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153292

Subject: Ardsley, LLC Site #C360146
Sample and Analysis Plan – Site Concrete
Remedial Action Work Plan Addendum

Dear Mr. Kilmer:

On behalf of Ardsley, LLC, this letter serves to provide an addendum to the "Alternatives Analysis and Remedial Action Work Plan, Ardsley LLC, Site C360146, Town of Greenburgh, Westchester County, New York" (RAWP), prepared by Brown and Caldwell Associates (BC), dated June 2022. The New York State Department of Environmental Conservation (NYSDEC) approved the June 2022 work plan in a letter to Ardsley, LLC dated June 24, 2022. The purpose of this addendum is to include a sampling and analysis plan for Site concrete to evaluate the reuse of Site concrete as final Site cover.

As detailed in Section 4.2 of the RAWP, to facilitate Site grading and future development, selected masonry/concrete/brick (MCB) foundations are being demolished and crushed to be used for regrading prior to placement of additional Site cover (Section 4.4). Proposed Site cover was originally assumed to be imported clean fill from a permitted mine or quarry. Ardsley, LLC plans to evaluate the demolished and crushed MCB for reuse as Site cover. This would advance green remediation goals by diverting material from landfills, eliminating the use of nonrenewable resources, and reducing over-the-road transportation of waste.

The proposed sampling and analysis plan for the evaluation is described below.

Concrete Sampling and Analysis

MCB debris resulting from demolition of subsurface structures and foundations has been field screened for visual indications of staining or other potential impacts in accordance with Section 4.4.2 of the RAWP. MCB debris containing no staining or visible impacts has been stockpiled for subsequent on-Site crushing (to 4-inch minus). Stockpiles of approximately 1,000 cubic yards (CY) or less will be made.

For the material to be used as Site cover it will be required to meet the requirements of NYSDEC's Technical Guidance for Site Investigation and Remediation (DER-10) dated May 2010.

Samples of stockpiled, crushed MCB will be collected at the frequency specified in Table 5.4(e)10 of DER-10 and analyzed for VOCs, SVOCs, Inorganics, PCBs/Pesticides, PFAS

and 1,4-Dioxane. Based on foundation demolition conducted to date, Ardsley, LLC estimates there to be approximately 4,200 CY of MCB at the Site. Each approximately 1,000 CY stockpile will be sampled as its own "source." In the event that analytical results indicate the material in a given stockpile is not suitable for use as final cover, the stockpile can be used for grading below Site cover or, if necessary, disposed of off-Site.

DER Table 5.4(e)10. Recommended Number of Soil Samples for Soil Imported To or Exported From a Site

Contaminant	VOCs	SVOCs, Inorganics & PCBs/Pesticides	
Soil Quantity (cubic yards)	Discrete Samples	Composite	Discrete Samples/Composite
0-50	1	1	3-5 discrete samples from different locations in the fill being provided will comprise a composite sample for analysis
50-100	2	1	
100-200	3	1	
200-300	4	1	
300-400	4	2	
400-500	5	2	
500-800	6	2	
800-1000	7	2	
> 1000	Add an additional 2 VOC and 1 composite for each additional 1000 Cubic yards or consult with DER		

In accordance with Table 5.4(e)10, it is assumed that for each 1,000 CY stockpile, 7 discrete samples and 2 composite samples will be collected, for a total of 28 discrete samples and 8 composite samples. Based on the above table, this number of samples would allow for up to four 1,000 CY stockpiles of MCB to be approved. In the event that the total volume of MCB exceeds 4,000 CY, additional stockpiles will be created as needed and sampled in accordance with Table 5.4(e)10.

Sampling will consist of a combination of discrete and composite samples in accordance with the following:

- Concrete samples of 1-inch minus will be collected and submitted to the analytical laboratory for in-laboratory crushing. General laboratory requirements are to size the concrete to ¼-inch minus prior to extraction for analysis.
- In accordance with DER-10, only grab samples are allowed for VOCs.
- Sampling for SVOCs, inorganics, PCBs/Pesticides, PFAS and 1,4-Dioxane will be performed by composite sampling. Composite samples for these analyses will be collected as follows:
  - One or more composite samples will be collected from the volume of material identified in Table 5.4(e)10 with each composite from a different location in the stockpile;
  - Each composite will consist of discrete samples from three to five random locations from the volume of MCB to be represented by the given composite; and
  - The discrete samples will be thoroughly mixed, and a sample of the mixture will be submitted for analysis.

Samples will be analyzed at a NYSDOH-certified ELAP-approved laboratory for the parameters identified in Appendix 5 of Final DER-10 (VOCs, SVOCs, Inorganics, PCBs/pesticides, PFAS and 1,4-Dioxane).

Reporting

Laboratory results for the MCB samples will be forwarded to a qualified data validator for preparation of a Data Usability Summary Report (DUSR). The DUSR will present a summary of data usability, including a discussion of qualified and rejected data and provide recommendations as applicable.

Validated analytical results will be compared to the applicable Soil Cleanup Objectives (SCOs) for the Site (protection of public health for commercially or industrially zoned properties). The results of the analyses will be submitted to NYSDEC for approval prior to use of the materials as Site cover. This includes preparation and submittal of the NYSDEC form entitled "Request to Import/Reuse Fill or Soil" and supporting documentation.

Material not meeting applicable SCOs may be proposed for use during Site grading below the final cover and/or off-Site disposal based on analytical results.

Upon NYSDEC approval of the above sampling and analysis plan and stockpiling of crushed MCB, analytical sampling will be completed.

Very truly yours,

Brown and Caldwell Associates

Brian Taylor, P.G.
Project Manager

cc: D. Dunn, EAG
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