REMEDIAL INVESTIGATION WORK PLAN

Undeveloped Parcel Site
Site No. C360112

6 Morgan Drive
Mount Kisco
Westchester County, New York

Prepared By:
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61 Main Street
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CERTIFICATION

I Meredith R. Anke, P.E. certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Remedial Investigation Work Plan (RIWP) for the undeveloped parcel site located at 6 Morgan Drive in Mt. Kisco, New York (Site No. C360112) was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Meredith R. Anke, P.E.	2/20/12	M. Anke
Qualified Environmental Professional	Date	Signature

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1.0 INTRODUCTION

In June 2010, Crème de la Crème Inc. voluntarily entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) for the property located at 6 Morgan Drive in Mt. Kisco, Westchester County, New York. Carlin-Simpson & Associates (CSA) has prepared this Remedial Investigation Work Plan for investigation of the subject site in accordance with the NYSDEC Brownfield Cleanup Program (BCP) requirements.

1.1 Site Description

The subject site is located at 6 Morgan Drive in Mount Kisco, Westchester County, New York, as shown on the Site Location Map (see Figure 1). This property is approximately 3.8 acres in total area. There is also a 30 foot wide sanitary sewer easement that extends in a general east-west direction through the center of the subject site.

The subject site was previously slated for development and construction started on this parcel prior to discovery of potentially contaminated soil. Specifically, the topsoil was stripped and two stormwater management basins were excavated in the northern and eastern portions of the site. The retention basin areas are now overgrown with vegetation. The shallow site soil that was excavated from the retention basin areas is currently stockpiled on the site and is covered with vegetation. There is also a stockpile of imported crushed stone material on the property. The remainder of the site is relatively flat. The existing site grades range between approximately elevation +284.0 at the bottom of the previously excavated retention basins and elevation +291.0 in the southwestern portion of the site. Prior to the construction work, the surface grades sloped down gently to the north and northeast, towards the adjacent Kisco River. Refer to the aerial photo of the site shown on Figure 3 depicting the current site features and state of development.

The area immediately surrounding the subject property consists primarily of commercial and industrial properties as well as undeveloped wooded or vacant parcels. The site is bordered to the southeast by a vacant parcel containing remnants of a former sewage treatment and disposal facility. Portions of the former sewage treatment and disposal facility were located on the subject site. Further to the south and southeast are commercial and industrial buildings along Radio Circle Drive.

There is a wooded area and wetland area from the Kisco River to the northwest of the site. To the east and northeast of the subject property is a town service road followed by a wooded area and the Kisco River. Refer to the area map shown on Figure 2 depicting wetlands and surface water features in the vicinity of the site. Further to the east and northeast are some commercial and residential properties. The site is bordered by Morgan Drive followed by the United States Post Office to the southwest. Beyond the post office are commercial and industrial buildings on Radio Circle Drive.

1.2 Site History

The subject property was previously part of a larger parcel that was occupied by a sewage treatment and disposal facility from approximately 1907 to the 1970s. The facility reportedly ceased operation around 1964 and remained on standby into the 1970s. Based on the review of aerial photographs and the findings during a previous subsurface investigation at the site, it appears that some of the subsurface components of the former facility (i.e. sand filter beds, sludge beds, clay pipes, etc.) were not completely removed from the site. In 1990, soil fill was placed over a large portion of the property, burying the remnants of the former facility. The site has since remained undeveloped.

In 2004, Crème de la Crème purchased the subject site for the purpose of constructing a child care facility on the premises. The child care facility was not constructed and the site still remains undeveloped. Only commercial use of the site is anticipated in the future.

1.3 Summary of Previous Investigations

1.3.1 Phase I Environmental Site Assessment (ESA)

A Modified Phase I Environmental Site Assessment (ESA) was completed for the subject property in 2007 by Carlin-Simpson & Associates. The results of the study were presented in a Report on Modified Phase I Environmental Site Assessment and Phase II Environmental Site Investigation that was dated 9 January 2008.

Based on a review of all available files and upon review of the historical topographic maps, Sanborn maps, and aerial photographs, along with observations made of the subject property and adjacent properties during a site visit at the end of the Phase I ESA, it was determined that there were recognized environmental conditions and historical environmental concerns associated with the subject site.

The subject property was previously part of a larger parcel that was occupied by a wastewater treatment facility, which is an industrial use (SIC 4952), from approximately 1907 to the 1970s. The facility reportedly ceased operation around 1964 and remained on standby into the 1970s. However, it appears that the subsurface components of the facility were not completely removed from the site. In 1990, soil fill was placed over a large portion of the property, burying the remnants of the former facility. The site has remained undeveloped since that time.

The components of the former wastewater treatment facility that were located on the subject property include eight (8) sand filter beds, two (2) sludge beds, four (4) former structures for chlorination, a 10-inch cast iron force main, vitrified clay pipes to carry the partially treated sewage from the adjacent parcel, and additional clay pipes to collect the treated water from below the sand filter beds. In addition, a former sludge spoil area was identified on the subject property. The former wastewater treatment facility components are shown on Figure 4.

Based on the findings of the Modified Phase I ESA and the known history of the subject site, a Phase II Environmental Site Investigation (ESI) was recommended at the subject site to investigate the components of the former facility and the in-situ fill material, which were identified as areas of environmental concern. The results of the subsequent Phase II ESI are discussed in the following section of this document.

1.3.2 Phase II Environmental Site Investigation (ESI)

A subsequent Phase II Environmental Site Investigation (ESI) was performed in 2007 to investigate the areas of environmental concern that were identified during the Phase I ESA. The results of the investigation were presented in a Report on Modified Phase I Environmental Site Assessment and Phase II Environmental Site Investigation that was dated 9 January 2008 and prepared by Carlin-Simpson & Associates.

During the investigation, geoprobe borings were advanced to investigate the areas of environmental concern identified during the Modified Phase I ESA. Based on the identified areas of concern, the geoprobe boring observations, and the field screening results, soil samples were collected from the subject property for laboratory analytical testing. In addition, temporary well points were installed to facilitate groundwater sampling. Sediment and surface water samples were also collected from the Kisco River, both upstream and downstream of the subject property.

The laboratory analytical results from the Phase II ESI indicated that there were levels of residual contaminants present in the soil samples in isolated areas of the subject site. The residual contaminants are consistent with the former use of the property. Specifically, the following potential areas of concern were identified: 1) the former sludge bed areas, mercury was present in one subsurface sample (GP-3) at a concentration exceeding the NYSDEC Commercial Use Soil Cleanup Objectives (SCOs); and 2) the area of the former pump house and effluent detention building, mercury was encountered in one subsurface sample (GP-7) at a concentration exceeding the NYSDEC Commercial Use SCOs.

In addition, the laboratory analytical results indicated that there were low levels of residual contamination present in soil samples collected from isolated areas of the subject site at concentrations exceeding the NYSDEC Residential SCOs, but below the NYSDEC Commercial Use SCOs. These areas are as follows:

- One (1) subsurface sample collected from the sand filter bed areas had a concentration of mercury that exceeds the Residential SCOs.

- In the former sludge bed areas, chromium, lead, and mercury were detected at concentrations exceeding the Residential SCOs.

- In the areas of the former structures, two (2) subsurface fill samples exhibited levels of mercury at concentrations exceeding the Residential SCOs and one (1) subsurface sample yielded chromium at a level of that exceeds the Residential SCO.

Groundwater samples collected on-site did *not* contain any contaminants of concern at concentrations exceeding the NYSDEC ambient water quality standards.

Sediment samples collected from the adjacent Kisco River did *not* indicate the presence of any contaminants of concern exceeding the sediment criteria. Surface water samples collected from the Kisco River also did *not* indicate the presence of any contaminants of concern exceeding the NYSDEC ambient water quality standards, with the exception of tetrachloroethene (PCE). PCE was detected at levels exceeding the NYSDEC ambient water quality standards in both the downstream and upstream surface water samples, with the higher levels found in the samples collected upstream of the site. Based on this finding, coupled with the absence of any detectable levels of PCE in the soil and groundwater samples collected on-site, it seems likely that an upstream source is affecting the PCE levels in the Kisco River.

2.0 SCOPE OF WORK

2.1 Objectives and Proposed Use

The purpose of a Remedial Investigation (RI) at the referenced site is to comprehensively investigate the property to characterize potential contaminants in the various areas of environmental concern in accordance with the requirements of the BCP. This investigation will be performed in accordance with NYSDEC *Technical Guidance for Site Investigation and Remediation* (DER-10), dated May 2010. The data collected during the RI will be used to identify potential health risks and to evaluate remedial alternatives for the subject site.

Previous investigations of the site identified the following potential areas of concern: 1) eight (8) former sand filter beds; 2) two (2) former sludge beds; 3) fill material located throughout the site; 4) stockpiled fill material; 5) a former sludge spoil staging area; and 6) the former pump house and effluent detention buildings where mercury was detected. All of these areas will be explored during this investigation. In addition, the surface soils will be investigated to confirm that they meet the commercial use soil cleanup objectives, groundwater samples will be collected, and sediment and surface water samples will be collected from the adjacent Kisco River.

The purpose of this Remedial Investigation Work Plan (RIWP) is to establish the Remedial Investigation activities for this project. The proposed RI tasks are described in the following sections of this RIWP. The proposed RI sample locations are identified on Figure 5 and Table 1 (Refer to Page 12) provides a summary of the proposed samples to be collected and analyses to be performed as part of the RI.

Once the investigation and/or remediation are complete, it is the intent of Crème de la Crème Inc. to market the site as a commercial property. At this time, we anticipate pursuing a Track 4 cleanup for the subject site. A Track 4 cleanup will utilize site-specific information and guidance to identify soil cleanup objectives in order to achieve a restricted commercial use remedy for the property. Institutional and/or engineering controls may be required to prevent exposure to contamination on the site. The decision of whether

institutional and/or engineering controls are appropriate will be made by the NYSDEC in consultation with the New York State Department of Health (NYSDOH). For proposed commercial use properties, the top one (1) foot of soil must meet the generic soil cleanup requirements for commercial use, as per 6 NYCRR Part 375-3.8(e)(4)(iii)(b).

2.2 Site Survey

The site survey used for Figure 4 and Figure 5 was prepared by H. Stanley Johnson and Company Land Surveyors, P.C. in October 2003 with a scale of 1"=60'. This survey is now outdated as it does not show the locations of the stockpiled soil/fill material or the now excavated detention basin areas.

A new topographic base map of the site will be prepared to identify pertinent site features (i.e. property boundaries, roadways, visible utilities, easements, etc.). The Site map will be prepared by a New York State (NYS) licensed surveyor. The surveyor will establish the horizontal location and vertical elevations using the New York State Plane Coordinate System and most recent vertical datum.

All sampling and monitoring well locations will be determined using geographical positioning system (GPS) equipment and/or NYS-licensed surveyor. Final monitoring well locations and elevations will be surveyed after installation. All location data will be managed through the use of a geographic information system (GIS) and will be utilized in the Electronic Data Deliverable (EDD) submittal.

2.3 Remedial Investigation

A remedial investigation (RI) will be implemented to characterize the surface soil, subsurface soil, and groundwater at the subject site. Soil borings, test pits, soil samples, and groundwater samples are planned for the subject site as well as surface water and sediment samples from the adjacent Kisco River. Additional samples will be collected from the areas of concern identified during the Phase I and Phase II investigations.

2.3.1 Soil Testing Program

A soil testing program will be implemented to thoroughly characterize and identify potential contaminants of concern in the on-site soils. The proposed sampling program for each area of concern is discussed in the following sections of this RI work plan. Proposed sampling locations are indicated on Figure 5, but may be adjusted in the field based on site conditions, accessibility, NYSDEC preferences, or other logistical concerns.

The soil testing program shall consist of a combination of test pits and borings. Test pits will be performed with a backhoe or small excavator. The test pits are planned for areas where shallow sampling is required, less than eight (8) feet deep, but the areas are not accessible by the drilling equipment (i.e. the existing stockpiles, heavily vegetated areas, etc.). Test pits will also be used when the sampling location is in proximity to the existing sanitary sewer easement. Soil borings will be installed at the remaining sampling locations.

Borings will be advanced utilizing either direct push (i.e. Geoprobe®) or hollow stem auger (HSA) drilling methods.

A drill rig capable of advancing a borehole using direct-push drilling methods via a Geoprobe® drill rig may be used for some or all of the test borings at the subject site. Direct-push sampling methods are capable of collecting continuous soil samples at four (4) foot intervals in dedicated 1.5-inch diameter PVC sleeves. Alternatively, the soil borings may be advanced using 3.25-inch I.D. hollow stem augers. Soil sampling with two (2)-foot long split-spoon samplers will be performed to collect continuous soil samples from each borehole. Soil borings will be extended until groundwater or bedrock is encountered to sufficiently characterize the subsurface conditions. The soil borings are anticipated to be advanced to depths of approximately sixteen (16) feet below the existing site grades.

At each test pit and/or boring location, an experienced geologist or engineer will visually classify the soil layers encountered, scan for volatile and semi-volatile organic vapors using a calibrated photoionization detector (PID), and inspect for any visual and/or olfactory evidence of contamination. Boring logs will be prepared for all soil samples collected describing color, grain size, sorting, cohesiveness, moisture content (groundwater), and the presence or absence of odors, staining, or other signs of contamination. Obvious man-made objects such as brick fragments, metal scrap, or concrete will be clearly identified.

All recovered samples requiring chemical analysis will be placed in the appropriate containers, and the containers will be clearly labeled with all categories or parameters. All samples will be stored in coolers on ice until delivery to the selected analytical laboratory under appropriate chain-of-custody. Copies of chain-of-custody documents will be retained and daily records including blind field duplicates will be recorded in the field logbook.

Soil samples will be analyzed for the full Target Compound List (TCL) suite plus the 30 highest concentration tentatively identified compounds (TICs) [volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and pesticides/ polychlorinated biphenyls (PCBs)] and Target Analyte List (TAL) suite (Metals, Mercury and Cyanide) by NYSDEC July 2005 Analytical Services Protocol (ASP) methods as follows:

1) TCL VOCs + TICs by EPA Method 8260B;
2) TCL SVOCs + TICs by EPA Method 8270;
3) TCL Pesticides/PCBs by EPA Methods 8081A/8082;
4) TAL Metals + Total Cyanide by EPA Methods 6010 and 9012; and
5) Total Mercury by EPA Method 7471A.

All samples will be analyzed by methods that can achieve the minimum reporting limits to allow for comparison of the results with background levels and with Part 375 Soil Cleanup Objectives (SCOs).

All investigation derived waste (IDW) will be managed in accordance with Section 3.3(e) of DER-10. Drill cuttings and/or spoil generated during the RI that appear to be clean (i.e.,

no visual contamination or presence of contamination-related odors) shall be used to backfill the borehole or test pit from which they were removed. All excess drill cuttings and drill cuttings/spoil that appear to be contaminated shall be containerized for off-site disposal at a properly permitted treatment, storage or disposal facility. Pending the soil sampling results, soil not characterized as a solid or hazardous waste may be placed at the site with NYSDEC review and approval. Cuttings and spoils to be sent off-site for disposal will be done so in a timely manner, and transported by a hauler licensed in accordance with 6 NYCRR Part 364. If the waste is determined to be hazardous, it will be shipped with a manifest in accordance with 6 NYCRR Part 372.

- *Former Sand Filter Beds*

Based on historic site plans, the eight (8) former sand filter beds (within the site limits) total about 53,910 square feet, as shown on Figure 4. For septic disposal fields, DER-10 Section 3.9(e)3 requires a minimum of four (4) locations per field or one (1) boring or test pit for every 500 square feet of field area, which would result in 108 sample locations. However, since the former sand filter beds received a relatively consistent stream of treated sewage, a reduced sampling plan is proposed for this portion of the site. Specifically, four (4) borings will be installed in each of the six (6) sand filter beds along the property line (approximate size is 63 feet by 95 feet each) and five (5) borings will be installed in each of the two (2) larger, full-size sand filter beds on the site (approximate size is 75 feet by 120 feet each). Soil borings will be advanced until groundwater is encountered.

The proposed sample locations are indicated on Figure 5. However, sample locations may need to be adjusted in the field due to the existing fill stockpiles. To the extent feasible, efforts will be made to excavate through the stockpiled material in order to sample the sand filter beds below.

The soil from each boring will be continuously collected in 4-foot intervals to visually identify the soil layers encountered, to scan for volatile and semi-volatile organic vapors using a calibrated PID, and to inspect for any visual and/or olfactory evidence of contamination. Soil samples will be collected from the discrete depth interval that displays any visual and/or olfactory evidence of contamination in that particular sample interval as determined by field observations. Soil samples will also be collected within and immediately below (i.e., zero to six (6) inches) the former sand filter bed at the discrete depth interval that displays the greatest evidence of contamination, if present. If no evidence of contamination is encountered, the soil sample will be collected from a depth of zero to six (6) inches immediately below the sand filter bed material. In the event no sand filter bed material is encountered, the soil sample will be collected at the groundwater interface.

Subsurface soil samples from the former sand filter bed areas will be analyzed for TCL VOCs, SVOCs, pesticides and PCBs, and TAL metals, including total mercury and total cyanide as discussed previously. A summary of proposed samples and analyses is provided in Table 1.

- *Former Sludge Beds*

Based on historic site plans, the two (2) former sludge beds totaled approximately 9,020 square feet within the limits of the subject site, as shown on Figure 4. Five (5) borings or test pits will be installed in each of the two (2) former sludge beds, or ten (10) sample locations total.

The proposed sample locations are indicated on Figure 5. However, sample locations may need to be adjusted in the field due to the existing fill stockpiles. To the extent feasible, efforts will be made to excavate through the stockpiled material in order to sample the former sludge beds below.

The soil from each boring/test pit will be continuously collected to visually identify the soil layers encountered, to scan for volatile and semi-volatile organic vapors using a calibrated PID, and to inspect for any visual and/or olfactory evidence of contamination. Soil samples will be collected within or immediately below the former sludge bed at the discrete depth interval that displays the greatest evidence of contamination, if present. If no evidence of contamination is encountered, the sample will be collected from the residual organic material within the former sludge bed area. Based on the findings of the Phase II ESI, these samples are anticipated to be collected below the current groundwater table.

Subsurface soil samples from the former sludge bed areas will be analyzed for TCL VOCs, SVOCs, pesticides and PCBs, and TAL metals, including total mercury and total cyanide as discussed previously. A summary of proposed samples and analyses is provided in Table 1.

- *In-Situ Fill Material*

According to NYSDEC DER-10, four (4) borings or test pits are required per acre in fill material. Since the entire 3.8 acre site has been filled, 16 soil borings or test pits will be installed throughout the site (seven locations in the sand filter/sludge bed areas and nine locations over the remaining area of the site) to evaluate the in-situ fill material, as shown on Figure 5.

The soil from each boring/test pit will be continuously collected to visually identify the soil layers encountered, to scan for volatile and semi-volatile organic vapors using a calibrated PID, and to inspect for any visual and/or olfactory evidence of contamination. Since a Track 4 cleanup is being pursued for this site, soil samples will be collected from the top one (1) foot of soil in accordance with Section 5.4(e)10 and as prescribed in Table 5.4(e)10 of DER-10. Additional soil samples will be collected at depths exceeding one (1) foot from the seven (7) borings located in the sand filter/sludge bed areas as described in the previous sections of this work plan.

Soil samples will also be collected at depths exceeding one (1) foot from the nine (9) borings located outside of the sand filter/sludge bed areas. Soil samples will be obtained at 4-foot intervals. Soil samples will be collected from the discrete depth interval that displays the greatest evidence of contamination in that particular sample interval as

determined by field observations (i.e., visual signs and/or high PID readings). If no evidence of contamination is encountered, analytical samples will be collected from the mid-portion of each sample interval and analyzed for TAL metals, including total mercury and total cyanide. Additionally, soil samples will be collected at the groundwater interface and analyzed for the full TCL suite.

Surface and subsurface soil/fill samples will be analyzed for TCL VOCs, SVOCs, pesticides and PCBs, and TAL metals, including total mercury and total cyanide as discussed previously. A summary of proposed samples and analyses is provided in Table 1.

For retention/detention basins that receive runoff from potential contaminant sources, NYSDEC DER-10 requires surface sediment sampling at inflows and outflows of the basin. However, the two (2) on-site retention basins have never been used as retention basins. The site does not contain any impervious surfaces and any rain water that lands on the site infiltrates into the ground surface. The fill material within the retention basins will be sampled as described above. The fill material that was previously excavated from the retention basin areas will be sampled as described in the following section of this document.

- *Stockpiled Fill Materials*

Since the formerly proposed retention basin areas have been excavated and stockpiled on the site, there are now two (2) large stockpiles of fill material on the property. Based on retention basin measurements from the former site plan, it is estimated that there is approximately 3,000 cubic yards of stockpiled fill material from the two retention basin areas. Test pits will be performed in both stockpiles to visually identify the material encountered, to scan for volatile and semi-volatile organic vapors using a calibrated PID, and to inspect the stockpiled material for any visual and/or olfactory evidence of contamination.

Samples will be collected as prescribed by Table 5.4(e) 10 of DER-10. Specifically, eleven (11) discrete soil samples will be collected for VOCs and four (4) three-point composite samples for SVOCs, TCL pesticides, PCBs, TAL metals, and cyanide. Samples will be collected from the depth interval that displays the greatest evidence of contamination, if present. If no evidence of contamination is encountered, the soil samples will be collected from a random depth within the stockpiled soil material. A summary of proposed samples and analyses is provided in Table 1.

There is also a stockpile of imported crushed stone material on the site. According to the site contractor, this material was imported from a project identified as Glenview House, which is located at in the intersection of Glenbrook Road and East Main Street in Stamford, Connecticut. Since this stockpile consists of crushed natural rock, sampling of this stockpile is not required. However, the crushed stone stockpile will be visually inspected and four (4) test pits will be excavated into the stockpile to investigate for evidence of recycled materials (i.e. brick, asphalt, concrete, etc.). In the event that recycled materials or unsuitable materials are encountered, additional investigation of the stockpiled material may be required.

- *Surface Soil*

Surface soil samples will be collected to assess human exposures related to incidental soil ingestion, inhalation of soil or dermal contact with soil, in accordance with Section 3.5.1(b)1.i. of DER-10. A minimum of eight (8) surface soil samples will be collected from a depth of 0 to 2 inches below the vegetative cover at locations across the site, as shown on Figure 5. Surface soil samples will be analyzed for TCL VOCs, SVOCs, pesticides and PCBs, and TAL metals, including total mercury and total cyanide as discussed previously. A summary of proposed samples and analyses is provided in Table 1.

- *Former Sludge Spoil Staging Area*

For staging areas, DER-10 requires one (1) sample per 900 square feet of staging area. Based on the former site plans, the former sludge spoil staging area was approximately 1,200 square feet in area. Therefore, two (2) soil borings will be installed in the former sludge spoil area.

The soil from each boring will be continuously collected at 4-foot intervals to visually identify the soil layers encountered, to scan for volatile and semi-volatile organic vapors using a calibrated PID, and to inspect for any visual and/or olfactory evidence of contamination. Soil samples from each boring will be collected from the discrete depth interval that displays the greatest evidence of contamination in that particular sample interval as determined by field observations. If no evidence of contamination is encountered, analytical samples will be collected from the mid-portion of each sample interval and analyzed for TAL metals, including total mercury and total cyanide. Additionally, soil samples will be collected at the groundwater interface and analyzed for the full TCL suite. A summary of proposed samples and analyses is provided in Table 1.

- *Former Pump House and Effluent Detention Building*

As discussed previously, mercury was encountered in one (1) subsurface sample (GP-7) in the vicinity of the former pump house and effluent detention building at the subject site. The sample was collected at a depth of 12 to 13 feet below the existing ground surface.

In order to determine the extent of mercury contamination in this area of the site, four (4) soil borings will be installed around the former GP-7 sampling location. The soil from each boring will be continuously collected at 4-foot intervals to visually identify the soil layers encountered, to scan for volatile and semi-volatile organic vapors using a calibrated PID, and to inspect for any visual and/or olfactory evidence of contamination. Soil samples from each boring will be collected from the discrete depth interval that displays the greatest evidence of contamination in that particular sample interval as determined by field observations. If no evidence of contamination is encountered, analytical samples will be collected from the mid-portion of each sample interval and analyzed for TAL metals, including total mercury and total cyanide. For the sampling interval extending 12 to 16 feet below the existing ground surface, soil samples will be collected from each boring at a depth of 12 to 13 feet, consistent with the GP-7 sample depth. A summary of proposed samples and analyses is provided in Table 1.

- *Former Chlorination Components*

When chlorine or other disinfectants react with naturally occurring organic and inorganic matter in water, they produce byproducts that consist of trihaolmethanes. The four (4) trihalomethane compounds associated with chlorination are chloroform, bromodichloromethane, dibromochloromethane, and bromoform. Each of these compounds is included on the Target Compound List (TCL) for Volatile Organic Compounds (VOCs) by EPA Method 8260B.

To assess if there has been any impact to the site as a result of previous chlorination components on the property, we will evaluate the concentrations of these four (4) trihalomethane compounds in each of the soil and groundwater samples that are collected during the investigation.

2.3.2 Groundwater Sampling Program

As part of this RI, groundwater monitoring wells will be installed at the subject site for the purpose of measuring the groundwater level, determining the groundwater flow direction, and collecting groundwater samples in accordance with Sections 2.1-2.4 and 3.7 of DER-10. The monitoring wells shall be installed and sampled as outlined below.

- *Monitoring Well Installation*

Four (4) soil borings will be advanced using a standard drilling rig employing hollow-stem augers and completed as two (2)-inch monitoring wells to be used for measuring water levels and collecting groundwater samples. The anticipated monitoring well locations are shown on Figure 5. The monitoring wells are expected to extend approximately 16 feet below the existing ground surface.

The monitoring well borings will be advanced using 4.25-inch I.D. hollow stem augers (HSA). Soil sampling with split spoon samplers will be performed at each boring location to visually identify the soil layers encountered, to scan for volatile and semi-volatile organic vapors using a calibrated PID, and to inspect for any visual and/or olfactory evidence of contamination.

A two (2)-inch monitoring well will be constructed at each of the four (4) boring locations. The monitoring well will consist of flush-joint Schedule 40 PVC solid riser and machine slotted screen (0.010-inch slot size). The monitoring well screen will be approximately ten (10) feet in length and shall extend across the top of the groundwater table. A sand pack shall be installed from at least one (1) foot beneath the base of the well, around the well screen and extending to two (2) feet above the top of the well screen. A bentonite seal, approximately three (3) feet in thickness, shall be installed immediately above the sand layer. The remainder of the borehole shall be filled with on-site soil fill to the ground surface. The top of the well riser pipe will extend approximately two (2) to three (3) feet above the ground surface and will be fitted with a lockable J-plug. A protective steel casing will then be installed over each of the monitoring wells.

- *Well Development*

After installation and being allowed to set for three (3) days, the newly installed groundwater monitoring wells will be adequately developed by mechanically surging the water in the well to loosen and remove suspended fines from the well screen and sand pack and purging the groundwater. Measurements of the water volume removed and water quality parameters including temperature, pH, conductivity, and turbidity will be recorded at regular intervals throughout the well development process. Development will continue until water quality measurements stabilize to within 10% of the previous measurement.

The well development water will be containerized and placed into 55-gallon drums that will be temporarily staged on-site until the laboratory analytical results for groundwater are available. In the event that elevated levels of contaminants are encountered in the groundwater, the well development and purge water will be disposed off-site at a properly permitted treatment, storage, or disposal facility that accepts this type of waste. Water to be sent off-site for disposal will be done so in a timely manner, and transported by a hauler licensed in accordance with 6 NYCRR Part 364. If the water is determined to be hazardous, it will be shipped with a manifest in accordance with 6 NYCRR Part 372. If groundwater contamination is not detected, the well development and purge water will be discharged onto the ground surface at the site pending NYSDEC review and approval.

- *Groundwater Sample Collection*

Sampling will not occur for at least ten (10) days after development of the newly-installed wells. Prior to sampling any wells, the static groundwater elevation at each well will be measured. Groundwater samples will be collected from each of the four (4) monitoring wells using the United States Environmental Protection Agency (USEPA) Region II Low Stress (Low Flow) Purging and Sampling Procedures (March 1998). If a well produces poorly and there is an insufficient groundwater recharge rate to perform low flow sampling, it will be purged dry and allowed to recover a minimum of 90% of the static water level before sampling. New and dedicated disposable bailers will then be used to collect the groundwater samples.

Field measurements for pH, specific conductivity, dissolved oxygen (DO), temperature, turbidity, flow rate and water level, as well as visual and olfactory field observations, will be monitored and recorded approximately every five (5) minutes for stabilization during well purging. A well is considered stabilized and ready for sample collection when the recorded field parameters have stabilized for three consecutive readings as follows: ±0.1% for pH, ±3% for specific conductivity, and ±10% for DO and turbidity. Alternately, turbidity may also be considered stable when turbidity measurements fall below 50 NTU or become stable above 50 NTU. However, in the event samples are collected at turbidity levels in excess of 50 NTU, additional samples will be collected and filtered at the laboratory prior to analysis.

All recovered groundwater samples requiring chemical analysis will be collected in laboratory-prepared sample bottles that are clearly labeled with all categories or parameters. Appropriate QA/QC samples will be collected per sampling event, including

one trip blank (accompanying VOC samples only), one matrix spike (MS), one matrix spike duplicate (MSD), one field duplicate and one field equipment blank (if necessary) sample. Subsequent to collection, all groundwater samples will be stored in coolers on ice until delivery to the selected analytical laboratory under appropriate chain-of-custody (COC). Copies of chain-of-custody documents will be retained and daily records including blind field duplicates will be recorded in the field logbook.

Groundwater samples will be analyzed for the full TCL suite plus the 30 highest concentration TICs (VOCs, SVOCs, and Pesticides/PCBs) and TAL suite (Metals and Cyanide) by NYSDEC July 2005 ASP methods as shown below:

1) TCL VOCs + TICs by EPA Method 8260B
2) TCL SVOCs + TICs by EPA Method 8270
3) TCL Pesticides/PCBs by EPA Methods 8081A/8082
4) TAL Metals (incl. Mercury) + Total Cyanide by EPA Methods 6010 and 9012

All samples will be analyzed by methods that can achieve the minimum reporting limits to allow for comparison of the results with NYSDEC Division of Water Technical and Operation Guidance Series (TOGS) 1.1.1 - Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.

2.3.3 Surface Water / Sediment Sampling

The former site plans indicate that the former facility discharged to the adjacent Kisco River. Therefore, a surface water and sediment sampling program will be performed in accordance with Section 3.8 of DER-10 to identify potential contaminants of concern within the river as a result of the former facility on the subject site. The proposed sampling program for the surface water and sediment is discussed in the following sections of this work plan. Proposed sampling locations are indicated in Figure 5, but may be adjusted in the field based on site conditions, accessibility, NYSDEC preferences, or other logistical concerns.

- *Surface Water Sample Collection*

Surface water samples will be collected in accordance with Section 3.8.2(b) of DER-10 at the following locations in the Kisco River:

1) Two (2) samples upgradient of the subject site;
2) One (1) sample near the former discharge area; and
3) One (1) sample downgradient of the subject site.

Water quality parameters (pH, conductivity, temperature, dissolved oxygen, and turbidity) will be measured in the stream during sampling.

Surface water samples will be collected by carefully dipping unpreserved sample bottles into the stream, and removing the lid below the surface of the water to avoid collecting samples at the air-water interface. Samples will then be transferred from the unpreserved

bottle to the appropriate sample containers in accordance with protocols for analyses shown on Table 1. All samples will be placed on ice and transported under proper chain of custody procedures to the analytical testing laboratory.

Surface water samples will be analyzed for the full TCL suite plus the 30 highest concentration TICs (VOCs, SVOCs, and Pesticides/PCBs) and TAL suite (Metals and Cyanide) by NYSDEC July 2005 ASP methods in the same manner as the groundwater samples. The surface water samples will be analyzed by methods that can achieve the minimum reporting limits to allow for comparison of the results with NYSDEC TOGS 1.1.1 - Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.

- *Sediment Sample Collection*

Sediment samples will be collected in accordance with Section 3.8.2(c) of DER-10 at the following locations in the Kisco River:

1) Two (2) samples upgradient of the subject site;
2) One (1) sample near the former discharge area; and
3) One (1) sample downgradient of the subject site.

With the exception of the VOC analysis sample, sediment samples will consist of a three-point composite sample at each sediment sampling point. The three-point composite sample will ensure an accurate representation of the sediment quality in the sampling areas. The sediment samples will be collected from the stream bed using pre-cleaned stainless steel scoops. The composite samples will be thoroughly mixed in pre-cleaned stainless steel bowls prior to filling the appropriate sample containers in accordance with protocols for analyses shown on Table 1. The VOC analysis sample will be collected directly from one of the composite points, and immediately placed in the appropriate sample container. All samples will be placed on ice and transported under proper chain of custody procedures to the analytical laboratory.

Sediment samples will be analyzed for the full TCL suite plus the 30 highest concentration TICs (VOCs, SVOCs, and Pesticides/PCBs) and TAL suite (Metals, Mercury and Cyanide) by NYSDEC July 2005 ASP methods. All samples will be analyzed by methods that can achieve the minimum reporting limits to allow for comparison of the results with NYSDEC Division of Fish, Wildlife and Marine Resources Technical Guidance for Screening Contaminated Sediments.

2.3.4 Summary of Sampling Program

The sample locations, number of samples, sample method, sample depth and analytical testing program are summarized in Table 1 on the following pages.

TABLE 1
Sampling and Analytical Testing Summary

Sample Location (Sample No.)	No. of Samples		Sample Method	Field Analyses	Sample Depth	QA/QC Samples	Analyses
	Soil/ Sediment	Water					
Six (6) 63'x95' Sand Filter Beds (SF-1 to SF-24)	24	-	Direct Push, Hollow Stem Augers, and/or Test Pits	PID, Visual	Based on field characterization, or 0-6" below sand or at groundwater interface	1 FD, 1 FB 1 MS/MSD	VOCs, SVOCs, Pesticides, PCBs, Metals, Mercury Cyanide
Two (2) 75'x120' Sand Filter Beds (SF-25 to SF-34)	10	-	Direct Push, Hollow Stem Augers, and/or Test Pits	PID, Visual			
Two (2) Sludge Beds (SL-1 to SL-10)	10	-	Continuous Sampling, Direct Push or Hollow Stem Augers	PID, Visual	Organic material or based on field characterization	1 FD, 1 FB 1 MS/MSD	VOCs, SVOCs, Pest, PCBs, Metals, Mercury Cyanide
In-Situ Fill Material (F-1 to F-16)	16	-	Direct Push, Hollow Stem Augers, and/or Test Pits	PID, Visual	0-1'	1 FD, 1 FB 1 MS/MSD	VOCs, SVOCs, Pest, PCBs, Metals, Mercury Cyanide
In-Situ Fill Material (F-17 to F-25)	9	-	Direct Push, Hollow Stem Augers, and/or Test Pits	PID, Visual	Based on field characterization or groundwater interface	NA	VOCs, SVOCs, Pest, PCBs, Metals, Mercury Cyanide
In-Situ Fill Material (F-26 to F-43)	9-18	-	Direct Push, Hollow Stem Augers, and/or Test Pits	PID, Visual	Mid-portion of each sample interval	1 FD, 1 FB 1 MS/MSD	TAL Metals, Mercury, Cyanide
Stockpiled Fill Material (STP-1 to STP-11)	11 (Discrete)	-	Test Pits	PID, Visual	Based on field characterization	1 FD, 1 FB 1 MS/MSD	VOCs
Stockpiled Fill Material (STP-C1 to STP-C4)	4 (3-Point Composite)	-	Test Pits	PID, Visual	Based on field characterization	1 FD, 1 FB 1 MS/MSD	SVOCs, Pest, PCBs, Metals, Mercury, Cyanide

Sample Location (Sample No.)	No. of Samples		Sample Method	Field Analyses	Sample Depth	QA/QC Samples	Analyses
	Soil/ Sediment	Water					
Surface Soil (SS-1 to SS-8)	8	-	Grab Samples or Test Pits	PID, Visual	0-2”	NA	VOCs, SVOCs, Pest, PCBs, Metals, Mercury Cyanide
Former Sludge Spoil Area (SLS-1 to SLS-2)	2	-	Continuous Sampling, Direct Push or Hollow Stem Augers	PID, Visual	Based on field characterization or groundwater interface	NA	VOCs, SVOCs, Pest, PCBs, Metals, Mercury, Cyanide
Former Sludge Spoil Area (SLS-3 to SLS-6)	2-4	-	Continuous Sampling, Direct Push or Hollow Stem Augers	PID, Visual	Mid-portion of each sample interval	1 FD, 1 FB 1 MS/MSD	TAL Metals, Mercury, Cyanide
Former Pump House & Effluent Building (PH-1 to PH-4)	4	-	Continuous Sampling, Direct Push or Hollow Stem Augers	PID, Visual	12’0”-13’0” below ground surface	NA	TAL Metals, Mercury, Cyanide
Former Pump House & Effluent Building (PH-5 to PH-16)	12	-	Continuous Sampling, Direct Push or Hollow Stem Augers	PID, Visual	Mid-portion of each sample interval	NA	TAL Metals, Mercury, Cyanide
Groundwater (MW-1 to MW-4)	-	4	Low Flow Sampling or Manual Bailing	PID, Temp, DO, pH, Turbidity, Conductivity	NA	1 FD, 1 FB, 1 TB 1 MS/MSD	VOCs, SVOCs, Pest, PCBs, Metals, Mercury, Cyanide
Kisco River Sediment (SED-1 to SED-4)	4 (Sediment)	-	Manual	PID, Visual, Temp, DO, pH, Turbid, Conduct	0-6”	NA	VOCs, SVOCs, Pest, PCBs, Metals, Mercury Cyanide
Kisco River Surface Water (SW-1 to SW-4)	-	4 (Surface Water)	Manual	PID, Visual, Temp, DO, pH, Turbid, Conduct	NA	1 TB	VOCs, SVOCs, Pest, PCBs, Metals, Mercury Cyanide

Notes: FB – Field Blank TB – Trip Blank FD – Field Duplicate Sample
MS – Matrix Spike Sample MSD – Matrix Spike Duplicate
PID – Photoionization Detector NA – Not Applicable

2.4 Sample Labeling, Handling, and Shipping

All soil, sediment, surface water, and groundwater samples will be identified using a unique sample number suitable to the project and the sampling protocol.

All recovered samples requiring chemical analysis will be placed in the appropriate containers, and the containers will be clearly labeled with all categories or parameters. All samples will be stored in coolers on ice until delivery to the selected analytical laboratory under appropriate chain-of-custody. Copies of chain-of-custody documents will be retained and daily records including blind field duplicates will be recorded in the field logbook. The samples will be either hand-delivered or shipped to the selected analytical laboratory via Federal Express within 48-hours of sample collection.

2.5 Qualitative Human Health Risk Assessment

To evaluate potential exposures to site contaminants, a qualitative human health exposure assessment will be completed consistent with the NYSDOH guidance in Appendix 3B of the NYSDEC DER-10 *Technical Guidance for Site Investigation and Remediation* dated May 2010 (DER-10). This assessment consists of characterizing the exposure setting, a description of the physical environment and the proposed future land use, a description of the potentially exposed human populations, identifying exposure pathways, and evaluating contaminant fate and transport.

2.6 Fish and Wildlife Risk Assessment

A Fish and Wildlife Resources Impact Analysis (FWIA) may be required for the subject site. This will depend upon the findings of the Remedial Investigation. To determine if a FWIA is required for the site, the Fish and Wildlife Resources Impact Analysis Decision Key in Appendix 3C of the NYSDEC DER-10 *Technical Guidance for Site Investigation and Remediation* dated May 2010 (DER-10) will be completed.

If required, a screening-level ecological risk assessment will be conducted in accordance with NYSDEC guidance for performing Fish and Wildlife Impact Analyses (FWIA) for Inactive Hazardous Waste Sites (NYSDEC, 1994). The purpose of the assessment is to identify actual or potential impacts to fish and wildlife resources from site contaminants of ecological concern. Steps I (Site Description) and IIA (Pathway Analysis) of the FWIA guidance will be conducted based on the results of the site investigations.

2.7 Reporting

Once the investigation is complete, a Draft Remedial Investigation (RI) Report and a Draft Remedial Action (RA) Work Plan will be prepared for the referenced site and submitted to the NYSDEC. The RI Report will be consistent with the general requirements for RI reports set forth in Section 3.14 of DER-10. The RI Report will include the following information:

- A description of the existing site conditions;

- A description of the subsurface soil and groundwater conditions;
- A summary of the previous data collected;
- A summary of the fieldwork performed;
- Soil boring, test pit, and monitoring well logs;
- Groundwater sampling field logs;
- Community Air Monitoring Plan (CAMP) logs;
- A sample location plan;
- Laboratory data summary tables;
- The findings of the investigation;
- A summary table for the Qualitative Human Health Risk Assessment;
- Data Usability Summary Report (DUSR);
- Laboratory analytical results (CD only); and
- Our conclusions and recommendations.

The Remedial Action (RA) Work Plan will include an evaluation of remedial alternatives for the subject site. The data obtained from previous investigations and from the Remedial Investigation (RI) will be utilized along with the proposed site use to identify and select remedial action alternatives for the subject property.

3.0 QA/QC PROTOCOLS

3.1 Laboratory and Data Submittal

All recovered samples requiring chemical analysis shall be placed in laboratory-prepared unpreserved or preserved polyethylene or glass containers, depending on the sample media and analyses. Sample preservation shall also consist of keeping the samples cool and maintaining a cooler temperature of four (4) degrees Celsius. The maximum sample holding time is dependent on the required analysis.

All samples will be submitted under proper chain-of-custody procedures to a NYSDOH Environmental Laboratory Approval Program (ELAP) certified laboratory for analysis by NYSDEC July 2005 Analytical Services Protocol (ASP) and in accordance with approved U.S. Environmental Protection Agency (USEPA) methodologies.

Procedures for chain of custody, laboratory instrumentation calibration, laboratory analyses, reporting of data, internal quality control, and corrective actions shall be followed as per USEPA SW-846, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,* and as per the selected laboratory's quality assurance plan.

Where appropriate, duplicate samples, field equipment blanks, cooler temperature blanks, matrix spike, and matrix spike duplicates shall be performed at a rate of 5% and will be used to assess the quality of the data. The laboratory's in-house QA/QC limits will be utilized whenever they are more stringent than those suggested by the EPA methods.

Analytical data will be presented as Category B deliverables packets including Tentatively Identified Compounds (TICs) for VOCs and SVOCs only. All analytical data will be validated and a Data Usability Summary Report (DUSR) prepared.

3.2 Electronic Data Deliverables

All data obtained as part of this RI will be managed with the use of a relational database and reported with the use of a GIS. All laboratory data collected will be submitted to the NYSDEC in the NYSDEC-approved Electronic Data Deliverable (EDD) format. In addition to analytical data, other sample descriptive data and survey coordinate data will also be incorporated into the EDD.

3.3 Data Usability Summary Report

The laboratory data package will be sent to a qualified, independent, data validation specialist for evaluation of the accuracy and precision of the analytical results and for preparation of a Data Usability Summary Report (DUSR). The DUSR will provide a thorough evaluation of the analytical data to determine whether or not the data, as presented, meets the site/project specific criteria for data quality and use. The DUSR will be prepared in accordance with the guidelines in Section 2.2 and Appendix 2B of DER-10.

3.4 Field Equipment

All non-dedicated, down-hole soil sampling equipment will be decontaminated prior to sampling and between soil boring/drilling locations in accordance with accepted drilling practices using an Alconox wash followed by a clean water rinse.

Dedicated sampling equipment (i.e. tubing, bailers, etc.) will be used for the groundwater sampling. In the event dedicated sampling equipment is not utilized, all sampling equipment (pump, tubing, monitoring equipment, etc.) will be decontaminated prior to use and between wells using an Alconox wash followed by a deionized (DI) water rinse.

Equipment decontamination water will be containerized and temporarily staged on-site pending analysis and disposal off-site at a properly permitted treatment, storage, or disposal facility. Water to be sent off-site for disposal will be done so in a timely manner, and transported by a hauler licensed in accordance with 6 NYCRR Part 364. If the water is determined to be hazardous, it will be shipped with a manifest in accordance with 6 NYCRR Part 372.

Disposable sampling equipment including, spoons, gloves, bags, paper towels, acetate liners, etc. that came in contact with contaminated soil will be double-bagged and disposed of as municipal trash.

4.0 ADDITIONAL INFORMATION

4.1 Project Organization

Carlin-Simpson & Associates has assigned the following individuals to the execution of this RI Work Plan.

Robert B. Simpson, PE - Principal
Mr. Simpson will be responsible for coordination and supervision of staff engineers and scientists. He will also be responsible for adherence to the work plan, schedule, and budget.

Meredith R. Anke, P.E. – Project Manager
Ms. Anke will be responsible for development of the work plan, coordination of subcontractors, implementation of the work plan, implementation of the field program, maintaining quality assurance policies that pertain to all aspects of the work, coordination of the laboratory and the data validator, and preparation of the Remedial Investigation (RI) Report.

4.2 Health And Safety

4.2.1 Health and Safety Plan

The site-specific Specific Health and Safety Plan for the referenced project is provided in Appendix A of this Work Plan.

4.2.2 Community Air Monitoring

Real-time air monitoring will be performed to protect the immediate work area and the downwind community. Continuous real-time air monitoring will be conducted for VOCs and particulates (i.e., dust) at the downwind perimeter of each designated work area when ground intrusive activities are in progress, including drilling and soil boring operations, monitoring well installations, excavating test pits and backfilling activities.

The air in the immediate work area will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis using a photoionization detector (PID), which is capable of detecting VOCs and SVOCs at concentrations as low as one (1) part per million (ppm) and capable of calculating 15-minute running average concentrations. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes.

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulates less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level.

The particulate monitoring equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities.

Additional information regarding VOC and particulate monitoring, response levels, and actions are detailed in the site-specific Community Air Monitoring Plan (CAMP) found in Appendix B of this Work Plan.

4.3 Citizen Participation

Fact sheets documenting the progress of the project will be prepared at key milestones of the project and distributed to those on the project mailing list. The distribution list is included in the Citizen Participation Plan, which is contained in the document repository established for this site.

4.4 Project Schedule

The following schedule is planned for this project:

Public Notification of Work Plan	May 2011
Public Comment Period	May-June 2011
Incorporate Comments into RI Work Plan	August 2011
Submit Final RI Work Plan for DEC & DOH Review	November 2011
NYSDEC Approval of RI Work Plan	February 2012
Implementation of Work Plan	March-April 2012
Sample Analysis & Data Delivery	April-May 2012
Data Validation & Preparation of DUSR	May-June 2012
Data Analysis, EDD and Report Preparation	June 2012
Submit Draft RI Report to NYSDEC	July 2012
Submit Draft Remedial Action (RA) Work Plan to NYSDEC	August 2012

5.0 REFERENCES

New York State Department of Environmental Conservation (NYSDEC), May 2010, DER-10 Technical Guidance for Site Investigation and Remediation**.**

Carlin-Simpson & Associates (CSA), 9 January 2008, Modified Phase I Environmental Site Assessment and Phase II Environmental Site Investigation Report.

FIGURES

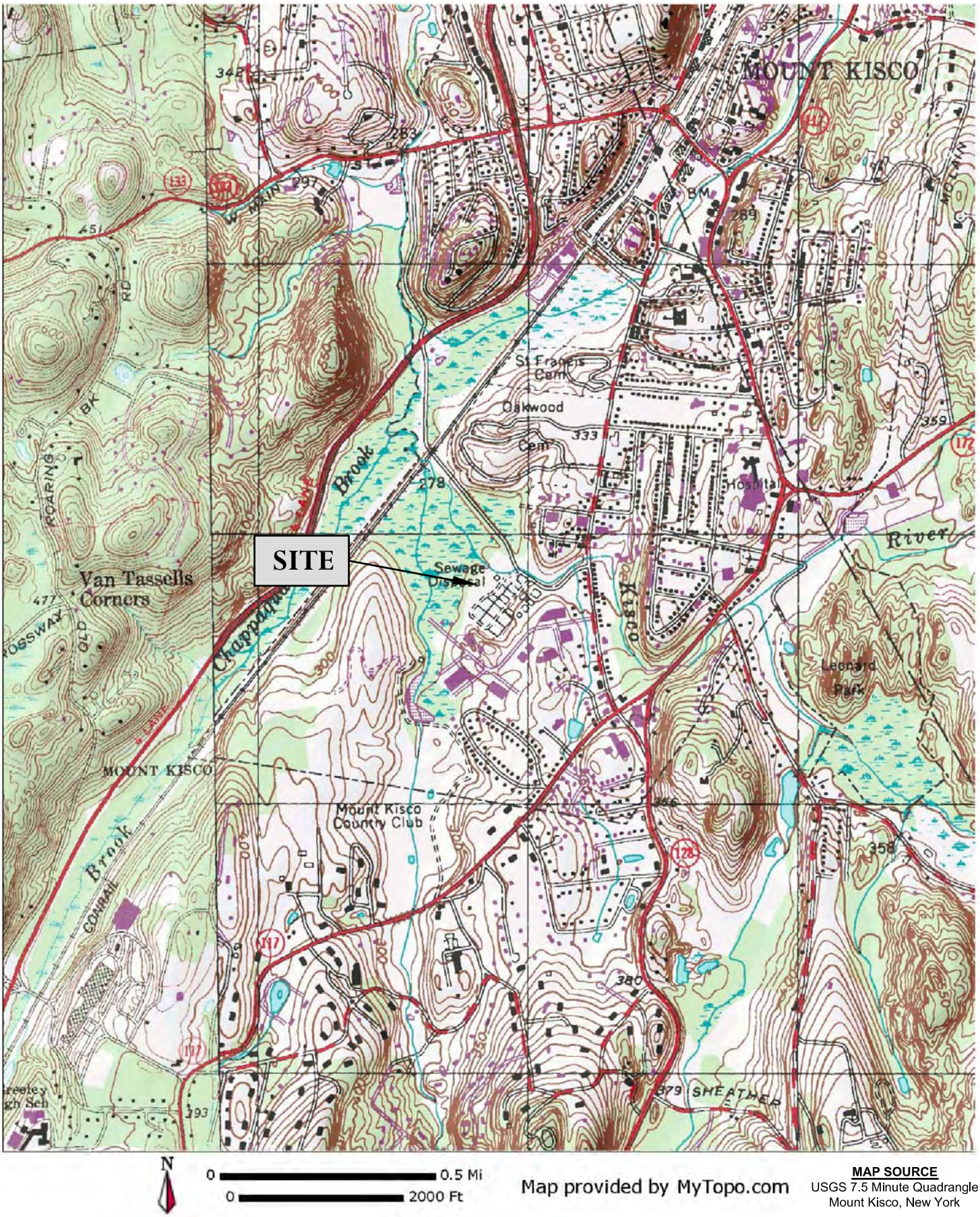

FIGURE 1 - SITE LOCATION MAP

BCP SITE NO.C360112
UNDEVELOPED PARCEL SITE
MT. KISCO, NEW YORK

CARLIN-SIMPSON & ASSOCIATES
SAYREVILLE, NEW JERSEY
PROJECT NO. 01-109

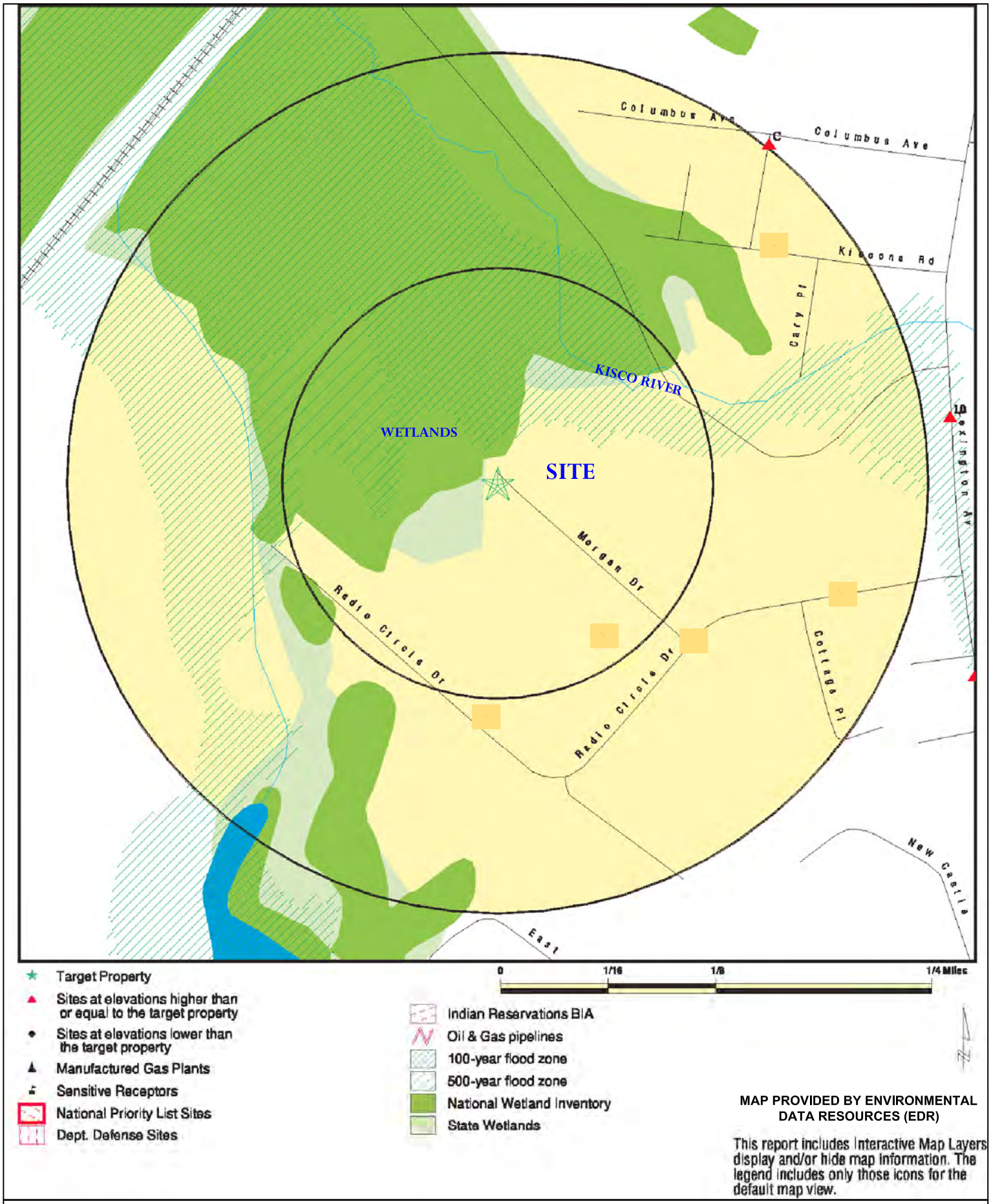

FIGURE 2 - AREA MAP WITH WETLANDS AND SURFACE WATER

BCA SITE NO.C360112
UNDEVELOPED PARCEL SITE
MT. KISCO, NEW YORK

CARLIN-SIMPSON & ASSOCIATES
SAYREVILLE, NEW JERSEY
PROJECT NO. 01-109

FIGURE 3 - AERIAL PHOTO OF THE SUBJECT SITE

GENERAL NOTES:

1. GENERAL LAYOUT WAS OBTAINED FROM A DRAWING PREPARED BY H. STANLEY JOHNSON AND COMPANY LAND SURVEYORS, P.C., ENTITLED "FINAL PLAT AND LOT LINE CHANGE PREPARED FOR CREME DE LA CREME (MT. KISCO), INC. AND SANCTUARY VENTURES, LLC", DATED OCTOBER 2003, ORIGINAL SCALE: 1"=60'.

2. FACILITY COMPONENT LOCATIONS ARE APPROXIMATE.

LEGEND:

– FORMER GEOPROBE BORING LOCATION

– FORMER SURFACE SAMPLE LOCATION

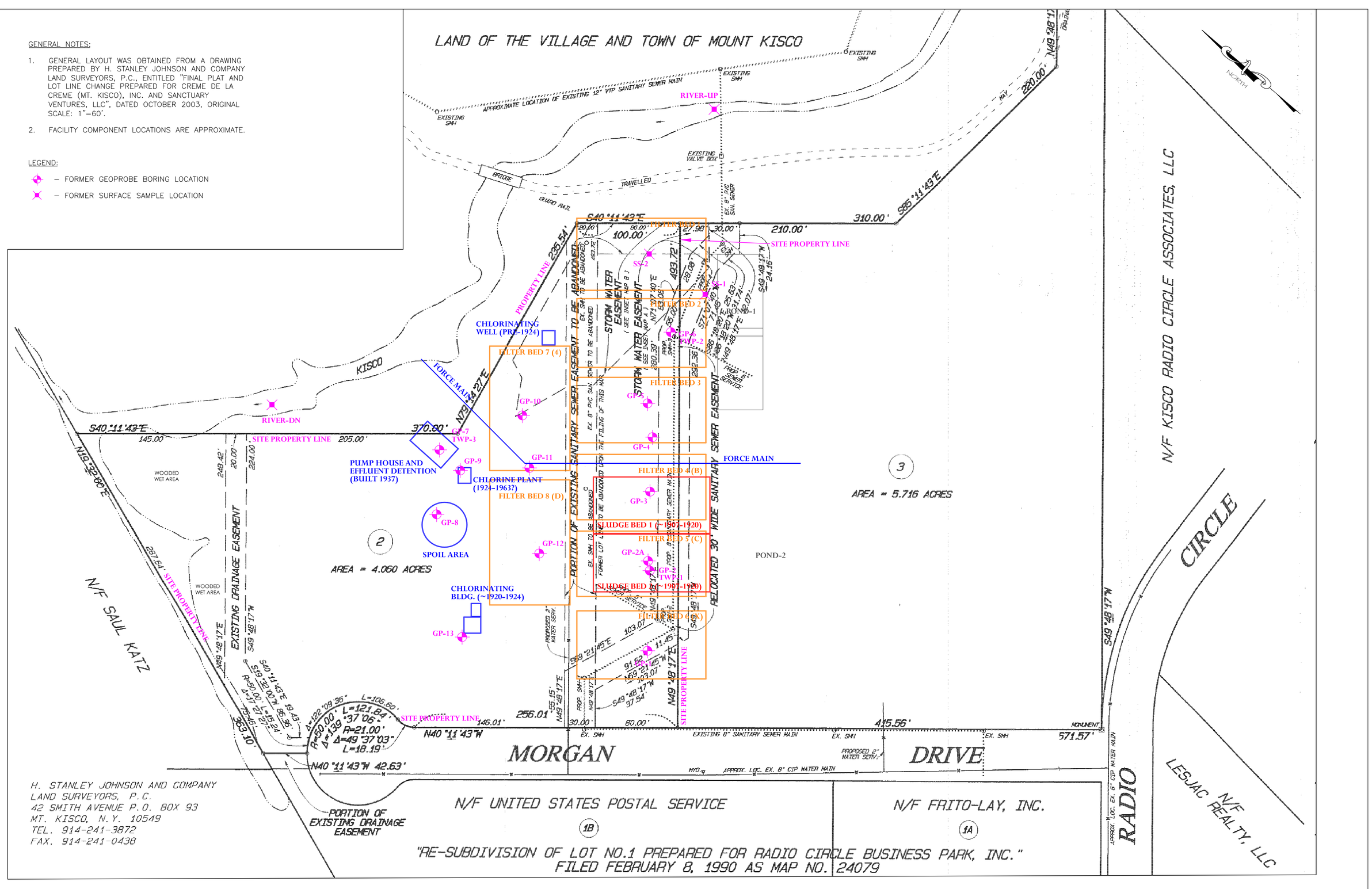

FIGURE 4 - SITE SURVEY WITH FORMER FACILITY COMPONENTS

SCALE: 1"=40'

BCA SITE NO. C360112
UNDEVELOPED PARCEL SITE
MT. KISCO, NEW YORK

CARLIN-SIMPSON & ASSOCIATES
SAYREVILLE, NEW JERSEY
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2. FACILITY COMPONENT LOCATIONS ARE APPROXIMATE.
3. SOIL STOCKPILES NOT SHOWN.

LEGEND:

- – FORMER GEOPROBE BORING LOCATION
- – PROPOSED FILL SAMPLING LOCATION
- – PROPOSED SURFACE SOIL SAMPLING
- – PROPOSED SOIL SAMPLING LOCATION
- – PROPOSED RIVER SAMPLING LOCATION
- – PROPOSED GROUNDWATER MONITORING WELL LOCATION

LAND OF THE VILLAGE AND TOWN OF MOUNT KISCO

N/F KISCO RADIO CIRCLE ASSOCIATES, LLC

NORTH

EXISTING SMH

APPROXIMATE LOCATION OF EXISTING 12" VTP SANITARY SEWER MAIN

EXISTING VALVE BOX

BRIDGE

TRAVELLED WAY

GUARD RAIL

EX. 8" PVC SAN. SEWER

S40°11'43"E 100.00'

S85°11'43"E 310.00'

N49°48'17"E 220.00'

210.00'

SITE PROPERTY LINE

PROPERTY LINE 235.54'

EXCAVATED STORMWATER BASIN

STORM WATER EASEMENT

SEE INSET MAP 8

TO BE ABANDONED

EX. SMH

CHLORINATING WELL (PRE-1924)

FILTER BED 7

FILTER BED 2

FILTER BED 3

FILTER BED 4 (B)

FILTER BED 8 (D)

SLUDGE BED 1 (~1907-1920)

FILTER BED 5 (C)

SLUDGE BED 2 (~1907-1920)

FILTER BED 6 (A)

POND-1

POND-2

FORCE MAIN

PROPOSED 2" WATER SERV.

EX. 8" PVC SAN. SEWER TO BE ABANDONED UPON THE FILING OF THIS MAP

PORTION OF EXISTING SANITARY SEWER EASEMENT

RELOCATED 30' WIDE SANITARY SEWER EASEMENT

N19°32'00"E 287.64'

N40°11'43"W 370.80'

S40°11'43"E 145.00'

SITE PROPERTY LINE 205.00'

PUMP HOUSE AND EFFLUENT DETENTION (BUILT 1937)

G-17

CHLORINE PLANT (1924-1963?)

SPOIL AREA

EXCAVATED STORMWATER BASIN

WOODED WET AREA

EXISTING DRAINAGE EASEMENT

N49°48'17"E

S49°48'17"W

248.42'

20.00'

224.00'

2

AREA = 4.060 ACRES

3

AREA = 5.716 ACRES

N/F SAUL KATZ

SITE PROPERTY LINE

CHLORINATING BLDG. (~1920-1924)

PROPOSED 2" WATER SERV.

S69°21'45"E 103.07'

N69°21'45"W 91.62'

N69°21'45"W 103.07'

S49°48'17"W 37.54'

11.45'

55.15'

256.01

146.01'

30.00'

80.00'

SITE PROPERTY LINE

S40°11'43"E 363.10'

S19°32'00"W 86.36'

R=50.00' L=121.84'

Δ=139°37'06"

R=21.00'

Δ=49°37'03"

L=18.19'

L=106.50'

N40°11'43"W

N40°11'43"W 42.63'

PORTION OF EXISTING DRAINAGE EASEMENT

415.56'

571.57'

MONUMENT

EX. SMH

EXISTING 8" SANITARY SEWER MAIN

PROPOSED 2" WATER SERV.

HYD.

APPROX. LOC. EX. 8" CIP WATER MAIN

APPROX. LOC. EX. 6" CIP WATER MAIN

MORGAN DRIVE

RADIO CIRCLE

N/F UNITED STATES POSTAL SERVICE

1B

N/F FRITO-LAY, INC.

1A

N/F LESUAC REALTY, LLC

"RE-SUBDIVISION OF LOT NO.1 PREPARED FOR RADIO CIRCLE BUSINESS PARK, INC." FILED FEBRUARY 8, 1990 AS MAP NO. 24079

H. STANLEY JOHNSON AND COMPANY
LAND SURVEYORS, P.C.
42 SMITH AVENUE P.O. BOX 93
MT. KISCO, N.Y. 10549
TEL. 914-241-3872
FAX. 914-241-0438

FIGURE 5 - PROPOSED SAMPLE LOCATION PLAN

SCALE: 1"=40'

BCA SITE NO. C360112
UNDEVELOPED PARCEL SITE
MT. KISCO, NEW YORK

CARLIN-SIMPSON & ASSOCIATES
SAYREVILLE, NEW JERSEY
PROJECT NO. 01-109

APPENDIX A

HEALTH AND SAFETY PLAN

SITE-SPECIFIC HEALTH AND SAFETY PLAN

BCP Site No. C360112
Undeveloped Parcel Site
6 Morgan Drive
Mount Kisco
Westchester County, New York

Prepared By:
Carlin-Simpson & Associates
61 Main Street
Sayreville, New Jersey

February 2012

Carlin-Simpson & Associates
Site-Specific Health and Safety Plan

This Health and Safety Plan (HASP) presents information regarding known site-specific health and safety hazards using available information, and identifies the equipment, materials and procedures that will be used to eliminate or control these hazards during the Remedial Investigation at the subject site.

GENERAL INFORMATION

Client/Site Name:	Creme de la Creme, Undeveloped Parcel Site, BCP Site No. C360112		
Site Address:	6 Morgan Drive, Mt. Kisco, New York		
Job/Project #:	01-109		
Estimated Start Date:	March 2012	Estimated Completion Date:	April 2012

EMERGENCY INFORMATION

Phone Numbers:	Hospital #:	914-666-1200	Ambulance #:	911
	Fire #:	911	Police #:	911
Hospital Name & Address:	Northern Westchester Hospital, 400 E. Main Street, Mt. Kisco, NY 10549			
Directions and Street Map of Route to Nearest Hospital Attached: ☒ Yes ☐ No (if no, do not proceed)				
Other Emergency Contact:	Robert Simpson, PE		Phone #:	732-432-5757
Location of Nearest Phone:	Cell phone on-site at all times			

Have Necessary Underground Utility Notifications for Subsurface Work Been Made? ☐ Yes ☐ Not Applicable
Specify Clearance Date & Time, Dig Safe Clearance I.D. #, And Other Relevant Information:
This will be performed prior to performing the field work.

SCOPE OF WORK

Site Description:	Undeveloped parcel with surface vegetation
Specific Tasks Performed by CSA:	Remedial Investigation under the NYSDEC Brownfield Cleanup Program (BCP)
Concurrent Tasks to be Performed by CSA Subcontractors (List Subcontractors by Name):	Drilling (hollow stem augers and geoprobes) Test pits and minor site clearing
Concurrent Tasks to be Performed by Others:	None
Does this project include confined space entry?	☐ yes ☒ no

The subject site was formerly occupied by a Wastewater Disposal and Treatment facility. During the previous site investigations, metals were detected in the subsurface soils in isolated areas of the site at concentrations exceeding the NYSDEC residential use and/or commercial use soil cleanup objectives. In addition, low levels of volatile and semi-volatile organic compounds (VOCs and SVOCs) were encountered in portions of the site but at concentrations below all applicable NYSDEC soil cleanup objectives.

ROLES AND RESPONSIBILITIES

CSA PERSONNEL

Name	Project Title/Assigned Role	Telephone Numbers
Meredith R. Anke, PE	Project Manager / Site Safety Officer	work: 732-432-5757 cell: 908-334-1080
Robert B. Simpson, P.E.	Associate/Principal-in-Charge	work: 732-432-5757 cell: 732-261-0974

Site Supervisors and Project Managers (SS/PM): Responsible for compliance with the HASP and applicable laws and regulations. This includes the need for effective oversight and supervision of project staff necessary to control the health and safety aspects of on-site activities. The Project Manager has the responsibility and authority to direct all CSA work operations at the site.

Site Safety Officers and Competent Persons (SSO/CP): The Site Safety Officer (SSO) or "Competent Person", as defined by the Occupational Safety and Health Administration (OSHA) 1926.20(b) - Accident Prevention Responsibilities, is the individual "who is capable of identifying existing and predictable hazards in surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them." The SSO is designated on a site-by-site basis based on the site conditions, scope-of-work, and the individual's ability to recognize site-specific hazards and take appropriate corrective actions.

Staff: Ultimate control of health and safety is in the hands of each individual employee. Therefore, each employee must become familiar with and comply with all health and safety requirements associated with their position and daily operations. Employees also have the responsibility to notify the appropriate management of unsafe conditions and accidents/injuries immediately. When employees are issued respirators or any other personal protective equipment (PPE), they are responsible for ensuring that said items are used properly, cleaned as required and maintained in good working order.

TRAINING

All personnel performing investigation and remedial activities at the site and who may be exposed to hazardous substances, health hazards, or safety hazards and their supervisors/managers responsible for the site shall receive training in accordance with 29 CFR 1910.120 before they are permitted to work at the site. This training includes an initial 40-hour Hazardous Waste Site Worker Protection Course, an 8-hour Annual Refresher Course subsequent to the initial 40-hour training, and 3 days of actual field experience under the direct supervision of a trained, experienced supervisor. Additional site-specific training shall also be provided by the SSO prior to the start of field activities, when required.

SITE VISITORS

A site-specific briefing will be provided to all site visitors who enter the site beyond the site entry point. The site-specific briefing will provide information about the site hazards and other pertinent safety and health requirements as appropriate.

EQUIPMENT AND CONTROLS

Monitoring Equipment [1]	**Personal Protective Equipment**
☒ PID Type: 580S OVM Lamp Energy: 10.6 eV ☐ FID Type: ☐ Cal gas and equipment type: ☐ LEL/O_2 Meter ☐ Others: **Other Equipment & Gear** [2] ☐ 10# ABC Fire Extinguisher when gasoline powered equipment is present ☐ Caution Tape ☐ Traffic Cones or Stanchions ☐ Warning Signs or Placards ☒ Decon Buckets, Brushes, Detergent, Towels and Plastic Bags ☐ Others:	☐ Respirator Type: ☐ Resp-Cartridge Type: ☒ Hearing Protection ☒ Hardhat ☐ Outer Gloves Type: ☒ Inner Gloves Type: latex or nitrile ☒ Steel-toed boots/shoes ☐ Coveralls Type: ☐ Outer Boots Type: ☒ Eye Protection ☐ Traffic Vest ☐ Personal Flotation Device (PFD) Others:

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Equipment designed to protect individuals from contact with known or suspect chemical hazards are grouped into four categories according to the degree of protection afforded. These categories are designated A through D:

Level A: Should be selected when the highest level of respiratory, skin, and eye protection is required.

Level B: Should be selected when the highest level of respiratory protection is required, but a lesser level of skin protection is required. Level B protection is the minimum level recommended on initial site entries until the hazards have been further defined by on-site studies. Level B (or Level A) is also necessary for oxygen-deficient atmospheres.

Level C: Should be selected when the types of airborne substances are known, the concentrations have been measured and the criteria for using air-purifying respirators are met. In atmospheres where no airborne contaminants are present, Level C provides dermal protection only.

Level D: Should not be worn on any site with elevated respiratory or skin hazards. This is generally a work uniform providing minimal protection against chemical hazards.

RECOMMENDED LEVEL OF PROTECTION FOR THE SUBJECT SITE

Based on the known site conditions, the contaminants expected to be present at the site, and the planned tasks for the investigation of the site, Level D PPE is recommended.

As indicated above, Level D protection is primarily a work uniform. It can be worn in areas where only boots can be contaminated, where there are no inhalable toxic substances and where the atmospheric contains at least 19.5% oxygen. The recommended PPE for Level D includes safety boots/shoes, safety glasses, a hardhat, and optional gloves.

AIR MONITORING INSTRUMENTS AND ACTION LEVELS

Anticipated Chemical Hazards: NONE EXPECTED

Photoionization Detector - Breathing Zone Readings (will be completed by SSO):

0 to 35 units	Remain in Level D PPE.
35 to 250 units	Withdraw from work area and contact Project Management. Proceed to Level C protection for re-entry, or discontinue operation.
> 250 units	Secure operations, withdraw from work area, and discontinue work at that location until contaminants can be evaluated and a detailed site plan can be implemented.

Combustible Gas Indicator CGI/LEL Meter (if required) - Readings Near Vapor Source:

• < 10% LEL:	Continue to monitor with caution. Eliminate all ignition sources.
• 10% to 20% LEL:	Stop operations until appropriate vapor control measures (i e. foam, sand, polyethylene, film, portable blower etc.) and resample before resuming activity.
• > 20% LEL:	Stop operations and withdraw from area. Contact SSO before proceeding.

HAZARD ASSESSMENT

Due to the presence of certain contaminants at the subject site, the possibility exists that workers on the site could be exposed to hazardous substances during the Remedial Investigation. Exposure to contaminated soil could occur through direct contact, incidental ingestion, or inhalation of particulates. In addition, the use of a drill rig during the investigation will also present conditions for potential physical injury to workers and since the work will be performed outdoors, there is also a potential for other hazards such as heat/cold stress, insects, poisonous plants, etc. The potential hazards that could be encountered during the Remedial Investigation at the subject site are summarized below. Since it is impossible to list all potential sources of injury, it shall be the responsibility of each individual to exercise proper care and caution during the investigation.

HAZARD ASSESSMENT: PHYSICAL HAZARDS AND RELATED CONCERNS

Construction Hazards, Drill Rigs, Backhoes, etc. The use of drill rigs, backhoes and other heavy equipment represent potentially serious construction hazards. Whenever such equipment is used, personnel in the vicinity should be limited to those who must be there to complete their assigned duties. All personnel must avoid standing within the turning radius of the equipment or below any suspended load. Job sites must be kept as clean, orderly and sanitary as possible. When water is used, care must be taken to avoid creating muddy or slippery conditions. If slippery conditions are unavoidable, barriers and warning signs must be used to warn of these dangers.

Never turn your back to operating machinery. Never wear loose clothing, jewelry, hair or other personal items around rotating equipment or other equipment that could may catch or ensnare loose clothing, jewelry, hair or other personal items. Always stand far enough away from operating machinery to prevent accident contact which may result from mechanical or human error.

Additionally, the following basic personal protective measures must be observed: Hardhats must be worn to protect against bumps or falling objects. Safety glasses must be worn by all workers in the vicinity of drill rigs or other sources of flying objects. Goggles, face shields or other forms of eye protection must be worn when necessary to protect against chemicals or other hazards. Steel-toed safety shoes or boots are also required. The shoes must be chemically resistant or protected with appropriately selected boots/coverings where necessary. Unless otherwise

specified, normal work clothes must be worn. Long sleeves and gloves are also required whenever necessary to protect against hazardous contact, cuts, abrasions or other possible skin hazards.

Heat and Cold Stress. Exposure to temperature extremes can pose significant risks to personnel if simple precautions are not taken. Typical control measures designed to prevent heat stress include dressing properly, drinking plenty of water, and establishing an appropriate work/break schedule. Typical control measures designed to prevent cold stress also include dressing properly and establishing an appropriate work/break schedule.

Noise. Noise exposure can be affected by many factors including the number and types of noise sources and the proximity to noise intensifying structures such as walls or buildings which cause noise to bounce back or echo. The single most important factor effecting noise exposure is distance from the source. The closer one is to the source, the louder the noise. The operation of a drill rig, backhoe or other mechanical equipment can be sources of significant noise exposure. In order to reduce the exposure to this noise, personnel working in areas of excessive noise must use hearing protection (ear plugs or ear muffs).

Rule-of-Thumb: Wherever actual data from sound level meters or noise dosimeters is unavailable and it is necessary to raise one's voice above a normal conversational level to communicate with others within 3 to 5 feet away, hearing protection should be worn.

Overhead Utilities and Hazards. Overhead hazards can include low hanging structures which can cause injury due to bumping into them. Other overhead hazards include falling objects, suspended loads, swinging loads and rotating equipment. Hardhats must be worn by personnel in areas were these types of physical hazards may be encountered. Barriers or other methods must also be used to exclude personnel from these areas were appropriate. Electrical wires are another significant overhead hazard. According to OSHA (29 CFR 1926.550), the minimum clearance which must be maintained from overhead electrical wires is 10 feet from an electrical source rated $\leq$ 50 kV.

Underground Utilities and Hazards. The identification of underground utilities and other underground hazards is critically important prior to all drilling, excavating, and other intrusive activities. In accordance with OSHA 29 CFR 1926.650, the estimated location of utility installations, such as sewer, telephone, electric, water lines and other underground installations that may reasonably be expected to be encountered during excavation work, must be determined prior to opening an excavation. The same requirements apply to drilling operations and the use of soil-gas probes. Where public utilities may exist, the utility agencies or operators must be contacted directly or through a utility-sponsored service such as Dig-Safe. Where other underground hazards may exist, reasonable attempts must be made to identify their locations as well. Failure to identify underground hazards can lead to fire, explosion, flooding, electrocution or other life threatening accidents.

Pedestrian Traffic. The uncontrolled presence of pedestrians on a drilling or excavation site can be hazardous to both pedestrians and site workers. Prior to the initiation of site activities, the site should be surveyed to determine if, when and where pedestrian may gain access. This includes walkways, parking lots, gates and doorways. Barriers or caution tape should be used to exclude all pedestrian traffic. Exclusion of pedestrian traffic is intended to prevent injury to the pedestrians and eliminate distractions which could cause injury to site workers.

HAZARD ASSESSMENT: CHEMICAL HAZARDS AND RELATED CONCERNS

Chemicals Subject to OSHA Hazard Communication. All chemicals used in field activities such as solvents, reagents, decontamination solutions, or any other hazardous chemical must be listed and accompanied by the required labels, Material Safety Data Sheets (MSDS), and employee training documentation (OSHA 1910.1200).

BTEX Compounds. Exposure to the vapors of benzene, ethylbenzene, toluene and xylenes above their respective permissible exposure limits (PELs), as defined by OSHA, may produce irritation of the mucous membranes of the upper respiratory tract, nose and mouth. Acute exposure may also result in the depression of the central nervous

system. Symptoms of such exposure include drowsiness, headache, fatigue, confusion, and loss of coordination. Benzene has been determined to be carcinogenic, targeting blood-forming system and bone marrow. The odor threshold for benzene is higher than the PEL and employees may be overexposed to benzene without sensing its presence, therefore, detector tubes must be utilized to evaluate airborne concentrations.

The vapor pressures of these compounds are high enough to generate significant quantities of airborne vapor. On sites where high concentrations of these compounds are present, a potential inhalation hazard to the field team during subsurface investigations can result. If the site is open and the anticipated quantities of BTEX contamination are small (i.e., part per million concentrations in the soil or groundwater), overexposure potential will also be small.

Volatile Organic Compounds (VOCs). See BTEX compounds.

Chromium Compounds. Hexavalent chromium compounds, upon contact with the skin can cause ulceration and possibly an allergic reaction. Inhalation of hexavalent chromium dusts is irritating and corrosive to the mucous membranes of the upper respiratory tract. Chrome ulcers and chrome dermatitis are common occupational health effects from prolonged and repeated exposure to hexavalent chromium compounds. Acute exposures to hexavalent chromium dusts may cause coughing or wheezing, pain on deep inspiration, tearing, inflammation of the conjunctiva, nasal itch and soreness or ulceration of the nasal septum. Certain forms of hexavalent chromium have been found to cause increased respiratory cancer among workers.

Trivalent chromium compounds (chromic oxide) are generally considered to be of lower toxicity, although dermatitis may occur as a result of direct handling.

Metal Compounds. Overexposure to metal compounds has been associated with a variety of local and systemic health hazards, both acute and chronic in nature, with chronic effects being most significant. Direct contact with the dusts of some metal compounds can result in contact or allergic dermatitis. Repeated contact with arsenic compounds may result in hyperpigmentation. Cases of skin cancer due to the trivalent inorganic arsenic compounds have been documented. The moist mucous membranes, particularly the conjunctivae, are most sensitive to the irritating effects of arsenic. Copper particles embedded in the eye result in a pronounced foreign body reaction with a characteristic discoloration of eye tissue.

Inhalation of copper and zinc dusts and fumes above their established PELs may result in flu-like symptoms known as "metal fume fever." Prolonged and repeated inhalation of the dusts of inorganic arsenic compounds above the established PEL may result in weakness, loss of appetite, a sense of heaviness in the stomach and vomiting. Respiratory problems such as cough, hoarseness and chest pain usually precede the gastrointestinal problems. Chronic overexposure to the dusts of inorganic arsenic may result in lung cancer.

The early symptoms of lead poisoning are usually nonspecific. Symptoms include sleep disturbances, decreased physical fitness, headache, decreased appetite and abdominal pains. Chronic overexposure may result in severe colic and severe abdominal cramping. The central nervous system (CNS) may also be adversely effected when lead is either inhaled or ingested in large quantities for extended periods of time. The peripheral nerve is usually affected. Lead has also been characterized as a male and female reproductive toxin as well as a fetotoxin. Exposure to lead (Pb) is regulated by a comprehensive OSHA standard (29 CFR 1910.1025).

HAZARD ASSESSMENT: BIOLOGICAL HAZARDS AND RELATED CONCERNS

Insects. Insects represent significant sources (vectors) of disease transmission. Therefore, precautions to avoid or minimize potential contact should be considered prior to all field activities. Disease or harmful effects can be transmitted through bites, stings, or through direct contact with insects or through ingestion of foods contaminated by certain insects. Examples of disease transmitted by insect bites include encephalitis and malaria from contaminated mosquitoes, Lyme disease and spotted fever from contaminated ticks. Stinging insects, such as bees and wasps, are prevalent throughout the country, particularly during the warmer months. The stings of these insects can be painful, and cause serious allergic reactions to some individuals.

Lyme Disease. Lyme disease is an infection caused by the bite of certain ticks, primarily deer, dog and wood ticks. The symptoms of Lyme disease usually start out as a skin rash then progress to more serious symptoms. The more serious symptoms can include lesions, headaches, arthritis and permanent damage to the neurological system. If detected early the disease can be treated successfully with antibiotics. If a tick is attached to the skin it should be removed with fine tipped tweezers. You should be alert for early symptoms over the next month or so. If you suspect that you have been bitten by a tick you should contact a physician for medical advice.

Poisonous Plants. The possible presence of poisonous plants should be anticipated for field activities in wooded or heavily vegetated areas. Poison ivy is a climbing plant with alternate green to red leaves (arranged in threes) and white berries. Poison oak is similar to poison ivy and sumac but its leaves are oak-like in form. The leaves of these poisonous plants produce an irritating oil which causes an intensely itching skin rash and characteristic blister-like lesions. Contact with these plants should be avoided.

Rats, Snakes and Other Vermin. Certain animals, particularly those that feed on garbage and other wastes, can represent significant sources (vectors) of disease transmission. Therefore, precautions to avoid or minimize potential contact with biting animals (such as rats) or animal waste (such as pigeon droppings) should be considered prior to all field activities. Rats, snakes and other wild animals can inflict painful bites. The bites can poisonous (as in the case of some snakes), or disease causing (as in the case of rabid animals). Avoidance of these animals is the best protection.

MISCELLANEOUS SITE CONTROL PROCEDURES

_____
_____
_____

PLAN SIGN-OFF

PM/SSO:_____ AIC/PIC:_____

Attachment A Health and Safety Briefing/Site Orientation Record/Hazard Communication
Attachment B Hospital Map

Attachment A

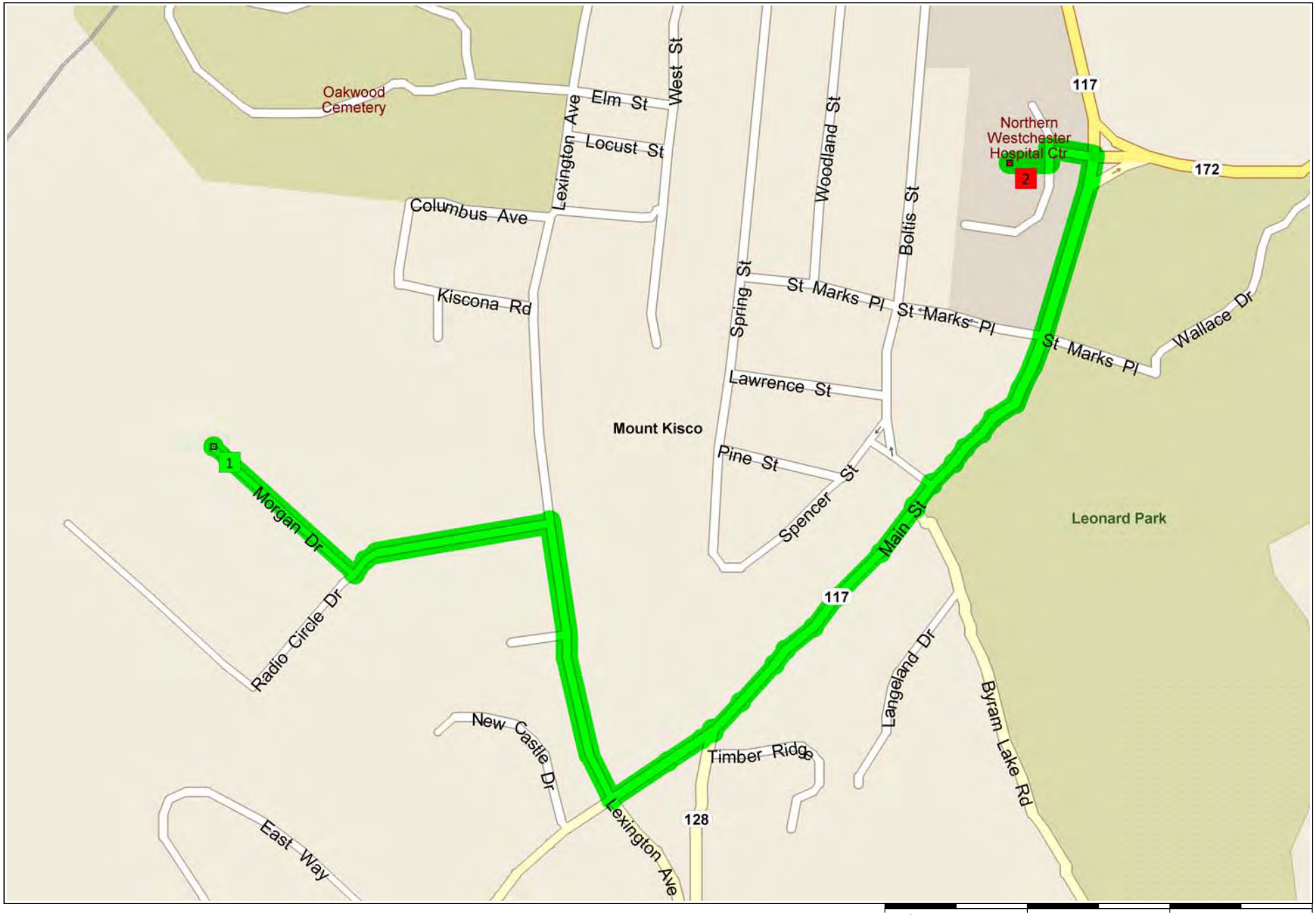
Health and Safety Briefing/Site Orientation Record/Hazard Communication

This is to verify that I, the undersigned, have been provided with a site briefing, including hazard communication, regarding the safety and health considerations at the referenced site in Mount Kisco, New York. I agree to abide by the site-specific health and safety plan and other safety or health requirements applicable to the site.

Name (Print)	Signature	Company	Date

Site (orientation) briefing conducted by: _____ Date:_____

Directions to Northern Westchester Hospital



APPENDIX B

COMMUNITY AIR MONITORING PLAN

SITE-SPECIFIC COMMUNITY AIR MONITORING PROGRAM

BCP Site No. C360112
Undeveloped Parcel Site
6 Morgan Drive
Mount Kisco
Westchester County, New York

Prepared By:
Carlin-Simpson & Associates
61 Main Street
Sayreville, New Jersey

February 2012

1.0 INTRODUCTION

This Community Air Monitoring Plan (CAMP) was prepared by Carlin-Simpson & Associates. (CSA) for the Undeveloped Parcel Site located at 6 Morgan Drive in Mt. Kisco, Westchester County, New York. This CAMP is consistent with the New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan.

This CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses) from potential airborne contaminant releases as a direct result of investigative work activities at the site. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, this CAMP will help to confirm that work activities do not spread contamination off-site through the air.

The area immediately surrounding the subject property consists primarily of commercial and industrial properties as well as undeveloped wooded or vacant parcels. The site is bordered to the southeast by a vacant parcel containing remnants of a former wastewater treatment facility. Further to the south and southeast are commercial and industrial buildings along Radio Circle Drive. There is a wooded area and wetland area from the Kisco River to the northwest of the site. To the east and northeast of the subject property is a town service road followed by a wooded area and the Kisco River. Further to the east and northeast are some commercial and residential properties. The site is bordered by Morgan Drive followed by the United States Post Office to the southwest. Beyond the post office are commercial and industrial buildings on Radio Circle Drive.

The subject site was formerly occupied by a wastewater treatment facility. During the previous site investigations, metals were detected in the subsurface soils in isolated areas of the site at concentrations exceeding the NYSDEC residential use and/or commercial use soil cleanup objectives. In addition, low levels of volatile and semi-volatile organic compounds (VOCs and SVOCs) were encountered in portions of the site but at concentrations below all applicable NYSDEC soil cleanup objectives.

2.0 AIR MONITORING

This CAMP will be implemented during a Remedial Investigation at the subject site. Real-time air monitoring for volatile organic compounds (VOCs) and particulate levels at the perimeter of the work area will be performed. Specifically, this CAMP will include the following:

Continuous monitoring will be required for all ground-intrusive activities. Ground-intrusive activities planned for this project include excavation and backfilling of test pits, drilling and soil boring operations, and monitoring well installations.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater

samples from existing monitoring wells. Periodic monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location.

Meteorological data consisting of wind speed, wind direction, temperature, and barometric pressure will be recorded at a minimum of three (3) times each day. These results will be utilized to position the monitoring equipment in appropriate upwind and downwind locations. A Davis Corporation wireless instrument station (or equivalent) will be used to collect all meteorological monitoring data.

This CAMP should be sufficient to cover most, if not all, conditions expected at the subject site. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals; however none are anticipated at this time. Any special requirements will be determined in consultation with NYSDOH. Reliance on this CAMP will not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

The following sections describe the specific CAMP monitoring procedures for both volatile organic compounds (VOCs) and particulates.

2.1 VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present (Minirae 2000 photoionization detector or equivalent). The equipment will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or site perimeter exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or site perimeter persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work

activities will resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is more than 25 ppm above the background at the downwind perimeter of the work area, activities will be shut down in the area of concern until corrective measures are identified and implemented to reduce emissions.

4. All 15-minute readings will be recorded and be available for review by NYSDEC and NYSDOH personnel. Instantaneous readings, if any, used for decision purposes will also be recorded.

2.2 Particulate Monitoring, Response Levels, and Actions

Air monitoring for particulates (i.e., dust) will be performed continuously during the Remedial Investigation activities using air monitoring equipment. In addition, fugitive dust migration will be visually assessed during all work activities.

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations that are set at heights of approximately 4 feet to 5 feet above land surface (i.e., the breathing zone). The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. The monitoring results will be compared to the following:

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques shall be employed. Work may then continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed the upwind level by 150 mcg/m^3 and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels exceed the upwind levels by more than 150 mcg/m^3 work will be stopped and a re-evaluation of activities initiated. Work will then resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

4. All readings will be recorded and be available for review by NYSDEC and NYSDOH personnel.