To:** Alonge, Christopher G (LABOR)
**Cc:** Lawrence D. Senear; Charles W. Malcomb (cmalcomb@hodgsonruss.com); Robert Fitzpatrick (fitzpatrick.robert@epa.gov)
**Subject:** Variance re-opening request for BMHA Kensington Heights Buildings 2-6
**Attachments:** 2011-667 Variance Amendment Request for BMHA Buildings 2-6.pdf; 2011-667 BMHA Kensington Heights EPA Work Plan Final.pdf

Mr. Alonge,

Attached please find the variance re-opening request and a copy of the EPA work plan. Thank you for discussing the changes to the variance re-opening request with me earlier this week. I have made the changes we discussed and submit this document for your review. The changes I made, based on our discussion, include the following items:

Deleted Building A1 from the document. As we discussed, building A1 needs a more significant amendment to the existing variance to address items missing from the first application. This variance will be reworked with a reopening request and will be resubmitted for your approval.

Added a line allowing/requiring further input from the Asbestos Contractor with regard to sequencing of abatement. Additional submission of documentation will be made by the contractor once he has considered requirements of the project.

Added the word "containers" in item 6 after the word "waste" in the second sentence.

Added discussion of disposal of waste water if waste water is not packaged and disposed of off-site.

Added the requirement that the variances, re-opening requests and EPA work plan be submitted to the CEO with the building permit application.

A copy of this document will also be mailed to your office. Note that Mr. Fitzpatrick of the EPA has also been copied on this submission. Please let me know if you require additional information. I am available at the numbers and locations listed below.

Thank you.

Chris Stohl
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