Interim Remedial Measures Work Plan

Hudson River Psychiatric Center
Landfill Area 6
US Route 9
Town of Poughkeepsie
Dutchess County, New York

March 2008

THE Chazen COMPANIES

Prepared For:

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Poughkeepsie, New York

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1.0 INTRODUCTION AND PURPOSE

This Interim Remedial Measures (IRM) Work Plan presents the plan for installing leachate collection systems (LCS) and abandonment and rerouting of storm sewer pipes associated with Landfill Area 6 (LA 6) at the former Hudson River Psychiatric Center (HRPC) property site. This IRM is designed to abate specific pathways from LA 6 that may affect surface water quality in the adjacent stream, and is considered an interim measure until the proposed remedy (landfill cap) can be implemented. This IRM Work Plan has been prepared in accordance with Sections 1.11(d) (Interim Remedial Measures) and 5.3 (Remedial Action Workplan) of DER-10 (NYSDEC, 2002). This IRM Work Plan has been prepared in response to NYSDEC correspondence dated April 30, 2007.

1.1 Site Description

The site is defined in the Voluntary Cleanup Program (VCP) Agreement for Landfill Area 6 (Site No. V00657-3) as consisting of approximately 2.5 acres situated east of the foundation of a former pavilion south of Ryan Hall and west of a railroad bed (Figure 1). The specific boundaries of the site covered by the VCP Agreement are defined in the Agreement.

The site is located on the grounds of the former HRPC, in the Town of Poughkeepsie, Dutchess County, New York. Hudson Heritage (HH) purchased 155.9 acres of the former HRPC. The LA 6 Site is defined as follows:

- To the south and east: Parcel property lines.
- To the north: a catch basin south of Winslow Gate Road.
- To the northwest: the south margin of Ryan Drive, which is the loop road passing by the site.
- To the west: the waste mass margins east of the concrete slab remaining from a former pavilion near MWHR6-20.

The site boundaries are shown on Drawing SP1, entitled "Existing Conditions Plan". Inferred or confirmed waste extends beyond these site boundaries to the east and southeast, where waste is found on the adjacent property to the banks of a railroad bed, and to the south, where the southwest corner of LA 6 extends onto lands of the adjacent property owner and under a gas line right-of-way.

One of the two proposed leachate collection system will be partially located on land owned by Starwood Ceruzzi Poughkeepsie to the south of the Site. Permission has been sought by HH from the adjacent landowner to perform this installation (see Appendix A).

1.2 Site History

A previously completed closure investigation report by EA Engineering, Science and Technology (EA) in 2001 summarizes that wastes were disposed of in various locations on the 324-acre parent HRPC parcel for more than 100 years, ending in approximately 1974. Wastes reportedly consist primarily of household and commercial refuse and substantial volumes of coal ash. Two petroleum spills have occurred on the 324-acre parcel in the past (spill numbers 9707019 and 9304993) and both spills have been reported as closed. Neither spill occurred in the vicinity of LA 6.

Interviews with current and former employees (EA, 2001) and investigation work performed more recently by The Chazen Companies indicate that in addition to municipal waste from the HRPC facility, LA 6 contains coal ash from the heating plant and mixed construction debris from the HRPC facility. The site potentially contains some municipal waste from the Town of Poughkeepsie. Air photo interpretation completed by EA (EA, 2001) identifies that no wastes had yet been deposited in LA 6 in 1962 or 1964 photos, that some waste had been emplaced by 1966, and that waste emplacement had evidently ended by or before 1978.

1.3 Previous Environmental Investigations

Multiple investigations have been completed to characterize potential landfill sites throughout the HRPC property, as well as studies that focused specifically on LA 6.

According to EA (EA, 2001), three PCB remedial actions were completed by Lawler Matusky & Skelly (LMS) near and downstream from LA 6 (LMS, 1996), pursuant to an Order on Consent with NYSDEC. A summary of those activities follow.

- May 1996: PCBs in a storm sewer system downstream from LA 6 were removed.

- December 1997: PCBs in stream sediments between LA 6 and US Route 9 were removed and disposed of off-site. The streambed and associated wetlands were restored. A Large Quantity Generator listing was apparently secured for the PCB soil removal task (Information System ID: NYD980779490).

- July 1999: PCB-containing concrete under a transformer vault in a building on the parcel (the Cheney building) was removed.

- October 2002: NYSDEC provided a written record to HRPC that requirements have been met to delete the site (DEC site # 314063) from the New York State Registry of Inactive Hazardous Waste Disposal Sites. The site is presently not a Class 2 inactive hazardous waste site.

At the time, the PCB remediation area was also referred to as LA 6, although it is not included in the present LA 6 Site area as described in this document or as referenced in the VCP agreement.

During May 2000 as part of their closure investigation of the area currently identified as LA 6, EA sampled leachate from a seep found along the creek that flows along the south boundary of the waste area. Iron and thallium were detected in concentrations exceeding NYS surface water standards for Class D streams. In 2000, EA also located and sampled two of three monitoring wells installed by LMS in 1991 near LA 6. Well MWHR6-16 lies along the upgradient edge of the waste, to the west of the 12-inch diameter clay pipe to be abandoned on Drawing SP1. Sampling identified only manganese in concentrations exceeding NYS GA groundwater standards. Well MWHR6-19 lies in an area unrelated to LA 6 and downstream of the landfill to the west. Sampling identified iron, manganese, magnesium, sodium and chloride in concentrations above NYS GA groundwater standards. No VOCs were identified in either of these wells originally installed in 1991 by LMS (EA, 2001).

EA also advanced test pits at LA 6 to characterize wastes and define the approximate waste boundaries (EA, 2001). Observed materials in the test pits included municipal waste, lumber, bricks, coal ash, light gray ash, glass and bottles, pottery, shells, plastic objects, tires, paper and newspaper and metal objects including rakes and a lawn chair. Test pitting identified the general limits and depth of the wastes. EA estimated the landfill volume to be 33,460 cubic yards. Maximum observed waste thickness was 16 feet, extending to below the water table. Test pitting indicated that the cap material placed on the site when fill activities ended in the late 1970s consisted of between 1 to 5 feet of sandy silt (EA, 2001). Grassy brush currently grows across most of the landfill, and forest growth has grown on the southern site margin along the stream which stabilizes slopes and provides shading to the stream corridor.

Three additional monitoring wells were installed at LA 6 in April 2002 by EA (EA, 2002). Well MWHR6-22 was installed upgradient of the landfill, as shown on Drawing SP1 and sampling identified iron, manganese, sodium, chloride, color and TDS above NYS GA standards. Wells MWHR6-20 and MWHR6-21 were installed

downgradient of the landfill, adjacent to the creek. Sampling of Well MWHR6-20 identified iron, manganese, sodium, color, ammonia, and TDS in concentrations exceeding NYS GA standards. Sampling of Well MWHR6-21 identified the exceedences similar to those in MWHR6-20 and also 7.1 ppb dichlorodifluoromethane (NYS GA standard is 5 ppb) and 1.6 ppb benzene (NYS GA standard is 0.7 ppb). As first identified by the test pitting program, the monitoring wells installed in downgradient locations also identified wastes below the water table.

More recently, The Chazen Companies (TCC) conducted additional site investigations in 2003 and 2004 to identify sources of water contributing to leachate generation at LA 6 (TCC, March 2004). The work included installation of bedrock wells near downgradient wells MWHR6-20 and MWHR6-21 to create well couplets in these areas, installation of an upgradient overburden/bedrock couplet (MWHR6-23S/D), and replacement of monitoring well MWHR6-22 with MWHR6-22R per Department requirements conveyed previously to EA. Completion of the three overburden/bedrock couplet pairs allowed assessments of upward or downward gradients near the stream and upgradient of the landfill, documented in the March 2004 TCC report. Work also included installation of temporary 1-inch piezometers in downgradient areas near the stream to further evaluate water table elevations and waste profiles and installation of shallow piezometers in the stream. Additional field work included further test pitting to inspect the condition of various culverts traversing the waste mass including a concrete stream culvert, an adjacent corrugated metal pipe which had been replaced by the concrete culvert, and a concrete stormwater culvert. All monitoring wells and seeps were sampled by TCC consistent with protocols for routine landfill monitoring.

Inspection of the culverts indicated that only the concrete stream culvert is a reliable water conveyance. The other two leak water into the landfill. Monitoring data and water level measurements in stream piezometers, 1-inch piezometers and monitoring wells identify downward gradients in the aquifer and slight upward gradients in the stream bed (TCC, March 2004). All hydrogeologic data suggest that current leachate discharges are caused by water leakage into the waste mass through the current capping material or from leaky water conveyance pipes. There is not hydraulic evidence that leachate is generated by aquifer discharges from regional overburden or the bedrock aquifer system.

Since the March 2004 TCC investigation, TCC in consultation with NYSDEC has updated prior evaluations of the stream by sampling stream water near and upstream of LA 6 and leachate precipitate/stream bottom sediments in the stream adjacent to LA 6. The sediment and precipitation samples were collected under observation of NYSDEC and focused on leachate precipitate where identifiable. Copies of sediment and precipitate sample results from previous investigations are

summarized on Tables contained in Appendix B. Results indicate that pure leachate flocculant both from upstream locations (samples HRPC-A5-SS1 and HRPC-A5-SS1A) and at the site (sample HRPC-A6-SS2) contained no analytes above remedial guidance values (Appendix B). Two samples that included stream substrate material (HRPC-A6-SS1 and HRPC-A6-SS2) exceed Fish and Wildlife moderate impact guidance values for iron, mercury, arsenic and lead. Open water stream samples collected near the headwall along the south site margin and downstream of LA 6 identified sodium exceedences of Class D groundwater standards. These upstream and downstream samples also contained iron concentrations which exceeded surface water standards for iron, although iron was higher in the downstream sample, and a dissolved aluminum exceedence was identified only in the upstream sample. Existing leachate discharges are estimated to be the source of the increase in dissolved iron in the downstream stream sample. The source of elevated aluminum in the upstream sample is unknown.

1.4 Subsurface and Surface Structures

Various stormwater, building drain and stream conveyances presently pass through the waste mass. These are shown on Drawing SP1.

- A concrete stream conveyance lies along the east boundary of LA 6. The conveyance was inspected during site evaluations (TCC, March 2004) and found to be installed above the water table and to have few to no leaks. Water leaves the culvert at a headwall structure at the southeast corner of LA 6.

- A corrugated metal pipe lies within 10 feet of the concrete conveyance and parallel to it, in the same general location as the stream culvert and is in decaying condition. It was observed to contain residual amounts of water and appeared to be installed at or above the water table.

- An 18-inch diameter concrete pipe carrying stormwater from facility areas north of LA 6 passes through the center of LA 6. It was inspected during site evaluations (TCC, March 2004) and found to be installed above the water table but to be leaking into the waste mass at failed joints.

- A 12-inch diameter clay pipe servicing the eastern portion from Ryan Hall also drains toward and into the waste mass. A historic head wall marking an old outfall location for this clay pipe is shown on historic site maps and shown on SP1 for reference purposes. No effort was made to assess its condition since HH's intention was to grout it in place and so terminate any water flows entering LA 6.

- Although not investigated, previous surveys indicate a 12-inch diameter clay pipe servicing the western portion of Ryan Hall drains toward and into the waste mass.

In addition to these sub-surface drainage structures, a third stormwater line passes through the west site margin, and one or more telephone poles are installed in the waste along the east margin of LA 6 and potentially on property of the adjacent landowner. Although not investigated, previous surveys indicate the presence of a water line near the approximate limit of waste, in the vicinity of MWHR6-16S. A buried natural gas line lies off the property and along the south margin of the site, as previously mentioned. Portions of the gas line may be buried in wastes which are part of LA 6 but which are off the subject property.

1.5 Summary of Proposed Remedy

The proposed permanent remedy was detailed in the HRPC LA 6 Remedial Action Work Plan (TCC, September 2004) which was submitted to the NYSDEC. The NYSDEC approved the remedy described in the Remedial Action Work Plan on January 4, 2005. The proposed remedy for the LA 6 Site consists of the following:

- An impermeable cap to be installed over more than ninety percent of the LA 6 Site. The cap includes a gas collection layer under a geo-composite liner. The liner is protected on top by a stone layer under blacktop on parts of the site and by a soil and topsoil layer over the balance of the capped site. A gas vent will release any landfill gases.

    - No cap material or other modifications is proposed in an area covering approximately 5,000 square feet directly adjoining the creek along the south site perimeter due to steep slopes, existing beneficial and screening vegetation, and wetland vegetation adjoining the stream.

    - No capping activity is proposed south of the property line, although prior investigations (EA, 2001; TCC, March 2004) confirm the presence of wastes extending in the southwest corner of the landfill onto property of others. The property to the south is used for a buried natural gas line which would complicate any subsurface remedy contemplated in this area.

    - If desired by the landowner to the east, HH is willing to extend the proposed cap eastward to the base of a railroad grade owned by others and to relocate or de-activate one or more utility poles to fully cap the east limits of waste.

- Three existing drainage culverts will be abandoned in place by grout injection. These include the 12-inch clay pipe from Ryan Hall, the 18-inch diameter pipe on the eastern side of the landfill beginning in the vicinity of MWHR6-23S and MWHR6-23D, and the abandoned corrugated metal pipe parallel to and replaced by the current concrete steam culvert.

- A limited quantity of waste found in the south east corner of LA 6, and extending beyond the limits of waste shown on Drawing SP1, will be relocated to lie under the proposed cap. The area from which waste is relocated will be graded and seeded.

1.6 Summary of Interim Remedial Measures

The proposed interim remedial measures are designed to reduce leachate generation by closing and rerouting two leaky storm sewers in the center of the site, and by capturing leachate seeping from two areas near the site stream. Capture of leachate will reduce human health and environment risk pathways by preventing leachate exposure at grade and potential associated impacts to soils and surface water. The primary components of the IRM include:

- Excavation and removal of leachate-impacted sediments at 2 discrete locations adjacent to the stream banks.

- Installation of two, small, shallow LCSs, each comprised of a pump chamber, permeable backfill, collection pipe, impermeable geomembrane cap, rip rap, electric, controls, and double-walled force main. The combined thickness of the installed LCS materials will be approximately two feet.

- Connection of the LCS system discharges to the sanitary sewer system located to the north of the landfill.

- Abandoning the existing 18-inch diameter concrete storm sewer pipe located in central northeastern portion of landfill, in vicinity of MWHR6-23S and MWHR6-23D, southeast to the unnamed tributary. The pipe will be plugged on each end and the mid-sections will be pressure-filled with grout.

- Abandoning the existing 12-inch diameter clay pipe servicing the eastern portion of Ryan Hall, from Ryan Hall to the end of the pipe in the central portion of the landfill. Abandonment will consist of plugging each end of pipe and filling the pipe with concrete slurry.

- Construction of a swale along the northern perimeter of the landfill. The swale will start at the manhole of the abandoned 18-inch diameter concrete

storm sewer pipe and will discharge to the unnamed tributary near the southwest corner of the landfill. The swale will be approximately 1-foot deep, by three feet wide, lined with stone and underlain with a PVC liner.

- Construction of lined and covered temporary staging areas on top of the landfill to stage spoils from the leachate seep areas and materials from trenching associated with leachate discharge pipes. Once construction activities are complete, staged materials will be characterized for disposal and removed to an appropriate off-site disposal facility.

2.0 DESCRIPTION OF THE INTERIM REMEDY

This interim remedial measure is intended to intercept leachate that intermittently seeps at two locations into the unnamed tributary that flows along the south Site perimeter. This interim remedy is proposed to address leachate seeps that will ultimately be addressed also by capping of LA 6. The capping remedy has been delayed due to the need to incorporate site redevelopment efforts into pending zoning changes in the Town of Poughkeepsie. The Town has just lifted a Townwide building moratorium; however, the new zoning designation for the HRPC site indicates only that a stand-alone, site-specific development plan must be submitted and reviewed for this parcel, so a lengthy plan review similar to a zoning change submittal is anticipated before any construction may commence.

It is believed that the interim remedy may no longer be required once capping is complete. Implementation of the proposed interim remedy is generally discussed in the following sections. Conceptual design plans and details are provided in the attached Drawings.

2.1 Sediment Excavation

Sediment will be excavated at the two seep locations as shown on Drawing SP2, entitled "Conceptual Removal Plan" and Drawing SP3, entitled "Conceptual Utility Plan". Each area will be excavated to a depth of 12-15 inches bgs over an approximate area of 40 feet in length by 10 feet in width. The area extent of excavations areas will generally coincide to the existing footprint of the seep impacted areas. In each seep area, a pump chamber excavation approximately 5 feet deep will be installed on the western edge of each leachate collection area furthest from the stream bank.

Due to the wet conditions, limited access, and presence of a gas main, sediments in the existing leachate seep areas will be removed with a high pressure vacuum truck as opposed to traditional methods. It is estimated that a total of approximately 40 cubic yards of material will be removed from the two leachate collection systems areas.

2.2 Dewatering

The need for dewatering is not anticipated due to the shallow depths of sediment to be removed, except possibly for installation of the pump chamber. Additionally, the removal of sediments in the stream bed is proposed to be completed during a period

when the stream is most likely to be in low-flow conditions. This strategy should minimize the need for dewatering. However, should dewatering be needed, the following method will be followed.

Before placement of the pump chamber, standing liquid will be removed. Water will be pumped into a temporary holding tank. Water would be stored until tested to determine the appropriate disposal method. It is anticipated that the water will be discharged to the local sanitary sewer, consistent with the discharge from the leachate collection system.

2.3 Installation of Leachate Collection System and Discharge Piping

The LCSs will be constructed as detailed on Drawing SP3 and detailed on Drawing SD1, entitled "Site, Utility and Leachate Collection Details". The base of the leachate collection bed will be lined with a permeable geotextile. The excavation will be backfilled with 12-15 inches of washed subangular stone. A series of 4-inch diameter HDPE slotted lateral perforated collection pipes will be installed within the stone layer. The top, sides (east and west), and stream side of the permeable fill will then be covered with an impermeable PVC liner to eliminate surface water infiltration into the LCS. The liner will be anchored and covered with a geotextile and rip-rap to protect and secure it during possible flood events, bringing the constructed LCS to a combined total material thickness of approximately two feet. The collection pipes will be pitched away from the stream and back toward a header pipe, where the collected leachate will be conveyed to a pump chamber. The header pipe will drain into a double-walled pump chamber. The pump chamber will be comprised of a 4-foot inside diameter concrete outer chamber and a 3-foot diameter polyethylene inner chamber. A 2-inch diameter standpipe will be installed within the interstitial space to allow for liquid monitoring, should the primary polyethylene chamber leak.

The sump will be outfitted with a 0.5 HP Goulds submersible pump and liquid level control float. The float will be set to operate between a head change of approximately 1.5 feet between high and low settings (subject to detailed design). Liquid from the pump will discharge via a double-walled, HDPE pipe. The pipe within the pump chamber will be fitted with a check valve. The discharge pipe will be buried in a 4-foot deep trench, a portion of which will need to be routed through the landfill. Spoils from the trench excavation will be temporarily stored in a lined staging area (see Section 2.5 for additional details). Each leachate collection system discharge pipe will be connected to the closest existing sanitary sewer manhole, as depicted on Drawing SP3.

It is anticipated that electric service will be provided from a separate overhead feed from an existing CHG&E pole location on adjacent property to the south (Starwood

Ceruzzi, Poughkeepsie). The electric feed will be brought to a customer pole to be located at the southeast corner of the work area. The overhead electric line will be extended further, approximately 200 feet to the west, to another customer pole. Individual underground electric feeds from each customer pole will be routed to the two leachate pump chambers. Electrical equipment within the pump chamber shall comply with the National Electric Code (NEC) for Class 1, Division 1, Group C or D locations. There shall be no electrical splice, junction boxes or connections of any NEC rating in the pump chamber.

2.4 Abandonment and Replacement of Stormwater Sewers

The existing 18-inch diameter concrete culvert and 12-inch diameter clay pipe located near the center of the site will be abandoned in place. Each pipe will be plugged where accessible at their outlet ends and at their points of entry into the LA 6 area, and then filled with concrete slurry. Storm flow that originally discharged through these pipes will be allowed to overflow their manholes and flow overland to the proposed drainage swale. The existing solid manholes cover for the 12-inch clay pipe will be replaced with an inlet grate to allow the build up of stormwater to overflow. A new manhole will be inserted along the 18-inch concrete culvert and will be equipped with a 3-foot weir to allow the build up of stormwater to overflow into the proposed channel.

An open drainage swale will be provided along the southern side of the existing paved road, upstream of the approximate limit of waste depicted on drawing SP3. The swale will be lined with 10 mil PVC liner, and anchored along its top and bottom with masonry unit blocks every four feet on center. A detail has been provided on Sheet SD1.

Stormwater which overflows from the manholes, servicing the 18-inch concrete culvert and 12-inch clay culvert, will be captured by the lined swale prior to flowing over the landfill. The collected runoff will be conveyed to the west, where it will discharge to a level spreader, and ultimately flow overland to the existing stream to the south.

Where accessible and appropriate, other unused pipes installed through the wastemass may be similarly abandoned in place.

2.5 Temporary Waste Staging Area

The installation of the LCS discharge pipes will require some excavation into the waste. Where the excavated materials are not suitable for backfill, the excavated trenches will be lined with a geotextile and replaced with clean fill. This fill will not exceed soil cleanup objectives appropriate for the future use of the site which at this

time appears to fall into the category of "restricted residential" uses per Part 375-subparts 6.7(d) and 6.8(b). Resulting waste material will be temporarily staged onsite for off-site disposal. It is estimated that 100 to 150 cubic yards of waste will be excavated and staged for offsite disposal.

Lined staging areas will be constructed to temporarily store waste material before off-site disposal. The staging area will be 30 feet by 30 feet. Waste that is placed in the storage area will be covered at the end of each day with a polyethylene plastic cover or an impervious tarp and anchored with sand bags or other appropriate weighting. The proposed waste staging format is detailed on Drawing SD1. It is anticipated that waste will consist primarily of coal ash with other wastes.

2.6 Disposal of Sediment and Water

Spoils from the excavation/vacuuming of sediments for the LCS are anticipated to be stored onsite in the proposed temporary staging area. Analytical results from previous sediment and flocculant sampling are provided in Appendix B.

Water collected during dewatering operations will be discharged to the local sanitary sewer. Local approvals may be required to discharge the liquids and will be coordinated through the Town of Poughkeepsie.

Copies of waste manifests and/or bill of ladings will be provided to the NYSDEC as part of the Remediation Report.

2.7 Permitting

TCC has reviewed applicable regulations regarding permits and approvals for construction and operation of the remedy. At this time, it is believed that work within the stream banks may require notification to the Town of Poughkeepsie for aquatic resources (stream buffer) and notification to the US Army Corp of Engineers for impacts to less than 0.1 acres of Federal wetlands. Additionally, discharge to the local sanitary sewer will require approval from the Town of Poughkeepsie Sewer Department. TCC has initiated discussions with applicable agencies to secure necessary approvals on behalf of HH. TCC has also requested permission from the adjacent property owner to the south to allow the installation and operation of the western of the two leachate collection systems (see Appendix A) and will coordinate work, as necessary, with Central Hudson for activity near the buried gas line.

2.8 Physical Security of the Site

The HH property within HRPC is secured by gates along through streets. HH provides patrolled security throughout the property during business and non-business hours. Access to the remediation zones will be limited to project personnel and will be marked through use of flagging tape, cones, or other barrier markers as needed that limit access into the excavation areas during construction.

2.9 Quality Control during Remedial Construction

The NYSDEC will be notified at least seven days prior to the start of site work. TCC will observe and document the remedial construction and will conduct all site monitoring activities in accordance with this IRM Work Plan.

Backfill in trenches will be placed in 1-ft lifts and compacted using the excavator bucket. Backfill will be imported from a DOT-approved source or will be sampled at the source from a non-DOT-approved source. As indicated previously, fill will not exceed soil cleanup objectives appropriate for the future use of the site which at this time appears to fall into the category of "restricted residential" uses per Table 375-6.8(b).

Operation and Maintenance of the LCS will be detailed in the OM&M Plan. A preliminary table of contents for the OM&M Plan is included in Appendix C.

2.10 Site Monitoring during Remedial Construction

During excavation and backfilling activities along pipe runs, particulate monitoring of the outdoor air will be conducted in accordance with the Community Air Monitoring Program (CAMP) that is included as part of the site-specific Health and Safety Plan (HASP) (refer to Section 3.0). This sampling is needed to assure that site workers and the surrounding community are adequately protected and are not exposed to excessive dust.

Waste characterization samples will be collected as required by the selected disposal facility. The disposal facility will be consulted to determine sample methodology (i.e., composites), sample frequency, and analyses. Additional sampling information is contained in Section 4.0. TCC will oversee waste loading into permitted vehicles and secure manifests confirming volumes of material removed from the site.

3.0 HEALTH AND SAFETY AND CONTINGENCY PLANS

A HASP for remediation activities has been developed and must be followed in order to protect the health and safety of workers and the health of the immediately surrounding community. The HASP developed for this site is provided in Appendix D. The HASP provides specific guidelines and establishes procedures for the protection of personnel performing remedial activities. The HASP includes a Contingency Plan, to be implemented in the event of a threat to human health or an environmental hazard, and a CAMP - an air monitoring plan established to protect the surrounding community and site workers.

4.0 SAMPLING PLAN

Waste profile samples will be collected for dewatering liquids collected during sump installation. Additionally, a borrow source sample may be required depending on the location of the fill used for trench backfill.

For wastes needing transport offsite for disposal, one or more representative samples will be collected for characterization. The samples will be collected at a frequency and analyzed for parameters as required by the selected disposal facility. It is anticipated that just one composite sample, comprised of up to four grabs, will be required. Grab samples will be placed in a pre-cleaned stainless steel mixing bowl and homogenized. Sample jars will be filled from the composite sample. It is anticipated that the sample may be required to undergo analysis for the full suite of TCL organic and TAL inorganic parameters, including VOCs, SVOCs, pesticides/PCBs, and heavy metals, as well as a TCLP analysis.

A representative water sample will be collected from the dewatering storage tank. The sample will be analyzed per the requirements of the Town of Poughkeepsie Sewer Department. It is anticipated that one sample will be required.

Should backfill be obtained from a non-DOT-approved source, one composite sample will be collected at the source area. The composite sample will consist of 4 grab samples that will be placed in a pre-cleaned stainless steel bowl and homogenized. The composite sample will be analyzed for site constituents of concerns, including VOCs, SVOCs, and metals to ensure that it does not exceed soil cleanup objectives appropriate for the future use of the site addressed previously.

5.0 INSTITUTIONAL CONTROLS

Because the proposed LCS is an interim remedy and is incorporated as part of the pending landfill cap remedy, institutional controls are proposed to be addressed during the landfill capping remedy. Additionally, because this is an interim remedy, it may be removed at a future time after the landfill capping remedy is installed.

A portion of the IRM will be installed on the adjacent property to the south. This property is currently owned by Starwood Ceruzzi. HH has been in contact with Starwood Ceruzzi to obtain formal access to their property and to acknowledge the installation of a LCS on their property. A copy of that documentation is provided in Appendix A.

6.0 SCHEDULE

A summary of the anticipated time schedule for implementation of this plan is presented in Figure 2. Construction and system startup are anticipated to be completed within 6 weeks from mobilization.

7.0 REPORTING

7.1 Monthly Status Reports

Monthly progress reports will begin after initiation of construction activities and will end at construction completion. These reports will be provided to the NYSDEC Project Manager and the NYSDOH Project Manager and will, at a minimum, include details on the quantity and quality of sediments excavated and removed from the site, quality and quantity of clean fill brought to the site, dewatering activities, staging areas, sediment and water waste characterization results, sediment and water disposal activities, site monitoring activities, and air monitoring activities.

7.2 Contractor Submittals

Copies of any documents required from and provided by contractors will be provided to the NYSDEC as part of the IRM Report. Examples of these documents include 6 NYCRR Part 364 Transporter of Solid Waste certificates (if applicable), Bills of Ladings, contractor HASPs, and certificates of clean backfill.

7.3 Daily Construction Reports

Daily reports of construction activities will be prepared by TCC and will include a detailed day-to-day breakdown of activities provided in the generalized monthly report. These reports will be retained by TCC until the end of the project and will then be provided to the NYSDEC and the NYSDOH with the IRM Report (refer to Section 9.0). These reports will be made available to NYSDEC and NYSDOH at any point during the project upon written request to TCC.

7.4 Post-Construction Stormwater Management

TCC will provide monthly post-construction site inspection of the stormwater swale and its discharge area to observe whether the outfall is causing or undergoing erosion or other undesirable effects. Corrective action will be taken as necessary. Inspection and corrective action reports will be made available to NYSDEC at any point during upon written request to TCC.

8.0 PROJECT ORGANIZATION

8.1 NYSDEC/NYSDOH

The NYSDEC Project Manager for remediation tasks is Mr. Josh Cook. He is the primary contact for this Site responsible for the decision making of all remedial activities. Mr. Cook must be consulted by all project personnel when diversions from the IRM Work Plan are necessary. Mr. Cook is the NYSDEC contact to receive all project correspondence and reports.

The NYSDOH Project Manager for this Site is Mr. Carl Obermeyer. He is the primary Public Health Specialist for this Site responsible for the decision making of remedial activities to protect of the surrounding community and Site workers. Mr. Obermeyer is the NYSDOH contact to receive all project correspondence and reports.

8.2 Representative for Hudson Heritage

Mr. Alex Reese is the designated representative for Hudson Heritage, the property owner. He must be consulted on all project activities and provided with correspondence relating to remedial activities planned and undertaken at the Site.

8.3 The Chazen Companies

TCC's project organization, including functions and responsibilities, are described below.

Project Manager – Russell Urban-Mead: Mr. Urban-Mead will be the primary contact with the NYSDEC and NYSDOH. He will be responsible for establishing protocols to be used during the remedial activities, and establishing sampling methods. He will confirm implementation of established protocols, maintain quality and consistency, and monitor the overall work assignment, schedules, and budgets.

Field Operations Leader – Dan Michaud: Mr. Michaud will be responsible for executing the scope of work and for task-specific budgeting and scheduling. During field activities, he will be the liaison among field staff, subcontractors, and on-site representatives from NYSDEC and NYSDOH.

Field Staff – Eric Orlowski and Colleen Wells: Field staff will perform the field activities, including adherence to and interpretation of the HASP and quality assurance protocols, oversight of site activities and sampling. The field staff will also be involved with data reduction, evaluation, and report preparation.

Additional or substitute field staff may be identified when the field schedule is finalized.

Health and Safety Officer - Kim Cuppett: The Health and Safety Officer will be responsible for review and approval of the site-specific Health and Safety Plan and ensuring that throughout the duration of the field activities all aspects of the Health and Safety Plan will be complied with. Ms. Cuppett will have authority to stop work should unacceptable health and safety risks occur.

8.4 Subcontractors

Subcontractors will be selected prior to construction. The names of the selected subcontractor will be provided to the NYSDEC before the project commences. All subcontractors will be required to comply with necessary Federal and State training regulations and comply with all applicable regulations for safely performing the job. It is anticipated that subcontractors will be contracted directly with the Owner but that TCC will provide oversight of most Site activities.

9.0 IRM REPORT

An IRM Report will be prepared consistent with Section 5.8 (Remedial Action Report) of DER-10. This report will be submitted within 90 days after completion of the remediation activities. The IRM Report will include a final engineering report and as-built drawings that show the location of the constructed LCS, discharge pipes, abandoned storm sewers, and new drainage swale. The report, drawing, and certification will be prepared, signed, and sealed by a professional engineer. The certification will include the following language: "I certify that the IRM Work Plan was implemented and that all construction activities were completed substantially in accordance with the Department-approved IRM Work Plan and were personally witnessed by me (or by a person under my direct supervision)."

10.0 OM&M PLAN

An Operations, Maintenance and Monitoring (OM&M) Plan will be prepared consistent with Appendix 6B of DER-10. The OM&M Plan will be tailored to the operation of the LCS. No leachate treatment is anticipated; however, periodic sampling of the waste stream may be required as dictated by the Town of Poughkeepsie. The proposed table of contents of the OM&M Plan is included as Appendix C. The OM&M Plan will be submitted to NYSDEC along with the IRM Report (see Section 9.0).

11.0 REFERNCES

Chazen Companies, March 2004, Hudson River Psychiatric Center Landfill Area 6 Supplemental Closure Investigation Report.

Chazen Companies, September 2004, Hudson River Psychiatric Center Landfill Area 6 Remedial Action Work Plan.

EA Engineering, P.C. et al, January 2001, Landfill Characterization Investigation Report Areas 1, 2, 3, 5, 6, 7, and 8 Hudson River Psychiatric Center, Poughkeepsie, NY.

EA Engineering, P.C. et al, July 2002, Landfill Closure Investigation Report Landfill Areas 1, 2, 3, 6 and 8 Hudson River Psychiatric Center, Poughkeepsie, NY.

LMS, 1996, Remedial Investigation of Area 6 PCB Site at Hudson River Psychiatric Center Poughkeepsie, NY NYDEC ID No. 3-14-063.

New York State Department of Environmental Conservation, December 2002, Draft DER-10 Technical Guidance for Site Investigation and Remediation.

FIGURES

ENGINEERS/SURVEYORS
PLANNERS
ENVIRONMENTAL SCIENTISTS

Dutchess County Office:
21 Fox St. Poughkeepsie, NY 12601
Phone: (845) 454-3980

Orange County Office:
356 Meadow Ave., Newburgh, NY 12550

Capital District Office:
547 River Street, Troy, NY 12180

Glens Falls Office:
110 Glen Street Glens Falls, NY 12801

FIGURE 1-SITE LOCATION MAP

Hudson River Psychiatric Center
Poughkeepsie, Dutchess County, New York

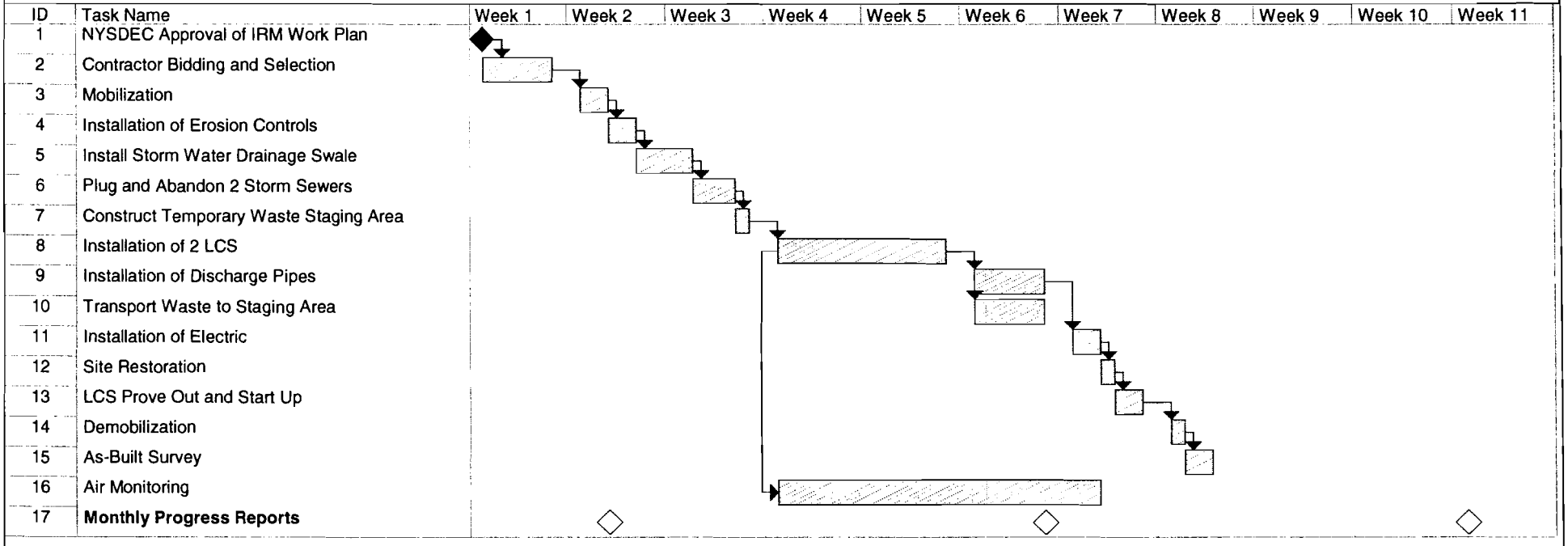
NYS Orthoimagery Program 2004 Annual Lot, Dutchess County
Real Property Services - Tax Parcel Data

Date:
July 2007

Scale:
1 inch: 400 feet

Project #:
40307.00

Figure 2
HRPC LA 6 Site
Interim Remedial Measures
Construction Schedule



Project: IRM WP Construction Schedu
Date: 2/20/08

Task
Split
Progress
Milestone
Summary
Project Summary
External Tasks
External Milestone
Deadline

APPENDICES

APPENDIX A:
ACCESS CORRESPONDENCE WITH STARWOOD CERUZZI PROPERTY

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SONYA SMELYANSKY

CARMI RAPPORT
SENIOR COUNSEL

SHEILA HILLEY
OF COUNSEL

writer's e-mail:
grodenhausen@rapportmeyers.com

July 12, 2007

Via E-mail

Pamela J. Delfino, Property Manager
Inland US Management, LLC
45 Wintonbury Avenue, Suite 311
Bloomfield, CT 06002

Re: MidHudson Center, Town of Poughkeepsie, New York and
Former Hudson River Psychiatric Center

Dear Ms. Delfino:

This letter will confirm our discussion by telephone on July 10, 2007. This firm represents Hudson Heritage CPCR Ventures, LLC ("Hudson Heritage"), the owner of the former Hudson River Psychiatric Center ("HRPC"), located immediately adjacent to and to the north of the MidHudson Center. It is my understanding that Inland US Western Poughkeepsie Mid-Hudson LLC ("Inland") owns the MidHudson Center ("MidHudson").

As we discussed, and as you were advised by Russell Urban-Mead by e-mail, Hudson Heritage has purchased the former HRPC from the State of New York and is planning to develop a mixed-use residential and commercial project on the site. On the southern edge of the HRPC site is a small inactive landfill, known as "Landfill Area 6", that was created during the period of ownership by the State of New York. Under its acquisition agreement, Hudson Heritage is obligated to remediate Landfill Area 6.

Landfill Area 6 lies just north of the creek that flows along the property line separating HRPC from MidHudson. A section of the creek and a small portion of the landfill extend approximately 50 feet onto the MidHudson property. In the same area, Central Hudson has a utility easement for a buried gas line. I attach a reference map showing the approximate location.

Although a Remedial Work Plan has been prepared for the landfill, because the exact configuration of the future development of the site is uncertain at this time, the New York State Department of Environmental Conservation ("NYSDEC") is permitting Hudson Heritage to undertake a short term Interim Remedial Measure ("IRM") which includes the collection and management of landfill leachate seeping from the landfill section on the MidHudson property. To collect the leachate, Hudson Heritage requires your permission to work on the MidHudson property. The work will consist of confirming all utility mark-outs, confirming and surveying the depth of the buried gas main, and then designing and installing a leachate collection chamber. The collected leachate will be pumped to the sewer system on the HRPC property. All of the work can be approached from internal roads on the HRPC property.

I am enclosing for your reference a letter of April 30, 2007, from Alali M. Tamuno, Senior Attorney for the Eastern Field Unit of NYSDEC. As you can see from the letter, Hudson Heritage is under a deadline of July 30, 2007, to submit a work plan for the IRM. To complete the work plan and the IRM, Hudson Heritage needs to have access to the site area. After NYSDEC approves the IRM work plan, Hudson Heritage will need to proceed expeditiously to complete the remediation.

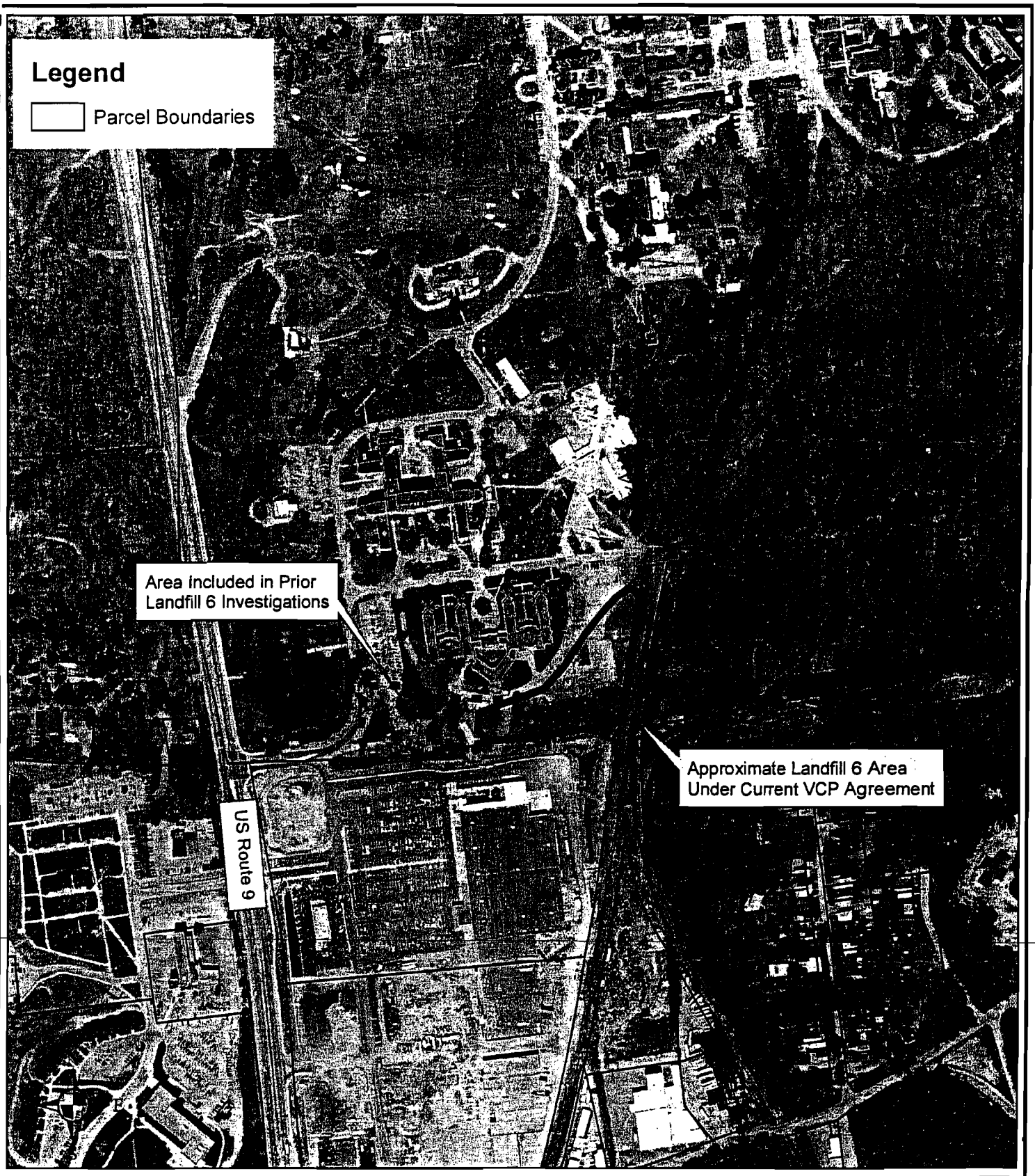
I am also enclosing for your review a simple form of access agreement. If the same meets with your approval, would you please have it executed and returned to the undersigned as soon as possible so that we may proceed with this work. A PDF copy will suffice, if your could follow with the hard copy by mail. I will have a copy of the fully executed agreement returned to you for your files. Thank you for your cooperation and assistance in this matter.

Sincerely,

George A. Rodenhausen

GAR:dbw
Enclosures

cc: Russell Urban-Mead ✓
Richard Chazen



THE Chazen COMPANIES

ENGINEERS/SURVEYORS
PLANNERS
ENVIRONMENTAL SCIENTISTS

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Orange County Office:
283 Route 17K Newburgh, NY 12550

Capital District Office:
20 Gurley Avenue Troy, NY 12182

Glens Falls Office:
110 Glen Street Glens Falls, NY 12801

FIGURE 1-SITE LOCATION MAP

Hudson River Psychiatric Center
Poughkeepsie, Dutchess County, New York

USGS Topographic Map of the Poughkeepsie NY Quadrange. 1995
7.5 Minute Series Dutchess County Real Property Services - Tax Parcel Data

Date:	September 2004
Scale:	1 inch: 400 feet
Project #:	40307.00

New York State Department of Environmental Conservation
Division of Environmental Enforcement
Eastern Field Unit
100 Hillside Avenue Suite 1W, White Plains, New York 10603-2860
Phone: (914) 428-2505 Ext. 316 • **FAX:** (914) 428-0792
Website: www.dec.state.ny.us

Alexander B. Grannis
Commissioner

April 30, 2007
via regular mail

George A. Rodenhausen, Esq.
Rapport, Meyers, Whitbeck, Shaw & Rodenhausen, LLP
Dooley Square
35 Main Street, Suite 541
Poughkeepsie, New York 12601

Re: Voluntary Cleanup Program
Volunteer: Hudson Heritage CPCR Ventures LLC.
Site Name: Hudson River Psychiatric Center (referred to as Landfill Area 6)
Site No.V00657, Index No.W3-0969-03-07

Dear Mr. Rodenhausen:

This letter serves to formally confirm the New York State Department of Environmental Conservation's (the Department") receipt of your letter dated February 28, 2007, on behalf of your client, Hudson Heritage CPCR Ventures, LLC (the "Volunteer"), and also serves to memorialize the discussions at the meeting held on Wednesday March 28, 2007 at the Department's New Paltz, New York Office (the "meeting"). Your letter was ostensibly in response to the Department's February 20, 2007 letter setting forth deadline(s) for the Volunteer to commence and complete the remedial field activities required in the Department-approved Remedial Action Work Plan ("RAWP") for the Hudson River Psychiatric Center Site (referred to as Landfill Area 6) (the "Site") dated January 2005, and the meeting was in response to your request to meet with Department staff.

On Wednesday, March 28, 2007, the undersigned attorney and staff from the Department's Division of Environmental Remediation and Division of Solid and Hazardous Materials met with you and other representatives of the Volunteer. Carl Obermeyer from the New York State Department of Health ("NYSDOH") was also present. At the meeting, the Volunteer's project team described the activities the Volunteer considered prudent to undertake during the pendency of the Moratorium on development in the Town of Poughkeepsie, New York. It is the Department's understanding, and the Department has taken under advisement, that the Volunteer's position is that it is "not reasonable to expect it to proceed with any final remediation" at the Site until such time as the pending zoning legislation in the Town of

Poughkeepsie, New York is resolved and it can then determine with certainty what "the ultimate land use will be in the vicinity of the Site".

At the conclusion of the meeting, the Volunteer formally requested the Department and NYSDOH's consideration of its proposal to continue Site remediation by undertaking what is to be characterized as an Interim Remedial Measure at the Site that consists of the construction of a Leachate Collection System and abandonment of certain water conveyances by capping and grouting to reduce water flow through the waste mass (the "IRM proposal"). Construction of the landfill cover system is to be completed at a later date upon the resolution of the matters identified above.

The Department has considered your request to proceed with Site remediation by expeditiously implementing the IRM proposal with the construction of the landfill cover system deferred to a later date (under no circumstances later than March 31, 2009). The Volunteer is hereby given a deadline of July 30, 2007, to submit a Work Plan whose objective is to perform the IRM proposal including a schedule of the IRM activities (the "IRM Work Plan""). If the Department does not receive the IRM Work Plan by the deadline date, the Department will consider the Volunteer is no longer interested in performing work at the Site and continue under the fully executed Voluntary Cleanup Agreement dated April 27, 2004 (the "VCA"), and will consider this inaction grounds for termination of the Agreement.

Be advised that nothing contained herein constitutes a waiver by the Department or the State of New York of any rights held pursuant to any applicable state and/or federal law or the relevant Voluntary Cleanup Agreement or a release for any party from any obligations held under those same laws.

Sincerely,

Alali M. Tamuno
Senior Attorney

cc: via e-mail
J. Cook
B. Maglienti
M. Ryan
C. Obermeyer, NYSDOH

ACCESS AGREEMENT

THIS AGREEMENT, made this ____ day of July, 2007, by and between Inland US Western Poughkeepsie Mid-Hudson, LLC, with an office at 45 Wintonbury Avenue, Suite 311, Bloomfield, CT 06002 ("Owner") and Hudson Heritage CPCR Ventures, LLC, with an office at 21 Fox Street, Poughkeepsie, NY 12601 ("Hudson Heritage").

WHEREAS, Hudson Heritage is obligated by the New York State Department of Environmental Conservation ("NYSDEC") to remediate the former solid waste landfill known as "Landfill Area 6" which includes land that straddles the property line between the former Hudson River Psychiatric Center ("HRPC") owned by Hudson Heritage, and the Mid-Hudson Center owned by Owner (the "Premises"); and

WHEREAS, it is necessary for Hudson Heritage to enter upon the Premises to prepare the work plan and perform the remediation required by NYSDEC.

NOW, THEREFORE, IN CONSIDERATION OF MUTUAL COVENANTS HEREIN SET FORTH, the parties hereby agree as follows:

1. Owner hereby grants to Hudson Heritage, their agents, representatives, and contractors, permission to enter upon the Premises from the date hereof for purposes of performing studies and implementing the remediation approved for Landfill Area 6 by NYSDEC, which includes, without limitation, the collection and management of landfill leachate seeping from the landfill section on the Premises. The work will consist of confirming all utility mark-outs, confirming and surveying the depth of the buried gas main, securing any required stream, leachate discharge or wetland disturbance permits, and then designing and installing one or more leachate collection chambers. The collected leachate will be pumped to the sewer system on the HRPC property. All of the work can be approached from internal roads on the HRPC property.

2. Hudson Heritage agrees to defend and hold Owner harmless from and against any claims for injuries to person or property to the extent the same arise from work performed by Hudson Heritage as described in this Access Agreement, including reasonable attorneys fees, disbursements and funding of any mechanics liens filed against Owner's property as a result of said remedial work performed by Hudson Heritage.

3. This Agreement shall be governed by the laws of the State of New York.

4. This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof.

5. Owner hereby agrees to allow the long-term continuous presence of the leachate collection systems until such time as NYSDEC and/or Hudson Heritage determine that continued operation of the leachate collection systems are no longer required.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals the day and year first above written.

INLAND US WESTERN POUGHKEEPSIE MID-HUDSON, LLC

By:_____
Title: _____

HUDSON HERITAGE CPCR VENTURES, LLC

By:_____
Title: _____

APPENDIX B: LANDFILL AREA 6 SEDIMENT SAMPLE RESULTS

Table 1 - Landfill Six
Stream Sediment/Leachate Precipitate Samples
Collected July 12, 2004

Analyte	Unit	Technical Guidance for Screening Contaminated Sediments (moderate impact)	Technical Guidance for Screening Contaminated Sediments (severe impact)	TAGM 4046 Background	Recommended TAGM 4046 Cleanup	HRPC-A6-SS1	HRPC-A5-SS1A	HRPC-A6-SS1	HRPC-A6-SS2	HRPC-A6-SS3
						Landfill 5 seep background	Landfill 5 seep background	Landfill 6 upstream seep area	Landfill 6 downstream flowing seep	Landfill 6 downstream sediment
						Leachate Floc in stream bed	Leachate Floc in stream bed	Iron stained soil on floodplain	Leachate Floc in stream bed	Stream Sediment
						lab results reported in mg/kg				
aluminum	ppm	NS	NS	33,000	background	50.0	22.8	3,840	1,100	7,630
iron	ppm	20,000	40,000	2,000 - 550,000	2,000 or background	2,180	2,050	42,900	9,790	26,100
manganese	ppm	460	1100	50-5,000	background	16.6	9.62	391	121	426
silica	NS	NS	NS	NS	NS	na	na	na	na	na
mercury	ppm	0.15	1.3	0.001 - 0.2	0.1	nd	nd	0.17	nd	0.11
arsenic	ppm	6	33	3.0 - 12	7.5 or background	0.342	0.275	9.57	1.6	6.95
lead	ppm	31	110	200-500*	background	0.337	0.194	41.5	19.6	24.6
TOC	NS	NS	NS	NS	NS	940	nd	30000	3300	8700

* background values for suburban/metropolitan areas
NS No Standard

TABLE 5 SUMMARY OF ANALYTICAL RESULTS FOR GROUND-WATER AND LEACHATE SEEP SAMPLES COLLECTED FROM AREA 6, HUDSON RIVER PSYCHIATRIC CENTER, POUGHKEEPSIE, NEW YORK

Analyte	Ground Water MWHR6-16	Ground Water MWHR6-19	NYSDEC Ground-Water Standards[a] (ppb)	Leachate Seep HRPC-A6-LCH4	NYSDEC Surface Water Standards[b] (ppb)
VOLATILE ORGANIC COMPOUNDS BY EPA METHOD 8260B (µg/L)					
NONE DETECTED					
TARGET ANALYTE LIST METALS BY EPA METHOD SERIES 6010/7000 (µg/L)					
Aluminum	181B*	244	---	1,740	---
Arsenic	4.9B*	7.0B*	25	12.5	340
Barium	56B*	762	1,000	482	---
Cadmium	0.58B*	0.5B*	5	(<0.5U)	52[c]
Calcium	97,200	273,000	---	110,000	---
Chromium	2.6B*	(<1.3U)	50	(<1.3U)	3,756[c]
Cobalt	2.6B*	10.9B*	---	5.2B*	110
Copper	(<0.8U)	(<0.8U)	200	19.7B*	118[c]
Iron	197	**1,400**	300	**178,000**	300
Lead	4.0	1.4B*	25	34.5	1,049[c]
Magnesium	9,540	**49,900**	35,000	14,700	---
Manganese	**579**	**407**	300	4,310	---
Nickel	6.6B*	4.3B*	100	(<1.0U)	3,284[c]
Potassium	835B*	2,350B*	---	3,610B*	---
Selenium	1.3B*	4.2B*	10	8.8	---
Sodium	15,300	**115,000**	20,000	106,000	---
Thallium	(<0.70U)	(<0.70U)	0.5	**26.2**	20
Vanadium	(<0.8U)	(<0.80U)	---	15.3B*	190
Zinc	30.0	23.5	2,000	95.8	824[c]
HEXAVALANT CHROMIUM BY EPA METHOD 7196A (mg/L)					
Chromium	(<0.01U)	(<0.01U)	0.5	(<0.01U)	16

(a) New York State Class GA ground-water standards for source of drinking water from Division of Water Quality Technical and Operational Guidance Series (1.1.1). NYSDEC ambient water quality standards and guidance values and ground-water effluent limitations.

(b) New York State surface water standards from Division of Water Quality Technical and Operational Guidance Series (1.1.1). NYSDEC Ambient water quality standards and guidance values and ground water effluent limitations standards shown are for the lowest level of Class D standards.

(c) Standard calculated using surface water hardness based on laboratory results.

NOTE: NYSDEC = New York State Department of Environmental Conservation.
EPA = U.S. Environmental Protection Agency.
B* = Analyte concentration is greater than the instrument detection limit, but less than the contract required detection limit.
U = Not detected. Sample quantitation limits are shown as (<__U).
Only those analytes detected in at least one of the samples are shown on this table.
Results in bold indicate concentrations in excess of NYSDEC standards or guidance values.
Dashes (---) indicate no standard applicable.

Analyte	Ground Water		NYSDEC Ground-Water Standards[a] (ppb)	Leachate Seep	NYSDEC Surface Water Standards[b] (ppb)
	MWHR6-16	MWHR6-19		HRPC-A6-LCH4	
ALKALINITY AS $CACO_3$ BY EPA METHOD 310.1 (mg/L)					
Alkalinity	250	350	---	350	---
TOTAL ORGANIC CARBON BY EPA METHOD 415.1/9060 (mg/L)					
Total Organic Carbon	2.9	2.4	---	4.1	---
CHLORIDE BY EPA METHOD 325.3 (mg/L)					
Chloride	43	**660**	250	210	---
COLOR BY EPA METHOD 110.2 (CU)					
Color	10	25	---	5	---
BIOCHEMICAL OXYGEN DEMAND BY EPA METHOD 405.1 (mg/L)					
Biochemical Oxygen Demand	(<2.0U)	(<2.0U)	---	3.9	---
BROMIDE BY EPA METHOD 405 (mg/L)					
Bromide	(<1.0U)	(<1.0U)	2.0	(<1.0U)	---
CHEMICAL OXYGEN DEMAND BY HACH METHOD 8000 (mg/L)					
Chemical Oxygen Demand	(<5.0U)	(<5.0U)	---	15	---
HARDNESS AS $CaCO_3$ BY EPA METHOD 200.7 (mg/L)					
Hardness	280	890	---	1,000	---
NITROGEN, AMMONIA BY EPA METHOD 350.1 (mg/L)					
Nitrogen, Ammonia	(<0.2U)	0.44	---	0.39	62[d]
NITROGEN, TOTAL KJELDAHL BY EPA METHOD 351.3 (mg/L)					
Nitrogen, Total Kjeldahl	(<1.0U)	(<1.0U)	---	1.4	---
NITROGEN, NITRATE BY EPA METHOD 353.2 (mg/L)					
Nitrogen, Nitrate	(<0.5U)	(<0.5U)	10	(<0.5U)	---
PHENOLICS, TOTAL RECOVERABLE BY EPA METHOD 420.1 (mg/L)					
Phenolics	0.024	(<0.015U)	---	0.028	---
TOTAL DISSOLVED SOLIDS BY EPA METHOD 160.1 (mg/L)					
Total Dissolved Solids	330	1,100	---	510	---
SULFATE BY METHOD 375.4 (mg/L)					
Sulfate	34	45	16	250	---
CYANIDE BY METHOD 335.1 (mg/L)					
Cyanide	(<0.01U)	(<0.01U)	0.2	(<0.01U)	22

(d) Standard based on temperature of 14°C and pH of 7.0 as per the nearest parameters to the sampling site of collection at MWHR6-16.

Appendix C

OM&M Plan Table of Contents

APPENDIX C:
OM&M PLAN TABLE OF CONTENTS

Appendix C

OM&M Plan Table of Contents

APPENDIX D:
HEALTH AND SAFETY PLAN (HASP)

Interim Remedial Measures Work Plan
Health and Safety Plan

Landfill Area 6
Hudson River Psychiatric Center
Poughkeepsie, New York

February 2008

THE
Chazen
COMPANIES

Prepared For:
Hudson Heritage, LLC
21 Fox Street
Poughkeepsie, NY 12601

Interim Remedial Measures Work Plan
Health and Safety Plan

Landfill Area 6
Hudson River Psychiatric Center
Poughkeepsie, New York

February 2008

THE Chazen COMPANIES

Prepared by:

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(845) 567-1133

Orange County
(845) 567-1133

Capital District
(518) 273-0055

North Country
(518) 812-0513

TABLE OF CONTENTS

APPENDICES

APPENDIX A – HASP Acknowledgement
APPENDIX B – Confined Space Program Documents

1.0 INTRODUCTION AND OBJECTIVES

The Chazen Companies (TCC) have prepared this Health and Safety Plan (HASP) to be followed by employees of TCC and its subcontractors during work to be performed as part of an interim remedial measure designed to reduce leachate generation at the LA 6 Site, located at the Hudson River Psychiatric Center (HRPC) property, Route 9, Town of Poughkeepsie, Dutchess County, New York. The conditions of the HASP, when followed, are sufficient to ensure the safety of contractors working at the site during the implementation of the interim remedial measures.

The activities, equipment and procedures described in this plan are designed to provide personal protection against potential exposure as a result of activities occurring as part of the Interim Remedial Measures Work Plan. The Plan includes: preliminary evaluation of site characteristics prior to site entrance; establishment of an emergency chain of command; and the use of basic safety equipment, personal protective equipment and air monitoring devices, equipment decontamination, and an employee medical surveillance program.

The objectives of this HASP are to:

- Identify the physical, chemical, and biological hazards which may be present during the proposed site investigation activities
- Specify the protective measures necessary to control those hazards
- Define emergency procedures
- Specify training and medical qualification criteria for personnel

This HASP must be read and understood by all TCC personnel and Subcontractors who will be performing field activities at the LA 6 Site. (The HASP Acknowledgement Form is provided in Appendix A.)

2.0 SITE AND PROJECT DESCRIPTION

2.1 Site Location and Description

The site is defined in the Voluntary Cleanup Program (VCP) Agreement for Landfill Area 6 (Site No. V00657-3) and consists of approximately 2.5 acres situated east of the foundation of a former pavilion south of Ryan Hall and west of a railroad bed (see Figure 1). The specific boundaries of the site covered by the VCP Agreement are defined in the Agreement.

The site is located on the grounds of the former Hudson River Psychiatric Center (HRPC) in the Town of Poughkeepsie, Dutchess County, New York. Hudson Heritage CPCR Ventures L.L.C. (HH) purchased 155.9 acres of the former HRPC. The LA 6 Site is defined as follows:

- To the south and east: Parcel property lines.
- To the north: a catchbasin south of Winslow Gate Road.
- To the northwest: the south margin of Ryan Drive, which is the loop road passing by the site.
- To the west: the waste mass margins east of the concrete slab remaining from a former pavilion near MWHR6-20.

The site boundaries are shown on drawings contained in the Interim Remedial Measures Work Plan. Inferred or confirmed waste extends beyond these site boundaries to the east, where waste is found on the adjacent property to the banks of a railroad bed, and to the south, where the southwest corner of LA 6 may extend onto lands under a gas line right-of-way. The proposed leachate collection system will be partially located on land to the south of the Site, which includes a commercial shopping center.

2.2 Historic Operations and Previous Investigations

A previously completed closure investigation report by EA Engineering, Science and Technology (EA) in 2001 summarizes that wastes were disposed of in various locations on the 324-acre parent HRPC parcel for more than 100 years, ending in approximately 1974. Wastes reportedly consist primarily of household and commercial refuse and substantial volumes of coal ash. Two petroleum spills have

occurred on the 324-acre parcel in the past (spill numbers 9707019 and 9304993) and both spills have been reported as closed. Neither spill occurred in the vicinity of LA 6.

Interviews with current and former employees (EA, 2001) and investigation work performed more recently by The Chazen Companies indicate that in addition to municipal waste from the HRPC facility, LA 6 contains coal ash from the heating plant, mixed construction debris from the HRPC facility. The site potentially contains some municipal waste from the Town of Poughkeepsie. Air photo interpretation completed by EA (EA, 2001) identifies that no wastes had yet been deposited in LA 6 in 1962 or 1964 photos, that some waste had been emplaced by 1966, and that waste emplacement had evidently ended by or before 1978.

Multiple investigations have been completed to characterize potential landfill sites throughout the HRPC property, as well as studies that focused specifically on LA 6. Detailed descriptions of these studies are provided in the LA 6 IRM Work Plan dated July 2007.

2.3 Interim Remedial Measures Scope of Work

The interim remedial measures to be implemented at the LA 6 Site are discussed in detail in the Interim Remedial Measures (IRM) Work Plan dated July 2007. The following hands-on activities are part of the remedial work scope:

- Excavation and temporary on-site staging of leachate-impacted sediments at 2 discrete locations within stream banks.
- Installation of two, small, shallow leachate collection systems each comprised of a sump, permeable backfill, impermeable geomembrane, sump pump, electric, controls, and force main.
- In-place abandonment of two storm sewers (12" and 18" diameter) within the landfill.
- Installation of a new water conveyance along a portion of the northern boundary of the landfill mass which will be installed outside the landfill boundary.
- Installation of force mains from the leachate collection systems to a sanitary sewer connection. The lines will partially be installed through the landfill.

- Construction of up to two lined and covered temporary staging areas on top of the landfill to store spoils from trenching of leachate discharge pipes.

3.0 PROJECT H&S PERSONNEL AND EMERGENCY RESPONSE

3.1 Project Manager

Mr. Russell Urban-Mead will serve as Project Manager for this investigation. Mr. Urban-Mead has overall project management responsibilities for the project and will serve as the main technical point of contact. He can be reached at TCC at (845) 454-3980. His responsibilities, as they relate to health and safety, include coordination of staff assignments to ensure that personnel assigned to the project meet necessary medical and training requirements and to provide direction, as needed, to resolve any health and safety issues that are identified or develop during the project.

3.2 Field Operations Leader

The Field Operations Leader supervises the day to day site operations, including interfacing with the site Health and Safety Officer, subcontractors and other site workers. The Field Operations Leader will be trained in emergency response operations as referenced in 29 CFR Part 1910.120. The designated Field Operations Leader for the project site is Daniel Michaud.

3.3 Health and Safety Officer

The Health and Safety Officer (HSO) is responsible for developing and implementing the site specific Health and Safety Plan. The HSO will investigate any accidents, illnesses and incidents that occur on-site and will have the authority to stop site operations if she determines that an imminent health or safety hazard or other potentially dangerous situation exists. The HSO will immediately attempt to notify the Project Manager of any stop work orders. The designated HSO for the project site is Ms. Kimberly Cuppett.

3.4 Posted Project Personnel & Emergency Response Contacts

The personnel and emergency response contacts associated with the proposed scope of work at the LA 6 Site are presented below and are to be posted at the job site.

DIAL 911 FOR EMERGENCY IN ULSTER COUNTY

Title/Project Responsibility	Name	Main Phone	Mobile/Other Phone
Project Personnel			
Chazen Project Manager	Russell Urban-Mead	(845) 454-3980	(845) 797-1157
Field Operations Leader	Daniel Michaud	(845) 454-3980	(845) 235-4357
Health & Safety Officer	Kimberly Cuppett	(845) 454-3980	(845) 249-5213
Emergency Personnel – DIAL 911 In Ulster County			
Hospital St. Francis Hospital 241 North Road Poughkeepsie, New York (Hospital Route Map Attached On Next Page)		*Emergency-Dial 911	(845) 483-5000 non-emergency
Ambulance, Fire Police		Dial 911	
NYSDEC Spills Hotline		(800) 457-7362	
NYSDEC Regional Office		(845) 256-3121	
Poison Control Center		(800) 222-1222	
National Response Center		(800) 424-8802	

* Dialing 911 will connect all land lines and wireless calls to the Dutchess County Sheriff's Office Emergency Communications Center. Wireless calls can also be traced using GPS from the Emergency Communications Center.

Hospital Route

St. Francis Hospital is located approximately 2.0 miles from the subject site when driving. The estimated travel time from the site to St. Francis Hospital is approximately seven minutes. Directions and a route plan map for two different routes are provided below.

Directions To St. Francis Hospital

Route A:

From the site access road make a Left onto Paint Shop Road/Hudson View Drive

Turn Right towards North Road/US Route 9

Turn Left at North Road/US Route 9

Turn Left at Marist Drive/Route 9G

Turn Left at Marist Drive

Slight Left at North Road

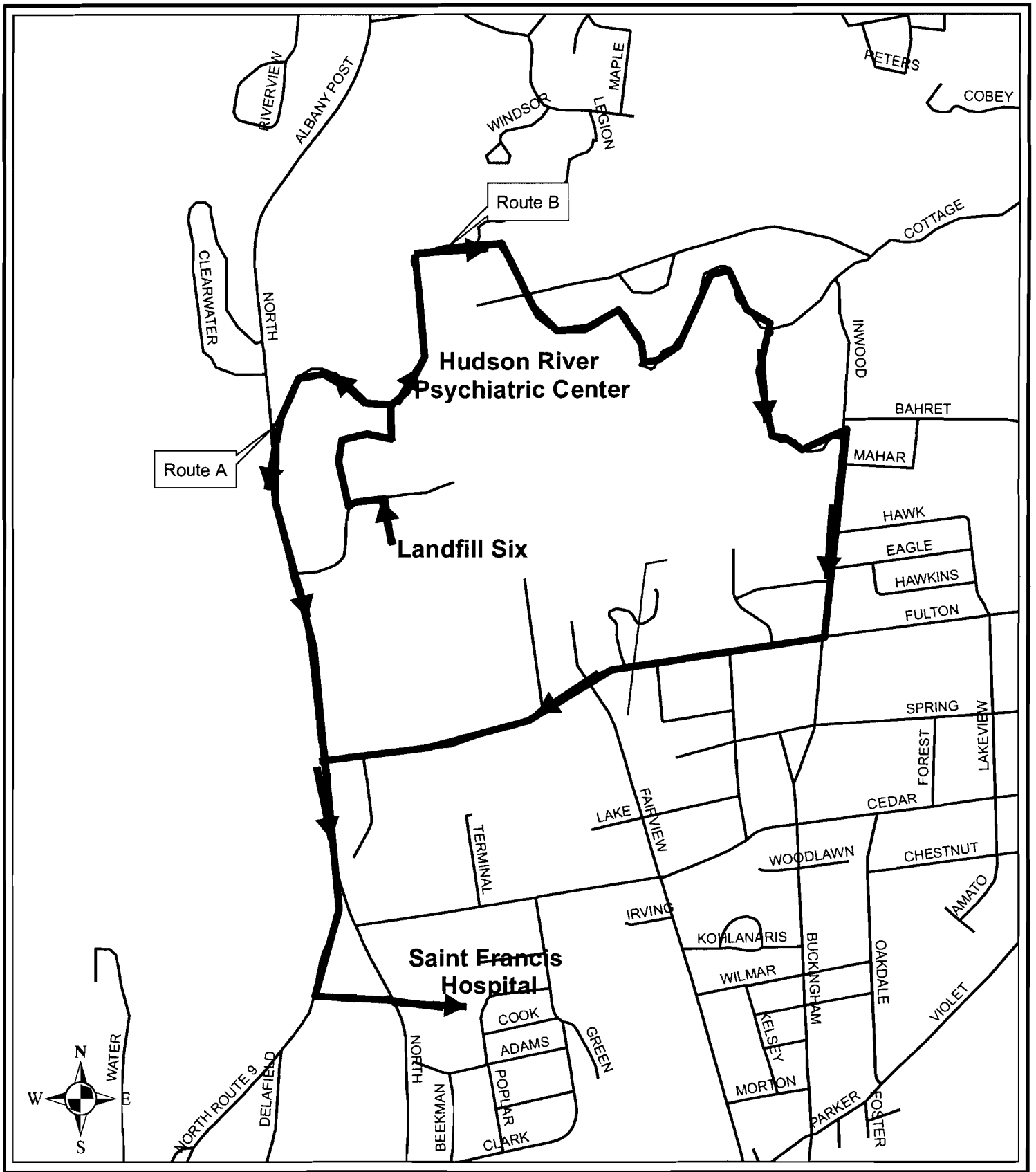
Route B:

From the site access road turn Right onto Hudson View Drive/Paint Shop Road

Stay on Hudson View Drive until you can make a Right onto Inwood Avenue (Gate Access may be required)

Turn Right onto East Cedar

Turn Left onto North Road



THE Chazen COMPANIES
ENGINEERS/SURVEYORS
PLANNERS
ENVIRONMENTAL SCIENTISTS

Dutchess County Office:
21 Fox St. Poughkeepsie, NY 12601
Phone: (845) 454-3980

Orange County Office:
263 Route 17K Newburgh, NY 12550

Capital District Office:
20 Gurley Avenue Troy, NY 12182

Glens Falls Office:
110 Glen Street Glens Falls, NY 12801

Hudson River Psychiatric Center
Route To Saint Francis Hospital

Poughkeepsie, Dutchess County, New York

USGS Topographic Map of the Poughkeepsie NY Quadrange. 1995
7.5 Minute Series Dutchess County Real Property Services - Tax Parcel Data

Date:
September 2004

Scale:
1 inch: 1,000 feet

Project #:
40307.00

4.0 TRAINING & MEDICAL SURVEILLANCE REQUIREMENTS

4.1 Personnel Safety Training

All TCC personnel shall receive appropriate training prior to engaging in site activities. All involved TCC personnel have received a minimum of 40 hours of comprehensive health and safety training in accordance with Federal regulations found at 29 CFR 1910.120, with an annual 8-hour refresher course.

All TCC employees working on the site must recognize and understand the potential hazards to health and safety that are associated with the site and must be thoroughly familiar with programs and procedures contained in the site HASP.

The objectives of the TCC training program for its employees involved in hazardous site activities are:

- To make workers aware of the potential hazards they may encounter.
- To provide the knowledge and skills necessary to perform the work with minimal risk to the health and safety of the workers.
- To make workers aware of the purpose and limitations of safety equipment.
- To ensure that workers can safely avoid or escape emergencies.

4.2 Medical Surveillance

All involved TCC personnel are currently involved in a medical monitoring program in accordance with 29CFR 1910.120.

Based on the proposed scope of work, the potential for exposure to site contaminants of concern (COCs) is considered to be negligible. Medical monitoring for common COCs is performed as part of the existing TCC medical monitoring program. Any provisions for alterations to the existing medical surveillance program will be made by the Health & Safety Officer based on the site characterization and job hazard analysis.

5.0 SITE STANDARD OPERATING SAFETY PROCEDURES

Standard operating safety procedures include personal safety precautions and operating practices that all TCC personnel will follow. These procedures are described below.

5.1 Basic Safety Equipment

Safety equipment will be kept on site for monitoring and responding to emergency situations. In addition to equipment previously mentioned, basic safety equipment will include, but is not limited to, the following:

- ABC type fire extinguishers
- First Aid kits
- Air Monitoring Equipment
- Reference books containing basic first-aid procedures and information

5.2 Personal Precautions

- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the hand-to-mouth transfer and ingestion of material is prohibited in any area designated contaminated.
- Hands and face must be thoroughly washed as soon as possible after leaving the work area.
- Whenever decontamination procedures for outer garments are in effect, the entire body should be thoroughly washed as soon as possible after the protective garment is removed.
- No facial hair, which interferes with satisfactory fit of the mask-to-face seal, is allowed on personnel required to wear respirators. Personnel will use the negative and positive pressure fit test prior to each use of the respirator.
- Contact with contaminated or suspected contaminated surfaces should be avoided. Whenever possible, do not walk through puddles, leachate,

discolored surfaces, kneel on ground, lean, sit, or place equipment on drums, containers or the ground.

- Medicine and alcohol can potentiate the effects from exposure on toxic chemicals. Prescribed drugs should not be taken by personnel on response operations where the potential absorption, inhalation, or ingestion of toxic substances exists unless specifically approved by a qualified physician. Alcoholic beverages should be avoided during response operations.

- Contact lenses are not permitted to be worn on site. If any contaminated substance enters the eye, the lenses impede proper flushing of the eye.

5.3 Operations

- All personnel going on-site must be adequately trained and thoroughly briefed on anticipated hazards, equipment to be worn, safety practices to be followed, emergency procedures, and communications.

- Any required respiratory protection and chemical protective clothing must be worn by all personnel going into areas designated for wearing protective equipment.

- Personnel on-site must use the buddy system when wearing respiratory protection. As a minimum, two other persons, suitably equipped, are required as safety backup during initial entry.

- Visual contact must be maintained between pairs on-site and safety personnel. Entry team members should remain together to assist each other during emergencies.

- During continual operations, on-site workers act as safety backup to each other. Off-site personnel provide emergency assistance.

- Personnel should practice unfamiliar operations prior to doing the actual procedure.

- Entrance and exit locations must be designated and emergency escape routes delineated. Warning signals for site evacuations must be established.

- Communications using radios, hand signals, signs, or other means must be maintained between initial entry members at all times. Emergency

communications should be prearranged in case of radio failure, necessity for evacuation of sit, or other reasons.

- Personnel and equipment in the contaminated area should be minimized, consistent with effective site operations.
- Work areas for various operational activities must be established.
- Procedures for leaving a contaminated area must be planned and implemented prior to going on-site. Work areas and decontamination procedures must be established based on expected site conditions.

6.0 HAZARD EVALUATION AND CONTROLS

Hazards which may be encountered during IRM work performed at the LA 6 site are summarized in Table 1. Additional information pertaining to these hazards is provided in the sections which follow.

Table 1: Potential Hazards at the LA 6 Site

Hazard Type	Hazard Anticipated	Associated IRM Activities	Hazard Control Methods
Chemical	Mercury, Arsenic Lead, Iron, VOCs Combustible gases	Excavation with a backhoe, movement of soil and interface with leachate and waste mass	PPE Training on COCs Safety Training & Standard Safety Operations, Minimizing Exposure to COCs
Physical	Slip, Trip & Fall, Heavy Equipment & Traffic, Heat & Cold, Noise, Confined Space	Any site work Confined space entry possible during leachate collection system.	PPE, Safety Training & Standard Safety Operations, Confined Space Training and Protocols
Electrical	Working around Utilities and Oversight of Electric Installation Work	Excavation work, installation of sumps/electrical	Utility Check Safety Training & Standard Safety Operations
Biological	Insect Bites (including ticks), Poisonous Plants, Wildlife	Any site work	Safety Training & Standard Safety Operations

6.1 Chemical Hazards

6.1.1 Known COCs

Based on previous investigations, the following metals are likely to be encountered during the IRM work to be performed at the HRPC LA 6 Site: Mercury, Arsenic, Lead, Iron, Manganese and Sodium. These metals were identified in leachate and streambed samples.

The OSHA Permissible Exposure Values (PELs) for each of these primary contaminants of concern (COCs) are recorded below in Table 2.

Table 2: Primary COCs at Area Landfill 6 Site

Substances	PEL* (ppm)	IDLH** (ppm)
Mercury	0.01 mg/m^3	10 mg/ m^3
Arsenic	0.01 mg/ m^3	5 mg/ m^3
Lead	0.05 mg/ m^3 (C)	100 mg/ m^3
Iron (iron oxide dust and fume)	10 mg/ m^3	2,500 mg/ m^3
Manganese	5 mg/ m^3	500 mg/ m^3
Sodium	None	None
* -	PEL = Permissible Exposure Value	
** -	IDLH = Immediately Dangerous to Life and Health	
C	Ceiling Value – a concentration that should not be exceeded ruing the work shift	

Additionally, implementation of the IRMs will involve excavation of waste materials which are believed to include primarily non-putrescible items. However, volatile organic compounds and combustible gases (including methane) could potentially be present. Air monitoring (see Section 8.0, below) will include monitoring for both VOCs and combustible gases while excavating through landfill waste.

6.1.2 Exposure to COCs

Although exposure to hazardous chemicals at concentrations of concern is not foreseen, potential routes of exposure include dermal contact, inhalation, and/or ingestion during soil movement work associated with implementation of the IRMs.

Air monitoring will be performed during site work to evaluate airborne concentrations of chemical contaminants to which site workers may be exposed. Air monitoring control measures are discussed in Section 8.0 of this HASP.

To control dermal exposure during intrusive activities involving soil, sediment, and leachate, a minimum of Modified Level D PPE will be worn as described in Section 7.0 of this HASP.

If, for any reason, a Site worker experiences dizziness, nausea, vomiting, has trouble breathing, experiences eye, nose and/or throat irritation, or drowsiness, the HSO should be contacted immediately and immediate medical treatment should be sought, as appropriate.

6.2 Physical Hazards

6.2.1 Slip Trip and Fall

Uneven ground surfaces and the presence of debris presents a concern for slip, trip, and fall incidents. General safety precautions will be employed on-site to control for slip, trip, and fall hazards.

6.2.2 Heavy Equipment and Vehicle Traffic

Site work that occurs in the vicinity of machinery, such as a backhoe or large truck, or on-site vehicular traffic also represents a safety hazard. On-site personnel will be expected to exercise normal safety precautions and utilize appropriate PPE as presented in this HASP when working around heavy machinery, or in the vicinity of on-site traffic. Personnel providing oversight should remain at least twenty feet from heavy equipment and should be clearly visible by equipment operators at all times.

All equipment subcontractors must possess required state or local licenses to perform work. The equipment subcontractors are responsible for the safe operation of their equipment as well as adherence to the requirements of this HASP. The equipment subcontractor is responsible for ensuring that the excavation equipment

is in proper condition and is properly used. Heavy equipment conditions will be evaluated daily prior to the start of work.

6.2.3 Confined Space

The only activities potentially involving confined space entry are associated with installation of the leachate collection system. If the need to enter a confined space arises, The Chazen Companies Permit-Required Confined Space Entry Program will be followed during all entry operations. Permit-Required Confined Space Entry Program documents are provided in Appendix B of this HASP.

6.2.4 Heat and Cold Stress

It is anticipated that outdoor field work will be performed primarily in the fall of 2007 when the potential for heat stress is more of a concern. Some work may be performed, however, at times when cold stress is also an issue.

Heat stress may occur even in moderate temperature areas and may present any or all of the following:

Heat Rash - Result of continuous exposure to hot humid air and chafing clothes. Heat rash is uncomfortable and decreases the ability to tolerate heat.

Heat Cramps - Result of the inadequate replacement of body electrolytes lost through perspiration. Sign include severe spasms and pain in the extremities and abdomen.

Heat Exhaustion - Result of the increase stress on the vital organs of the body in the effort to meet the body's cooling demands. Signs include shallow breathing, pale, cool, moist skin, profuse seating, dizziness and listlessness.

Heat Stroke- Result of overworked cooling system. Heat stroke is the most serious form of heat stress. Body surfaces must be cooled and medical help must be obtained immediately to prevent severe injury and/or death. Signs include red, hot, dry skin, absence of perspiration, nausea, dizziness, confusion, strong rapid pulse, coma and death.

The following any or a combination of the following actions can be taken to prevent heat stress:

- Replace body fluids (water and electrolytes) lost through perspiration. Solutions may include a 0.1 % salt and water solution or commercial mixes such as Gatorade and Squench. A fluid/electrolyte replacement will be used as necessary to minimize fluid loss. This liquid supplement will be stored in a cooler at the edge of the decontamination zone. Disposable cups or squeeze bottles may be used to dispense the liquid.

- Provide cooling devices to aid in the natural body ventilation. Cooling occurs through evaporation of perspiration and limited body contact with heat absorbing protective clothing. Fans and air conditioners can assist in evaporation.

- Provide hose-down mobile shower facilities, where feasible, to cool protective clothing and reduce body temperature.

- Conduct activities early in the morning or evening during very hot weather.

- Maintain warm/hot drinks in the support zone.

- Provide shelter against heat and direct sunlight to protect personnel.

- Rotate workers utilizing protective clothing during hot weather.

Working outside during the cold months presents a concern for cold-related disorders as described below:

Hypothermia – Symptoms of hypothermia include shivering, slurred speech, disorientation and loss of coordination. Advance stages of hypothermia include feelings of warmth and reckless behavior.

Frost Bite – Symptoms of frostbite include cold feelings, red color to the skin, tingling, swelling and pain. In advanced stated of frostbite, the skin will appear white in color.

To avoid cold stress, take the following precautions:

- Provide a shelter area where warmth is available.
- Wear thermal clothing applied in layers.
- Remain active in order to maintain blood circulation throughout the body.
- Maintain warm/hot drinks in the support zone.

6.3 Electric

Prior to subsurface excavation or any other subsurface sampling or remedial activities, underground utilities must be located using facility plans and the Dig Safely NY Program (1-800-962-7962). These protective measures will be taken to minimize the potential health and safety risks associated with subsurface excavation activities near underground utility lines.

Electrical work performed in conjunction with installation of the leachate collection systems will be conducted by appropriately trained personnel.

Heavy equipment (including backhoes) will be used to perform certain portions of the IRM work. The presence of overhead utilities and underground obstacles poses a hazard if heavy equipment contacts them. As indicated in Table 1, electrical hazards are considered to be a concern for the IRM work.

If heavy equipment is operated in the vicinity of overhead power lines, this heavy equipment will be positioned such that no part of it is within the minimum clearances as outlined in Table 3, below:

Table 3: Minimum Clearances For Overhead Electrical Lines

System Voltage	Minimum Required Clearance
50kV 10 feet	0 feet
100kV 12 feet	51 feet
200kV 15 feet	101 feet
300kV 20 feet	201 feet
500kV 25 feet	301 feet
750kV 35 feet	501 feet
1,000kV 45 feet	751 feet

6.4 Biological

6.4.1 Poisonous Plants

Poisonous plants, such as poison ivy and sumac, maybe present on the site and present a hazard for site personnel. Signs and symptoms of exposure to such poisonous plants include itching, burning, redness, rash, blistering and swelling.

Preventative measures will be implemented to avoid contact with poisonous plants on the site property. These measures will include, but are not limited to, the following activities:

- Cover arms and hands if possible.
- Frequently wash exposed skin.
- Avoid skin contact with objects or protective clothing that have touched the plants.
- Treat every surface that may have touched the plant as contaminated, and practice contamination avoidance.
- If skin contact is made, the area should be washed immediately with soap and water, and observed for signs of reddening.

6.4.2 Insects

Site personnel may be exposed to insects, including ticks, mosquitoes and/or black flies during site work. While the presence of mosquitoes and/or black flies is not anticipated to be a significant health and safety concern, bites from these insects can cause adverse health symptoms such as redness, swelling, and allergic reaction, and in some cases diseases such as lyme disease.

The best way to prevent tick borne diseases is to avoid tick bites. Preventative measures to reduce the potential for tick bites include, but are not limited to, the following:

- Wearing long pants and long sleeved shirts.
- Tucking shirts into pants. Tucking pants into socks or boots, or using tape to close the opening where they meet.
- Using an EPA approved insect repellant or arachnicide (pesticide) which is effective for ticks, such as DEET (N,N-diethyl-m-toluamide) or pyrethrin. Be sure to heed all precautionary information, and be aware that some people are sensitive to these chemicals.
- Wearing light colored clothing so that a tick can be seen more easily.
- Changing clothes when you return from an area where ticks may be located.
- Showering to wash off any loose ticks.

- Throughout the work day, performing Tick Check and Removal Procedures as follows:
    1. Check clothing for ticks. If you find a tick, do a more thorough tick check.
    2. Inspect parts that bend (back of knee, between fingers and toes, underarms), pressure points where clothing presses against skin (underwear elastic, belts, neck); other common areas (belly button, around or in ear, hairline, top of head).
    3. Once indoors, do a final tick check and change of clothing.
    4. If you are in a tick infested area or an area known to have disease carrying ticks, perform the checks on a more regular basis
    5. Remove unattached ticks promptly.
    6. Attached ticks are removed using fine pointed tweezers:
    7. The mouth parts of the tick are grasped with the tweezers as close to the skin as possible
    8. Apply firm steady pressure upward until the tick releases - do not jerk, twist, squash or squeeze the tick
    9. Clean the wound and the tweezers with an antiseptic

Do not use petroleum jelly or nail polish remover, or prick or burn the tick, these actions can cause infected secretions to enter the wound.

6.4.3 Wildlife

Snakes may be present on the site property and present the potential for snake bites. Poisonous snakes are not expected to be present on the site, however, even bites from non-poisonous snakes can cause adverse health symptoms such as redness, swelling, and allergic reaction.

To minimize the threat of snake bites, all personnel walking through vegetated areas must be aware of the potential for encountering snakes. If a snake bite occurs, first aid shall be performed. First aid procedures consist of applying a constriction band and washing the area around the wound to remove any unabsorbed venom.

7.0 PERSONAL PROTECTIVE EQUIPMENT

Site workers will be provided with the appropriate personal protective equipment (PPE) and will be trained on the use of this equipment. PPE will be selected to provide an appropriate level of protection against known and reasonably anticipated site hazards. Given the available data, the level of PPE selected for the LA 6 Site is a modified Level D (not including Tyvek) which will include the items listed in Table 4.

Modified Level D is specified for areas where no health hazards are known to exist, or where organic vapor concentrations are below 10 parts per million (ppm). All personnel entering are required to be wearing modified Level D personal protection.

Table 4: Site-Specific Level D PPE Components

Area	PPE Item	Task Requiring Specified PPE
Head	Hard Hat (OSHA approved)	Working around heavy equipment
Vision	Safety Glasses	Ground intrusive work
Hearing	Ear Plugs/Hearing Protection	Working around heavy equipment
Skin	Nitrile Gloves	Ground intrusive work
Body	Tyvek suits (optional)	Ground intrusive work
Feet	Work Boots (steel-toed)	Working around heavy equipment

It will be the responsibility of the on-site Health and Safety Officer to insure that all personnel and subcontractors are knowledgeable of the level of personal protection required in all work situations. Further, it is the obligation of the Health and Safety Officer to see that proper equipment is worn and work rules are observed. All subcontractors are responsible for supplying their personnel with the necessary equipment.

The level of PPE will be continually evaluated and will be modified as necessary, depending on site conditions. If necessary, the level of PPE will be upgraded to one of, or a combination of the following levels:

Level C protection consisting of:

(a) Full-face air-purifying respirator

(b) Tyvek or Poly-tyvek coveralls

(c) Chemical-resistant gloves taped to coveralls

(d) Chemical-resistant boots taped to coveralls

Level C is identified as an area where organic vapors exceed 10 ppm but are less than 500 ppm. Entry to Level C areas will be provided to only those persons wearing Level C personal protection.

Level B protection consisting of:

(a) Level C protection for the body, plus

(b) Positive pressure Self-contained Breathing Apparatus (SCBA) or a tethered cascade breathing system.

8.0 AIR QUALITY MONITORING

8.1 Work Zone Monitoring

During work which may disturb normal surface and subsurface conditions (e.g., soil excavation and soil movement work) air quality monitoring for volatile organic compounds, combustible gases, and particulates will be performed within the work zone.

The following instruments may be used to measure air quality.

Photoionization Detector (PID) - used to measure amounts of organic vapors in the immediate atmosphere;

Oxygen Meter - used to measure percent oxygen in the immediate atmosphere;

Combustible Gas Indicator - used to measure the concentration of flammable vapor or gas in the air. If levels approach the lower explosive limit (25% L.E.L.), all activities will cease until explosive gases have sufficiently dispersed.

Particulate Monitor – used to measure the level of particles (dust) in the air.

Action levels have been established for activity cessation, site evacuation, emergency response, and the upgrade or downgrade in the levels of personal protective equipment.

Table 5: Action Levels for VOCs and Combustible Gases

Monitoring Parameter	Action Level	Action
Organic Vapors	>1 ppm	Identify and monitor
Organic Vapors	>5 ppm for sustained period of 5 minutes	Halt work until conditions stabilize and upgrade PPE
Oxygen	<19.5%	Evacuate area
Oxygen	23.0%	Evacuate area

Combustible vapors	>10% LEL	Evacuate area
Methane	LEL = 5%	Evacuate area at 5,000 ppm or greater

8.2 Community Air Monitoring

This section describes activities, equipment, and procedures employed to combat hazards to the health and safety associated with the site as they pertain to local residents, tenants of the site, and nearby businesses. All readings must be recorded and be available for NYSDEC and NYSDOH personnel to review.

8.2.1 Ground Intrusive Activities

For on-site ground intrusive activities which will disturb normal surface and subsurface conditions in areas of known or suspected impacts, the following air monitoring activities will be conducted to ensure emissions to the ambient air do not impact local residents and nearby businesses in addition to site workers.

Volatile Organic Compounds

VOCs must be monitored at the downwind perimeter of the work area on a continuous basis. If VOC levels exceed 5 ppm above background levels, work activities must be halted and monitoring continued.

If organic vapor levels are greater than 5 ppm sustained (15-minute average) over background but less than 25 ppm over background at the perimeter of the work area, activities will resume provided that: the organic vapor level 200 feet downwind of the work area or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm.

If air sampling indicates airborne concentrations of volatile organic compounds above the permissible exposure limits, then site operations will cease and personnel will evacuate the work area. Work will resume when ambient monitoring indicates that airborne VOC concentrations have stabilized below the permissible exposure limits.

If VOC levels persist at least 5 ppm above background 200 feet downwind or half the distance to the nearest residential or commercial structure, then air quality will

be monitored within 20 feet of the perimeter of the nearest residential or commercial structure.

If efforts to abate the emission are unsuccessful and if the levels in the 20 foot zone are approaching 5 ppm above background for more than 30 minutes or are greater than 10 ppm, then the following Major Vapor Emission Response Plan shall be placed into effect:

- All emergency response contacts listed in this Health and Safety Plan will go into effect and the local police will be contacted and advised of the situation.
- Air monitoring will be conducted at 30 minute intervals within the 20 foot zone. If two consecutive readings are below action levels, air monitoring will be halted or modified by the Safety Officer.

Particulates

Fugitive dust is likely to be generated by implementation of the interim remedial measures in non-saturated locations. Ambient concentrations of airborne dust will be measured during those site activities which generate fugitive dust.

Particulate levels will be monitored continuously upwind, downwind and within the work area at temporary monitoring stations using an MIE *personal* DataRam® handheld dust/aerosol monitor. The instrument is sensitive to particulates which range in size from 0.1 - 10μm, which include both respirable[1] and non-respirable dusts.

If the downwind particulate levels exceed the OSHA PEL for total dusts of 15-mg/m^3 or the PEL for respirable dusts of 5-mg/m^3, then dust suppression techniques will be employed or the work process will be modified to further reduce dust generation. Should dust become a concern, dust suppression measures will be implemented in accordance with TAGM 4031 - *Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites.*

[1] Respirable dust refers to dust particles that are invisible to the human eye, settle deep within the lungs, and that are not ejected by exhaling, coughing, or expulsion by mucus. Respirable dusts are typically <0.5μm in size.

8.2.2 Non-Intrusive Activities

For non-intrusive activities on-site within areas of known or suspected impacts, with the exception of excavation, jack-hammering, and any activity disturbing normal surface and subsurface conditions, the following air monitoring activities will be conducted to ensure emissions to the ambient air does not impact local residents and nearby businesses in addition to site workers. All procedures, identified under the ground intrusive activities to this section, apply except that volatile organic compounds must be monitored at the downwind perimeter of the work area **daily at 2 hour intervals** (as opposed to continuously during intrusive activities).

9.0 WORKING ZONE

9.1 Exclusion Zone

An Exclusion Zone will be established in areas where work activities will occur. The Exclusion Zone will be cordoned off while work is in progress. Entry to and exit from this area will be provided only to those persons directly involved in the work activities and only if the prescribed level of personal protection is worn.

The personnel working in the Exclusion Zone will be the health and safety officer, work crews, and specialized personnel. All personnel within the Exclusion Zone must wear the level of protection required by the site safety plan. All personnel in the Exclusion Zone will be health and safety trained.

9.2 Contamination Reduction Zone

If needed, the Contamination Reduction Zone (CRZ) will be established at the perimeter of the exclusion zone, where personal decontamination will take place. The CRZ is a transition zone between contaminated and uncontaminated areas of the site.

When personnel, equipment, or materials suspected to be contaminated are taken out of the exclusion zone, they will be properly contained, or decontaminated in the CRZ.

9.3 Support Zone

The Support Zone is considered the area outside the CRZ. The Support Zone will be reserved for the support vehicle and for clean equipment storage. It is separated from the CRZ, and is considered a "Clean" area. Only uncontaminated or decontaminated personnel or materials may enter this zone from the CRZ.

The support vehicle serves as the communications center, clean storage area, and source of emergency assistance for field operations. Certain safety equipment (i.e. fire extinguisher, first aid kit, etc.) are stored in the support vehicle.

10.0 DECONTAMINATION

Standard operating procedures are in place to minimize workers' contact with site contaminants. However, procedures may be necessary to remove and/or minimize contaminants that have accumulated on equipment and personnel.

10.1 Personnel and Equipment Decontamination

All personnel and equipment leaving the work zone must be decontaminated. Decontamination procedures prior to leaving Level "D" areas will consist of brushing loose soil from clothing and equipment, washing equipment and clothing with water and a mild detergent. Disposable gloves, scoops, paper towels and Tyvek suits will be discarded in trash receptacles provided within these areas. All wastes generated in Level "D" areas will be bagged and disposed of on site without any additional restrictions.

The decontamination for Level "C", if needed, will involve a plastic liner to "catch" wash solutions and contaminated soil. When exiting the work zone, workers will enter the decontamination zone. Instruments, sample containers, and reusable equipment will be placed on a plastic covered table. These items will be cleaned with the appropriate cleaning solutions. The workers will then decontaminate their protective clothing. Disposable items will be discarded in trash receptacles which will be provided within the decontamination area.

11.0 EMERGENCY/CONTINGENCY PLAN

11.1 Personnel Roles, Lines of Authority, and Communication

The Health & Safety Officer (HSO) or the on-site designee is the primary authority for directing site operations under emergency conditions. All Health and Safety related emergency communications both on and off site will be directed through the HSO.

11.2 Site Evacuation

Prior to the evacuation of the off site area, the Exclusion Zone and the CRZ will be expanded, as practical to reduce the potential for community exposure. Monitoring of the expanded CRZ will be conducted to determine if evacuation is truly necessary.

When the HSO determines that conditions may actually warrant the evacuation of downwind residences and commercial operations, local agencies will be notified and assistance requested. Designated personnel will initiate evacuation of the immediate off site area without delay.

All work crews should be aware of surrounding conditions including the wind conditions while on site. When conditions warrant moving away from a work site, the field crew will relocate up wind. If site access is restricted, or limited in any way, the crew may be instructed by the HSO to evacuate the site rather than move upwind, especially if an upwind withdrawal moves the field crew away from an acceptable escape route.

If conditions warrant a site evacuation, the field crew will proceed upwind of the work site and will notify the HSO or their designated representative. If the decontamination area is upwind and more than 500 feet from the work site, the crew will pass through the decontamination area to remove their outer suits. Following decontamination, the field crew will proceed to the support vehicle and an assessment of the situation will be made by the HSO, or their designated representative. As soon as it is practical, and as additional information about site conditions is received from the field crew, the situation will be communicated to the Health and Safety Supervisor, Health and Safety Manager, the project manager, and if applicable the appropriate local emergency response agencies.

11.3 Emergency Medical Treatment and First Aid

The environmental field truck utilized by the Field Operations Leader will be equipped with a first aid station. It will also contain a copy of this HASP listing emergency phone numbers and the nearest hospital and route map.

First aid will be available to any person injured. A First Aid Kit will be on hand. The injured person may be transported to a trained medical center for further examination and treatment. The preferred transport method is a professional emergency transportation service; however, if this option is not readily available or would result in excessive delay, other transport is authorized.

Under no circumstances should an injured person transport themselves to a medical facility for treatment, no matter how minor the injury may appear.

If an injury occurs in the Exclusion Zone, provisions for decontamination of the victim will be made. However, if injuries are deemed life-threatening, then normal decontamination procedures may be dispensed with. In such cases arrangements will be made with the emergency response personnel to provide the necessary containment or decontamination.

11.4 Spill Response

The proposed site activities are not anticipated to involve the use, storage or generation of bulk quantities of petroleum, chemicals or hazardous wastes (i.e. drums, containers, etc.) which would present a potential for spills.

FIGURES

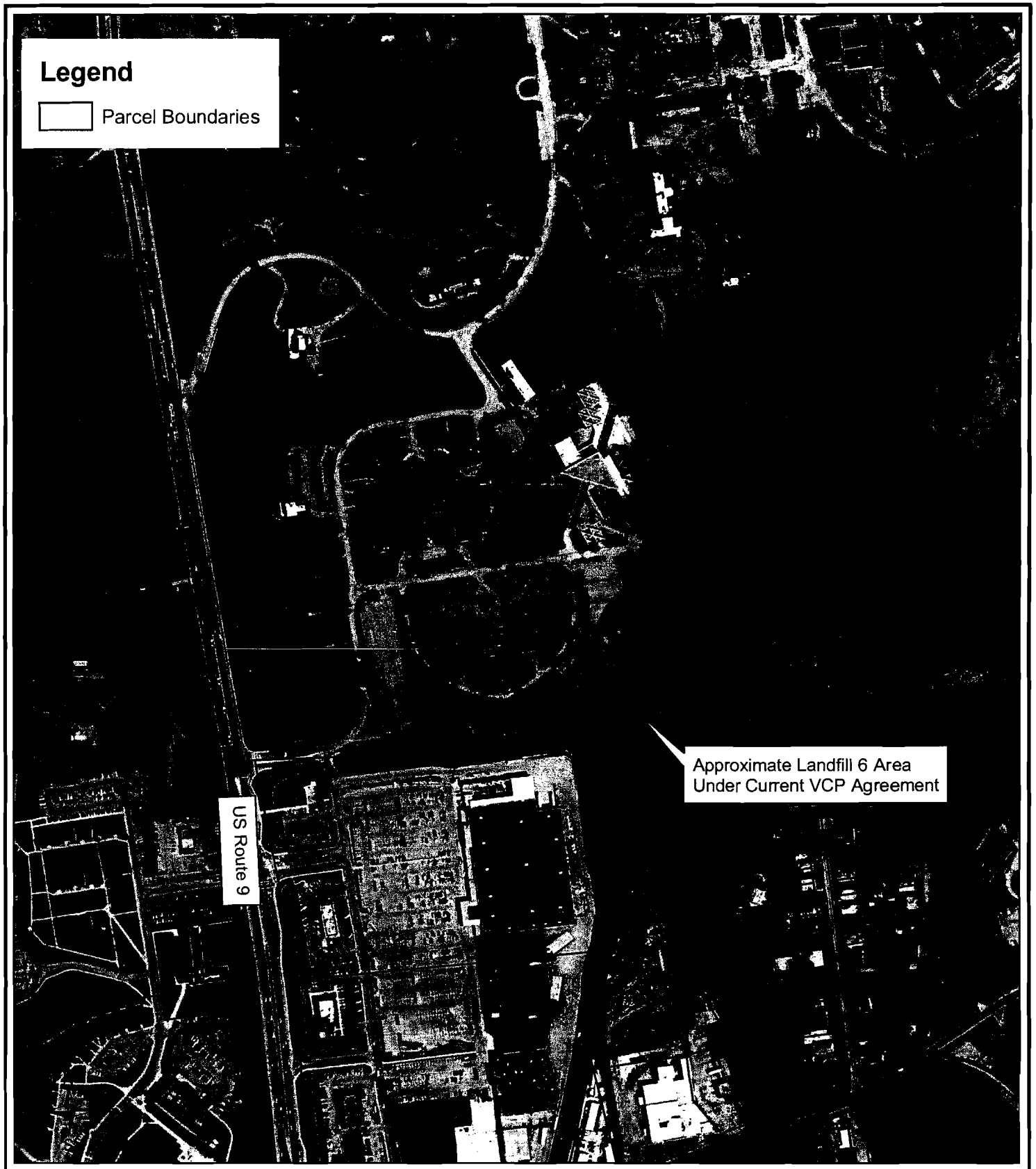


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FIGURE 1-SITE LOCATION MAP

Hudson River Psychiatric Center
Poughkeepsie, Dutchess County, New York

NYS Orthoimagery Program 2004 Annual Lot, Dutchess County
Real Property Services - Tax Parcel Data

Date:
July 2007

Scale:
1 inch: 400 feet

Project #:
40307.00

APPENDIX A – HASP ACKNOWLEDGEMENT

Hudson River Psychiatric Center Landfill Area 6 Site
Town of Poughkeepsie, Dutchess County, New York
TCC Health and Safety Plan Acknowledgement

All Chazen project personnel and subcontractor personnel are required to sign the following agreement prior to conducting work:

(1) I have read and fully understood the requirements of the Site Specific Health and Safety Plan (HASP) and my individual responsibilities in accordance with compliance of this HASP.

(2) I agree to abide by the provisions of the HASP and participate in any health and safety meetings.

Name and Company	Signature	Date

APPENDIX B – CONFINED SPACE PROGRAM DOCUMENTS

TCC PERMIT REQUIRED CONFINED SPACE ENTRY PROGRAM

Purpose

This section contains guidelines for safe entry into permit-required confined spaces. Entry into confined spaces requires appropriate employee training. If an employee does not have this training, they are not able to participate in any confined space activities, including entering a space, or assisting someone who is entering a space. The Health and Safety Manager can, upon request, provide a list of all TCC employees who are able to participate in confined space activities.

Applicability and Scope

This section applies to all personnel at TCC who work in locations that have the potential for permit-required confined space entry. A permit-required confined space is an enclosed space which:

1. Is large enough, and so configured that an employee can enter and perform assigned work; and
2. Has limited means of entry or exit; and
3. Is not designed for continuous human occupancy; and
4. Has at least one of the following characteristics:

    - Contains or has a known potential to contain a hazardous atmosphere;
    - Contains a material with potential for engulfment of the entrant;
    - Has an internal configuration such that the entrant could be trapped or asphyxiated by inwardly converging walls or a floor which slopes downward and tapers to a small cross-section;
    - Contains any other recognized serious health or safety hazard.

Common confined spaces encountered by TCC employees include tanks, pits, silos, and trenches.

Note: *Assume that every confined space is dangerous. This includes aboveground as well as belowground areas. Before entering a confined space, the confined space entry requirements shall be followed and the proper permit filled out and posted. Rescues other than by retrieval systems will be conducted by outside emergency service personnel. If you encounter a confined space, DO NOT ENTER IT, not even to assist someone in trouble, without appropriate pre-planning and required training. If you encounter someone in trouble inside a confined space, immediately call 911 to obtain emergency service support.*

Responsibilities

All Employees:

- Attend training programs, as required by your job description.
- Understand and recognize the specific hazards for each confined space to be entered.
- Follow specific permit-required confined space duties (entrants, attendants, and entry supervisors) as detailed in this program.
- Follow all precautions specified on the permit.
- Conduct any required air monitoring before and during entry.
- Post confined space entry permits at the entry site.
- Notify the Health and Safety Manager of any equipment malfunctions so that repairs can be made or new equipment purchased.

Project Managers:

- Notify the Health and Safety Manager of existing or planned project changes that may introduce or change the configuration of a confined space.
- Notify the Health and Safety Manager of anticipated staffing changes that will introduce new people to a project.
- Seek the assistance of the Health and Safety Manager when potential confined spaces are encountered.
- File completed permits in the appropriate job folder.

Health and Safety Manager:

- Implement this program.
- Evaluate spaces for applicability to the OSHA permit-required confined space regulation.
- Identify and label confined spaces.
- Complete confined space entry permits.
- Review and update the program at least annually.
- Arrange for employee training.
- Maintain training records.

Hazard Evaluation of Permitted Spaces

To determine if there are permit-required confined spaces at The Chazen Companies, the Health and Safety Manger has conducted a hazard evaluation of our workplace. No permit-required confined spaces exist at any of TCC's facilities. Permit-required confined spaces do exist at regularly visited job sites. These confined spaces are specifically identified in Health and Safety Plans (HASPs) developed for specific job sites. Refer to the TCC HAZWOPER program for additional information on HASPs.

Preventing Unauthorized Entry

To provide a safe work environment and to prevent exposed employees from accidentally entering a permit space, we place hazard warning signs at the entrance to each previously identified space. Some confined spaces, such as trenches at construction sites, are not labeled. These types of confined spaces must be identified in the field. To ensure that unauthorized employees do not enter and work in permit spaces, we conduct a new employee awareness course that includes a section on how to recognize a confined space.

Entry Procedures

Before entry is permitted into a confined space, the following actions must be taken:

- A permit must be completed and posted
- Initial air monitoring must be performed to ensure that there is adequate oxygen, no explosive atmosphere, and acceptable CO content
- All personnel entering the confined space must wear a harness and safety lines for retrieval in the event of an emergency
- Provisions must be established for continuous communication between personnel in the confined space and standby personnel and the harness must be attached to a retrieval system outside of the confined space
- All utility, air, and process lines leading to the confined space must be properly blinded, blanked or disconnected and locked out and tagged our, if necessary
- All electrical services must be locked our or disconnected, if necessary
- All emergency equipment must be ready for use
- Qualified, trained standby persons must be assigned

Confined Space Entry Permit System

A confined space entry permit is a checklist, which is used to document action taken to prepare the confined space for safe entry. This permit is posted at the entrance to the space. The permit is valid for length of time specified on the permit. A new permit must be issued if work must continue beyond the time period specified on the completed permit. A confined space entry permit is included in this program as Appendix A. The permit provides the following information:

- Description of work being performed
- Name/s of personnel performing work
- Air monitoring results (time, concentration)
- Hazards involved (chemical, physical)
- Personnel protective equipment needed
- Checklist of specific items performed
- Special instructions

Air Monitoring

Air monitoring must be conducted to evaluate atmospheric hazards. Air monitoring is performed periodically throughout the confined space operation to check for changing conditions and to ensure personnel are protected properly.

For confined space entry, the following action levels require specific responses:

- Lower Explosive Limit (LEL) exceeds 10%. Flammable atmosphere in excess of 10 percent of its LEL: All operations cease and the personnel are removed from the space until the flammable level drops below 10% of the LEL and the reason for the high reading is determined. Intrinsically safe mechanical ventilation or other means may be used to lower the LEL.

- Oxygen level exceeds 23.5%. All operations cease and the personnel are removed from the space until the oxygen level drops below 23.5% and the reason for the high reading is determined. Intrinsically safe mechanical ventilation or other means may be used to lower the oxygen content.

- Oxygen level below 19.5%. All operations cease and the personnel are removed from the space until the oxygen level rises above 19.5% and the reason for the low reading is determined. Intrinsically safe mechanical ventilation or other means may be used to raise the oxygen content.

- Carbon monoxide (CO) level exceeds 35 parts per million (ppm). All operations cease and the personnel are removed from the space until the CO level drops below 35 ppm and the reason for the high readings is determined. Ventilation or other means may be used to lower the CO content.

Confined Space Entry Equipment

The minimum equipment required for confined space entry operations consists of:

- Safety harness and lines
- Extraction/rescue device
- LEL/O_2/CO air monitor (intrinsically safe)

Personnel Duties

Attendant's Duties

The individual acting as the attendant will be responsible for monitoring the entrance in the confined space, immediate conditions associated with the confined space, and potential surrounding conditions. The attendant is not to enter a confined space unless relieved by another trained attendant. Primary function of the attendant is to summon rescue services if they are needed and provide a comprehensive safety watch for the entrance.

Entrants

The entrants must be aware of any hazards associated with the confined space he/she is working in. The entrant must be aware of the signs and symptoms of over exposure to chemical hazards and physical hazards, such as heat and cold stress.

Entry Supervisor

The entry supervisor is responsible for reviewing the confined space permit and ensuring the conditions of the permit are safely met prior to entry into the confined space.

Rescue and Emergency Services

The Chazen Companies utilizes its own employees to perform rescue services in the event of a permit space emergency. This group of employees has been trained, at a minimum, to:

- Perform the assigned rescue duties;
- Correctly use personal protective equipment (PPE) required for the job;
- Establish proficiency as an authorized entrant, as provided by 1910.146(g) and (h); and
- Perform basic first-aid and cardiopulmonary resuscitation (CPR).

The Chazen Companies also ensures that at least one member of the rescue team holds a current certification in first-aid and CPR, and that affected employees practice making permit space rescues at least once every 12 months, by means of simulated rescue operations in which they remove dummies, manikins, or actual persons from the actual permit spaces or from representative permit spaces. Representative permit spaces will, with respect to opening size, configuration, and accessibility, simulate the types of permit spaces from which rescue is to be performed.

Post-operations Procedures

Upon completion of work in a permit space, we close off the space and cancel the permit by sealing access to the confined space, removing the posted permit, and filing the permit in the appropriate project folder.

Training

An approximate six-hour training session is provided to all TCC employees whose jobs may require confined space activities. The training program covers all elements of 29 CFR 1910.146 including:

- Instruction for safe entry into confined spaces,
- Testing and monitoring,
- Appropriate personal protective equipment,
- Rescue procedures, and
- Responsibilities specific to confined spaces.

Confined Space Entry Permit

THIS PERMIT MUST BE POSTED AT THE ENTRANCE OF THE CONFINED SPACE

Date: _____ Issued To: _____
Project Name/No.: _____ Job Location: _____
Type of Confined Space: _____
Work Planned: _____
Hazards Involved (chemical, physical): _____
_____
Protective Clothing Required (including respirators): _____
_____
Special Instructions: _____
_____

This permit is issued for the below-named employees. Employees will initial this permit in the space provided, certifying that they have received appropriate job instructions, as well as confined space training per 20CFR 1910.146.

Checklist	YES	N/A
Is area secured (post and flag)		
Are pumps/lines blanked or disconnected		
Additional ventilation required		
Electrical service locked and tagged out		
Grounding bonding cables in place		
Elec. Equip. (including lighting) approved for explos. atmos.		
Ignition sources removed/isolated		
Safety harnesses & lifelines operational		
Fire suppression equipment available		
Separate breathing supply available		
Explos. proof ventilation equipment used		
Special warning/caution signs posted		

Checklist, Cont.	YES	N/A
Communications equip. available		
HASP or hospital route map provided		

Assigned Employees	Initial

Standby personnel assigned	Initial

Testing Record

Time	% Oxygen (19.5% to 23.5%[1])	% LEL/LFL (under 10% [1])	CO ppm (under 35 ppm [1])	Other	Tester's Signature

[1] Readings in parentheses are permissible. Readings outside of these established levels shall necessitate immediate cessation of all work and removal of personnel from the confined space. Refer to written C.S. Plan.

Permit Expiration Date: _____ Signature: _____
Issued By: _____ Date: _____

Call 911 in an Emergency

Addendum to

Interim Remedial Measures Work Plan
Hudson River Psychiatric Center
Landfill Area 6
Town of Poughkeepsie
Dutchess County, New York

Hudson Heritage Development, LLC
Poughkeepsie, New York

July 2008

FUSS & O'NEILL
Disciplines to Deliver

Fuss & O'Neill of New York, P.C.
80 Washington Street, Suite 301
Poughkeepsie, New York 12601

ADDENDUM TO

INTERIM REMEDIAL MEASURES WORK PLAN
HUDSON RIVER PYSCHIATRIC CENTER
LANDFILL AREA 6
TOWN OF POUGHKEEPSIE
DUTCHESS COUNTY, NEW YORK

Hudson Heritage Development, LLC

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FIGURES **END OF REPORT**

1 Site Location Map (*See March 2008 IRM Work Plan*)

2 Proposed Construction Schedule

LIST OF DRAWINGS **SEPARATELY BOUND**

G-001	Cover Sheet
C-110	Existing Conditions Plan
C-120	Removal and Fill Plan
C-510	Details
C-520	Details

APPENDICES **END OF REPORT**

A Access Correspondence with Starwood Ceruzzi Property *(deleted)*

B Landfill Area 6 Sediment Sample Results (*See March 2008 IRM Work Plan*)

C OM&M Table of Contents (*See March 2008 IRM Work Plan*)

D Health and Safety Plan (HASP)

1.0 INTRODUCTION AND PURPOSE

This Addendum amends and modifies portions of the *Interim Remedial Measures (IRM) Work Plan, Hudson River Psychiatric Center* (HRPC), *Landfill Area 6 (The Chazen Companies, March 2008)* previously submitted to the New York State Department of Environmental Conservation (NYSDEC). All aspects of the March 2008 IRM Work Plan remain unchanged except as otherwise modified and described herein. For purposes of consistency the sections of the March 2008 IRM Work Plan that have been modified by this Addendum have retained, where applicable, the descriptions and wording used in the previous document *(The Chazen Companies, March 2008).*

This modified IRM Work Plan presents the plan for the abandonment and rerouting of storm sewer pipes, and the relocation and covering of waste materials in certain sections of Landfill Area 6 (LA 6). The interim remedy described herein is designed to abate specific pathways from LA 6 that may affect surface water quality in the adjacent stream, and is considered an interim measure until the final proposed remedy (landfill cap) presented in the Remedial Action Work Plan (RAWP) can be implemented. This modified IRM Work Plan has been prepared in accordance with Sections 1.11(d) (Interim Remedial Measures) and 5.3 (Remedial Action Work Plan) of DER-10 (NYSDEC, 2002). This document is submitted to the NYSDEC pursuant to a meeting held on April 30, 2008 and subsequent communications between representatives of Hudson Heritage Development, LLC/Hudson Heritage CPCR Ventures, LLC (Volunteer), Fuss & O'Neill of New York, P.C., the Volunteer's engineering consultant, and the NYSDEC.

1.1 Site Description

(See March 2008 IRM Work Plan)

It is noted that this modified IRM Work Plan does not include the installation of a leachate collections system (LCS), or work on property to the south of the HRPC site owned by Starwood Ceruzzi Poughkeepsie. Therefore, permission from the adjacent landowner to access property to the south is not required in order to complete the work identified in this modified IRM Work Plan.

1.2 Site History

(See March 2008 IRM Work Plan)

1.3 Previous Environmental Investigations

(See March 2008 IRM Work Plan)

1.4 Subsurface and Surface Structures

(See March 2008 IRM Work Plan)

1.5 Summary of Proposed Remedy

(See March 2008 IRM work Plan)

1.6 Summary of Interim Remedial Measures

The proposed modifications to the interim remedial measures described herein are designed to reduce leachate generation by closing and rerouting two leaky storm sewers in the center of the site, and by relocating and/or covering waste materials in certain sections of LA 6 that currently have little soil cover. These remedial measures will reduce human health and environment risk pathways by reducing leachate formation and minimizing the opportunity for direct exposure to waste materials and leachate. The primary elements of the modified IRM include:

1. Abandon the existing 18" diameter concrete storm sewer pipe located in the northeastern portion of the landfill *(as proposed in the March 2008 IRM Work Plan).*

2. Abandon the existing 12" diameter clay storm sewer pipe servicing the eastern portion of Ryan Hall *(as proposed in the March 2008 IRM Work Plan).*

3. Construct a swale along the northern perimeter of the landfill to convey storm water from the abandoned 18 inch diameter and 12 inch diameter storm sewer pipes, and intercept storm water from running on to the landfill *(as proposed in the March 2008 IRM Work Plan).*

4. Place approximately two feet of low permeability soil and top soil over the western portion of LA 6 where existing soil cover is currently thin (zero to only about one foot thick). Soil cover will be graded and seeded to shed surface water off of the landfill.

5. Place up to two feet of low permeability cover soil and top soil over contaminated material (waste and leachate impacted soil) currently having less than two feet of soil cover and located within the non-wetland portions of the area identified in the RAWP as "Existing Area Not To Be Disturbed" *(as proposed in the approved RAWP).*

6. Consolidate limited quantities of waste from the southeastern corner of LA 6, outside the wetlands, under the interim clean fill cover within the main body of the landfill that will ultimately be capped *(as proposed in the approved RAWP).*

2.0 DESCRIPTION OF THE INTERIM REMEDY

This interim remedial measure is intended to reduce the formation of leachate currently being generated at LA 6. This interim remedy is proposed to address leachate seeps that will ultimately be addressed by the capping of LA 6. The capping remedy has been delayed due to the need to incorporate site development efforts into pending zoning changes in the Town of Poughkeepsie. The Town has recently lifted a Town-wide building moratorium; however, the new zoning designation for the HRPC site indicates that a stand-alone, site specific development plan must be submitted and reviewed for this parcel. Therefore, a lengthy plan review, similar to a zoning change submittal, is anticipated before any construction may commence.

The elements of the proposed interim remedy are consistent with and will ultimately be incorporated into the final remedy. Implementation of the proposed interim remedy is generally discussed in the following sections. Conceptual design plans and details are provided in the accompanying drawings.

2.1 Erosion and Sedimentation Control

Prior to disturbing existing vegetation and soils at the site temporary silt fence and inlet protection around existing catch basins will be installed down gradient of all work areas as shown on Sheet C-120. Details and instructions regarding the construction and installation of silt fence and inlet protection are depicted on Sheets C-510 and C-520. Erosion and sedimentation control measures will be maintained until the work is completed and new vegetation has been established. The document accompanying this Addendum titled *"Interim Remedial Measures Work Plan, Stormwater Pollution Prevention Plan, Landfill Area 6, Hudson River Psychiatric Center, Poughkeepsie, New York, Fuss & O'Neill of New York, P.C., July 2008"* provides additional information regarding erosion and sedimentation control at the site during construction.

2.2 Clearing

Existing trees and vegetation will be cleared to the limits shown on Sheet C-120 in preparation for construction of the interim remedy. Care will be taken to protect trees and vegetation outside the specified limits. All cleared trees and vegetation will be removed from the site for disposal.

2.3 Abandonment and Replacement of Stormwater Sewers

The existing 18-inch diameter concrete culvert and 12-inch diameter clay pipe located near the center of the site will be abandoned in place. Each pipe will be plugged where accessible at their outlet ends and at their points of entry into the LA 6 area, and then filled with contolled low strength material (grout). Storm flow that originally discharged through these pipes will be allowed to overflow their manholes and flow overland to the proposed drainage swale. New man-holes will be inserted along the 18-inch concrete culvert and the 12-inch clay pipe and will be equipped with a 3-feet weir to allow the build up of stormwater to overflow into the proposed channel. Details of the proposed man-holes are shown on Sheet C-510.

An open drainage swale will be provided along the southern side of the existing paved road, upstream of the approximate limit of waste depicted on Sheet C-120. The swale will be lined with 10 mil PVC liner, and anchored along its top in a shallow anchor trench and along its bottom with masonry unit blocks every four feet on center. A detail has been provided on Sheet C-510.

Stormwater which overflows from the manholes, servicing the 18-inch concrete culvert and 12-inch clay pipe, will be captured by the lined swale prior to flowing over the landfill. The swale will also capture run-off from a portion of the re-graded LA 6 and surrounding area up gradient of the landfill. The collected run-off will be conveyed to the west, where it will discharge to a level spreader, and ultimately flow overland to the existing stream to the south.

2.4 Excavation and Relocation of Waste

A limited volume of waste material (less than 300 cubic yards) lies in the southeastern corner of the site outside the wetland, southeast of the stream culvert discharge headwall. Waste in this area will be excavated and moved onto the main waste area, in the area shown on Sheet C-120, where it will be compacted and graded. The relocated waste will be covered with low permeability soil as described in Section 2.5 below, and will ultimately lie under the proposed landfill cap when the final remedy is constructed. The limits of waste excavation in this area will be defined in the field by property lines, availability of permission to excavate toward the railroad bed, and by limits of observable waste. A post-excavation sample of re-exposed native soil will be analyzed for volatile organic compounds and metals listed in the Part 360-2.11 (d)(6) baseline suite of parameters. Once waste is relocated from this area, the excavation will be graded to promote run-off, and seed and mulch will be placed on the remediated area.

2.5 Placement of Cover Soil

In order to reduce the infiltration of precipitation into the existing and relocated waste deposits low permeability cover soil will placed in the western portion of LA 6, as shown on Sheet C-120, where existing cover soil is thin (zero to only about one foot thick). The low permeability cover soil will have a permeability of less than $1X10^{-5}$ cm/sec. The placement of cover soil will provide a minimum of two feet of cover over the existing waste deposits in this area. The area where cover soil has been placed will be shaped to the approximate grades shown on Sheet C-120 to promote run-off from the landfill, and seed and mulch applied.

Within the approximate 5,000 square feet area along the stream bank outside the wetland at the southern site boundary, previously identified in the RAWP as the "Existing Area Not to Be Disturbed", solid waste is visible within two feet of grade and soils discolored by leachate precipitate are exposed. Where these conditions are present in this area a two feet thick layer of clean soil will be spread to prevent ingestion or direct contact with impacted soils. Clearing of trees and vegetation will need to occur in this stream bank restoration area in order to gain access for construction equipment and placement of the soil cover. Some minor re-grading of the existing waste material in this area may also be required in order to place the necessary thickness of soil cover and achieve a stable final grade along the steep sections of the stream bank. Geotextiles may be used to help stabilize the soil along the stream bank in connection with the application of seed and mulch.

2.6 Permitting

Fuss & O'Neill has reviewed the applicable regulations regarding permits and approvals for construction and operation of this remedy. It has been determined that restoration work within the stream bank requires notification to the Town of Poughkeepsie for aquatic resources (stream buffer). In addition, a contour change permit is needed from the Town of Poughkeepsie for the relocation of waste and placement of cover soil. Application has been made to the Town of Poughkeepsie for the required local permits and approvals. It is anticipated that the required permits will be satisfied so that construction may be able to proceed upon receipt of NYSDEC approval of this Addendum, or very shortly thereafter.

2.7 Physical Security of the Site

(See March 2008 IRM Work Plan)

2.8 Quality Control during Remedial Construction

The NYSDEC will be notified at least seven days prior to the start of site work. Fuss & O'Neill will observe and document the remedial construction and will conduct all site monitoring activities in accordance with this modified IRM Work Plan.

Cover soil will be imported from a DOT-approved source or will be sampled at the source from a non-DOT-approved source. Cover soil will not exceed soil clean-up objectives appropriate for future use of the site which at this time appears to fall into the categories of "restricted residential" or "recreational" uses per Table 375-6.8(b).

2.9 Site Monitoring during Remedial Construction

During the excavation and relocation of waste, and placement of cover soil, particulate monitoring of the outdoor air will be conducted in accordance with the Community Air Monitoring Program (CAMP) that is included as part of the site-specific Health and Safety Plan (HASP) (refer to Section 3.0). This sampling is needed to protect site workers and surrounding community, and minimize the potential for their exposure to excessive dust.

3.0 HEALTH AND SAFETY AND CONTINGENCY PLANS

(See March 2008 IRM Work Plan)

A revised Health and Safety Plan reflecting the work to be performed in connection with this modified IRM Work Plan is included herein as Appendix D.

4.0 SAMPLING PLAN

A borrow source sample may be required depending upon the location of the fill used for cover soil. Should cover soil be obtained from a non-DOT-approved source, one composite sample will be collected at the source area. The composite sample will consist of 4 grab samples that will be placed in a pre-cleaned stainless steel bowl and homogenized. The composite sample will be analyzed for site constituents of concern, including VOCs, SVOCs, and metals to determine that it does not exceed soil clean-up objectives appropriate for future use of the site addressed previously.

A post-excavation sample of re-exposed native soils beneath the waste to be excavated and relocated from the area located at the southeastern corner of LA 6 will be analyzed for volatile organic compounds and metals listed in Part 360-2.11(d)(6) baseline suite of parameters.

5.0 INSTITUTIONAL CONTROLS

Because the remedial actions described herein is an interim remedy and will be incorporated as part of the pending landfill cap remedy, institutional controls are proposed to be addressed during the landfill capping remedy.

None of the activities included in this modified IRM Work Plan will occur on adjacent property. Therefore, the formal documentation of consent of access to adjacent property is not necessary at this time.

6.0 SCHEDULE

(See March 2008 IRM Work Plan)

A revised Figure 2 reflecting the work to be performed in connection with this modified IRM Work Plan is included herein.

7.0 REPORTING

7.1 Monthly Status Reporting

Monthly progress reports will begin after initiation of construction activities and will end at construction completion. These reports will be provided to the NYSDEC Project Manager and the NYSDOH Project Manager and will, at a minimum, include details on the quantity of waste relocated on-site, the quality and quantity of clean fill brought to the site, site monitoring activities, and air monitoring activities.

7.2 Contractor Submittals

(See March 2008 IRM Work Plan)

7.3 Daily Construction Reports

Daily reports of construction activities will be prepared by Fuss & O'Neill and will include a detailed day-to-day breakdown of activities provided in the generalized monthly report. These reports will be retained by Fuss & O'Neill until the end of the project and will then be provided to the NYSDEC and the NYSDOH with the IRM Report (refer to Section 9.0). These reports will be made available to NYSDEC and NYSDOH at any point during the project upon written request to Fuss & O'Neill.

7.4 Post-Construction Stormwater Management

Fuss & O'Neill will provide monthly post-construction site inspection of the stormwater swale and its discharge area to observe whether the outfall is causing or undergoing erosion or other undesirable effects. Corrective action will be taken as necessary. Inspection and corrective action reports will be made available to NYSDEC at any point upon written request to Fuss & O'Neill.

8.0 PROJECT ORGANIZATION

8.1 NYSDEC/NYSDOH

(See March 2008 IRM Work Plan)

8.2 Representative for Hudson Heritage

Mr. Gary Friedland is the designated representative for Hudson Heritage, the property owner. He must be consulted on all project activities and provided with correspondence relating to remedial activities planned and undertaken at the Site.

8.3 Fuss & O'Neill of New York, P.C.

Fuss & O'Neill's project organization, including functions and responsibilities, are described below:

Project Manager – Richard D. Jones, P.E.: Mr. Jones will be the primary contact with the NYSDEC and the NYSDOH during implementation of the modified IRM. He will be responsible for establishing protocols to be used during remedial activities, and establishing sampling methods. He will confirm implementation of established protocols, maintain quality and consistency, and monitor the overall work assignment, schedules, and budgets.

Field Staff – Gregory Toothill, P.E.: Mr. Toothill will be responsible for executing the scope of work. He will perform the field activities including adherence to and interpretations of the HASP and quality assurance protocols, oversight of site activities, and sampling. He will also be involved with data reduction, evaluation, and report preparation. During field activities he will interface with subcontractors and on-site representatives from NYSDEC and NYSDOH.

Health and Safety Officer – Kevin Miller, PhD: The Health and Safety Officer will be responsible for the review and approval of the Site Specific Health and Safety Plan and ensuring that throughout the duration of the field activities all aspects of the Health and Safety Plan will be complied with. Dr. Miller will have authority to stop work should unacceptable health and safety risks occur.

8.4 Subcontractors

The Volunteer will retain qualified Contractors to complete the construction work outlined in this modified IRM Work Plan prior to construction. The names of the selected Contractors will be provided to the NYSDEC before the project commences. All Contractors will be required to comply with necessary Federal and State training regulations and comply with all applicable regulations for safely performing the job. All Contractors will be contracted directly with the Volunteer, but Fuss & O'Neill will provide oversight of most Site activities.

9.0 IRM REPORT

(See March 2008 IRM Work Plan)

It is noted that an LCS will not be installed as part of the modified IRM and, therefore, will not be shown on the as-built drawings.

10.0 O&M PLAN

An Operations, Maintenance and Monitoring (OM&M) Plan will be prepared consistent with Appendix 6B of DER-10. Since there will be no operating systems resulting from implementation of the modified IRM Work Plan the OM&M Plan will focus on maintenance and monitoring of the soil cover placed in LA 6, and erosion and sedimentation control measures. The proposed table of contents of the OM&M Plan is included as Appendix C. The OM&M Plan will be submitted to NYSDEC along with the IRM Report (see Section 9.0).

11.0 REFERENCES

(See March 2008 IRM Work Plan)

The following additional reference is added to the list of references presented in the March 2008 IRM Work Plan:

Interim Remedial Measures Work Plan, Hudson River Psychiatric Center Landfill Area 6, US Route 9, Town of Poughkeepsie, Dutchess County, New York, The Chazen Companies, March 2008.

FIGURES

Proposed Construction Schedule

Interim Remedial Measures

Landfill Area 6

Task Description	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Install Silt Fence	■					
Cut & Clear Trees	■					
Stake-Out	■					
Excavte Swale		■				
Install Manholes		■				
Shape and Line Swale			■			
Construct Level Spreader		■				
Grout Pipes			■			
Relocate Waste From SE Corner of LA 6				■		
Backfill & Grade Excavation				■		
Remove Piezometers				■		
Place Cover Soil in Western Part of LA 6				■	■	
Regrade Stream Along Bank					■	
Place Cover Soil Over Waste					■	
Apply Seed, Mulch						■
Install Erosion Control Blanket						■
Site Clean-up						■
CQA Monitoring	■	■	■	■	■	■

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FIGURE 2

APPENDIX D

HEALTH AND SAFETY PLAN

Site Health & Safety Plan

Interim Remedial Measures Work Plan
Hudson River Psychiatric Center
Landfill Area 6
Town of Poughkeepsie
Dutchess County, New York

Hudson Heritage Development, LLC
Poughkeepsie, New York

July 2008

FUSS & O'NEILL
Disciplines to Deliver

Fuss & O'Neill of New York, PC
80 Washington Street, Suite 301
Poughkeepsie, NY 12601

SITE HEALTH & SAFETY PLAN

INTERIM REMEDIAL MEASURES WORK PLAN
HUDSON RIVER PYSCHIATRIC CENTER
LANDFILL AREA 6
TOWN OF POUGHKEEPSIE
DUTCHESS COUNTY, NEW YORK

Hudson Heritage Development, LLC

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1.0 GENERAL

1.1 Introduction

This Site Health and Safety Plan (HASP) was developed as part of the Fuss & O'Neill of New York, P. C. (Fuss & O'Neill) Interim Remedial Measures Work Plan (IRM) at the Hudson River Psychiatric Center, Landfill Area 6 (LA 6) Site in Poughkeepsie, New York.

Fuss & O'Neill of New York, P. C. does not guarantee the health or safety of any person entering the site. Due to the potential hazards of this site and the activity occurring thereon, it is not possible to discover, evaluate and provide protection for all possible hazards which may be encountered. Strict adherence to the health and safety guidelines set forth herein will reduce, not eliminate, the potential for injury at this site. The site-specific information in the plan was prepared specifically for this site and should not be used on any other site without prior research and evaluation by trained health and safety specialists.

This note applies to all personnel legally required to be covered under this HASP pursuant to OSHA regulation 29 CFR 1910.120 and 29 CFR 1926.65, as determined by their employer. Those personnel working within the Exclusion Zone as defined by the HASP must be trained and engaged in a medical surveillance program in accordance with the requirements of 29 CFR 1910.120 and 29 CFR 1926.65.

This HASP has been developed for Fuss & O'Neill personnel. All on-site contractors not associated with Fuss & O'Neill must develop their own HASP, applicable to their work activities.

The procedures and protocols in this plan have also been established to provide a mechanism to protect project personnel from potential exposure to known site contaminants encountered during site activities. This plan addresses activities conducted by Fuss & O'Neill and its subcontractors. Compliance with this HASP is required of all authorized Fuss & O'Neill project personnel who enter the working areas of this project. Fuss & O'Neill will provide resources and personnel for the implementation of this HASP. As such, Fuss & O'Neill will make recommendations to those personnel not working under contract with Fuss & O'Neill pertaining to the safe execution of the proposed scope of work, as warranted. No one may enter an established exclusion zone without meeting the requirements of an appropriate HASP.

This HASP meets applicable requirements of Occupational Safety and Health Administration (OSHA) safety and health standards: OSHA 29 CFR 1926 Construction Industry and OSHA 29 CFR 1910 General Industry. This HASP is designed to cover those special and/or unique health and safety procedures arising from actual or potential contact with contaminated materials and those requirements pursuant to OSHA 29 CFR 1910.120 and 1926.65, Final Rule "Hazardous Waste Operations and Emergency Response".

The content of this HASP may change or undergo revision based upon additional information made available to health and safety (H&S) personnel, monitoring results, or changes in the technical scope of work. Any changes proposed must be reviewed by designated Fuss & O'Neill and other Project Personnel as specified in the pertinent contract.

1.2 Project Personnel

Project Personnel - refers to all Fuss & O'Neill of New York, PC. operations and project management personnel, including Fuss & O'Neill subcontractors whose responsibilities are to conduct construction activities within the work site.

Project Personnel are divided into two categories: Contact Project Personnel and Non Contact Project Personnel.

Contact Project Personnel - Refers to Project Personnel who may come into contact with hazardous materials (contaminated soil & water which may pose an unacceptable health risk potential). The specific job task will be evaluated to determine personnel classifications. The Health and Safety Manager (HSM) and/or the Health and Safety Supervisor (HSS) will assist with this determination.

Non Contact Project Personnel - Refers to Project Personnel who are not expected to come into contact with hazardous materials. The specific job task will be evaluated to determine personnel classifications. The HSM and/or the HSS will assist with this determination.

Project Support Personnel and Visitors - refers to all other persons who may enter the work site such as truck drivers, public officials, public utility workers, and emergency crews (police, fire, ambulance) as well as any other personnel designated as a project visitor.

Project Personnel Assignments

Fuss &O'Neill of New York, P.C.

Fuss & O'Neill Corporate Health and Safety Officer:

- Kevin W. Miller, Ph.D.: (845) 452-6801 (Ext. 3004)

Fuss & O'Neill Project Manager:

- Richard D. Jones, PE: (845) 452-6801 (Ext. 4210)

Fuss & O'Neill Health and Safety Manager (HSM) and Site Health and Safety Supervisor (HSS):

- Gregory A. Toothill, PE: (845) 452-6801 (Ext. 4203)

Site Owner Contact:

- Gary Friedland: (914) 205-3075

Medical Consultant:

CorpCare Occupational Health Center, an affiliate of Manchester Memorial Hospital, located in Manchester, Connecticut.

1.3 Emergency Phone

Fuss & O'Neill Site Phone:		(845) 750-2705
Emergency		911
Local Police		911
Fire Department:		911
EMS:		911
Hospital:	Saint Francis Hospital 241 North Road Poughkeepsie, NY 12601	(845) 483-5000 (non-emergency)

Poison Control Center:	1-800-343-2722
USCG/DOT National Response Center:	1-800-424-8802

A route map for the listed emergency facility is provided in Appendix A.

2.0 HEALTH AND SAFETY PERSONNEL

2.1 Health and Safety Personnel Designations

The following briefly describes the health and safety designations and general responsibilities which may be employed for this project.

2.2 Site Health and Safety Manager (HSM)

The Health and Safety Manager will be the Fuss & O'Neill point of contact for safety concerns at the project. The HSM has overall responsibility for the development and implementation of the site-specific HASP in conjunction with the other Fuss & O'Neill project personnel. Although the writing of the HASP may be delegated to another member of the team, the HSM shall approve any changes in the plan. This individual has the overall responsibility for the Contractor's performance.

The HSM is also responsible for the following:

1. Discussing any unusual safety and health concerns with the Company Health and Safety Officer prior to completion of the HASP.

2. Assuring that all personnel on-site have been made aware of the potential hazards and are provided appropriate personal protective equipment.

3. Monitoring the performance of personnel and the compliance with this HASP on a periodic basis, and correcting deficiencies.

4. Submit all project reports, including: progress, accident, incident and contractual. A copy of the Supervisor's Report of Accident Investigation form is located in Appendix B.

2.3 Site Health and Safety Supervisor (HSS)

The Site Health and Safety Supervisor (HSS) will be the field scientist, field chemist, engineer or hydrogeologist or other staff member, who will be involved in the on-site activities. The HSS shall be on-site for all work covered by this HASP. He will supervise activities at every phase of work taking place on the project. He will establish and maintain lines of communication at the job site. Before personnel may work in designated exclusion zones, he will obtain the appropriate documentation meeting the medical and health and safety training requirements specified in OSHA 29 CFR 1910.120 and 1926.65 (Hazardous Waste Operations and Emergency Response).

The HSS has the stop-work authorization which he will execute upon his determination of an imminent safety hazard, emergency situation, or other potentially dangerous situations, such as extreme weather conditions. Authorization to proceed with work will be issued by the HSM after such action. The HSS will initiate and execute all contact with support facilities and personnel when this action is appropriate.

The HSS responsibilities will include:

1. Overall responsibility for oversight and day to day enforcement of this HASP.

2. Conduct the initial site specific training of project personnel.

3. Evaluating air monitoring data and recommending changes to engineering controls, work practices and PPE.

4. Daily review of safety operations on-site and completion of a daily record of site activities. A copy of the Daily Record of Site Activities form is located in Appendix C.

5. Reporting and investigation of all accidents or incidents occurring on the site. Reporting of any unsafe acts or conditions. All incidents must be reported to the HSM.

6. Follow up of any corrective action required to reduce identified hazards.

2.4 Corporate Health and Safety Officer

The Corporate Health and Safety Officer helped develop the health and safety plan. The corporate health and safety officer will provide support and guidance to other project personnel on health and safety issues during the completion of site work.

2.5 Medical Consultant (MC)

The MC meets the requirements of OSHA 29 CFR 1910.120 and 1926.65. The MC will be available to consult with local emergency medical services and will be available, as necessary, to provide medical examinations of project personnel.

3.0 SITE HISTORY AND PHYSICAL DESCRIPTION

3.1 Site History and Physical Description

The site is the former Hudson River Psychiatric Center in the Town of Poughkeepsie, Dutchess County, New York. The full site consists of 155.9 acres of land. The portion of the site defined in the Voluntary Cleanup Agreement (Site. No. V00657-3) as Landfill Area 6 consists of approximately 2.5 acres located to the east of the former pavilion south of Ryan Hall and west of the railroad bed. The Landfill Area 6 is bound by the parcel property lines to the south and east, by a catch basin south of Winslow Gate Road to the north, by the south margin of Ryan Drive to the northwest, and by the waste margins east of the concrete slab that was part of a former pavilion near MWHR6-20. Waste is believed to extend beyond these site boundaries onto adjacent properties to the east and southeast onto the banks of the railroad bed and to the south onto the lands of the adjacent property owner and under a gas line right-of-way.

3.2 Site Air Monitoring

Field activities associated with the site remediation at the site may pose hazardous conditions, such as the release of hazardous substances into the workers' breathing zone. These substances may be in the form of vapors, dusts, or mists that can enter the body through ingestion, inhalation, or direct contact with the skin or eyes. If the Health and Safety Supervisor, relying on observations and odor, determines that a condition exists in which workers may be exposed to airborne hazardous materials, monitoring will be performed to determine appropriate personal protective measures.

The following describes the monitoring parameters to be evaluated during the initial walk-through. All instruments to be used during site activities will meet the established requirements set forth by OSHA, NIOSH, and state agencies where applicable.

3.2.1 Initial Determinations

Observations will be made during the site walk-through with direct reading organic vapor meters, combustible gas indicators, and/or oxygen detectors as necessary to assess the background or initial conditions.

All site monitoring will be conducted by or under the direction of the Site Health and Safety Supervisor or designated representative. All readings obtained will be recorded in a dedicated site notebook maintained by the Field Operations Leader/HSS. The Field Operations Leader/HSS will maintain all monitoring instruments throughout the site investigation to maintain their reliability and proper operation.

3.3 Scope of Work

The portion of work covered by this HASP includes environmental remediation activities. The tasks covered by this HASP include the following:

- Excavation in the former landfill area
- Placement of a clean cover soil over the landfill

3.4 Results of Past Investigations

A closure investigation report prepared by EA Engineering, Science and Technology (EA) in 2001 states that wastes were disposed of at various locations across the HRPC parcel for more than 100 years, ending in approximately 1974. The wastes were reported to consist primarily of household and commercial refuse as well as substantial quantities of coal ash. Two petroleum spills were reported at the site, however both spills are listed as closed and neither spill is in the vicinity of Landfill Area 6.

The Chazen Companies reported that municipal waste, coal ash from the heating plant, and mixed construction debris from the facility are present in Landfill Area 6. In addition they report that the site may potentially contain some solid waste from the Town of Poughkeepsie.

An excerpt from the Hudson River Psychiatric Center Landfill Area 6 IRM Work Plan, dated March 2008, and prepared by The Chazen Companies that summarizes the previous Environmental Investigations follows:

"Multiple investigations have been completed to characterize potential landfill sites throughout the HRPC property, as well as studies that focused specifically on LA 6.
According to EA (EA, 2001), three PCB remedial actions were completed by Lawler Matusky & Skelly (LMS) near and downstream from LA 6 (LMS, 1996), pursuant to an Order on Consent with NYSDEC. A summary of those activities follow.

- May 1996: PCBs in a storm sewer system downstream from LA 6 were removed.
- December 1997: PCBs in stream sediments between LA 6 and US Route 9 were removed and disposed of off-site. The streambed and associated wetlands were restored. A Large Quantity Generator listing was apparently secured for the PCB soil removal task (Information System ID: NYD980779490).
- July 1999: PCB-containing concrete under a transformer vault in a building on the parcel (the Cheney building) was removed.
- October 2002: NYSDEC provided a written record to HRPC that requirements have been met to delete the site (DEC site # 314063) from the New York State Registry of Inactive Hazardous Waste Disposal Sites. The site is presently not a Class 2 inactive hazardous waste site.

At the time, the PCB remediation area was also referred to as LA 6, although it is not included in the present LA 6 site area as described in this document or as referenced in the VCP agreement.

During May 2000 as part of their closure investigation of the area currently identified as LA 6, EA sampled leachate from a seep found along the creek that flows along the south boundary of the waste area. Iron and thallium were detected in concentrations exceeding NYS surface water standards for Class D streams. In 2000, EA also located and sampled two of three monitoring wells installed by LMS in 1991 near Landfill Area 6. Well MWHR6-16 lies along the up gradient edge of the waste, to the west of the 12-inch diameter clay pipe to be abandoned on Drawing SPI. Sampling identified only manganese in concentrations exceeding NYS GA groundwater standards. Well MWHR6-19 lies in an area unrelated to LA 6 and downstream of the landfill to the west. Sampling identified iron, manganese, magnesium, sodium and chloride in

concentrations above NYS GA groundwater standards. No VOCs were identified in either of these wells originally installed in 1991 by LMS (EA, 2001).

EA also advanced test pits at LA 6 to characterize wastes and define the approximate waste boundaries (EA,2001). Observed materials in the test pits included municipal waste, lumber, bricks, coal ash, light gray ash, glass and bottles, pottery, shells, plastic objects, tires, paper and newspaper and metal objects including rakes and a lawn chair. Test pitting identified the general limits and depth of the wastes. EA estimated the landfill volume to be 33,460 cubic yards. Maximum observed waste thickness was 16 feet, extending to below the water table. Test pitting indicated that the cap material placed on the site when fill activities ended in the late 1970s consisted of between 1 to 5 feet of sandy silt (EA, 2001). Grassy brush currently grows across most of the landfill, and forest growth has grown on the southern site margin along the stream which stabilizes slopes and provides shading to the stream corridor.

Three additional monitoring wells were installed at LA 6 in April 2002 by EA (EA, 2002). Well MWHR6-22 was installed up gradient of the landfill, as shown on Drawing SP1 and sampling identified iron, manganese, sodium, chloride, color and TDS above NYS GA standards. Wells MWHR6-20 and MWHR6-21 were installed down gradient of the landfill, adjacent to the creek. Sampling of Well MWHR6-20 identified iron, manganese, sodium, color, ammonia, and TDS in concentrations exceeding NYS GA standards. Sampling of Well MWHR6-21 identified the exceedences similar to those in MWHR6-20 and also 7.1 ppb dichlorodifluoromethane (NYS GA standard is 5 ppb) and 1.6 ppb benzene (NYS GA standard is 0.7 ppb). As first identified by the test pitting program, the monitoring wells installed in downgradient locations also identified wastes below the water table.

More recently, The Chazen Companies (TCC) conducted additional site investigations in 2003 and 2004 to identify sources of water contributing to leachate generation at LA 6 (TCC, March 2004). The work included installation of bedrock wells near downgradient wells MWHR6-20 and MWHR6-21 to create well couplets in these areas, installation of an upgradient overburden/bedrock couplet (MWHR6-23S/D), and replacement of monitoring well MWHR6-22 with MWHR6-22R per Department requirements conveyed previously to EA. Completion of the three overburden/bedrock couplet pairs allowed assessments of upward or downward gradients near the stream and up gradient of the landfill, documented in the March 2004 TCC report. Work also included installation of temporary 1-inch piezometers in downgradient areas near the stream to further evaluate water table elevations and waste profiles and installation of shallow piezometers in the stream. Additional fieldwork included further test pitting to inspect the condition of various culverts traversing the waste mass including a concrete stream culvert, an adjacent corrugated metal pipe which had been replaced by the concrete culvert, and a concrete stormwater culvert. All monitoring wells and seeps were sampled by TCC consistent with protocols for routine landfill monitoring.

Inspection of the culverts indicated that only the concrete stream culvert is a reliable water conveyance. The other two leak water into the landfill. Monitoring data and water level measurements in stream piezometers, 1-inch piezometers and monitoring wells identify downward gradients in the aquifer and slight upward gradients in the stream bed (TCC, March 2004). All hydrogeologic data suggest that current leachate discharges are caused by water leakage into the waste mass through the current capping material or from leaky water

conveyance pipes. There is not hydraulic evidence that leachate is generated by aquifer discharges from regional overburden or the bedrock aquifer system.

Since the March 2004 TCC investigation, TCC in consultation with NYSDEC has updated prior evaluations of the stream by sampling stream water near and upstream of LA 6 and leachate precipitate/stream bottom sediments in the stream adjacent to LA 6. The sediment and precipitation samples were collected under observation of NYSDEC and focused on leachate precipitate where identifiable."

"Results indicate that pure leachate flocculant both from upstream locations (samples HRPC-A5-SS1 and HRPC-A5-SS1A) and at the site (sample HRPC-A6-SS2) contained no analytes above remedial guidance values." "Two samples that included stream substrate material (HRPC-A6-SS1 and HRPC-A6-SS2) exceed Fish and Wildlife moderate impact guidance values for iron, mercury, arsenic and lead. Open water stream samples collected near the headwall along the south, site margin and downstream of LA 6 identified sodium exceedences of Class D groundwater standards. These upstream and downstream samples also contained iron concentrations which exceeded surface water standards for iron, although iron was higher in the downstream sample, and a dissolved aluminum exceedence was identified only in the upstream sample. Existing leachate discharges are estimated to be the source of the increase in dissolved iron in the downstream stream sample. The source of elevated aluminum in the upstream sample is unknown."

4.0 HAZARD ASSESSMENT

4.1 Introduction

As discussed previously in Section 3.4, there may be areas where contaminated soil may be encountered. The probability of worker exposure to a chemical hazard varies with the job task. The job tasks that involve contact with potentially contaminated soil are expected to have a greater potential for exposure than job tasks that do not come into contact with the soil. Site workers may be exposed to chemicals by inhalation, ingestion, and/or dermal contact. To protect potentially exposed personnel, dust control measures may be implemented, respirators and personal protective equipment may be worn, and decontamination procedures will be followed.

The following is a general discussion of the hazards that may be encountered on-site. A list of specific compounds detected on-site is found in Appendix D.

4.2 Task Specific Hazard Assessment

Because the potential for coming into contact with contaminated site media will vary with each job task, the probability of exposure will be assessed on an individual task basis. To simplify the hazard assessment two categories will be established; it is anticipated each job task will fit in one of the two categories. The site HSS will assist with determinations as necessary.

Category 1 Construction Activities; Limited Soil Contact:

It is anticipated that the following activities require minimal contact with contaminated media, and presents a low risk of exposure to potentially contaminated site media. These activities

should not require additional health and safety considerations beyond good practices already in place for this type of construction project. These tasks may include:

- Construction of an access road
- Grade work area
- Air sampling
- Delivery of Supplies
- Site Walkovers

Potential exposure to contaminated site media is not anticipated; however these operations will be evaluated and monitored by the HSS. Access to the work zone is limited to Project Personnel, Project Support Personnel, and Authorized Visitors.

Personnel must meet the training requirements as defined in this HASP. Personal protective clothing will not be required unless exclusion zones are established or as determined by the HSS.

Category 2 Construction Activities; Contact with Soil and/or Groundwater:

It is anticipated that personnel working in the following activities have some reasonable potential to come into contact with potentially contaminated site media. These activities may include:

- Environmental Sampling – Soil, Water, Containers
- Decontamination of Equipment and Personnel
- Excavation and Site Grading

These activities may result in potential exposures to contaminated site media. These activities will be evaluated and monitored by the HSS and exclusion zones established as required. All Contact Project Personnel required to work in designated exclusion zones must meet the training requirements for working in an exclusion zone as outlined in this HASP. Personal protective clothing will be worn as determined by the HSS.

5.0 ZONES/SITE CONTROL

5.1 Site Control

Three zones will be used to restrict access to construction areas where potential contamination may be present and to prevent the accidental spread of contaminated materials. The three zones are identified as 1) the construction work zone, 2) the construction exclusion zone, and 3) the contamination reduction zone (CRZ). Initially, exclusion and contamination reduction zones will not be established for the site construction activities. Exclusion and contamination reduction zones will be established if certain conditions are met, including the exceeding of project air monitoring action levels or the encountering of odorous or visibly contaminated materials. The designation of project zones will be by the HSS. If used, these zones will be monitored by the HSS.

5.2 Construction Work Zone (Restricted Area)

The construction work zone is the entire project work area or construction area. All project work activities will be conducted within the construction work zone. The construction work zone is restricted to project (contact and non contact) personnel, and project support personnel and visitors as defined in this document. Unauthorized people will be prohibited from entering the site.

All personnel (project personnel, project support personnel, visitors) entering the construction work zone will be briefed by the HSS prior to their initial entry. All Contact Project Personnel entering the construction work zone must meet the Training and Medical requirements as outlined in Sections 10.0 and Section 15.0. The protective work clothing and equipment to be worn is defined in Section 6.0 or as required by the HSS. All Contact Project Personnel and equipment exiting the construction work zone must clean-up before leaving the site or as determined by the HSS. These are general good health and safety work practices.

Activities defined as Category 1 will be performed within the construction work zone. The HSS will monitor those activities which may have an unacceptable hazard potential. Construction exclusion zones will be established for these operations by the HSS or designee if the action levels listed in Section 7.0 are exceeded, if there are visible signs of contamination and/or if there are changes in operations or the knowledge of the site, which would increase the probability of worker exposure.

5.3 Construction Exclusion Zones

A Construction Exclusion Zone will be established within the construction work zone for 1) tasks and operations occurring on or around areas of known contamination, 2) operations that significantly disturb the subsurface soil, and 3) operations where personnel will come into contact with the subsurface soil and or groundwater. Construction Exclusion Zones will be established during all Category 2 activities and/or as designated by the HSM or HSS. The HSS will monitor all construction exclusion zone activities.

Exclusion Zones will be established around work areas where there is a realistic probability of exposure to hazardous contaminants.

The area will be marked and isolated using barriers, tape, or other appropriate markers. Entry to this area will be only through the contamination reduction zone (CRZ). Air monitoring will take place in all exclusion zones as described in Section 7.0. All personnel working in an exclusion zone must meet the training and medical requirements as outlined in Section 10.0 and Section 15.0. All personnel and equipment exiting the exclusion zone will go through field decontamination (Section 12.0) before exiting the exclusion zone and the contaminant reduction zone. Once the excavation or designated operation has been completed, the exclusion zone may be removed by the HSS pursuant to the air monitoring protocols in Section 7.0.

Access to a construction exclusion zone will be limited to Contact Project Personnel that meet the Training and Medical requirements as outlined in Section 10.0 and Section 15.0. All

Contact Project Personnel entering the construction exclusion zones will be briefed by the HSS prior to their initial entry into the exclusion area.

The protective work clothing and equipment to be worn is defined in Section 6.0 or as required by the HSS. All personnel and equipment exiting the construction exclusion zone will be decontaminated (Section 12.0) in the CRZ as exiting the construction exclusion zone or as the HSS determines is necessary.

Once the excavation or designated operation has been completed, the construction exclusion zone will be removed by the HSS or designee.

5.4 Contamination Reduction Zone (CRZ)

The CRZ is the transition area between the contaminated area and the clean area. The CRZ is marked off as a corridor between the exclusion zone and the support zone where personnel go through decontamination. There is one Access Control Point where personnel enter and exit the exclusion zone through the CRZ. When personnel exit the exclusion zone, they must go through field decontamination which is set up in the CRZ. Access to this zone will be limited to Contact Project Personnel exiting the Construction Exclusion Zone and Decontamination Technicians assisting with decontamination.

6.0 PERSONNEL LEVELS OF PROTECTION

6.1 General

In accordance with 29 CFR 1910.120 and 1926.65(g)(5), Fuss & O'Neill, Inc. has developed a written Personal Protective Equipment (PPE) program which addresses the elements listed in the regulation. This document is attached as Appendix E. A Respiratory Protection Program which meets the requirements of 29 CFR 1910.134 and 1926.103 can be found in Appendix E. The level of protection to be utilized is determined by the task-specific hazard and will be determined by the HSS. It is expected that initially all site work where the employee may come into contact with potentially contaminated soil or ground water will be performed utilizing Modified Level D protection in an exclusion zone.

Safety equipment and protective clothing shall be used as directed by the Health and Safety Supervisor. All such equipment and clothing will be cleaned and maintained in proper condition by the personnel. The Health and Safety Supervisor will monitor the maintenance of personnel protective equipment.

Modified Level D is the minimum accepted level of protection for this site. Modified Level D provides minimal dermal protection. Respiratory protection is optional unless air-monitoring data indicated otherwise. Modified Level D includes:

- Tyvek disposable coveralls or equivalent (optional)
- Coveralls/dedicated work clothing
- Boots/shoes, leather or chemical resistant (steel toe and shank optional)
- Boots/shoes inner and boots outer, chemically resistant (may be disposable) (optional)
- Gloves inner, surgical and Gloves outer, chemically resistant (optional)

- Nitrile, PVC, or vitron gloves (when water or soil contact)
- Hardhat(during drilling and when overhead fall or bump hazard exist)
- Safety glasses or chemical splash goggles
- Hearing protection (during drilling or jackhammering operations)

If circumstances warrant upgrading to Level C, the following is required:

- Full-face, air purifying respirator with a combination type acid/gas/organic vapor and particulate filter
- Chemical resistant coveralls
- Gloves (outer), chemical resistant
- Gloves (inner), chemical resistant
- Boots (inner), leather work shoe with steel toe and shank.
- Boots (outer), chemical resistant
- Hard Hat (during drilling and when overhead fall or bump hazard exist)
- Taping between suit and gloves, and suit and boots

Action levels found in Table 1 in Section 7.0 determine levels of respiratory protection only. The level of protection of PPE for each job task is determined visually by the HSS.

Procedures for the proper donning and doffing of PPE are provided in Appendix E.

Tasks or locations which require level A or B protection will not be entered by Fuss & O'Neill employees.

The Health and Safety Supervisor may make changes to the levels of protection required based on the identification of known substances and any required changes to the scope of work. The Health and Safety Supervisor will revise those levels of protection, up or down, based on air monitoring results and on-site assessment of actual exposures.

6.2 Definition of Levels of Protection

Respirators:

Level D:	No respirator is required.
Level D Modified:	No respirator is required
Level C:	Full face, Air Purifying Respirator (APR) with combination HEPA (dusts, fumes, aerosols) and organic vapor/acid gas cartridges.

PPE:

Level D:	Coveralls/dedicated work clothing Gloves Boots/shoes* Hardhat Safety Glasses or chemical splash goggles

**May be substituted with work boots with chemically resistant outer boots or chemically resistant rubber boots.*

Level D Modified:	Tyvek disposable coveralls or equivalent (optional) Coveralls/dedicated work clothing Boots/shoes, leather or chemical resistant (steel toe and shank optional) Boots/shoes inner and boots outer, chemically resistant (may be disposable) (optional) Gloves inner, surgical and Gloves outer, chemically resistant (optional) Nitrile, PVC, or vitron gloves (when water or soil contact) Hardhat(during drilling and when overhead fall or bump hazard exist) Safety glasses or chemical splash goggles Hearing protection (during drilling or jackhammering operations)
Level C:	Polytyvek disposable coveralls or equivalent Coveralls/dedicated work clothing Boots/shoes inner Boots outer, chemically resistant (may be disposable) Gloves inner, surgical Gloves outer, chemically resistant Hardhat Safety glasses or chemical splash goggles

7.0 MONITORING PROCEDURES AND ENGINEERING CONTROLS

7.1 Monitoring Procedures

Atmospheric air monitoring results are used by the HSS to provide data in determining when exclusion zones are established and when certain levels of personal protective equipment are required. For all instruments there are site specific action level criteria which are used by the HSS as guidelines in making field health and safety determinations. Other data, such as the visible presence of contamination and/or the steady state nature of air contaminant concentration, is also used by the HSS in making field health and safety decisions. Therefore it is possible that the HSM and HSS may establish exclusion zones and/or require a person to wear a respirator even though atmospheric air contaminant concentrations are below established action levels. HASP action levels are located in Table 1

Monitoring will be performed by the HSS. Air monitoring instrumentation will be utilized in all site work areas to monitor the worker breathing zone. Personal air sampling for specific airborne contaminants may be performed at the direction of and under the supervision of the HSS. The types of instruments used and the contaminants they can detect are illustrated in Table 2. All air monitoring will be recorded on the Field Air Monitoring Logs located in Appendix F. This information will also be recorded daily by the HSS in the Daily Record of Site Activities in Appendix C.

Table 1 - Instrumentation Action Levels

INSTRUMENT	ACTION LEVEL	LEVEL OF PROTECTION OR ACTION REQUIRED
PID	>Bkgd - <5 ppm (5 min)**	Level D Respiratory Protection
PID	5 ppm - <30 ppm (5 min)**	Level C Respiratory Protection, establish an exclusion zone[a].
PID	≥30 ppm**	Leave the area, monitor continuously.
O_2	<19.5% or >23.0%**	Leave the area; provide ventilation.
HAM	>2.5 mg/m^3 (5 min)	Implement dust control measures or Level C Respiratory Protection.
CGI	>10% LEL	Leave the area
CGI	>5% LEL	Leave the area at 5,000 ppm or greater

Sampling Locations
** samples taken at the breathing zone relative to organic interference.
[a]- If a zone has not yet been established.

Table 2 - Air Monitoring Instrumentation

Air Monitoring Instrument Name	Acronym	Contaminant(s) Monitored
Detector Tubes		Gases, Organic vapors, others
Photoionization Detector	PID(OVM)	Organic Vapors
Handheld Aerosol Monitor	HAM	Dust, Particulate Material
Flame Ionization Detector	FID(OVA)	Organic Vapors
Combustible Gas Indicator	CGI	Combustible Gases, explosive limit

Exclusion Zone Monitoring

The frequency of real-time monitoring in exclusion zone work areas will be determined by the HSS and/or according to the task being conducted and whether potentially hazardous soil or contaminated groundwater will be contacted/disturbed. Real-time monitoring in the exclusion zone work areas will be conducted daily and minimally under the following conditions: during an activity which would have the highest probability of worker exposure as determined by the HSS; visible presence of contamination; or at the discretion of the HSS. Engineering controls as discussed in Section 7.2 may be implemented to reduce worker exposure potential in the exclusion zones.

Construction Work Zone (Restricted Area)

The frequency of real-time monitoring in restricted zone work areas will be determined by the HSS. Real-time monitoring in restricted zone work areas will be conducted under the following conditions: prior to the beginning of any new job task; prior to the beginning of a job task in any new area; periodically for a long-term job task; during an activity which would have the highest probability of worker exposure as determined by the HSS; visible presence of contamination; or at the discretion of the HSS.

During intrusive activities, such as soil sampling, project team members will conduct air monitoring in the working zone utilizing a photo-ionization detector (PID). If PID readings in the work zone indicate concentrations of volatile organic vapors of 5 parts per million for a sustained period of 5 minutes, that activity will be shut down until field conditions stabilize and mitigation arrangements can be made to upgrade to an appropriate safety level. If warranted, field personnel will don splash protective clothing, including Tyvek suits, chemical resistant gloves and boot covers, and safety glasses equipped with side shields.

Background Monitoring

Real-time monitoring will occur at locations such as in the main staging area as part of determining atmospheric background levels. Background levels will be established before conducting real-time monitoring in any restricted or exclusion zone work area.

Instrument Calibration and Maintenance

All monitoring equipment will be calibrated minimally once per day before each day's use or per the manufacturer's recommendation. The calibration results will be recorded using the Calibration Log in Appendix F. Monitoring equipment will be maintained on a schedule corresponding to the manufacturer's suggested maintenance schedule.

7.2 Engineering Controls

When airborne contaminants are detected in the breathing zone of workers or when LEL readings on the CGI are greater than 10%, engineering controls may be utilized to reduce the exposure potential to the worker and to prevent shutting down an operation. Various types of engineering controls may be utilized on a project such as this. Some available methods are listed below; however, this list does not provide the only types of engineering controls that may be available. Other methods may be implemented that are more effective and/or efficient than the ones listed below.

Utilization of water to soak down area to minimize dust
Utilization of intrinsically safe blowers to provide ventilation
Utilization of polysheeting to cover stockpiles
Utilization of calcium chloride

It is more desirable to reduce employee exposure potential than to increase levels of employee personal and respiratory protection. The implementation of engineering controls will reduce employee exposure potential and not require a greater level of protection of workers.

7.3 Dust Suppression Techniques

Dust suppression may include utilization of water. The exclusion zone areas and access roads can be wetted when required by visible reference or as an action level is approached or exceeded.

Dust control measures including applying water to work areas will be implemented to control dust levels.

The approach for air monitoring and the establishment of appropriate action levels will be determined prior to commencement of work at the site.

8.0 SAFETY EQUIPMENT AND COMMUNICATIONS

8.1 Safety Equipment

Basic emergency and first aid equipment will be available at each exclusion zone. This shall include at a minimum: first aid kit; emergency eyewash; and fire extinguisher.

8.2 Communications

Communications will be maintained between work being performed in the exclusion zones and the restricted zone utilizing hand-held radios, cellular phone, or other appropriate form of communications.

9.0 COMMUNITY AIR MONITORING PROGRAM

This section describes activities, equipment, and procedures employed to combat hazards to the health and safety associated with the site as they pertain to local residents, tenants of the site, and nearby businesses.

9.1 Ground Intrusive Activities

For on-site ground intrusive activities, including drilling, jack-hammering, and any activity disturbing normal surface and subsurface where there is a potential for contaminants to be disturbed the following air monitoring activities will be conducted to assess potential emissions to the ambient air, which may impact local residents, tenants of the site, and nearby businesses in addition to site workers:

Particulates: Particulates should be monitored continuously upwind, downwind, and within the work area at temporary particulate monitoring stations. If the particulate levels in the downwind location or the work area are more than 2.5 mg/m^3 higher than the upwind particulates level, then dust suppression techniques must be employed. Monitoring locations will be adjusted to take into account changes in wind direction and areas of intrusive activities. All readings must be recorded and be available for State (NYSDEC and NYSDOH) personnel to review.

Volatile organic compounds: Volatile organic compounds must be monitored at the perimeter of the work area on a continuous basis. If total organic vapor levels exceed 5 parts per million (ppm) above background levels, work activities must be halted and monitoring continued under the provisions of a Vapor Emission Response Plan (Section 9.3). All readings must be recorded and be available for State (NYSDEC and NYSDOH) personnel to review.

9.2 Non-Intrusive Activities

For non-intrusive activities on-site the following air monitoring activities will be conducted when there is a potential for contaminants to be disturbed, to assess emissions to the ambient air, which may impact local residents, tenants of the site, and nearby businesses in addition to site workers:

All procedures, identified under the ground intrusive activities to this section, apply.

9.3 Vapor Emission Response Plan

If the ambient air concentration of organic vapors exceeds 5 ppm above background levels at the perimeter of the work area, activities will be halted and monitoring continued. If the organic vapor level decreases below 5 ppm above background levels, work activities can resume. If the organic vapor levels are greater than 5 ppm above background levels but less than 25 ppm above background levels at the perimeter of the work area, activities can resume provided:

The organic vapor level 200 feet downwind of the work area or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm above background levels.

If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown. When work shutdown occurs, downwind air monitoring, as directed by the HSO, will be implemented to assess vapor emission, which may impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission section.

Major Vapor Emission: If any organic levels greater than 5 ppm above background levels are identified 200 feet downwind from the work area or half the distance to the nearest residential or commercial property, whichever is less, all work activities must be halted.

If following the cessation of the work activities, or as the result of an emergency, organic levels persist above background levels 200 feet downwind or half the distance to the nearest residential or commercial property from the work area, then the air quality must be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20 Foot Zone).

If efforts to abate the emission source are unsuccessful and if the following levels persist for more than 30 minutes in the 20 Foot Zone, then the Major Vapor Emission Response Plan shall automatically be placed into effect; if organic vapor levels are approaching 5 ppm above background levels.

However, the Major Vapor Emission Response Plan shall immediately be placed into effect if organic vapor levels are greater than 10 ppm above background levels.

Major Vapor Emission Response Plan: Upon activation, the following activities will be undertaken:

Emergency services will be notified. Emergency phone numbers are identified in the Emergency Services section on page 2 of this Plan.

The local police authorities will immediately be contacted by the HSO and advised of the situation.

Frequent air monitoring will be conducted at 30-minute intervals within the 20 Foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the HSO.

10.0 TRAINING

10.1 Basic Training Required

All contact project personnel that are required to work within exclusion zones are required to have received a minimum of 40 hours of instruction off the site, and a minimum of three days actual field experience under the direct supervision of a trained, experienced supervisor pursuant to OSHA 29 CFR 1910.120(e) and 1926.65. Non contact personnel are not required to meet these initial training requirements unless directed otherwise by the HSS.

All personnel above are required to have successfully completed refresher training requirements pursuant to OSHA 29 CFR 1910.120(e) and 1926.65. All "supervisory" personnel as identified by Fuss & O'Neill will be required to have successfully met the supervisory training requirement pursuant to OSHA 29 CFR 1910.120(e) and 1926.65.

Fuss & O'Neill personnel shall have completed 40 hours of OSHA training and be current with their 8 hour refreshers in accordance with 29 CFR 1910.120. On–site personnel must also be familiar with the procedures and requirement of this HASP. In the event of conflicting safety procedures/requirements, personnel must implement those safety practices that afford the highest level of protection.

The objectives of the training program are to: communicate the potential hazards workers may encounter; provide the knowledge and skills necessary to perform the work with minimal risk to worker's health and safety; communicate the purpose and limitations of safety equipment; and communicate an emergency plan.

All employees and contractors engaged in site field work must sign an acknowledgement form to indicate that they have read this HASP, understand the content of this HASP, and agree to abide by the precautionary measures stated in this HASP. The Project Manager, Field Operations Leader, and Health and Safety Supervisor shall also sign-off on this HASP to verify that the content is factual.

Documentation of theses employees training certificates are to be maintained by F&O.

10.2 Site-Specific Training

10.2.1 Initial

All project personnel are required to have initial site-specific training while the potential for exclusion zone activities exist. This training will be provided on-site for all project personnel by the HSS prior to commencement of on-site field activities. The training will address the activities, procedures, monitoring, and equipment for the site operations. It will include site layout, chemical hazards (identification of, detection of, and physiological responses to), physical hazards and emergency services at the site, and will detail all provisions contained within this HASP.

All personnel **must** sign the Field Team Member form in Appendix G following the site specific training and review of the HASP. Personnel who do not receive initial site training will not be permitted to enter the restricted, CRZ, or exclusion zones.

10.2.2 Periodic Safety Briefings

The HSS will conduct daily safety briefings for site workers conducting operations in the restricted zone or in any exclusion zone. These informal briefings will generally be held in the support areas of the designated work areas. The content of these briefings will change as directed by the HSS and will generally include relevant health and safety topics affecting that day's operations.

11.0 PHYSICAL HAZARDS AND SAFETY CONSIDERATIONS FOR SITE OPERATIONS

11.1 Weather

The site activities may proceed through all seasons; therefore, precautions are to be taken to address both heat and cold stress. Monitoring of site personnel for the symptoms associated with each will be continuous.

If severe weather occurs that may affect the safety of site workers, the HSS shall stop such field operations. The HSS will resume operations when weather conditions improve to acceptable levels.

11.2 Heat Stress/Cold Stress

Heat and/or cold stress may be a potential problem for this project. The HSS may implement heat and cold stress programs and recommend that adequate rest breaks and liquid (i.e., water, Gatorade®) consumption occur. The heat and cold stress program is in Appendix H.

The proposed work/rest schedule will be dependent upon the weather conditions encountered and the level of personal protective equipment being utilized by on-site personnel. There will be a designated break area. The work/rest schedule will be established and adjusted by the HSS.

11.3 Slip, Trip and Fall Hazards

In any work area it is expected that the ground may be uneven, with platforms and other obstacles existing in the midst of the work environment. Therefore, the potential for slipping, tripping and falling is high, especially considering that respirators may be used, which can impede vision.

11.4 Confined Space

If entering a confined space is required at any time during this project, the HSS will ensure that appropriate confined space entry procedures are followed by appropriately trained confined space individuals in accordance with OSHA 29 CFR 1910.146 (Appendix I).

11.5 Electrical Hazards

To control the potential for electrical hazards, procedures will be followed in accordance with OSHA 29 CFR 1926 Subpart K.

Ground-Fault Circuit Interrupters (GFCI) shall be used on all sites that have temporary wiring or a power supply per 29 CFR 1926.400 (h)(2). All 120-volt, single-phase 15- and 20-ampere receptacle outlets on-sites, which are not part of the permanent wiring of the building or structure and are in use by Fuss & O'Neill employees or subcontractors to Fuss & O'Neill shall have UL7 approved GFCI for personal protection.

11.6 Trenching, Shoring and Excavations

Excavations will be in accordance with OSHA 29 CFR 1926 Subpart P. Prior to excavating, utility companies and other responsible authorities will be contacted to locate and mark the locations of underground installations.

11.7 Traffic

Different types of traffic (trains, delivery vehicles and heavy equipment) may be present at the job site. All work will be performed in accordance with State and Federal laws.

Vehicular traffic may be a hazard during the work covered by this HASP. Traffic cones will be used to block off areas around roadways to protect personnel and equipment. All signs shall meet the State and Local regulations regarding traffic safety. During work along highways or congested roadways, personnel shall wear orange safety vests and hard hats.

11.8 Pathogens

Although not expected, if pathogenic wastes (i.e. suspect medical wastes, sharps) are encountered during this project, workers will stop work in that area and inform the HSS.

11.9 Explosives

If explosives are encountered during this project workers will immediately stop work and qualified explosive handling personnel will be contacted.

11.10 Smoking Policy

Under no circumstances will smoking be permitted inside any established Exclusion Zone.

11.11 Hearing Protection

Hearing protection will be available to all site workers/visitors.

11.12 Drum/Container Handling

The procedures utilized for the movement and disposal of drums will comply with 29 CFR 1910.120(j) and 1926.65. This section specifies that drums and other containers of hazardous materials be handled in a manner to reduce possible rupture and minimize the potential for a spill.

11.13 Guarding of Machinery and Equipment

Machinery and equipment guarding will be installed and maintained in accordance with 29 CFR 1910 and 1926. Various OSHA standards specify machine and equipment guarding that must be in place to reduce potential injuries. All manufacturer's machine guards will remain intact and not be removed by any employee. Any damaged or missing guard will be replaced and the equipment will not be operated until the proper protection is provided.

11.14 Illumination

If work activities occur before sunrise or after sunset, sufficient lighting will be provided to meet the requirements of 29 CFR 1910.120(m) and 1926.65. Table H-120.1 - Minimum Illumination Intensities in Foot-Candles should be used as a guide for providing proper lighting in site operations. These minimums range from 3 to 30 foot-candles, depending on the area or operation performed.

11.15 Spill Cleanup

If a spill occurs the HSS will immediately notify the HSM. Immediate containment actions will be implemented to minimize the effects of a leak or spill. All cleanup procedures will be in accordance with applicable local, state and federal regulations. Spill clean up kits will be available on-site.

11.16 Drilling and other Underground Operations

The HSM shall contact New York Dig Safely (NYDS) prior to any drilling or digging activities. Three business days notification is required prior to starting work. The following Required Location Request Information is needed: Town, Street Address, and Nearest Street intersection, Type of Work, Name of Caller & Company, Phone Number, and Start Date & Time.

Documentation of the NYDS list, confirmation #, date, time and the person who called should be recorded on the form in Appendix J.

12.0 DECONTAMINATION/WASH-UP PROCEDURES

This section can be classified into four areas: 1) procedures for decontaminating heavy equipment that has entered exclusion zones; 2) decontamination procedures for personnel exiting exclusion zones; 3) wash-up procedures for all personnel; and 4) instrument decontamination.

12.1 Heavy Equipment Decontamination

Heavy equipment that has entered exclusion zones shall be clean on arrival and will be decontaminated prior to leaving the site. As necessary, equipment that has been in contaminated areas of the project site will be decontaminated before leaving the project site. The water that is generated as part of decontamination may be allowed to drain back into the pre-existing site soil (not onto the clean soil). The decontamination area will be located in a known contaminated area of the site.

12.2 Personnel Field Decontamination

Personnel field decontamination facilities will exist at the exits to all established exclusion zones in contamination reduction zones (CRZs). If possible, these field decontamination facilities will be located upwind of the exclusion zone. The field decontamination facilities will be under the control of the HSS. The detailed extent of the decontamination will be a site-specific decision by the HSS based on the extent of personnel contamination.

Once removed, disposable PPE will be collected at the field decontamination-site in a drum or large plastic bag. The drum or plastic bag will be secured in order to prevent the accidental spread of contamination. Disposable PPE that has been worn in an exclusion zone must be removed and placed in the disposal container before leaving the CRZ. Disposable PPE may not be re-used.

12.3 Wash-up Facility

A portable wash-up apparatus and/or facility will exist in the main support area of the construction work zone. The facility will be under the control of the HSS.

After exiting a field decontamination facility, personnel may now use the "wash up" setup. All personnel working at the site must wash their hands and faces prior to eating, drinking or smoking and practice good personal hygiene. Potable water will be available at the site.

12.4 Instrument Decontamination

Instruments will be decontaminated whenever they have contacted soil or dust. Instrument decontamination will occur in the same area for personnel decontamination and will consist of the removal of any dust or soil from the surfaces of the instruments.

13.0 DISPOSAL PROCEDURES

13.1 General

A waste staging area will be located on-site in an area approved by Fuss & O'Neill. This area will be segregated from the support areas to control the potential for waste migration beyond the perimeter of this area. The area will be considered an exclusion zone requiring periodic air monitoring as deemed necessary and the appropriate level of protection pursuant to the protocols in this plan.

All waste materials shall be handled in such a way to avoid potentially spreading contamination, creating a hazard or littering the site. All disposable PPE will be placed in plastic bags during decontamination and site activities for disposal.

All disposal will be in accordance with local, state, and federal hazardous waste regulations, as well as the Resource Conservation and Recovery Act (RCRA).

13.2 Soil/Sludge

Generation of soil/sludge requiring management is not anticipated. All soil that has visible signs of contamination will be classified by the HSS as potentially contaminated material and will be stockpiled. The stockpiled soil will remain in place until the analytical results of samples collected by Fuss & O'Neill are made available to the Contractor. Within 30 days of waste classification finding the soil unsuitable for re-use the soil will be removed and disposed.

13.3 Water

Generation of decontamination liquids requiring management is not anticipated. All dewatering liquids will be containerized, stored in the staging area and/or disposed onsite if appropriate. Waste classifications will be made by F&O. The liquids will be disposed of or treated with methods approved by F&O.

14.0 EMERGENCY PLAN

14.1 General

All operations required have the potential to create an emergency situation. Emergency situations can be characterized as a Fire or Explosion; Environmental Release (spill or cloud); or Accident and/or Injury to one of the field personnel.

14.2 Site Emergency Coordinator

The emergency coordinator or alternate will be on-site during all working hours. The emergency coordinator shall implement the emergency plan whenever conditions at the site warrant such action. The coordinator will be responsible for assuring the evacuation, emergency treatment, emergency transport of site personnel as necessary, and notification of emergency response units and the appropriate project and management staff designated in Section 1.0.

14.3 Evacuation

In the event of an emergency situation, a specific emergency signal (such as air horn blasts) will sound and all personnel in all work zones will evacuate and assemble near the entrance of the construction work zone or other support area location determined prior to the beginning of the daily operating tasks.

For efficient and safe site evacuation and assessment of the emergency situation, the emergency coordinator will have authority to initiate proper action when outside services are required. Under no circumstances will incoming personnel or visitors be allowed to proceed into the construction work zone once the emergency signal has been given. The emergency coordinator will ensure that access for emergency equipment is provided and that all combustion apparatus (e.g.; operating machinery) has been shut down once the alarm has been sounded. The emergency coordinator will notify the Fire Department and other emergency response organizations by telephone of the emergency.

The emergency coordinator or designee will make a headcount of all site personnel at the assembly point. If a worker or site visitor is unaccounted for, the emergency coordinator will report this information to the emergency responders. The site evacuation plan shall be rehearsed as part of the overall training program for site operations.

14.4 Incipient Firefighting

Fire extinguishers will be located at every exclusion zone. Appropriate contractor project personnel will be trained in the use of fire extinguishers. All fire extinguishers will be inspected daily to make sure it is fully charged and in working order.

Fuss & O'Neill employees may fight incipient fires (small, just starting that can be extinguished easily with a portable fire extinguisher, like a garbage can fire) and clean up incidental spills (usually less than 1 gallon) that occur while working on-site. If a fire or spill of this type becomes larger and there is a potential for a hazardous substance release, Fuss & O'Neill employees will sound the emergency alarm and evacuate the area immediately. Emergency Coordinator will contact the responsible party in the event the emergency response is beyond their competency level.

14.5 Emergency Response Coordination

The emergency coordinator or designee will report any emergency immediately to the local emergency response organizations and will be available to brief them immediately upon their arrival as to the location of the emergency, nature and extent of the emergency, personnel involved, hazardous substances involved, and any other pertinent information.

14.6 Personnel Injury/Personnel Exposure/First Aid

Any minor cuts or abrasions are to be washed and treated immediately. First aid shall be given on-site as deemed necessary. If needed the individual will be decontaminated and transported to the nearest medical facility. The ambulance/rescue squad shall be contacted for transport as necessary in an emergency. In any life-threatening situation, the life-saving treatment of

personnel is the immediate priority. The emergency coordinator or designee will be available to brief the rescue squad immediately upon their arrival as to the location of the injured person(s), nature and extent of the injury(ies), personnel involved, hazardous substances involved, and any other pertinent information. The HSS will supply medical data sheets and chemical hazard information to appropriate medical personnel and complete an incident report on the accident or injury.

In case of personnel exposure, the following procedures are to be provided:

SKIN CONTACT: Use copious amounts of water. Wash/rinse affected area thoroughly and then provide appropriate medical attention. Eyes should be thoroughly rinsed with water.

INHALATION: Move to fresh air and/or, if necessary decontaminate/transport to hospital.

INGESTION: Decontaminate and transport to emergency medical facility.

PUNCTURE WOUND OR LACERATION: Decontaminate, if possible and transport to emergency medical facility.

15.0 MEDICAL SURVEILLANCE:

All contact project personnel that are designated to work in the exclusion zones outlined in section V are required to meet the medical surveillance requirements of OSHA 29 CFR 1910.120 and 1926.65 and OSHA 29 CFR 1926.103 (respiratory protection), and to furnish documentation to that effect. In addition, a medical data sheet in Appendix K must be completed prior to beginning work on the site. The medical data sheet shall be kept on-site with the HSS and will accompany the employee whenever medical treatment is required.

All examining physicians must meet the requirements of 1910.120 and 1926.65. The physician performing medical examinations will determine the specific requirements of the physical. The employees must be given the results of their examination. Attached as Appendix K is the Fuss & O'Neill Written Medical Surveillance Program.

16.0 RECORDKEEPING

The HSS will maintain Health and Safety Records for the site. The following information will be recorded on the Daily Record form in Appendix C):

- Weather conditions (temp., wind speed and direction, precipitation)
- Air monitoring equipment calibration records
- Air monitoring results (date, time, location, data, instrument, person conducting sampling)
- Description of operation(s)
- Level of PPE
- Non-compliance with the HASP
- Personnel exposure incidents
- Description of accident(s) (OSHA 200 log)

All accidents and personnel exposures, regardless of the extent, will be reported to the HSS, who will complete a Supervisor's Report (Appendix B) on the incident.

17.0 AUTHORIZATIONS

Personnel authorized to enter the construction work zones and construction exclusion zones at this site must be approved by the HSS. Authorization will involve completion of appropriate training courses and medical examination requirements as stipulated by this HASP, and review and approval of this HASP.

18.0 SIGNATURES

This plan was reviewed and approved by:

Project Manager – Richard D. Jones, PE

Date:

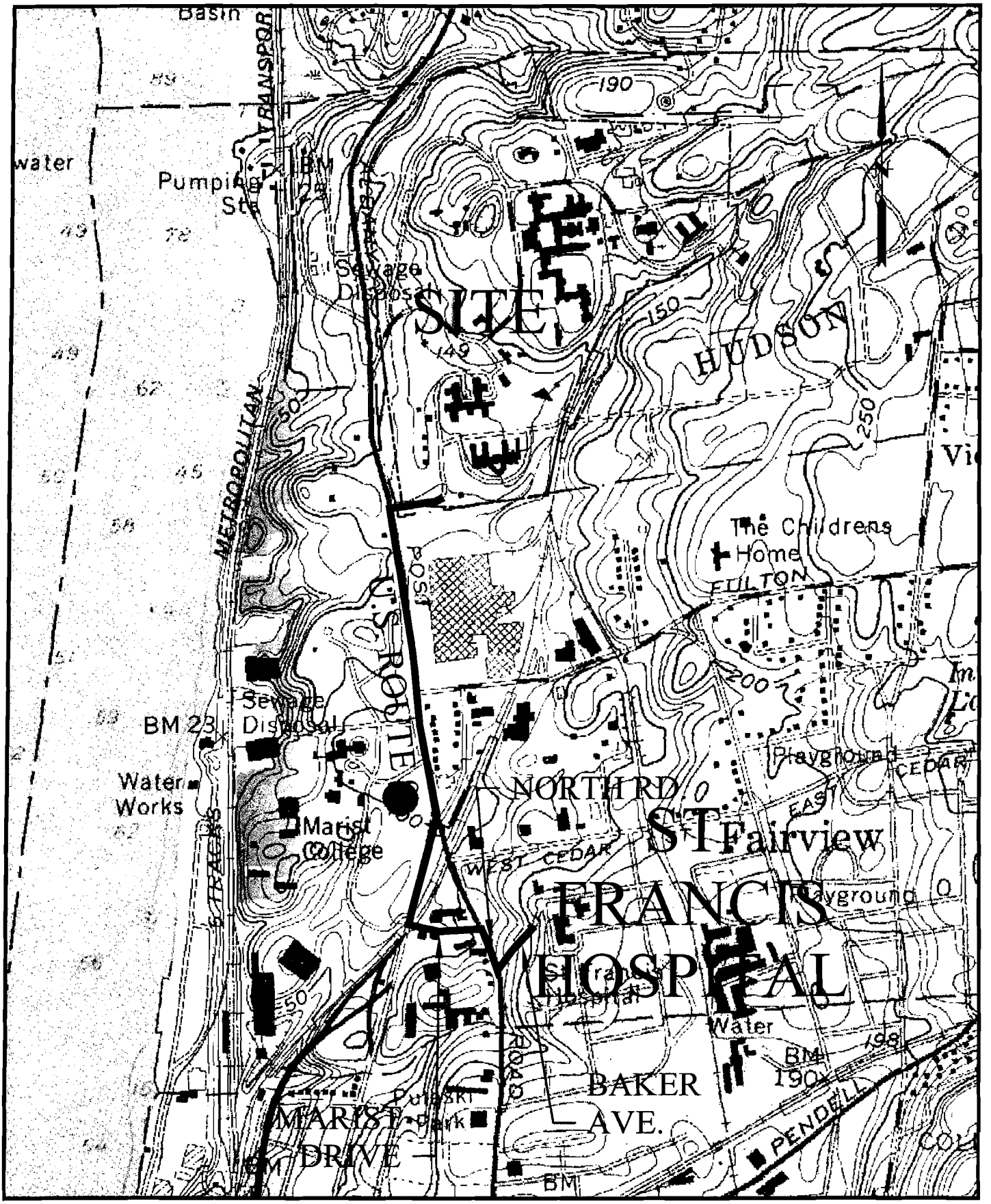
Health & Safety Supervisor –
Gregory A. Toothill, PE

Date:

Corporate Health and Safety Officer –
Kevin W. Miller, Ph.D.

Date:

APPENDIX A
SITE MAPS



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UCS: MS VIEW: LMAN: CTB:

SCALE: HORZ.: 1" = 1000' VERT.: DATUM: HORZ.: VERT.: 0 500 1000 GRAPHIC SCALE	WWW.FandO.COM FUSS & O'NEILL *Disciplines to Deliver* 80 WASHINGTON ST SUITE 301 POUGHKEEPSIE, NY 12601 845.452.6801	HUDSON HERITAGE DEVELOPMENT, LLC MODIFIED IRM HASP HOSPITAL DIRECTIONS FORMER HUDSON RIVER PSYCHIATRIC CENTER TOWN OF POUGHKEEPSIE NEW YORK	PROJ. No.: DATE: JULY 2008 FIG. 1

APPENDIX B
SUPERVISOR'S REPORT OF ACCIDENT INFORMATION

SUPERVISOR'S (HSS) REPORT OF ACCIDENT INVESTIGATION

Injured Employee _____ Date of Report _____
Occupation _____ Age _____ Sex _____
Length of Employment Years _____ Months _____
Date of Accident _____ Time of Accident _____
Exact Location? _____

Description of Accident (Detail what employee was doing and what tools, equipment, structures or fixtures where involved.)

_____
_____
_____
_____

Description of Injuries _____
_____
_____

Date Reported to Supervisor and First Aid _____

Date First Aid Received _____

Delayed? _____Yes _____No
If Yes, Why? _____
_____

Type of First Aid Received? _____

Circle Accident Cause Listed Below that Apply:

Struck by/Against
Chemical Contact/Burn
Slip, Trip and/or Fall
Lifting/Lowering
Caught in/by
Motor Vehicle Accident

What would you recommend to prevent the recurrence of this type of accident in the future?

_____
_____
_____
_____
_____
_____

SUPERVISOR'S (HSS) REPORT OF ACCIDENT INVESTIGATION (CONT'D)

Are recommendations above being implemented? _____

_____

Supervisor's Comments: _____

_____

_____

_____

_____

Supervisor's Signature _____

Date: _____

APPENDIX C
DAILY RECORD OF SITE ACTIVITIES

DAILY RECORD OF SITE ACTIVITIES

SITE: _____ DATE: _____

PROJECT NO.: _____
TASK PERFORMED: _____

_____

PERSONNEL ON-SITE: _____

A. WEATHER CONDITIONS: _____

_____

_____

B. EQUIPMENT LIST (TYPE OF INSTRUMENT(S), PERSON(S) CONDUCTING SAMPLING AND DATA COLLECTION): _____

_____

_____

_____

_____

_____

C: LEVEL OF PPE:

_____

_____

D. TASK:

_____

_____

E. NONCOMPLIANCE TO THE HASP GUIDELINES:

_____

_____

_____

_____

F. PERSONNEL EXPOSURE INCIDENTS:

_____

_____

G: ACCIDENT DESCRIPTION (if any):

_____

_____

APPENDIX D
CONTAMINATION CHARACTERIZATION

Known Contaminants of Concern

The previous investigations at the site have identified the following Contaminants of Concern (COCs) at the Landfill Area 6 site: Arsenic, Iron, Lead, Manganese, Mercury, and Sodium. These contaminants were identified in the leachate and streambed samples. It is possible that additional contaminants may be present at the site that have not yet been identified.

APPENDIX E
PERSONAL PROTECTIVE EQUIPMENT PROGRAM

PERSONAL PROTECTION PROGRAM

Overview

Personal Protective Equipment (PPE), such as, clothing and respiratory protection help control on-site workers from coming in contact with contaminants and other hazards. It is imperative that PPE be appropriate to protect against the known potential hazards for each investigation and each work site. The selection of PPE will be based upon the types, concentrations, and routes of personal exposure that may be encountered. The appropriate level of protection for initial site entry will be based upon a conservative assessment of the best available site contamination information. The NIOSH Pocket Guide to Chemical Hazards is supplied to the HSS and field scientists that have completed the 40-hour and 8-hour health and safety training courses for use as a source of general industrial hygiene and medical surveillance information. The responsibility of selecting the proper PPE, including respiratory protection, is that of the HSM and HSS. During field activities, the HSS has the authority to upgrade or downgrade the current PPE and respiratory protection.

In responding to an incident where the type(s) and concentration(s) in the ambient atmosphere of substances injurious to human health are unknown, a determination must first be made by the HSM and HSS if it is necessary to have personnel enter the site (close proximity to the potential source of exposure). A requirement for on-site operations necessitates that personnel initially enter the site to characterize and define the hazardous environment that potentially exists.

Until qualitative and quantitative information is available for assessing the ambient atmosphere at a site, levels of protection may have to be based on the site hazard Assessment and gross measurements from portable instruments for organic vapor analysis (i.e. photoionizer detector (PID), organic vapor analyzer or monitor (OVA or OVM), gas chromatograph (GC)). A Field Air Monitoring Log and Air Monitoring Instrument Calibration Log to be completed at the site.

The following criteria will be used as a Guide to determine the level of PPE. It is emphasized that the following values should not be the sole criteria for selecting levels of protection. The level should be selected case-by-case, with special emphasis on potential exposure and chemical and toxicological characteristics of the known or suggested material. These criteria are established from prior experience at the site under investigation and current assessments of site hazards.

Level C: If ambient breathing zone background concentrations are background to five (5) ppm (one (1) ppm for benzene or vinyl chloride) and meet the level C criteria listed in this document.

Level D: If ambient background concentrations are at background. Total atmospheric vapor/gas concentrations are used for determining the appropriate level of protection. The background concentration will be measured prior to the commencement of field operations each day, and checked periodically through the day in the support zone to account for any variation resulting from the weather or other external factors. There are four levels of personal protection recommended by the United States Environmental Protection Agency (USEPA). They range from Level D, used when little or no potential for exposure to contaminants exist; upgrading to Level C, when contamination levels require protection levels from bodily contact

and the filtering of breathing air; to Level B when contamination requires protection from bodily contact and the use of a supplied breathable air source; to Level A, which is used when the contamination levels require the highest available protection from bodily contact, respiratory and eye irritation. F&O personnel are supplied with equipment for Levels C and D. If conditions on site require upgrading to Levels A or B, personnel will be required to leave the area. The criteria for Levels C and D are provided below.

Level D protection is primarily a work uniform, though Tyvek™ could be used if desired i.e. muddy, dusty conditions. Dust respirators are available if dusty conditions (modified level D) exist on site.

Level D Equipment

a) Coveralls;
b) Leather or chemical-resistant boots or shoes, steel toe and shank;
c) Hard hat (face shield optional);
d) Options as required:
    1) Gloves (nitrile, neoprene);
    2) Disposable overboots (latex);
    3) Safety glasses or chemical splash goggles.

Criteria for Use

a) No indication of airborne health hazards present.
b) Frequent air monitoring with field instrument(s) to confirm ambient background concentrations.
c) Frequent visual observations of field personnel to prevent against i.e. heat stroke.
d) Normal work operations are not expected to create splashes, immersion or the potential for unexpected inhalation of or contact with hazardous levels of any chemicals.

Level C

Level C protection will be selected when the types and concentrations of respirable material are known, or reasonably known not to exceed the equipments rated/NIOSH approval capabilities, and exposure to the unprotected areas of the body (i.e. neck and back of head) is unlikely to cause harm.

A range of background to greater than 5 ppm (1 ppm if benzene or vinyl chloride is present) above ambient background breathing zone concentrations of vapors/gas (non-methane) in the atmosphere has been established as guidance by USEPA for selecting Level C protection. Concentrations of unidentified total vapors/gases approaching or exceeding 5 ppm in the breathing zone would warrant upgrading respiratory protection to a self-contained breathing apparatus (Level B) or shut down and evacuation. Wind direction and atmospheric conditions (i.e. humidity) should be established prior to taking background readings with the field instrument(s).

Level C Equipment

a) Full-face piece or half-face, though USEPA recommends full-face, air-purifying canister equipped respirator with appropriate chemical cartridge (i.e. organic vapor/acid gas/HEPA/dust/mist) that is MSHA/NIOSH approved. Splash shield and/or goggles if half-face respirator is used.

b) Tyvek™ clothing or polylaminated Tyvek™, if liquid splash is an issue, with long sleeves and elastic at the wrists and ankles.

c) Inner disposable gloves (i.e. vinyl or nitrile) and outer chemical-resistant gloves (i.e. nitrile or neoprene).

d) Leather or chemical-resistant boots or shoes, steel toe and shank.

e) Hard hat

f) Options as required:

1. Coveralls
2. Disposable overboots (i.e. latex)

Criteria for Use

a) Site is known to contain potential hazards not to exceed:

1) Atmospheric contaminants, liquid splashes, or other direct contact that will not adversely affect or be absorbed through any exposed skin.

2) Types and classes of air contaminants have been identified, concentrations measured, and an approved canister respirator is available that can remove the contaminants.

3) Well-documented, reliable history of site or prior entry.

4) No evidence of acute or chronic effects to exposed personnel.

5) All criteria for the use of air-purifying respirators are met (i.e. no IDLH, no oxygen deficiency).

Total vapor readings are between 0 ppm and 5 ppm (0 ppm to 1 ppm for benzene or vinyl chloride) above ambient background concentrations on field instruments (i.e. PID, FID, gas chromatograph) as measured in the breathing zone.

Frequent air or personnel monitoring should occur while wearing Level C protection.

Respirator Maintenance Program

Respirators shall be inspected after each use by checking the condition of the face piece and all its parts. Parts should be inspected for pliability and signs of deterioration. Once a respirator has been used the wearer must clean it. All detachable parts such as straps, valves and gaskets are removed and cleaned separately. Cartridges cannot be cleaned. They can be used again if their service life has not been exhausted; however, it is recommended that on hazardous waste sites, worn cartridges be discarded at the end of each day.

The parts should go through two water rinses and left to air dry. When dry, parts are reassembled and the respirator is put in a clean plastic bag and stored where it will be protected from conditions that could alter the shape of the mask, such as extreme temperatures or very dusty environments. DO NOT store respirators in direct sunlight or the trunk of a vehicle. At times when the above maintenance cannot be performed, the face piece and other parts can be washed with respirator cleansing wipes provided in individual packs.

Only a trained person with proper tools and replacement parts should work on respirators. No one should ever attempt to replace components or make adjustments or repairs beyond the manufacturer's recommendations. Any parts that require replacement will be returned by F&O to the manufacturer for repair. The manufacturer's instructions furnished with each respirator shall be read prior to field use.

APPENDIX F
FIELD AIR MONITORING LOG AND CALIBRATION LOG

FIELD AIR MONITORING LOG

DATE: _____ SITE: _____ PAGE ___OF ___
SITE SAFETY SUPERVISOR:_____
SAFETY MONITORS: _____
WEATHER CONDITIONS:_____
INSTRUMENTATION CONDITION: _____

ACTIVITY/REASON FOR MONITORING	LOCATION	TIME	READING	INITIALS

AIR MONITORING INSTRUMENT CALIBRATION LOG

Page __of ___

PROJECT NAME: _____ JOB NUMBER: _____
PROJECT LOCATION: _____
INSTRUMENT TYPE: _____ INSTRUMENT NUMBER: _____

Date Name	Cal Gas Conc.	Instrument Reading	Adjusted (Y/N/)	New Setting	New Reading	Maintenance Notes

APPENDIX G
FIELD TEAM MEMBER FORM

FIELD TEAM MEMBER FORM

Each field team member shall sign this section following review of the HASP and site training before being permitted to work on site.

I have read and understand the HASP and had the required health and safety training pursuant to OSHA 1910.120 and will comply with the provisions contained herein.

NAME PRINTED	SIGNATURE	DATE

APPENDIX H
HEAT AND COLD STRESS PROGRAM

THERMAL EXPOSURE

Overview

Adverse weather conditions are important considerations in planning and conducting site operations. Extremes in hot and cold weather can cause physical discomfort, loss of efficiency, and personal injury.

Heat Stress

Heat stress can result from working in a hot environment both indoors and outdoors whether protective clothing is or is not worn. Working under various levels of personal protection may require the wearing of low permeability disposable suits, gloves and boots. This type of clothing will prevent most natural body ventilation thereby causing discomfort due to increased sweating and eventually heat stress. Recommendations to reduce heat stress are to:

a) Drink plenty of fluids (water or Gatorade®) to replace loss through sweating, and eat light foods.

b) Wear cotton undergarments to act as a wick to absorb moisture and maximize natural cooling.

c) Make adequate shelter available for taking rest breaks in order to cool off.

d) The HSS shall develop an adequate and appropriate work and rest schedule for the field crew as needed.

For extremely hot weather, these additional recommendations should be followed:

a) Install portable showers or hose down field crew to cool clothing and body.

b) Shift working hours to early morning and early evening thereby avoiding the hottest part of the day.

c) Rotate field crews wearing the protective clothing into a work versus rest schedule.

d) Wear cooling devices to aid in ventilation (the additional weight may affect efficiency).

Some guidelines:

	Action Work Time (min/hr)
Ambient Temperature (°F)	Level C Clothing
75 or less	50
80	40
85	30
90	20
100	0

The following discusses the three types of heat stress: 1) Heat Exhaustion; 2) Heat Cramps; and 3) Heat Stroke.

Heat Exhaustion

Heat Exhaustion is brought about by the concentration of blood in the vessels of the skin. This condition may lead to an inadequate return of blood to the heart, and eventually, to physical collapse. The symptoms are:

- General weakness
- Excessive perspiration
- Dizziness
- Pale and clammy skin
- Weak pulse
- Rapid and shallow breathing
- Appearance of having fainted

To treat for heat exhaustion, place the individual in a cool place and remove as much clothing as possible. The individual should drink cool water, Gatorade® drink, or similar liquids. The individual should be fanned; however, do not over cool or allow chilling. Treat the individual for shock and remove to a medical facility if condition persists.

Heat Cramps

Heat Cramps are usually caused by loss of salt when an individual has perspired a great deal. Cramps usually in the leg and abdominal muscles can also be caused by drinking iced liquids quickly or in large amounts. The symptoms of cramps are as follows:

- Pain and cramps in legs or abdomen
- Faintness
- Profuse perspiration

Heat Stroke

Heat Stroke is a breakdown of the body's heat-regulating mechanism causing high fever and collapse. This condition, which is an IDLH (Immediately Dangerous to Life and Health) condition, can result in unconsciousness, convulsions, and even death. Persons in poor physical condition or of advanced age are particularly susceptible. The symptoms of heat stroke are:

- Muscle twitching or convulsions
- Dry hot skin
- Flushed skin
- High body temperature
- Loss of consciousness
- Deep breathing, then shallow or absent
- Dilated pupils

Heat stroke is a medical emergency situation. Medical emergency personnel should be contacted immediately in order that the person can be transported to a medical facility. In the interim, steps can be taken by the HSS. The individual should be removed to a cool environment and the body temperature reduced immediately by dousing the body with water or by wrapping in a wet sheet. If ice is available, it should be placed under arms and around the neck and ankles. If the victim is conscious, Gatorade® drink or other similar liquids containing electrolytes should be provided. Intake of these liquids will be monitored by the HSS so as not to be excessive. Steps should be taken to protect the victim from injury in the event of convulsions, such as removing any objects in the area of the victim.

To avoid problems from heat stress during conditions of high temperature and humidity, the HSS should assure that the field crew drink plenty of electrolyte fluids before and during field activities, breaks should be provided pursuant to the schedule outlined by the HSS, and should revise work schedules as necessary to take advantage of the cooler parts of the day.

Cold Exposure

Cold exposure can occur in temperatures at or below freezing. If prolonged exposure to cold occurs without proper protection, the effects of cold exposure can occur in temperatures above freezing. Exposure to cold can cause severe injury (frostbite) or overall drop in body temperatures (hypothermia). The extremities (fingers, toes and ears) are most susceptible to frostbite.

Both the outdoor temperature and the wind velocity play a part in cold injuries. Wind chill is used to describe the chilling effect of moving air in combination with low temperatures. Cold exposure can be a serious threat to a field crew that removes protective clothing and exposes perspiration soaked underclothing to the cool air. Water conducts heat 240 times faster than air, thus rapidly cooling the body. Systemic hypothermia is caused by exposure to freezing or rapidly dropping temperatures. Cold exposure symptoms (hypothermia) are usually seen in the following five stages:

1) Shivering
2) Apathy, listlessness, sleepiness and rapid body cooling
3) Unconsciousness, glassy stare, slow pulse and respiratory rates
4) Freezing of the extremities
5) Death

Recommended actions to avoid suffering the effects of cold exposure are:

a) Wear cotton, or even better, wool or synthetics (polypropylene) undergarments to absorb perspiration from the body.

b) Wear additional layers of light clothing as needed for warmth. The layering effect holds in air, trapping body heat, and some layers could be removed as the temperature rises during the day.

c) Pay close attention to body signals and feelings (hypothermia symptoms), especially to the extremities. Correct any problem indications by breaking from the work activity and moving to a rest area to warm up and add additional clothing.

d) Install a wind break at the drill site to minimize cold winds from blowing directly at the drilling crew.

e) Maintain good eating and drinking habits enabling the body to operate at top capacity.

f) Provide a sheltered area for resting and warming up.

APPENDIX I
CONFINED SPACE ENTRY PROCEDURE

CONFINED SPACE ENTRY PROCEDURE

1) OSHA defines a "Permit-Required" confined space as:
   - An area large enough for an employee to enter and perform work;
   - An area with limited or restricted means for entry or exit; and,
   - An area that is not designed for continuous human occupancy.

2) The characteristics of a Permit-Required confined space are:
   - The space or area contains, or has a known potential to contain, a hazardous atmosphere;
   - The space or area contains a material with the potential to engulf an entrant;
   - The area has an internal configuration such that an entrant could be trapped by inwardly converging walls or a floor that slopes downward and tapers to a smaller cross-section;
   - The area contains any other recognized serious hazard.

Upon establishing that the area is a confined space or Permit-Required confined space and may contain one or more of the above characteristics, initial and subsequent atmospheric monitoring of the confined space shall be implemented prior to entry.

Monitoring shall be conducted using instruments that measure gases. Examples would be an oxygen meter and explosimeter. The need for respiratory protection and other protective equipment such as head protection, retrieval systems or self-contained or airline supply breathing apparatus shall be established through air monitoring.

1) Evaluation - This includes the initial monitoring of a confined space for harmful gases or vapors with instruments that measure gases in the area. Evaluation also includes determining how monitoring will be performed by employees and if any respiratory protection is required. Additional protective equipment may include head protection, retrieval systems or self-contained or airline supply breathing apparatus.

2) Control - This step involves the design of a confined space area. Industries with a permit-required confined space may want to consider controlling the space by changing its design, if possible. For example, a company could add ventilation to improve air quality in spaces that contain hazardous gases.

3) Monitoring - Ongoing monitoring is needed to assess the atmospheric quality for workers in confined spaces. Through monitoring, industries can verify the results of their initial evaluations to ensure worker protection.

Monitoring shall be conducted in the order listed:

1) Measure oxygen deficiencies. OSHA's standards call for a minimum oxygen (O_2) level of 19.5% by volume and a maximum of oxygen (O_2) level 23.5%.

2) Measure combustible gases. OSHA standards state that employees must not enter a confined space containing more than 10% of the lower explosive limit (LEL). Note that for combustible gases to cause an explosion, the vapors must be within the limits of the LEL and the upper explosive limit (UEL).

NOTE: Even if a combustible level is below the 10% LEL, the combustible gas can still present a toxic hazard. To help ensure a combustible gas measurement is correct, it is important to take oxygen measurements first, since low levels of oxygen, below approximately 10% by volume, can cause erroneous combustible gas readings. This level is far below what are safe atmospheric conditions for human life.

Safety equipment needed for confined space entry may include the following:

a) Confined Space Entry Permit
b) Oxygen Deficiency Meter (Gastec)
c) Hardhat with Flashlight
d) Ladder (folding)
e) Tripod with recovery system, Body Harness and Safety Line
f) Propane powered blower and ventilation duct work

Safety procedures before entering a confined space:

1) Check oxygen (O_2), carbon monoxide (CO), lower explosive limit levels (LEL) and hydrogen sulfide (H_2S) in the confined space by lowering the meter or sampling tube as low as possible to the bottom of the space.

2) Record in a field book and on the Confined Space Entry Permit form.

Record: Time, Readings: % Oxygen _____; % LEL ____; carbon monoxide _____ PPM; and hydrogen sulfide _____ PPM;
If % LEL and carbon monoxide values are 0.0, record 0.

3) Remove sampling tube from the confined space; take a reading in ambient air and record values.

4) One person is to remain out of the confined space (attendant) at all times to observe and watch the person(s) (entrant) working in the confined space.

5) Instrument (oxygen meter) is to be left operating while entrant(s) is (are) in the confined space.

6) If a problem arises, the person(s) working in the confined space must leave immediately.

7) If work has ceased within the confined space for more than 15 minutes, repeat Steps 1 through 3 above to insure that no harmful gases/vapors have collected in the confined space before entering again.

8) At the end of the work shift, submit a copy of the air monitoring test information and Confined Space Entry Permit to the HSS and/or HSS.

NOTE: For confined space entry work conducted at a facility that has a confined space entry program, the HSS shall insure compliance with that program.

APPENDIX J
NY DIG SAFELY

NY Dig Safely

Confirmation No._____

Date_____

Time_____

Person Called_____

These companies shall be called in case of an **EMERGENCY.**
DO NOT CALL NY Dig Safely. NY Dig Safely may dictate additional and/or different utility companies than listed. The list below is intended as guidance only.

UTILITY COMPANY	
ELECTRIC COMPANY	
TELEPHONE	
GAS	
CABLE TV	
LOCAL WATER AND SEWER	
Local Water Co.	
Municipal Dept. of Public Works	
On-Site Utility Clearance	

APPENDIX K
MEDICAL SURVEILLANCE PROGRAM
MEDICAL DATA SHEET

MEDICAL SURVEILLANCE PROGRAM

Federal regulations and F&O policy require all employees who participate in field activities in situations where there is a potential exposure to hazardous materials, with or without a respirator; 30 days or more per year must undergo physical examinations, including a base and termination exam. At a minimum, the physical exam complies with the requirements of OSHA 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response.

The following tests are performed under the supervision of a licensed physician:

a) Physical exam
b) Hearing (base and as needed)
c) Chest x-ray (base and as deemed necessary by the attending physician)
d) Electrocardiogram (base and as needed)
e) Pulmonary function (base and as needed)
f) Urine analysis
g) Complete blood count

In the event F&O personnel are exposed to hazardous constituents, the person(s) would immediately go through the necessary exams for those particular constituents. An arranged physical exam pursuant to OSHA 29 CFR 1910.120 program has been developed between F&O and CorpCare Occupational Health Center, an affiliate of Manchester Memorial Hospital, located in Manchester, Connecticut. A medical data sheet, attached, must be completed by all company field personnel prior to working on-site. One copy of the form should be kept by the HSS, and a second copy by the HSM. Field personnel must be informed of the location of the medical data sheet while working on-site. Copies of employee physical exam reports are maintained at F&O by the HSM and by CorpCare Occupational Health Center.

MEDICAL DATA SHEET

This brief Medical Data Sheet will be completed by all on-site personnel and kept at the site during field operations. This data sheet must accompany personnel when medical assistance is needed or if transport to hospital facilities is required.

PROJECT NAME: _____

PROJECT LOCATION: _____

NAME: _____
HOME TELEPHONE: _____
ADDRESS: _____
AGE: _____
HEIGHT: _____ WEIGHT: _____

IN CASE OF EMERGENCY, NOTIFY:

SPOUSE OR FAMILY CONTACT: _____
PHONE: _____
SPOUSE OR FAMILY CONTACT: _____
PHONE: _____

ALLERGIES INCLUDING PRESCRIPTION MEDICATION: _____
_____

PARTICULAR SENSITIVITIES: _____
_____

DO YOU WEAR CONTACTS: _____

ANY PREVIOUS ILLNESSES OR EXPOSURE TO HAZARDS CHEMICALS (EXPLAIN):

_____
_____

PERSONAL PHYSICIAN:
NAME: _____
PHONE: _____
ADDRESS: _____
_____

I am the individual described above:

_____ _____
Signature Date

Stormwater Pollution Prevention Plan

Interim Remedial Measures Work Plan
Hudson River Psychiatric Center
Landfill Area 6
Town of Poughkeepsie
Dutchess County, NY

Hudson Heritage Development, LLC
Poughkeepsie, NY

July 2008

FUSS & O'NEILL
Disciplines to Deliver

Fuss & O'Neill of New York, PC
80 Washington Street, Suite 301
Poughkeepsie, NY 12601

PREPARER OF THE SWPPP

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 29.45 of the Penal Law."

Name: Richard D. Jones

Title: Senior Vice President

License No.: 055061

Date: July 25, 2008

STORMWATER POLLUTION PREVENTION PLAN
Interim Remedial Measures Work Plan
Hudson River Psychiatric Center
Landfill Area 6

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared for the activities associated with the installation of drainage facilities, excavation and relocation of a limited quantity of existing solid waste materials, and minor re-grading of the Landfill Area 6 (LA 6) located at the former Hudson River Psychiatric Center in the Town of Poughkeepsie, Dutchess County, New York. This SWPPP includes the elements necessary to comply with the "New York State Department of Environmental Conservation (NYSDEC) State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity" General Permit Number GP-0-08-001 and all local agency requirements.

This SWPPP and project plans identify and detail the stormwater management, pollution prevention, and erosion and sediment control measures necessary during and following completion of construction. The measures described herein have been designed in accordance with the technical standards outlined in the following:

- NYSDEC SPDES General Permit for Stormwater Discharges From Construction Activity, Permit No. GP-0-08-001 (effective April 15, 2008).

- *New York State Standards and Specifications for Erosion and Sediment Control* (August 2005).

This report considers the impacts associated with the intended development with the purpose of:

1. Maintaining existing drainage patterns, as much as possible, while continuing the conveyance of upland watershed runoff.

2. Controlling increases in the rate of stormwater runoff resulting from the proposed development without adversely affecting adjacent or downstream properties or receiving water courses or bodies.

3. Mitigating potential stormwater quality impacts and preventing soil erosion and sedimentation resulting from stormwater runoff generated both during and after construction.

These measures will be implemented during construction, to minimize soil erosion and control sediment transport off-site, and after construction, to control the quality and quantity of stormwater runoff from the developed site.

2.0 PROJECT DESCRIPTION

The Applicant, Hudson Heritage Development, LLC, is proposing to develop the ±155.8 acre former Hudson River Psychiatric Center parcel located in the Town of Poughkeepsie, Dutchess County, New York (see Figure 1). The Applicant is proposing the installation of drainage facilities, excavation and relocation of a limited quantity of existing solid waste materials, and minor re-grading within the LA 6, which is located at the southern end of the site along the existing stream. This work is part of the Modified Interim Remedial Measures (IRM) Work Plan.

2.1 Pre-Development Conditions

The landfill area contains impervious surfaces (e.g., parking lot and access drive), grass, and woods. The topography in this area conveys stormwater runoff overland in a southerly direction to the stream located along the southern property line. Onsite elevations in the area of the proposed work range from ±122 feet to ±104 feet along the stream. The slopes vary in this area from ±2 to ±47 percent.

2.1.1 Soil Conservation Service Soil Survey Data

The United States Department of Agriculture (USDA) Soil Conservation Service (SCS) Soil Survey for Dutchess County was reviewed and provided surficial soil conditions for the site, which is shown in Figure 2. The SCS identified the presence of various series soil types across the property; however, DwB, HuA, and Wy series soil types were identified in the area of the proposed work. Soil data was provided by the SCS and a summary of the soil data is provided in Table 1.

Table 1: USDA Soil Data

Map Symbol	Description	Depth to Groundwater (ft)	Depth to Bedrock (in)	Hydrologic Soil Group
DwB	Dutchess-Cardigan complex, undulating, rocky	>6	Varies(1)	B/D(2)
HuA	Hoosic-Urban land complex, nearly level	Varies(3)	Varies(4)	C/D(5)
Wy	Wayland silt loam	+0.5-1.0 (Nov-June)	>60	C/D

1 the depth to bedrock for the Dutchess component is >60 inches, the Cardigan component is 20-40 inches, and the rock outcrop component is zero.
2 The hydrologic soil group for the Dutchess component is B, the Cardigan component is B, and the rock outcrop component is D.
3 The depth to groundwater for the Hoosic component is >6.0 feet and the Urban land component is >2.0 feet.
4 The depth to bedrock for the Hoosic component is >60 inches and the Urban land component is >10 inches.
5 The hydrologic soil group for the Hoosic component is C. Urban land is not typically given a hydrologic soil group; however, it is typically assumed to be hydrologic soil group D since the subsurface soil conditions under the pavement is not known.

The Soil Conservation Service defines the hydrologic soil groups as follows:

- Type A Soils: Soils having a high infiltration rate and low runoff potential when thoroughly wet. These soils consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a moderate rate of water transmission.

- Type B Soils: Soils having a moderate infiltration rate when thoroughly wet and consists mainly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately course textures. These soils have a moderate rate of water transmission.

- Type C Soils: Soils having a low infiltration rate when thoroughly wet and consists chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine-to-fine texture. These soils have a low rate of water transmission.

- Type D Soils: Soils having a very low infiltration rate and high runoff potential when thoroughly wet. These soils consist chiefly of clays that have high shrink-swell potential, soils that have a permanent high water table, soils that have a clay pan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very low rate of water transmission.

2.1.2 Groundwater, Water Bodies, and Wetlands

As shown in Table 1, groundwater varies across the landfill area. There is a Class C stream that flows along the southern property line and discharges into the Hudson River. There are approximately 0.126 acres of federal wetlands located onsite along the southern property line, which continue offsite and follow along the stream.

There are no anticipated impacts to groundwater, onsite wetlands, or the Class C stream as a result of this work.

2.1.3 Floodplains and Floodways

The National Flood Insurance Program Flood Insurance Rate Map (FIRM) for the Town of Poughkeepsie, New York was reviewed. According to Community Panel Number 361142 0001 C, portions of the landfill area are located within Zone X and Zone X. Zone X, under Other Flood Areas, is defined as "areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas of less than 1 square mile; and areas protected by levees from 100-year flood. Zone X, under Other Areas, is defined as "areas determined to be outside the 100-year floodplain.

2.2 Post-Development Conditions

The proposed work will consist of clearing of trees, installing a surface water swale and level spreader, excavation of a limited quantity of existing solid waste material, re-grading the landfill area, placement of approximately two feet of clean soil, and seeding the disturbed area. There will be no increase or decrease in the amount of impervious area. The existing drainage patterns will remain essentially the same. The proposed disturbance will be limited and will be approximately 0.85 acres.

2.2.1 Impacts to Groundwater, Water Bodies, and Wetlands

There are no anticipated impacts to groundwater, on site wetlands, or the Class C stream as a result of this work.

2.3 Permits and Approvals

2.3.1 NYSDEC SPDES General Permit GP-0-08-001

Pursuant to Section 402 of the Clean Water Act, stormwater discharges from certain construction activities to waters of the United States are unlawful unless they are authorized by a National Pollutant Discharge Elimination System (NPDES) permit or by a state permit program. New York's SPDES is a NPDES approved program with permits issued in accordance with the Environmental Conservation Law. Discharges of pollutants to all other "Waters of New York State", such as groundwaters, are also unlawful unless they are authorized by a SPDES permit.

The total disturbance of the area is less than 1.0 acres and does not require coverage under the SPDES General Permit GP-0-08-001. However, the SWPPP and project plans were prepared to comply with the NYSDEC General Permit GP-0-08-001, which has been provided in Appendix A for reference purposes.

2.3.1.1 Certification Statements

As required by the NYSDEC SPDES General Permit GP-0-08-001 and the *New York State Standards and Specifications for Erosion and Sediment Control*, the following are required to sign certification statements:

1. Operator.
2. Contractor(s).
3. Subcontractor(s).

The certification statements (see Appendix B) shall be signed by the required parties.

3.0 CONSTRUCTION SEQUENCING SCHEDULE

The purpose of the construction sequencing schedule is to reduce the overall disturbance and ensure that previously disturbed areas are re-established prior to construction in another portion of the site. The duration of the construction activities, including planned winter shutdowns, will be from about September 1, 2008 to December 31, 2008.

The construction sequencing of the project is detailed and outlined on the project plans.

4.0 EROSION AND SEDIMENT CONTROL PLAN

The SWPPP and project plans identify both the temporary and permanent erosion and sediment control measures that have been incorporated into the design of this project. These measures will be implemented during construction, to minimize soil erosion and control sediment transport off-site, and after construction, to control the quality and quantity of stormwater runoff from the developed site.

Erosion control measures, designed to minimize soil loss, and sediment control measures, intended to retain eroded soil and prevent it from reaching water bodies or adjoining properties, have been developed in accordance with the following documents:

- NYSDEC SPDES General Permit for Stormwater Discharges From Construction Activity, Permit No. GP-0-08-001 (effective April 15, 2008).

- *New York State Standards and Specifications for Erosion and Sediment Control*, NYSDEC (August 2005).

The SWPPP and plans outline the construction scheduling for implementing the erosion and sediment control measures. The SWPPP and plans include limitations on the duration of soil exposure, criteria and specifications for placement and installation of the erosion and sediment control measures, a maintenance schedule, and specifications for the implementation of erosion and sediment control practices and procedures. It is the responsibility of the Contractor to maintain and upgrade all erosion and sediment controls as required to achieve the proper erosion and sediment controls during construction.

4.1 Erosion and Sediment Control Measures

4.1.1 Temporary Measures

Temporary erosion and sediment control measures to be utilized during construction generally include the following:

1. Stabilized Construction Entrance

   Prior to construction, stabilized construction entrances will be installed, as shown on the detail plan, to reduce the tracking of sediment onto public roadways.

   Construction traffic must enter and exit the site at the stabilized construction entrance. The intent is to trap dust and mud that would otherwise be carried off-site by construction traffic.

   The entrance shall be maintained in a condition, which will control tracking of sediment onto public rights-of-way or streets. When necessary, the placement of additional aggregate atop the filter fabric will be done to assure the minimum thickness is maintained. All sediments and soils spilled, dropped, or washed onto the public rights-of-way must be removed immediately. Periodic inspection and needed maintenance shall be provided after each substantial rainfall event.

2. Dust Control

   Water trucks shall be used as needed during construction to reduce dust generated on the site. Dust control must be provided by the general Contractor to a degree that is acceptable to the Owner, and in compliance with the applicable local and state dust control requirements.

3. Temporary Soil Stockpile

Materials, such as topsoil, will be temporarily stockpiled (if necessary) on the site during the construction process. Stockpiles shall be located in an area away from storm drainage, water bodies and/or courses, and will be properly protected from erosion by a surrounding silt fence barrier.

4. Silt Fencing

Prior to the initiation of and during construction activities, silt fencing shall be established along the perimeter of areas to be disturbed as a result of the construction which lie up gradient of water courses or adjacent properties. These barriers may extend into non-impact areas to ensure adequate protection of adjacent lands.

Clearing and grubbing will be performed only as necessary for the installation of the sediment control barrier. To ensure effectiveness of the silt fencing, daily inspections and inspections immediately after significant storm events will be performed by site personnel. Maintenance of the fence will be performed as needed.

5. Temporary Seeding

Within seven (7) days after construction activity ceases on any particular area of the site, all disturbed areas where there will not be construction for longer than 21 days shall be temporarily seeded and mulched to minimize erosion and sediment loss.

6. Stone Inlet Protection Barrier

Concrete blocks surrounded by wire mesh and crushed stone will be placed around both existing catch basins and proposed catch basins once they have been installed, to keep sediment from entering the catch basins and storm sewer system. During construction, crushed stone shall be replaced as necessary to ensure proper function of the structure.

7. Erosion Control Blanket

Erosion control blankets shall be installed on all slopes exceeding 3:1. Erosion control blankets provide temporary erosion protection, rapid vegetative establishment, and long-term erosion resistance to shear stresses associated with high runoff flow velocities associated with steep slopes.

8. Stone Check Dams

Stone check dams will be installed within drainage ditches to reduce the velocity of stormwater runoff, to promote settling of sediment, and to reduce sediment transport offsite.

The stone check dams shall be inspected at least every 14 calendar days and within 24 hours of the end of a storm event of ½-inch or greater. Damage will be repaired upon discovery. If significant erosion has occurred between structures, a liner of stone or other suitable material shall be installed in that portion of the channel.

Sediment accumulated behind the stone check dam will be removed as needed to allow the channel to drain through the stone check dam and prevent large flows from carrying sediment over or around the dam. Stones shall be replaced as needed to maintain the design cross section of the structures.

9. Temporary Sediment Basin

Temporary sediment basins shall be constructed to intercept sediment laden runoff and reduce the amount of sediment leaving the disturbed areas and to protect drainage ways, properties, and rights-of-way.

Temporary sediment basins shall be inspected at least every 7 calendar days. All damages caused by soil erosion and construction equipment shall be repaired upon discovery. Accumulated sediment shall be removed from the basin when it reaches 50 percent of the design capacity and shall not exceed 50 percent. Sediment shall not be placed downstream from the embankment, adjacent to a stream, or floodplain.

Projects that have proposed stormwater ponds to treat stormwater quality and manage stormwater quantity can be used as temporary sediment basins during construction.

10. Dewatering

Dewatering, if required, shall not be discharged directly into wetlands, water courses, water bodies, and storm sewer systems. Proper methods and devices shall be utilized to the extend permitted by law, such as pumping water into temporary sediment basins, providing surge protection at the inlet and outlet of pumps, floating the intake of the pump, or other methods to minimize and retain the suspended solids.

4.1.2 Permanent Measures

Permanent erosion and sediment control measures to be utilized after construction generally include the following:

1. Establishment of Permanent Vegetation

Disturbed areas that will be vegetated must be seeded in accordance with the contract documents. The type of seed, mulch, and maintenance measures as described in the contract documents shall also be followed.

All areas at final grade must be seeded and mulched within seven (7) days after completion of the major construction activity. All seeded areas should be protected with mulch.

Final site stabilization is achieved when all soil-disturbing activities at the site has been completed and a uniform, perennial vegetative cover with a density of 80 percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

2. Rock Outlet Protection

   Rock outlet protection shall be installed at the locations as indicated and detailed on the accompanying plans. The installation of rock outlet protection will reduce the depth, velocity, and energy of water, such that the flow will not erode the receiving water course or water body.

3. Final Seeding and Planting

   Final seeding and planting shall be installed as shown and detailed on the accompanying plans. Final seeding and planting will help minimize erosion and sediment loss.

4.2 Construction Housekeeping Practices

Good housekeeping practices are designed to maintain a clean and orderly work environment. This will reduce the potential for significant materials to come into contact with stormwater. A maintenance schedule shall be developed for these areas. The General Contractor shall implement the following practices:

1. Material resulting from the clearing and grubbing operation will be stockpiled up slope from adequate sedimentation controls.

2. The general Contractor will designate areas for equipment cleaning, maintenance, and repair. The general Contractor and subcontractors will utilize those areas. The areas will be protected by a temporary perimeter berm.

3. The use of detergents for large scale washing is prohibited (i.e., vehicles, buildings, pavement surfaces, etc.)

4. Spill Prevention and Response

   A Spill Prevention and Response Plan shall be developed for the site by the Contractor. The plan shall detail the steps needed to be followed in the event of an accidental spill and shall identify contact names and phone numbers of people and agencies that must be notified.

   The plan shall include Material Safety Data Sheets (MSDS) for all materials to be stored on-site. All workers on-site will be required to be trained on safe handling and spill prevention procedures for all materials used during construction. Regular tailgate safety meetings shall be held and all workers that are expected on the site during the week shall be required to attend.

5. Material Storage

   Construction materials shall be stored in a dedicated staging area. The staging area shall be located in an area that minimizes the impacts of the construction materials effecting stormwater quality.

Chemicals, paints, solvents, fertilizers, and other toxic material must be stored in waterproof containers. Except during application, the contents must be kept in trucks or within storage facilities. Runoff containing such material must be collected, removed from the site, treated and disposed at an approved solid waste or chemical disposal facility.

4.3 Other Pollutant Controls

There are other control measures that can be used that may not fit into one of the previously mentioned categories. The following additional controls to be implemented at the facility are as follows:

1. Solid Waste Disposal

   No solid materials, including building materials, are allowed to be discharged from the site with stormwater. All solid waste, including disposable materials incidental to the major construction activities, must be collected and placed in containers. The containers will be emptied periodically by a contract trash disposal service and hauled away from the site.

   Substances that have the potential for polluting surface and/or groundwater must be controlled by whatever means necessary in order to ensure that they do not discharge from the site. As an example, special care must be exercised during equipment fueling and servicing operations. If a spill occurs, it must be contained and disposed so that it will not flow from the site or enter groundwater, even if this requires removal, treatment, and disposal of soil. In this regard, potentially polluting substances should be handled in a manner consistent with the impact they represent.

2. Water Source

   Non-stormwater components of site discharge must be clean water. Water used for construction, which discharges from the site, must originate from a public water supply or private well approved by the Health Department. Water used for construction that does not originate from an approved public supply must not discharge from the site. It can be retained in the ponds until it infiltrates and evaporates.

3. Long-Term Pollutant Controls

   In addition to the permanent stormwater management facilities, identified on the accompanying plans, stormwater pollutant control measures installed during construction that will also provide benefits after construction include temporary sediment basins and rip-rapped outfalls. Temporary sediment basins that do not interfere with normal operations and appear to provide long-term benefits may be left in place after construction is completed, as directed by the Operator.

4.4 Construction Inspections and Maintenance Requirements

To ensure the stability and effectiveness of all protective measures and practices during construction, all erosion and sediment control measures employed will be inspected by the

Contractor as directed by the SWPPP and plans. Once construction is complete and the site is stabilized, all temporary erosion and sediment control measures shall be removed.

4.5 Post Construction Records and Archiving

Following construction, the Operator shall retain copies of the SWPPP and records of all data used to complete the NOI to be covered by this permit, for a period of at least three years from the date that the site is finally stabilized. This period may be extended by the NYSDEC, in its sole discretion, at any time upon written notification.

5.0 MODIFICATIONS TO THE SWPPP

Should there be a significant change in design, construction, operation or maintenance which may have a significant effect on the potential for the discharge of pollutants to water bodies or courses, the SWPPP shall be amended. The SWPPP shall also be amended if the SWPPP is determined to be ineffective in either:

1. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP.

2. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activities.

Finally, the SWPPP must be amended to identify any new contractors or subcontractors that will implement the measures of the SWPPP. Modifications to the SWPPP shall be documented. A sample modification form has been provided in Appendix C.

6.0 CONCLUSION

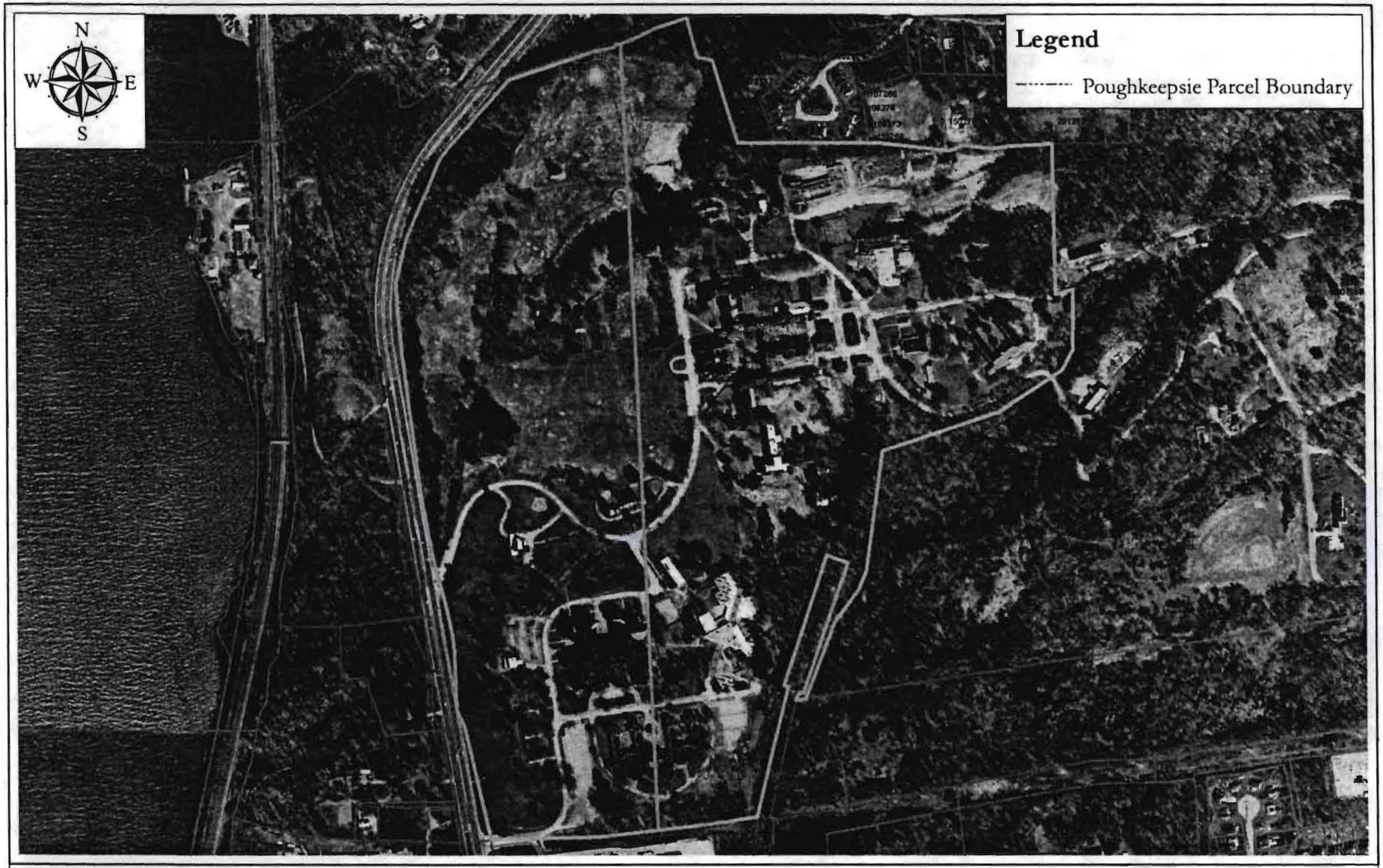
The Stormwater Pollution Prevention Plan for the Modified Interim Remedial Measures at LA 6 identifies the measures to be implemented during and after construction, to minimize soil erosion and control sediment transport off-site, and to control the quality and quantity of stormwater runoff from the developed site to minimize adversely affecting downstream conditions.

Erosion control measures, designed to minimize soil loss, and sediment control measures, intended to retain eroded soil and prevent it from reaching water bodies or adjoining properties, have been developed in accordance with the New York State Department of Environmental Conservation's technical standards.

In conclusion, it is our opinion that the proposed development will not adversely impact adjacent or downstream properties if the erosion and sediment control facilities are properly installed and maintained in accordance with the requirements outlined herein.

FIGURES

Former Hudson River Psychiatric Center
Landfill Area 6



FORMER HUDSON RIVER PSYCHIATRIC CENTER
AREA 6 LANDFILL

PROJ. NO.: 20080291.L1N
DATE: JULY 25, 2008

FUSS & O'NEILL
Disciplines to Deliver

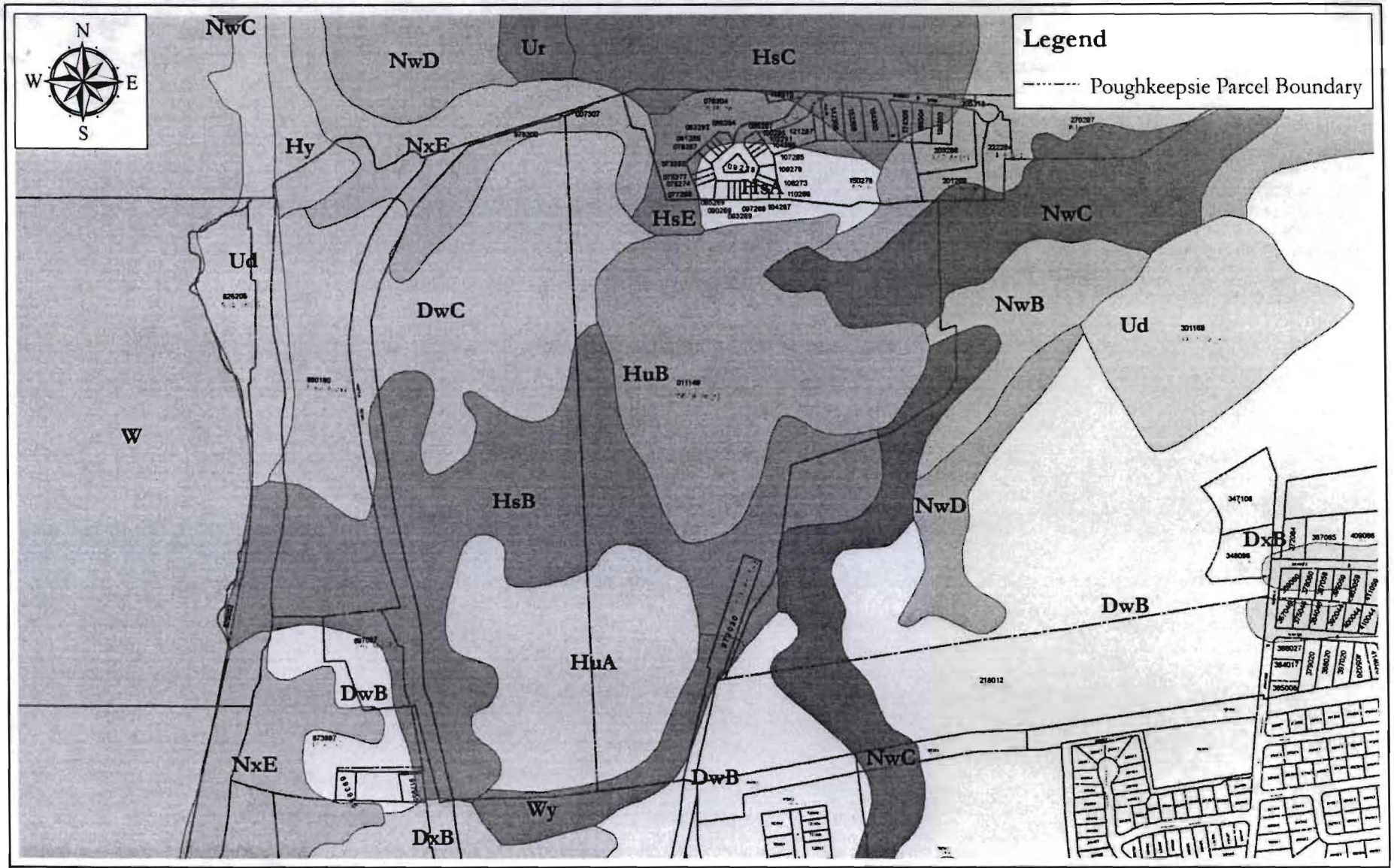
SITE LOCATION MAP

FIGURE 1

80 WASHINGTON ST, SUITE 301
POUGHKEEPSIE, NY 12601

TOWN OF POUGHKEEPSIE
DUTCHESS COUNTY, NEW YORK

1 inch equals 600 feet



FORMER HUDSON RIVER PSYCHIATRIC CENTER
AREA 6 LANDFILL

PROJ. NO.: 20080291.L1N
DATE: JULY 25, 2008

SOIL MAP

FIGURE 2

FUSS & O'NEILL
Disciplines to Deliver

80 WASHINGTON ST, SUITE 301
POUGHKEEPSIE, NY 12601

TOWN OF POUGHKEEPSIE
DUTCHESS COUNTY, NEW YORK

1 inch equals 700 feet

APPENDIX A

Former Hudson River Psychiatric Center
Landfill Area 6
NYSDEC SPDES GENERAL PERMIT GP-0-08-001

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

from

CONSTRUCTION ACTIVITY

Permit No. GP-0-08-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70
of the Environmental Conservation Law

Effective Date: May 1, 2008

Expiration Date: April 30, 2010

William R. Adriance
Chief Permit Administrator

Address: NYS DEC
Div. Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

William R. Adriance
Authorized Signature

April 15, 2008
Date

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater discharges from certain *construction activities* are unlawful unless they are authorized by a *NPDES (National Pollutant Discharge Elimination System)* permit or by a state permit program. New York's *SPDES (State Pollutant Discharge Elimination System)* is a NPDES-approved program with permits issued in accordance with the *Environmental Conservation Law ("ECL").*

This general permit is issued pursuant to Article 17, Titles 7, 8 and Article 70 of the ECL. An *owner or operator* may obtain coverage under this general permit by submitting a Notice of Intent ("NOI") to the Department. Copies of this General Permit and the NOI for New York are available by calling (518) 402-8109 or at any Department of Environmental Conservation ("the Department") regional office (see Appendix G).They are also available on the Department's website at:

http://www.dec.ny.gov/

An *owner or operator* of a *construction activity* that is eligible for coverage under this general permit must obtain coverage prior to the *commencement of construction activity.* Activities that fit the definition of "*construction activity*", as defined under 40 CFR 122.26(b)(14)(x) and (15)(i), constitute construction of a point source and therefore, pursuant to Article 17-0505 of the ECL, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity.* They can not wait until there is an actual discharge from the construction site to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES

FROM CONSTRUCTION ACTIVITIES

TABLE OF CONTENTS

Part I. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application - This permit authorizes stormwater discharges to *surface waters of the State* from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;

2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater discharges based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants* to *surface waters of the State.*

3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land.

B. Maintaining Water Quality - It shall be a violation of this general permit and the *Environmental Conservation Law ("ECL")* for any discharge authorized by this general permit to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York including, but not limited to:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;

2. There shall be no increase in suspended, colloidal and settleable solids that will cause deposition or impair the waters for their best usages; and

3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

C. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to surface waters and *groundwaters* except for ineligible *discharges* identified under subparagraph D. of this Part.

(Part I.C.)

2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater discharges from *construction activities.*

3. Notwithstanding paragraphs C.1 and C.2 above, the following non-stormwater *discharges* may be authorized by this permit: discharges from fire fighting activities; fire hydrant flushings; waters to which cleansers or other components have not been added that are used to wash vehicles or control dust in accordance with the SWPPP, routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; uncontaminated groundwater or spring water; uncontaminated discharges from construction site de-watering operations; and foundation or footing drains where flows are not contaminated with process materials such as solvents. For those entities required to obtain coverage under this general permit, and who discharge as noted in this paragraph, and with the exception of flows from fire fighting activities, these discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with water quality standards in Part I.B.

D. <u>Activities Which Are Ineligible for Coverage Under This General Permit</u> - All of the following are **<u>not</u>** authorized by this permit:

1. *Discharges* after *construction activities* have been completed and the site has undergone *final stabilization*;

2. *Discharges* that are mixed with sources of non-stormwater other than those expressly authorized under subsection C.3. of this Part and identified in the SWPPP required by this permit;

3. *Discharges* that are subject to an existing *individual SPDES permit* or SPDES general permit or which are required to obtain an individual or general permit pursuant to Part VII, subparagraph K of this permit;

4. *Discharges* from *construction activities* that adversely affect a listed, or proposed to be listed, endangered or threatened species, or its critical habitat;

5. *Discharges* which are subject to an existing effluent (limitation) guideline addressing stormwater and/or process wastewater unless said guidelines are contained herein; or

(Part I.D.)

6. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations.

7. *Construction activities* for residential, commercial and institutional projects that:

   a. an *owner or operator has* not made any application, prior to January 8, 2008, for any governmental approvals required for the total project; and

   b. are tributary to waters of the state classified as AA and AA-s; and

   c. disturb one or more acres of land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey for the County in which the disturbance will occur.

8. *Construction activities* for residential, commercial and institutional projects that:

   a. have not been authorized by or covered under a SPDES General Permit for Stormwater Discharges from Construction Activity by June 29, 2009; and

   b. an *owner or operator has* made any application, prior to January 8, 2008, for any governmental approvals required for the total project; and

   c. are tributary to waters of the state classified as AA or AA-s; and

   d. disturb one or more acres of land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey for the County in which the disturbance will occur.

9. *Construction activities* for public roadway and linear utility projects that:

   a. have not been authorized by or covered under a SPDES General Permit for Stormwater Discharges from Construction Activity by June 29, 2009; and

   b. are tributary to waters of the state classified as AA or AA-s; and

   c. disturb two or more acres of land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey for the County in which the disturbance will occur.

(Part I.D.)

10. *Construction activities* that adversely affect a property that is listed or is eligible for listing on the State or National Register of Historic Places.

Part II. OBTAINING PERMIT COVERAGE

A. Notice of Intent (NOI) Submittal

1. An *owner or operator* must first develop a Stormwater Pollution Prevention Plan (SWPPP) in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) form to the address below in order to be authorized to discharge under this general permit. The NOI form shall be one which is associated with this general permit, signed in accordance with Part VII.H. of this permit.

NOTICE OF INTENT
NYS DEC, Bureau of Water Permits
625 Broadway, 4th Floor
Albany, New York 12233-3505

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* shall have their SWPPP reviewed and accepted by the *MS4* prior to submitting the NOI to the Department. Beginning on September 30, 2008, the *owner or operator* shall have the "MS4 SWPPP Acceptance" form signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4*, or by a duly authorized representative of that person, and then submit that form along with the NOI to the address referenced under "Notice of Intent (NOI) Submittal". This requirement does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.E. (Change of Owner or Operator).

3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.

B. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to discharge under this permit goes into effect.

(Part II.B.)

2. Authorization to discharge under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:

a. project review pursuant to the State Environmental Quality Review Act (SEQRA) have been satisfied, when SEQR is applicable,

b. where required, all necessary Department permits subject to the *Uniform Procedures Act (UPA)* (see 6 NYCRR Part 621) have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators* of *construction activities* that are required to obtain *Uniform Procedures Act (UPA)* permits must submit a preliminary SWPPP to the appropriate DEC Regional Office in Appendix F at the time all other necessary UPA permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this general permit,

c. the final SWPPP has been prepared, and

d. an NOI has been submitted to the Department in accordance with the requirements of this permit.

3. An *owner or operator* that has satisfied the requirements of Part II.B.2 above will be authorized to discharge stormwater from their *construction activity* in accordance with the following schedule:

a. For construction activities that are not subject to the requirements of a *regulated, traditional land use control MS4* :

i. Five (5) business days from the date the Department receives a complete NOI for construction activities with a SWPPP that has been prepared in conformance with the technical standards referenced in Parts III.B.1, 2 and/or 3, or

ii. Sixty (60) business days from the date the Department receives a complete NOI for construction activities with a SWPPP that has not been prepared in conformance with the technical standards referenced in Parts III.B.1, 2 or 3.

(Part II.B.3.)

b. For construction activities that are subject to the requirements of a *regulated, traditional land use control MS4* :

i. Five (5) business days from the date the Department receives a complete NOI and signed "MS4 SWPPP Acceptance" form.

4.The Department may suspend or deny an *owner's or operator's* coverage under this permit if the Department determines that the SWPPP does not meet the permit requirements.

5. Coverage under this permit authorizes stormwater discharges from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater discharges from future areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department.

C. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination (NOT) has been submitted to the address referenced in Part II.A.1.

2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-08-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form and inspection reports at the construction site until all disturbed areas have achieved *final stabilization* and the Notice of Termination has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock; that is accessible during normal working hours to an individual performing a compliance inspection.

3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the MS4 (provided the MS4 is not the *owner or operator* of the construction activity). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.B. every seven (7) calendar days, for as long as greater than five (5) acres of soil remain

disturbed. When performing just two (2) inspections every seven (7) calendar days, the inspections shall be separated by a minimum of two (2) full calendar days.

b. In areas where soil disturbance activity has been temporarily or permanently ceased, temporary and/or permanent soil stabilization measures shall be installed and/or implemented within seven (7) days from the date the soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control.

c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

d. The *owner or operator* shall install any additional site specific practices needed to protect water quality.

e. The *owner or operator* shall include the requirements above in their SWPPP.

4. The Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements.

D. Permit Coverage for Discharges Authorized Under GP-02-01

1. Upon renewal of SPDES General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-02-01), a*n owner or operator* of *a construction activity* with coverage under GP-02-01, as of the effective date of GP-0-08-001, shall be permitted to discharge in accordance with GP-0-08-001 unless otherwise notified by the Department.

E. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed Notice of Termination (NOT) with the name and permit identification number of the new *owner or operator* to the Department at the

(Part II.E.1.)

address in Part II.A.1.. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the general permit. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or operator* was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*.

2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the pollutants in stormwater discharges and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges.

3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.

4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site.

5. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for the construction of all post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of these contractors and subcontractors identify at least one *trained individual* from their company that will be responsible for implementation of the SWPPP. The *owner or operator* shall ensure that at least one *trained individual* is on site on a daily basis when soil disturbance activities are being performed.

(Part III.A.5.)

The *owner or operator* shall have each of these contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

> "I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings. "

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained individual(s)* responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the construction site. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

6. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, (or as otherwise indicated by the Department) the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit.

7. For projects where the Department requests a copy of the SWPPP, the *owner or operator* shall submit the SWPPP in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

(Part III.A.)

8. The SWPPP must include documentation supporting the determination of permit eligibility with regard to Part I.D.10. (Historic Places). At a minimum, the supporting documentation shall include the following:

a. Information on whether the stormwater discharge or *construction activities* would have an effect on a property that is listed or eligible for listing on the State or National Register of Historic Places;

b. Results of historic places screening determinations conducted. Information regarding the location of places listed, or eligible for listing, on the State or National Register of Historic Places should be obtained by consulting with the New York State Historic Preservation Office, NYS Office of Parks, Recreation and Historic Preservation (OPRHP), Peebles Island Resources Center, P.O. Box 189, Waterford, NY 12188-0189, phone: (518) 237-8643, or using the GIS online resources available at: http://nysparks.state.ny.us/shpo/ ;

c. A description of measures necessary to avoid or minimize adverse impacts on places listed, or eligible for listing, on the State or National Register of Historic Places. If the *owner or operator* fails to describe and implement such measures, the stormwater discharge is ineligible for coverage under this permit; and

d. Where effects may occur, any written agreements that the *owner or operator* has made with the OPRHP or other governmental agency to mitigate those effects, or local land use approvals evidencing the same.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this general permit shall include erosion and sediment control practices designed in conformance with the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control. Where erosion and sediment control practices are not designed in conformance with this technical standard, the *owner or operator* must demonstrate equivalence to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:

a. Background information about the scope of the project, including the location, type and size of project;

(Part III.B.1.)

b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s), wetlands and drainage patterns that could be affected by the construction activity; existing and final slopes; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater discharge(s);

c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);

d. A construction phasing plan and sequence of operations describing the intended order of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;

e. A description of the minimum erosion and sediment control practices to be installed or implemented for each construction activity that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;

f. A temporary and permanent soil stabilization plan that meets the requirements of the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of final stabilization;

g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;

h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;

i. An inspection schedule for the *owner or operator*, or the contractor(s) or subcontractor(s) identified in Part III.A.5., to ensure continuous and effective operation of the erosion and sediment control practices. The inspection schedule shall be in accordance with the requirements in the most

current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control;

j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a pollutant source in the storm water discharges;

k. A description and location of any stormwater discharges associated with industrial activity other than construction at the site, including, but not limited to, stormwater discharges from asphalt plants and concrete plants located on the construction site; and

l. Identification of any elements of the design that are not in conformance with the technical standard, New York Standards and Specifications for Erosion and Sediment Control. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is equivalent to the technical standards.

2. Post-construction stormwater management practice component - All construction projects identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that also includes practices designed in conformance with the most current version of the technical standard, New York State Stormwater Management Design Manual ("Design Manual"). Where post-construction stormwater management practices are not designed in conformance with this technical standard, the *owner or operator* must demonstrate equivalence to the technical standard. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include the following:

a. Identification of all post-construction stormwater management practices to be constructed as part of the project;

b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;

c. The dimensions, material specifications and installation details for each post-construction stormwater management practice;

d. Identification of any elements of the design that are not in conformance with the Design Manual. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is equivalent to the technical standards;

(Part III.B.2.)

e. A hydrologic and hydraulic analysis for all structural components of the stormwater management control system;

f. A detailed summary (including calculations) of the sizing criteria that was used to design all post-construction stormwater management practices. At a minimum, the summary shall address the required design criteria from the applicable chapter of the Design Manual; including the identification of and justification for any deviations from the Design Manual, and identification of any design criteria that are not required based on the redevelopment criteria or waiver criteria included in the Design Manual; and

g. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

3. Enhanced Phosphorus Removal Standards - Beginning on September 30, 2008, all construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the most current version of the technical standard, New York State Stormwater Management Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.g. above.

C. Required SWPPP Components by Project Type - Unless otherwise notified by the Department, *owners or operators* of *construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1. *Owners or operators* of the *construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices identified in the SWPPP are maintained in effective operating condition at all times.

2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the Environmental Conservation Law, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York, or protect the public health and safety and/or the environment.

B. Owner or Operator Inspection Requirements

1. An *owner or operator* shall, in accordance with the requirements in the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control, inspect the erosion and sediment controls identified in the SWPPP to ensure that they are being maintained in effective operating condition at all times.

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the *owner or operator* can stop conducting inspections. The *owner or operator* shall begin conducting inspections in accordance with Part IV.B.1. as soon as soil disturbance activities resume.

3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *owner or operator* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

1. An *owner or operator* of the following *construction activities* shall have a *qualified inspector* conduct site inspections in conformance with the requirements of Part IV.C. below:

a. All *construction activities* identified in Table 1 and 2 of Appendix B, with the exception of:

(i) the construction of a single family residential subdivision with 25% or less impervious cover at total site build-out and the construction of a single family home that involve soil disturbances of one (1) or more acres of land but less than five (5) acres and are not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

(ii) construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and

(iii) construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land.

2. Unless otherwise notified by the Department, the *owner or operator* shall have a *qualified inspector* conduct site inspections in accordance with the following timetable:

a. For construction sites where soil disturbance activities are on going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.

b. For construction sites where soil disturbance activities are on going and the *owner or operator* has received authorization in accordance with Part II.C.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. When performing just two (2) inspections every seven (7) calendar days, the inspections shall be separated by a minimum of two (2) full calendar days.

c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the Regional Office stormwater contact person (see contact information in Appendix F) in writing prior to reducing the frequency of inspections.

d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the Regional Office stormwater contact person (see contact information in Appendix F) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector(s)* perform a final inspection and certify that all disturbed areas

have achieved *final stabilization*, and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the Notice of Termination (NOT). The *owner or operator* shall then submit the completed NOT form to the address in Part II.A.1..

3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization,* and all points of discharge from the construction site.

4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

a. Date and time of inspection;

b. Name and title of person(s) performing inspection;

c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;

d. A description of the condition of the runoff at all points of discharge from the construction site. This shall include identification of any discharges of sediment from the construction site. Include discharges from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;

e. Identification of all erosion and sediment control practices that need repair or maintenance;

f. Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;

g. Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;

(Part IV.C.4.)

h. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards; and

i. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s).

5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor (or subcontractor) identified in Part III.A.5. of any corrective actions that need to be taken. The contractor (or subcontractor) shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

6. All inspection reports shall be signed by the *qualified inspector*. Pursuant to Part II.C.2., the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed Notice of Termination (NOT) form to the address in Part II.A.1. The NOT form shall be one which is associated with this general permit, signed in accordance with Part VII.H.

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:

a. Total project completion - All construction activity identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed

portion of the project have been constructed in conformance with the SWPPP and are operational;

c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.E..

3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall certify that all disturbed areas have achieved *final stabilization;* and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the NOT.

4. For *construction activities* meeting subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the Notice of Termination, ensure one of the following:

a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,

b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),

c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a deed restriction in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan,.

d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, college, university), or government agency or authority, the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION OF RECORDS

A. The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the site achieves *final stabilization.* This period may be extended by the Department, in its sole

discretion, at any time upon written notification.

B. Addresses - With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.A.1), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DEC Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply - The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any permit non-compliance constitutes a violation of the Clean Water Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator* or the *owner's or operator's* on-site representative.

B. Continuation of the Expired General Permit - This permit expires two (2) years from the effective date. However, coverage may be obtained under the expired general permit, which will continue in force and effect, until a new general permit is issued. After issuance of a new general permit, those with coverage under GP-0-08-001 will have six (6) months from the effective date of the new general permit to complete their project or obtain coverage under the new permit. Unless otherwise notified by the Department in writing, an *owner or operator* authorization under the new general permit must submit a new NOI in accordance with the terms of such new general permit.

C. Enforcement - Failure of the *owner or operator,* its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a permit violation. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to $37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense - It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

E. Duty to Mitigate - The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(Part VII.)

F. Duty to Provide Information - The *owner or operator* shall make available to the Department for inspection and copying or furnish to the Department within five (5) business days of receipt of a Department request for such information, any information requested for the purpose of determining compliance with this general permit. This can include, but is not limited to, the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form, executed maintenance agreement, and inspection reports. Failure to provide information requested by the Department shall be a violation of this permit.

G. Other Information - When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any other report, or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or impervious area) which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a permit violation.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:

a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or

(Part VII.H.1.)

c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(i) the chief executive officer of the agency, or

(ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and other information requested by the Department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described above;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,

c. The written authorization is attached to the SWPPP.

3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.

4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4,* or by a duly authorized representative of that person.

Under Part VII. H. (Signatory Requirements), it shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. <u>Property Rights</u> - The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity.*

(Part VII.)

J. Severability - The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Denial of Coverage Under This Permit

1. At its sole discretion, the Department may require any *owner or operator* authorized by this permit to apply for and/or obtain either an individual SPDES permit or an alternative SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the *owner or operator* to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from permittee's receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Regional Water Engineer, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. Any *owner or operator* authorized by this permit may request to be excluded from the coverage under this permit by applying for an individual permit or an alternative general permit. In such cases, the *owner or operator* shall submit an individual application or an alternative general permit application in accordance with the requirements of this general permit,40 CFR 122.26(c)(1)(ii) and 6 NYCRR Part 621, with reasons supporting the request, to the Department at the address for the appropriate Department Office (see addresses in Appendix F).The request may be granted by issuance of an individual permit or an alternative general permit at the discretion of the Department.

3. When an individual SPDES permit is issued to a discharger authorized to discharge under a general SPDES permit for the same discharge(s), the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance - The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

(Part VII.)

M. Inspection and Entry - The *owner or operator* shall allow the Department or an authorized representative of EPA, the State, or, in the case of a construction site which discharges through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the *owner's or operator's* premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment).

N. Permit Actions - At the Department's sole discretion, this permit may, at any time, be modified, revoked, or renewed. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions - Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with *construction activity* covered by this permit, the *owner or operator* of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.

2. Permit modification or revocation will be conducted in accordance with 6 NYCRR Part 621 and 6 NYCRR 750-1.18.

APPENDIX A

Definitions

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both "sewage" and "stormwater".

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for "Construction Activity(ies)" also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a construction site by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a construction site to a separate storm sewer system and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or point source.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 authorizing a category of discharges.

Groundwater - means waters in the saturated zone. The saturated zone is a subsurface zone in

which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Impervious Area (Cover) - means all impermeable surfaces that can not effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct construction activities are occurring, or will occur, under one plan. The term "plan" in "larger common plan of development or sale" is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) application, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that construction activities may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State;

(ii) Designed or used for collecting or conveying stormwater;

(iii) Which is not a *combined sewer*; and

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from construction activity.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the construction activity is occurring; and/or an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in Parts 700 et seq of this Title.

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), licensed Landscape Architect, or other Department endorsed individual(s). It also means someone working under the direct supervision of the licensed Professional Engineer or licensed Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that an individual performing a site inspection has received four (4) hours of training, endorsed by the Department, from a Soil and Water Conservation District, CPESC, Inc. or other Department endorsed entity in proper erosion and sediment control principles no later than two (2) years from date this general permit is issued. After receiving the initial training, an individual working under the direct supervision of the licensed Professional Engineer or licensed Landscape Architect shall receive four (4) hours of training every three (3) years. Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, licensed Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics in order to prepare a SWPPP that conforms to the Department's technical standard. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York..

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is required to gain coverage under New York State DEC's SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s).

Routine Maintenance Activity - means construction activity that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not

limited to:

- Re-grading of gravel roads or parking lots,
- Stream bank restoration projects (does not include the placement of spoil material),
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that makes the transition between the road shoulder and the ditch or embankment,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or embankment,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for point source discharges, load allocations (LAs) for nonpoint sources, and a margin of safety (MOS).

Trained Individual - means an employee from a contracting (construction) firm that has received four (4) hours of training, which has been endorsed by the Department, from a Soil and Water Conservation District, CPESC, Inc. or other Department endorsed entity, in proper erosion and sediment control principles no later than two (2) years from the date this general permit is issued. After receiving the initial training, the trained individual shall receive four (4) hours of training every three (3) years. This individual will be responsible for implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B

Required SWPPP Components by Project Type

Table 1
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single family home not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions with 25% or less impervious cover at total site build-out and not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E
- Construction of a barn or other agricultural building, silo, stock yard or pen.

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects
- Bike paths and trails
- Sidewalk construction projects that are not part of a road/ highway construction or reconstruction project
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics
- Spoil areas that will be covered with vegetation
- Land clearing and grading for the purposes of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields), excluding projects that *alter hydrology from pre to post development* conditions
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of less than five acres and construction activities that include the construction or reconstruction of impervious area

The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

- All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land.

Table 2

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes townhomes, condominiums, senior housing complexes, and apartment complexes
- Airports
- Amusement parks
- Campgrounds
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other agricultural building(e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional, includes hospitals, prisons, schools and colleges
- Industrial facilities, includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's and water treatment plants
- Office complexes
- Sports complexes
- Racetracks, includes racetracks with earthen (dirt) surface
- Road construction or reconstruction
- Parking lot construction or reconstruction
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Athletic fields with artificial turf
- Permanent access roads or parking areas surfaced with *impervious cover*, and substations constructed as part of an over-head electric transmission line project , wind-power project or cell tower project
- All other construction activities that include the construction or reconstruction of *impervious area* and *alter the hydrology from pre to post development* conditions, and are not listed in Table 1

APPENDIX C

Watersheds Where Enhanced Phosphorus Removal Standards Are Required

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual ("Design Manual").

- Entire New York City Watershed located east of the Hudson River - Figure 1
- Onondaga Lake Watershed - Figure 2
- Greenwood Lake Watershed -Figure 3

Figure 1 - New York City Watershed East of the Hudson

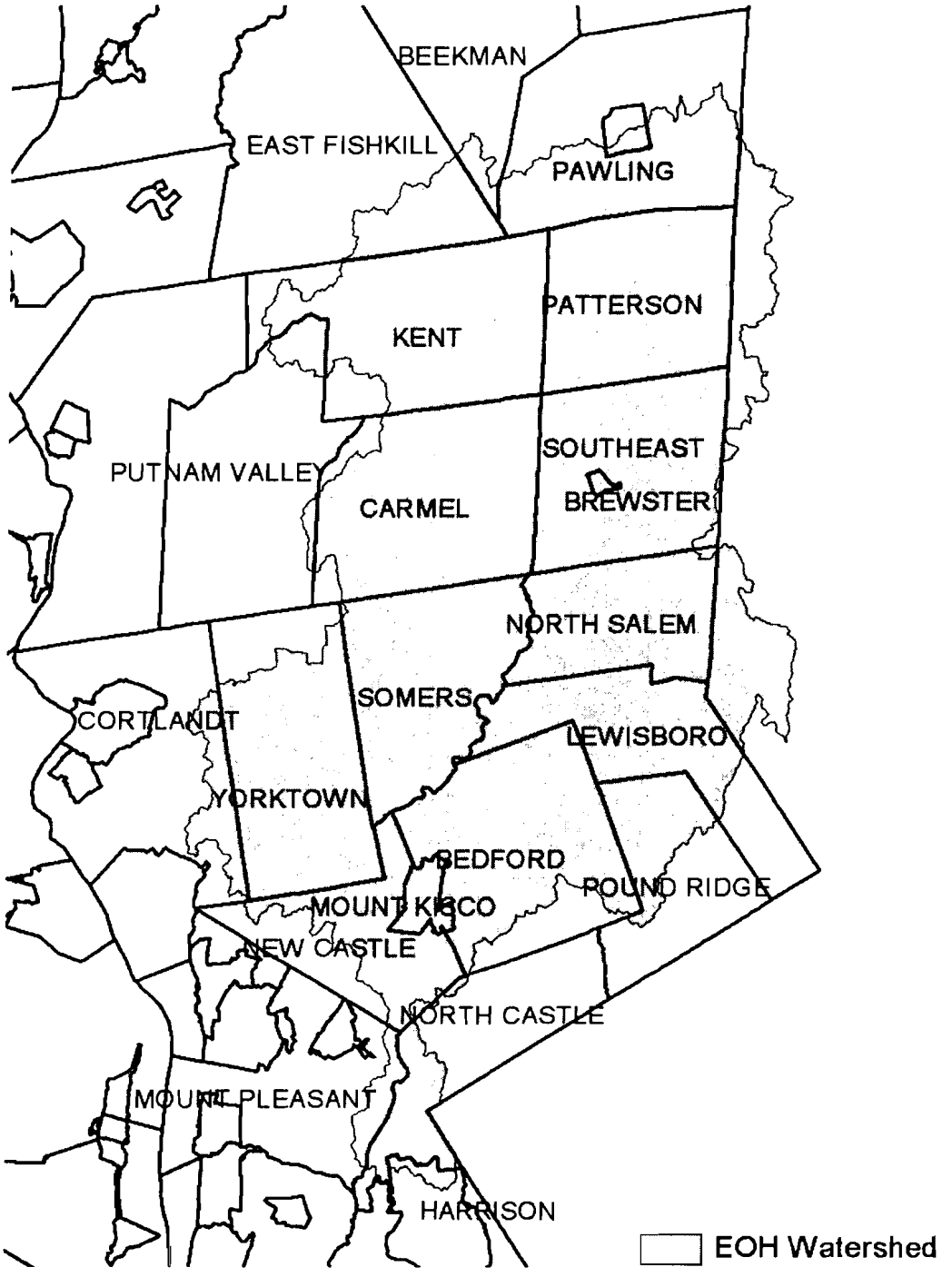


Figure 2 - Onondaga Lake Watershed

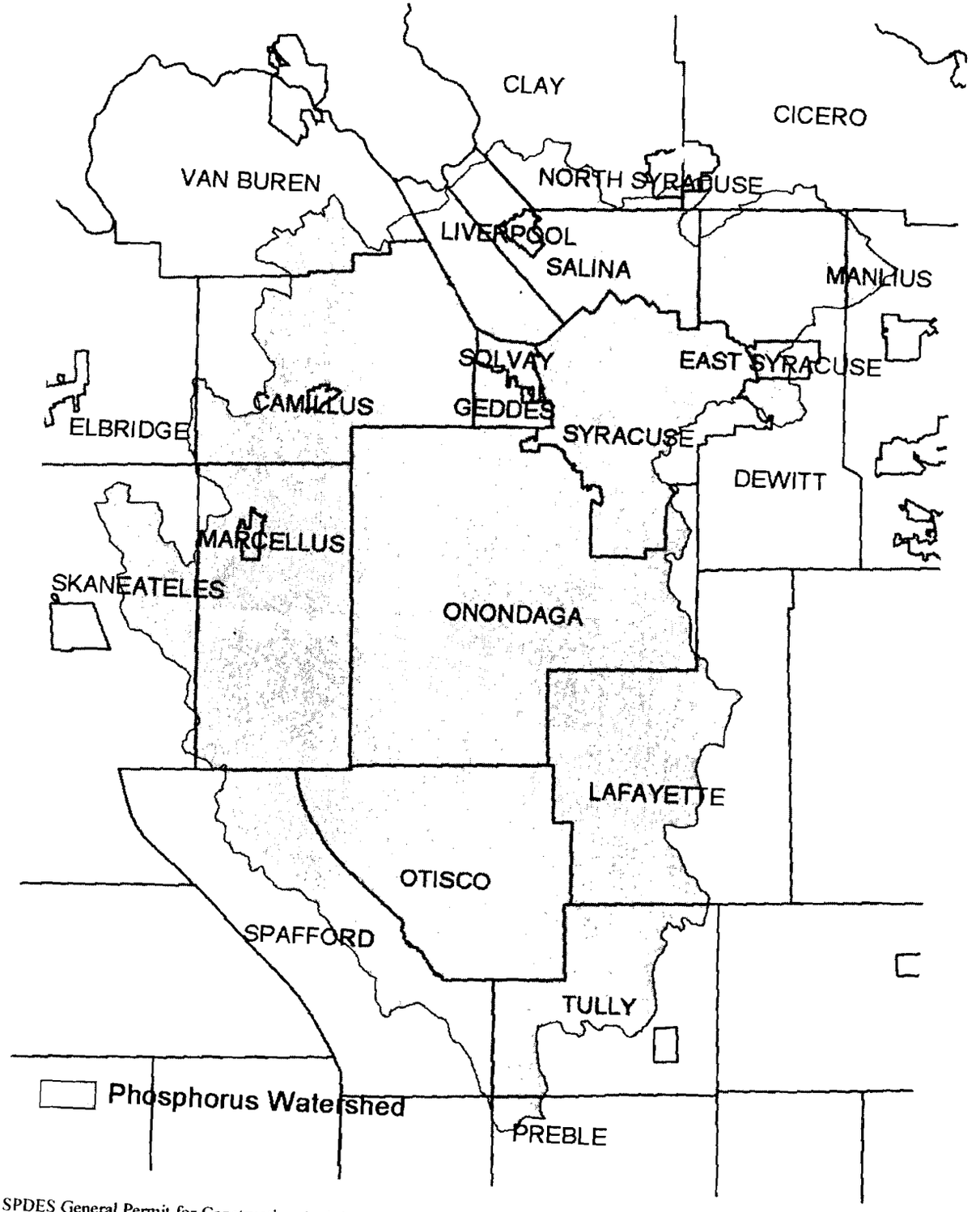
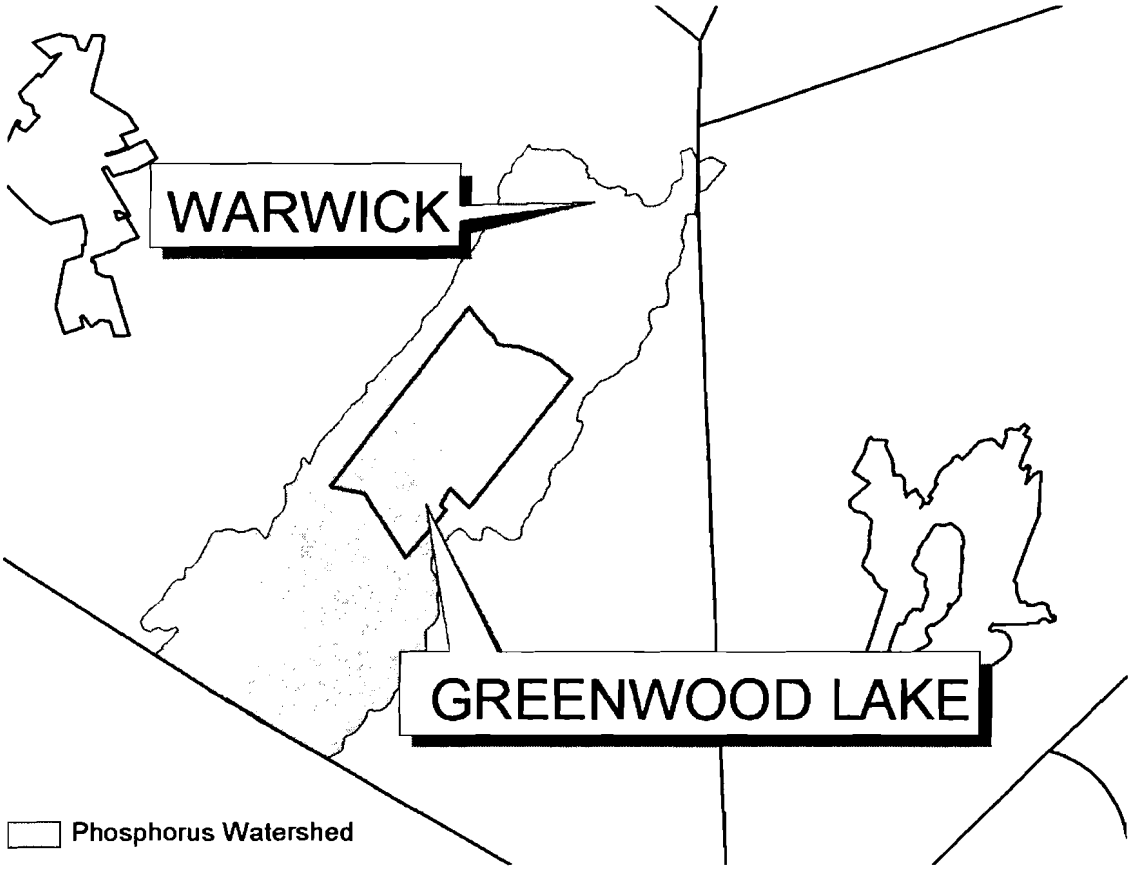


Figure 3 - Greenwood Lake Watershed



APPENDIX D

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River - See Figure 1 in Appendix C

APPENDIX E

List of 303(d) segments impaired by pollutants related to construction activity (e.g. silt, sediment or nutrients). *Owners or operators* of single family home and single family residential subdivision construction activities that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the most current version of the technical standard, New York State Stormwater Management Design Manual ("Design Manual").

COUNTY	WATERBODY	COUNTY	WATERBODY
Albany	Ann Lee (Shakers) Pond, Stump Pond	Madison	Chittenango Creek
Albany	Basic Creek Reservoir	Madison	DeRuyter Reservoir
Bronx	Van Cortlandt Lake	Monroe	Genesee River, Lower, Main Stem
Broome	Whitney Point Lake/Reservoir	Monroe	Genesee River, Middle, Main Stem
Broome	Beaver Lake	Monroe	Black Creek, Lower, and minor tribs
Broome	White Birch Lake	Monroe	Buck Pond
Cayuga	Little Sodus Bay	Monroe	Long Pond
Chautauqua	Chautauqua Lake, North	Monroe	Cranberry Pond
Chautauqua	Chautauqua Lake, South	Nassau	Glen Cove Creek, Lower, and tribs
Chautauqua	Bear Lake	Nassau	LI Tribs (fresh) to East Bay
Chautauqua	Lower Cassadaga Lake	Nassau	East Meadow Brook, Upper, and tribs
Chautauqua	Middle Cassadaga Lake	Nassau	Hempstead Bay
Chautauqua	Findley Lake	Nassau	Hempstead Lake
Clinton	Great Chazy River, Lower, Main Stem	Nassau	Grant Park Pond
Columbia	Kinderhook Lake	Niagara	Bergholtz Creek and tribs
Columbia	Robinson Pond	Oneida	Ballou, Nail Creeks
Dutchess	Hillside Lake	Onondaga	Ley Creek and tribs
Dutchess	Wappinger Lakes	Onondaga	Onondaga Creek, Lower
Dutchess	Fall Kill and tribs	Onondaga	Harbor Brook, Lower, and tribs
Dutchess	Rudd Pond	Onondaga	Ninemile Creek, Lower, and tribs
Erie	Rush Creek and tribs	Ontario	Honeoye Lake
Erie	Ellicott Creek, Lower, and tribs	Ontario	Hemlock Lake Outlet and minor tribs
Erie	Beeman Creek and tribs	Oswego	Lake Neatahwanta
Erie	Murder Creek, Lower, and tribs	Oswego	Oneida Lake
Erie	South Branch Smoke Cr, Lower, and tribs	Putnam	Oscawana Lake
Erie	Little Sister Creek, Lower, and tribs	Putnam	Lake Carmel
Genesee	Black Creek, Upper, and minor tribs	Queens	Jamaica Bay, Eastern, and tribs (Queens)
Genesee	Tonawanda Creek, Middle, Main Stem	Queens	Bergen Basin
Genesee	Tonawanda Creek, Upper, and minor tribs	Queens	Shellbank Basin
Genesee	Little Tonawanda Creek, Lower, and tribs	Rensselaer	Snyders Lake
Genesee	Oak Orchard Creek	Richmond	Grasmere, Arbutus and Wolfes Lakes
Genesee	Bowen Brook and tribs	Saratoga	Dwaas Kill and tribs
Genesee	Bigelow Creek and tribs	Saratoga	Tribs to Lake Lonely
Greene	Schoharie Reservoir	Saratoga	Lake Lonely
Greene	Sleepy Hollow Lake	Schenectady	Collins Lake
Herkimer	Steele Creek tribs	Schoharie	Engleville Pond
Jefferson	Moon Lake	Schoharie	Summit Lake
Kings	Hendrix Creek	St.Lawrence	Black Lake Outlet/Black Lake
Livingston	Conesus Lake	Steuben	Lake Salubria
Livingston	Jaycox Creek and tribs	Suffolk	Millers Pond
Livingston	Mill Creek and minor tribs	Suffolk	Mattituck (Marratooka) Pond

APPENDIX E

List of 303(d) segments impaired by pollutants related to construction activity, cont'd.

COUNTY	WATERBODY	COUNTY	WATERBODY
Suffolk	Tidal tribs to West Moriches Bay		
Suffolk	Canaan Lake		
Suffolk	Lake Ronkonkoma		
Tompkins	Cayuga Lake, Southern End		
Ulster	Ashokan Reservoir		
Ulster	Esopus Creek, Upper, and minor tribs		
Warren	Lake George		
Warren	Tribs to L.George, Village of L George		
Warren	Huddle/Finkle Brooks and tribs		
Warren	Indian Brook and tribs		
Warren	Hague Brook and tribs		
Washington	Tribs to L.George, East Shore		
Washington	Cossayuna Lake		
Wayne	Blind Sodus Bay		
Wayne	Port Bay		
Wayne	Marbletown Creek and tribs		
Westchester	Peach Lake		
Westchester	Mamaroneck River, Lower		
Westchester	Mamaroneck River, Upper, and minor tribs		
Westchester	Sheldrake River		
Westchester	Blind Brook, Lower		
Westchester	Blind Brook, Upper, and tribs		
Westchester	Lake Lincolndale		
Westchester	Lake Meahaugh		
Wyoming	Java Lake		
Wyoming	Silver Lake		

Note: The list above identifies those waters from the final New York State "2006 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy", dated May 17, 2007, that are impaired by silt, sediment or nutrients.

APPENDIX F

LIST OF NYS DEC REGIONAL OFFICES

Region	COVERING THE FOLLOWING COUNTIES:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) PERMIT ADMINISTRATORS	DIVISION OF WATER (DOW) WATER (SPDES) PROGRAM
1	NASSAU AND SUFFOLK	50 CIRCLE ROAD STONY BROOK, NY 11790 TEL. (631) 444-0365	50 CIRCLE ROAD STONY BROOK, NY 11790-3409 TEL. (631) 444-0405
2	BRONX, KINGS, NEW YORK, QUEENS AND RICHMOND	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4997	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4933
3	DUTCHESS, ORANGE, PUTNAM, ROCKLAND, SULLIVAN, ULSTER AND WESTCHESTER	21 SOUTH PUTT CORNERS ROAD NEW PALTZ, NY 12561-1696 TEL. (845) 256-3059	100 HILLSIDE AVENUE, SUITE 1W WHITE PLAINS, NY 10603 TEL. (914) 428 - 2505
4	ALBANY, COLUMBIA, DELAWARE, GREENE, MONTGOMERY, OTSEGO, RENSSELAER, SCHENECTADY AND SCHOHARIE	1150 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2069	1130 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2045
5	CLINTON, ESSEX, FRANKLIN, FULTON, HAMILTON, SARATOGA, WARREN AND WASHINGTON	1115 STATE ROUTE 86, PO BOX 296 RAY BROOK, NY 12977-0296 TEL. (518) 897-1234	232 GOLF COURSE ROAD, PO BOX 220 WARRENSBURG, NY 12885-0220 TEL. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROAD AVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVE. BUFFALO, NY 14203-2999 TEL. (716) 851-7070

APPENDIX B

Former Hudson River Psychiatric Center
Landfill Area 6
CERTIFICATION STATEMENT FORMS

Owner's/Operator's Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluated the information submitted. Based on my inquiry of the persons or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. Further, I hereby certify that the SWPPP meets all Federal, State, and local erosion and sediment control requirements. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

Name (please print) _____

Title _____ **Date** _____

Address _____

Phone _____ **Email** _____

Signature _____

Contractor's and Subcontractors Certification

"I certify under penalty of perjury that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and is a crime in the State of New York and could subject me to criminal civil and/or administrative proceedings."

Name (please print) _____

Title _____ **Date** _____

Address _____

Phone _____ **Email** _____

Signature _____

Note: All contractors involved with Stormwater related activities shall sign a contractor's certification form.

APPENDIX C

Former Hudson River Psychiatric Center
Landfill Area 6
MODIFICATION FORM

Modifications to the SWPPP (To be completed as described below):

The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the water of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
   a. Eliminating or significantly minimizing pollutants form sources identified in the SWPPP and as required by the General Permit; or
   b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification and Reason:

FORMER HUDSON RIVER PSYCHIATRIC CENTER

AREA 6 LANDFILL

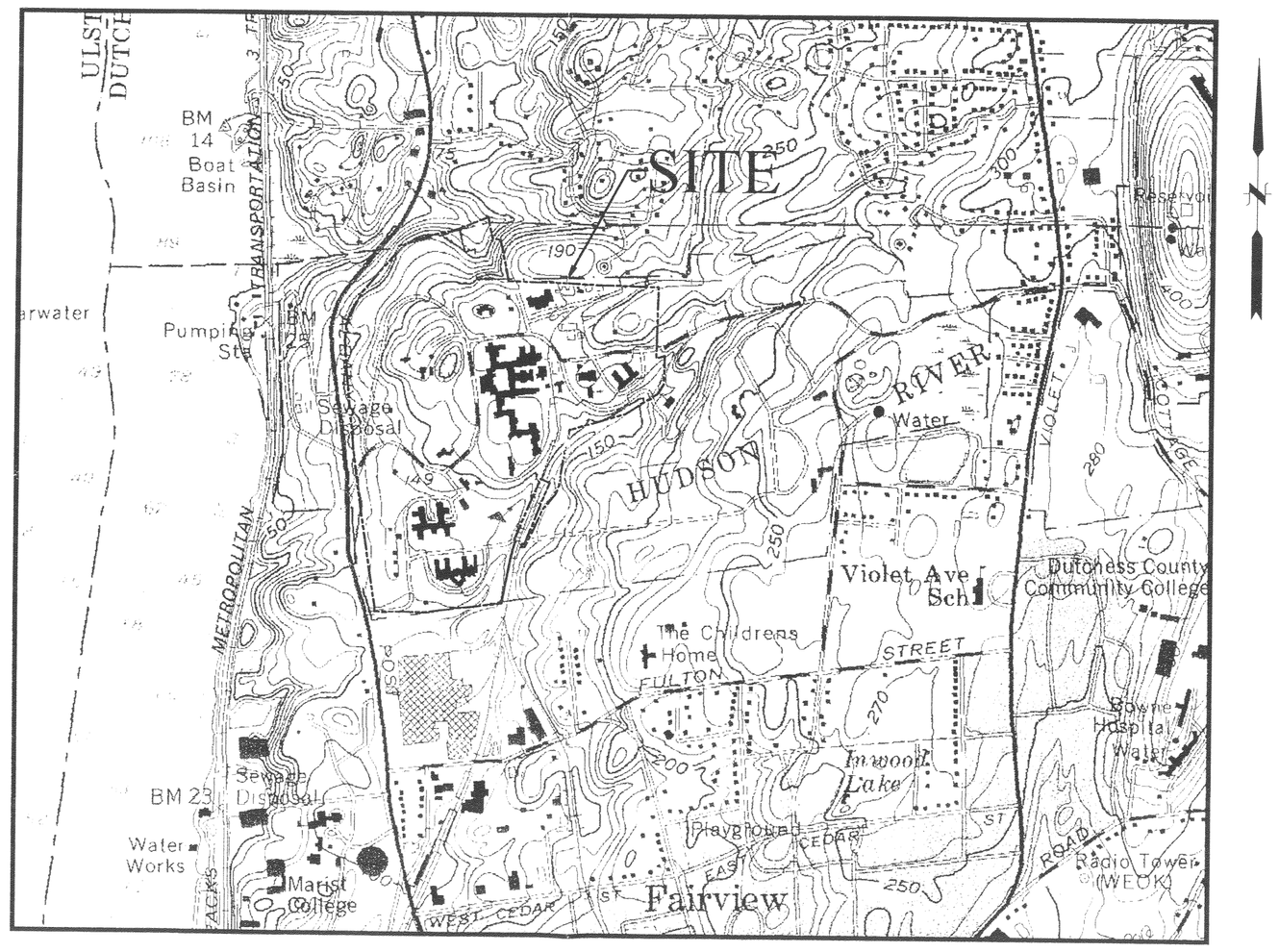
ROUTE 9 · POUGHKEEPSIE · NEW YORK

MODIFIED IRM WORK PLAN

JULY 2008

LEGEND

- WETLANDS
- EXISTING TREE LINE
- EXISTING WATER LINE
- EXTENT OF LANDFILL
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING EDGE OF PAVEMENT
- EXISTING BUILDING
- STREAM
- PROPERTY LINE
- PROPOSED 2' CONTOUR
- SF — PROPOSED SILT FENCE
- CONTRACTOR WORK LIMIT
- STREAM BANK RESTORATION AREA
- COVER SOIL PLACEMENT AREA
- WASTE RELOCATION AREA



LOCATION MAP

SCALE: 1" = 1000'

SHEET INDEX

SHEET No.	SHEET TITLE
G-001	COVER SHEET
C-110	EXISTING CONDITIONS PLAN
C-120	REMOVAL AND FILL PLAN
C-510	DETAILS
C-520	DETAILS

SEAL

PREPARED FOR

HUDSON HERITAGE DEVELOPMENT, LLC

28 EAST 28TH STREET, 9TH FLOOR

NEW YORK, NY 10016-7943

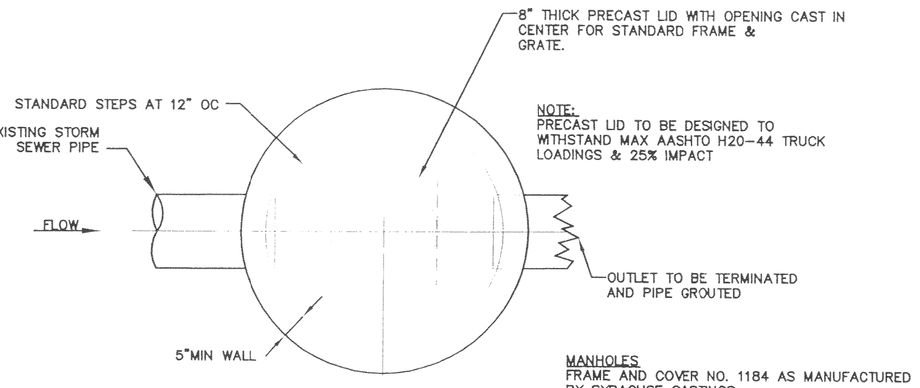
PREPARED BY

FUSS & O'NEILL
of New York, pc
80 WASHINGTON STREET, SUITE 301
POUGHKEEPSIE, NY 12601
845.452.6801
www.FandO.com

PROJ. No.: 20080291.A1N

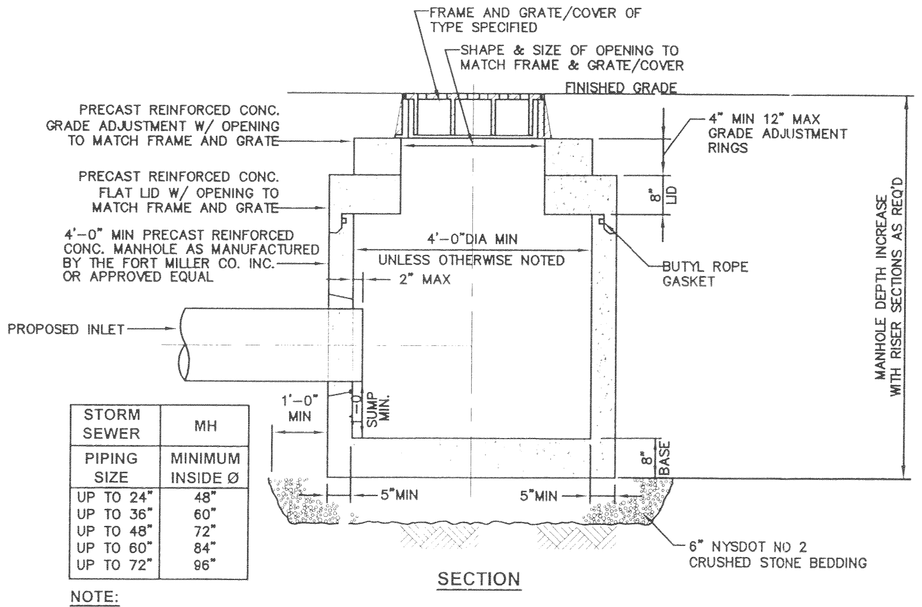
DATE: JULY 2008

G-001



PLAN

MANHOLES
FRAME AND COVER NO. 1184 AS MANUFACTURED BY SYRACUSE CASTINGS OR APPROVED EQUAL. COVER MUST BE CLEARLY LABELED "STORM SEWER"



STORM SEWER PIPING SIZE	MH MINIMUM INSIDE Ø
UP TO 24"	48"
UP TO 36"	60"
UP TO 48"	72"
UP TO 60"	84"
UP TO 72"	96"

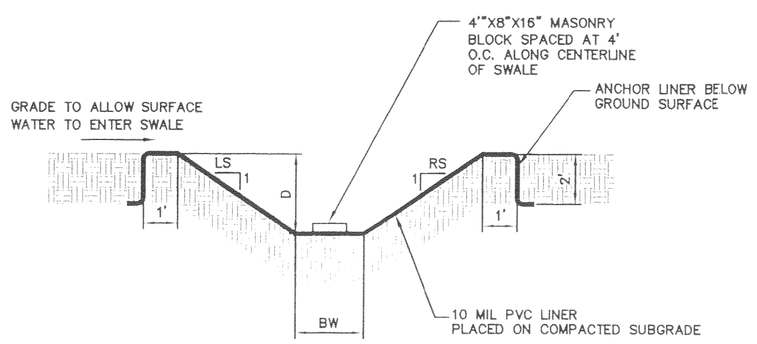
SECTION

NOTE:
ALL PRECAST CONSTRUCTION IN ACCORDANCE W/ASTM C478

NOTE:
ALL PRECAST CONSTRUCTION IN ACCORDANCE W/ASTM C478

1. MANHOLES SHALL BE PRECAST CONCRETE DESIGNED FOR H20-44 VEHICULAR LOADING AND 25% IMPACT.
2. FRAME AND COVER SHALL BE DESIGNED FOR H20-44 VEHICULAR LOADING & 25% IMPACT.
3. CONCRETE CATCH BASIN CASTING CLEAR OPENING DIMENSION MUST MATCH FRAME AND GRATE CLEAR OPENING DIMENSION.
4. MANHOLES HAVING A DEPTH GREATER THAN 48" FROM FINISHED SURFACE TO THE FLOOR OF THE CONCRETE BASE SHALL BE PROVIDED WITH STEPS.
5. BACKFILL USING TRENCH BACKFILL, COMPACTED IN 6" LIFTS.
6. SUMPS FOR CATCH BASINS SHALL BE 12".
7. ECCENTRIC CONE TOP CAN BE USED FOR MANHOLES DEPTH GREATER THAT 7 FEET.
8. SEE CHART FOR REQUIRED MANHOLES / CATCH BASINS DIAMETERS.

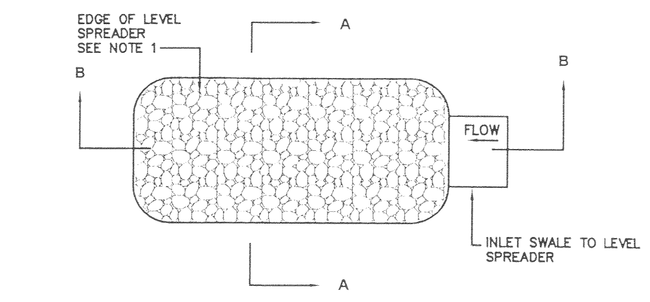
1 / C-510 **PRECAST CONCRETE MANHOLE DETAIL**
SCALE: NOT TO SCALE



SECTION VIEW

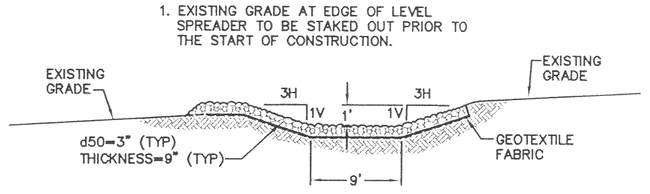
SWALE	D (FT)	LS (FT)	RS (FT)	BW (FT)
A	1.5'(MIN)	2	2	3
B	1.5'(MIN)	2	2	2

2 / C-510 **LINED CHANNEL DETAIL**
SCALE: NOT TO SCALE

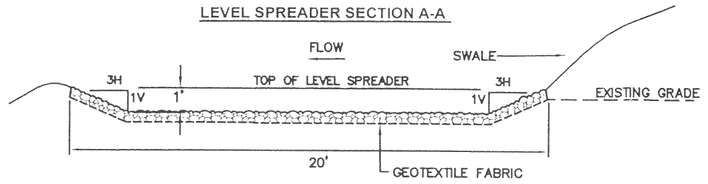


PLAN VIEW

NOTE:
1. EXISTING GRADE AT EDGE OF LEVEL SPREADER TO BE STAKED OUT PRIOR TO THE START OF CONSTRUCTION.

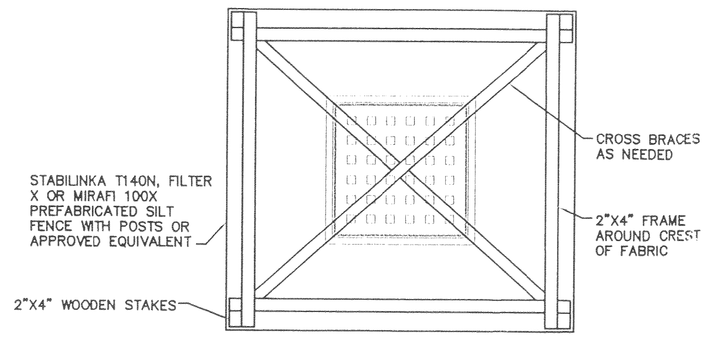


LEVEL SPREADER SECTION A-A

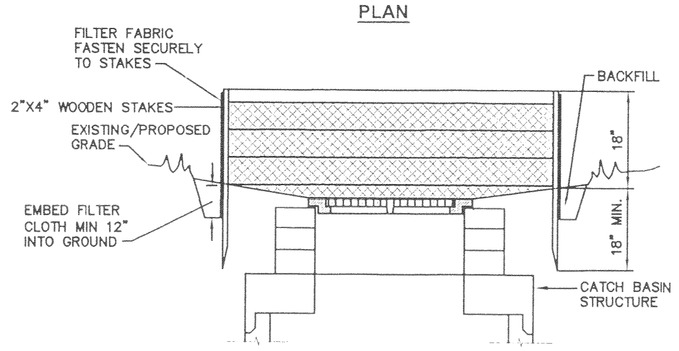


LEVEL SPREADER SECTION B-B

3 / C-510 **LEVEL SPREADER DETAIL**
SCALE: NOT TO SCALE



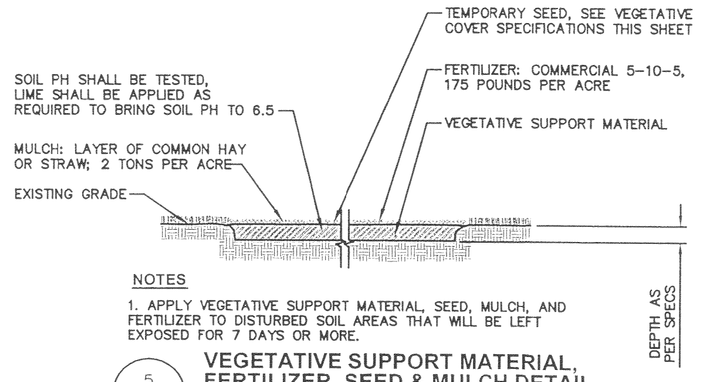
PLAN



SECTION

NOTES:
1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85.
2. CUT FABRIC FROM CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED, OVERLAP TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2"x4" WOOD OR EQUIVALENT, WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE MINIMUM 18" DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2"x4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVERFLOW STABILITY.
7. MAXIMUM DRAINAGE AREA IS 1 ACRE.
8. INLET PROTECTION SHALL REMAIN IN-PLACE UNTIL SITE HAS BEEN STABILIZED.

4 / C-510 **TEMPORARY OUT OF PAVEMENT FILTER FABRIC DROP INLET PROTECTION DETAIL**
SCALE: NOT TO SCALE



NOTES
1. APPLY VEGETATIVE SUPPORT MATERIAL, SEED, MULCH, AND FERTILIZER TO DISTURBED SOIL AREAS THAT WILL BE LEFT EXPOSED FOR 7 DAYS OR MORE.

5 / C-510 **VEGETATIVE SUPPORT MATERIAL, FERTILIZER, SEED & MULCH DETAIL**
SCALE: NOT TO SCALE

SITE PREPARATION:

1. COMPLETE ROUGH GRADING AND FINAL GRADE, ALLOWING FOR DEPTH OF VEGETATIVE SUPPORT MATERIAL TO BE ADDED.
2. SCARIFY ALL COMPACT, SLOWLY PERMEABLE, MEDIUM AND FINE TEXTURED SUBSOIL AREAS. SCARIFY AT APPROXIMATELY RIGHT ANGLES TO THE SLOPE DIRECTION IN SOIL AREAS THAT ARE STEEPER THAN 5%.
3. REMOVE REFUSE, WOODY PLANT PARTS, STONES OVER 3 INCHES IN DIAMETER, AND OTHER LITTER.

VEGETATIVE SUPPORT MATERIAL:

1. VEGETATIVE SUPPORT MATERIAL SHALL BE NATURAL OR AMMENDED SOIL OF A QUALITY SUITABLE FOR ESTABLISHING AND SUSTAINING VEGETATIVE GROWTH. IT SHALL MEET THE FOLLOWING CRITERIA:
   A. VEGETATIVE SUPPORT MATERIAL SHALL HAVE AT LEAST 2% BY WEIGHT OF FINE TEXTURED STABLE ORGANIC MATERIAL, AND NO GREATER THAN 20%.
   B. VEGETATIVE SUPPORT MATERIAL SHALL HAVE NOT LESS THAN 60% FINE TEXTURES MATERIAL (PASSING THE No. 200 SIEVE) AND NOT MORE THAN 15% CLAY.
   C. VEGETATIVE SUPPORT MATERIAL SHALL BE RELATIVELY FREE OF STONES OVER 1½" DIAMETER, TRASH, NOXIOUS WEEDS, AND WILL HAVE LESS THAN 10% GRAVEL BY VOLUME.

APPLICATION AND GRADING:

1. VEGETATIVE SUPPORT MATERIAL SHALL BE DISTRIBUTED TO A MINIMUM UNIFORM DEPTH 4 INCHES OVER THE AREA, UNLESS OTHERWISE NOTED. IT SHALL NOT BE PLACED WHEN IT IS PARTLY FROZEN, MUDDY, OR ON FROZEN SLOPES OR OVER ICE, SNOW, OR STANDING WATER.
2. VEGETATIVE SUPPORT MATERIAL PLACED AND GRADED ON SLOPES STEEPER THAN 5% SHALL BE PROMPTLY FERTILIZED, SEEDED, MULCHED AND STABILIZED BY "TRACKING" WITH SUITABLE EQUIPMENT.

VEGETATIVE COVER SPECIFICATIONS:

TEMPORARY VEGETATIVE COVER (DURING CONSTRUCTION):

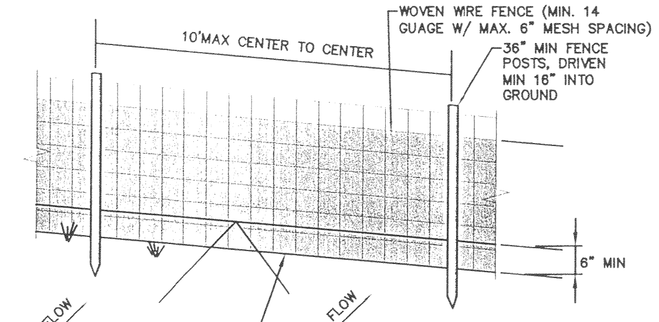
1. SITE PREPARATION
   (SAME AS PERMANENT VEGETATIVE COVER)
2. SEED MIXTURES
   A. RAPIDLY GERMINATING ANNUAL RYEGRASS — 30 POUNDS PER ACRE
   B. PERENNIAL RYEGRASS — 100 LBS PER ACRE
   C. CEREAL RYE — 30 POUNDS PER ACRE
3. SEEDING
   (SAME AS PERMANENT VEGETATIVE COVER)

PERMANENT VEGETATIVE COVER (AFTER CONSTRUCTION):

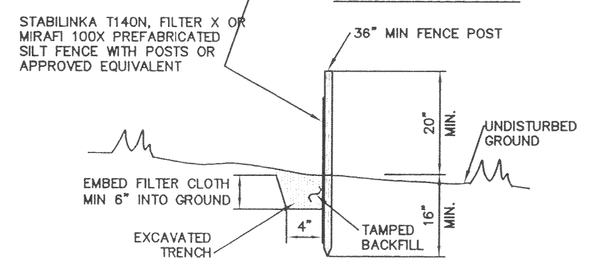
1. SITE PREPARATION
   A. BRING AREA TO BE SEEDED TO REQUIRED GRADE. A MINIMUM OF 4" OF VEGETATIVE SUPPORT MATERIAL IS REQUIRED.
   B. PREPARE SEEDBED LOOSENING SOIL TO A DEPTH OF 4-6 INCHES.
   C. REMOVE ALL STONES OVER 1 INCHES IN DIAMETER, STICKS AND FOREIGN MATTER FROM THE SURFACE.
   D. LIME TO PH OF 6.5.
   E. FERTILIZE AS PER SOIL TEST OR APPLY 200 LBS. OF 5-5-10 (NPK) OR EQUIVALENT PER ACRE (4.6 LBS./1000 SQ. FT.)
   F. INCORPORATE LIME AND FERTILIZER IN THE TOP 2-4 INCHES OF VEGETATIVE SUPPORT MATERIAL.
   G. SMOOTH AND FIRM THE SEEDBED.
2. SEED MIXTURE FOR USE ON LAWN AREAS (AREAS TO BE MAINTAINED)

ALTERNATE A (SUNNY SITE)	65% KENTUCKY BLUE GRASS BLEND 20% PERENNIAL RYEGRASS 15% FINE FESCUE
ALTERNATE B (SHADY SITE)	80% BLEND OF SHADE TOLERANT KENTUCKY BLUEGRASS 20% PERENNIAL RYEGRASS

3. SEEDING
   A. APPLY SEED UNIFORMLY BY CYCLONE SEEDER CULTI-PACKER OR HYDRO-SEED AT RATE INDICATED.
   B. MULCH SEEDED AREAS WITH HAY OR STRAW MULCH (2 TONS/ACRE).
   C. IRRIGATE TO FULLY SATURATE SOIL LAYER, BUT NOT TO DISLODGE PLANTING SOIL.
   D. SEED BETWEEN APRIL 1ST AND MAY 15TH OR AUGUST 15TH AND OCTOBER 15TH. SEEDING MAY OCCUR BETWEEN MAY 15TH AND AUGUST 15TH IF ADEQUATE IRRIGATION IS PROVIDED.



PERSPECTIVE VIEW



SECTION

NOTES:
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAX MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIALS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
5. MAXIMUM DRAINAGE AREA FOR OVERLAND FLOW TO A SILT FENCE SHALL NOT EXCEED 1/4 ACRE PER 100 FEET OF FENCE.
6. SILT FENCE SHALL BE USED WHERE EROSION COULD OCCUR IN THE FORM OF SHEET EROSION.
7. SILT FENCE SHALL NOT BE USED WHEN A CONCENTRATION OF WATER IS FLOWING TO THE BARRIER.
8. MAXIMUM ALLOWABLE SLOPE LENGTHS CONTRIBUTING RUN-OFF TO A SILT FENCE ARE:

SLOPE STEEPNESS	MAXIMUM SLOPE LENGTH(FT)
2:1	25
3:1	50
4:1	75
5:1 OR FLATTER	100

6 / C-510 **SILT FENCE INSTALLATION DETAIL**
SCALE: NOT TO SCALE

NOTES:

1. ALL DETAILS SUBSTANTIALLY TAKEN FROM DRAWINGS ENTITLED "AREA 6 LANDFILL LEACHATE COLLECTION SYSTEM IRM WORK PLAN SITE, UTILITY & LEACHATE MANAGEMENT DETAILS" DATED 12/20/07 AND "AREA 6 LANDFILL LEACHATE COLLECTION SYSTEM IRM WORK PLAN EROSION, SEDIMENT CONTROL & UTILITY DETAIL," DATED 12/20/07, PREPARED BY THE CHAZEN COMPANIES.

No.	DATE	DESCRIPTION	BY
1.			

REVISIONS

PROJ. MANAGER:
CHIEF DESIGNER:
REVIEWED BY: DATE

SEAL
STATE OF NEW YORK RICHARD D. SQUIRE 090571 LICENSED PROFESSIONAL ENGINEER

SEAL

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HUDSON HERITAGE DEVELOPMENT, LLC
AREA 6 LANDFILL
MODIFIED IRM WORK PLAN
DETAILS SHEET 1
FORMER HUDSON RIVER PSYCHIATRIC CENTER
TOWN OF POUGHKEEPSIE NEW YORK

PROJ. No.: 20080291.A1N
DATE: JULY 2008

C-510

B'
B
0+00
DMH 1
RIM=122.5
INV IN=113.6
BASE ELEV=120.5
69.98' @ 2.86%
0+50
0+69.98
EXISTING 18" DIA. RCP PIPE TO BE GROUTED FROM PROPOSED MANHOLE DMH1 TO OUTLET
BASE ELEV=118.5
CONTRACTOR WORK LIMIT
1+00
90.87' @ 2.20%
LOCATION OF STABILIZED CONSTRUCTION ENTRANCE TO BE DETERMINED IN THE FIELD AND APPROVED BY THE OWNER.
1+50
1+60.85
PROPOSED PVC LINED SWALE
BASE ELEV=116.5
A
2+00
77.38' @ 1.78%
12+38.23
DMH 2
RIM=117.0
BASE ELEV=115.1
A'
EXISTING 12" DIA. CLAY PIPE TO BE GROUTED FROM PROPOSED MANHOLE DMH2 TO OUTLET
2+50
CLEAR EXISTING TREES AND VEGETATION
3+00
193.78' @ 0.50%
3+50
EXISTING PIEZOMETER TO BE REMOVED
EXISTING WASTE TO BE EXCAVATED FROM THIS AREA AND RELOCATED TO MAIN BODY OF THE LANDFILL. FOLLOWING RELOCATION OF WASTE, AREA IS TO BE GRADED TO DRAIN, AND SEED AND MULCH APPLIED.
PROPOSED LEVEL SPREADER
4+00
X119.00
4+34.02
X119.00
RELOCATED WASTE TO BE PLACED IN THIS AREA, UNDER LOW PERMEABILITY COVER SOIL
BASE ELEV=114.1
PROPOSED SILT FENCE (TYP)
STREAMBANK RESTORATION AREA SEE DETAIL (3/C520)
WASTE WILL NOT BE RELOCATED FROM RAILROAD PROPERTY WITHOUT THE PRIOR PERMISSION OF NEW YORK CENTRAL LINES, LLC
CLEAR EXISTING TREES AND VEGETATION TO LIMITS SHOWN
PROPOSED AREA TO BE COVERED WITH 18" MIN. OF LOW PERMEABILITY COVER SOIL, 6" OF VEGETATIVE SUPPORT MATERIAL, AND SEEDED.
EXISTING PIEZOMETER TO BE REMOVED

NOTES:
1. TOPOGRAPHIC LAYOUT AND INFORMATION SUBSTANTIALLY TAKEN FROM SHEET SP1 "AREA 6 LANDFILL LEACHATE COLLECTION SYSTEM IRM WORK PLAN EXISTING CONDITIONS PLAN" PREPARED BY THE CHAZEN COMPANIES LAST REVISED DECEMBER 20, 2007. TOPOGRAPHIC CONTOURS REVISED BASED ON "FIGURE NO. 1 MISCELANEOUS SURVEY FOR HUDSON HERITAGE LANDFILL AREA 6," DATED JUNE 16, 2008, PREPARED BY AUSFELD & WALDRUFF LAND SURVEYORS L.L.P.
2. CONCEPTUAL REMOVAL LAYOUT INFORMATION SUBSTANTIALLY TAKEN FROM SHEET SP2 "AREA 6 LANDFILL CLOSURE PROPOSED WASTE GRADING AND DEMOLITION PLAN" PREPARED BY THE CHAZEN COMPANIES, FEBRUARY 9, 2004, LAST REVISED SEPTEMBER 30, 2004.
3. CONCEPTUAL DRAINAGE LAYOUT INFORMATION SUBSTANTIALLY TAKEN FROM SHEET SP3 "AREA 6 LANDFILL LEACHATE COLLECTION SYSTEM IRM WORK PLAN CONCEPTUAL UTILITY PLAN" PREPARED BY THE CHAZEN COMPANIES LAST REVISED DECEMBER 20, 2007.

No.	DATE	DESCRIPTION	BY
1.			

REVISIONS

PROJ. MANAGER: RDJ
CHIEF DESIGNER: CMZ
REVIEWED BY: DATE

STATE OF NEW YORK
RICHARD D. JESSEN
055061
HAZARDOUS WASTE PROFESSIONAL ENGINEER

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HUDSON HERITAGE DEVELOPMENT, LLC

AREA 6 LANDFILL MODIFIED IRM WORK PLAN REMOVAL AND FILL PLAN

FORMER HUDSON RIVER PSYCHIATRIC CENTER

PROJ. No.: 20080291.A1N
DATE: JULY 2008

C-120

RYAN HALL
CONCRETE
SMH RIM= 127.3
MW/BG- 235 PVC EL=123.71 RIM EL=124.01 GND EL=123.9
MW/BG- 230 PVC EL=122.64 RIM EL=122.94 GND EL=123.0
MH (NOT FOUND) RIM= 120.4
RIM=120.49
TOP 18"RCP=115.4
EDGE OF GRAVEL
ASPHALT PARKING 150 SPACES
LP
TOP 12"DIP=115.8
MH RIM=120.78
APPROX LIMIT OF WASTE
MH RIM=120.53
DMH RIM= 117.94
INV=115.9
INV=115.8
DMH RIM=117.94
SMH RIM=119.12
INV=114.4
INV=114.3
DMH RIM=119.33
12" CLAY
MH RIM=118.5
RIM=118.33
INV=107.0
MH RIM=118.4
SMH RIM= 118.44
HYD
WV
GT
TOP 6"DIP=113.3
INV=102.0
RIM=118.01
INV=113.3
INV=108.5
RIM=117.87
INV=113.2
TOP 12"DIP=113.1
TOP 12"CLAY=108.3
TOP 12"DIP=113.0
MW/BG- 165 PVC EL=119.95 RIM EL=119.95 GND EL=116.8
EQ. 5 PVC EL=119.56 GND EL=118.3
8"CIP
INV=111.5
6"CIP
TOP6"DIP=111.5
WV 115.0
INV=111.6
RIM=117.42
TOP8"DIP=110.7
INV=113.0
R=116.87
MW
TOP 12"DIP=107.7
12"CLAY
EDGE OF GRAVEL
18"RCP INV=109.01
8"DIP
TOP=107.3
TOP 12"CLAY=107.5
WV
APPROX LIMIT OF WASTE
MW/BG- 210 PVC EL=119.02 RIM EL=118.42 GND EL=116.7
CB RIM=106.88
BEDROCK: 112.4
12"CLAY (SUBMERGED)
25' TOWN BUFFER
25.0'
APPROX. AREA OF LEACHATE SEEPAGE
DITCH
A20
A21
A22
A23
A24
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A15
A16
A17
A18
A19
STREAM
GAS MARKER
CONC SWALE
HW
36" RCP INV=106.16
24"CLAY INV=103.1
SPILLWAY
CONCRETE PAD
INV 12"CIP=106.0
EDGE OF WET LANDS
OPEN ENDED WETLAND
36"HDPE INV=99.6
INV 12"HDPE=101.2
EXISTING 20' WIDE EASEMENT & RIGHT OF WAY GRANTED TO CENTRAL HUDSON GAS & ELECTRIC CORP. DEED LIBER 1274 PAGE 394
16" RCP
122
120
118
110
106
104
102

NOTES:
1. TOPOGRAPHIC LAYOUT AND INFORMATION SUBSTANTIALLY TAKEN FROM SHEET SP1 "AREA 6 LANDFILL LEACHATE COLLECTION SYSTEM IRM WORK PLAN EXISTING CONDITIONS PLAN" PREPARED BY THE OHAZEN COMPANIES LAST REVISED DECEMBER 20, 2007. TOPOGRAPHIC CONTOURS REVISED BASED ON "FIGURE NO. 1 MISCELANEOUS SURVEY FOR HUDSON HERITAGE LANDFILL AREA 6," DATED JUNE 16, 2008, PREPARED BY AUSFELD & WALDRUFF LAND SURVEYORS LLP.

No.	DATE	DESCRIPTION	BY
1.			

REVISIONS

PROJ. MANAGER: RDJ
CHIEF DESIGNER: CMZ
REVIEWED BY: DATE

SEAL
STATE OF NEW YORK
RICHARD D. JOSEPH
085061
LICENSED PROFESSIONAL ENGINEER

SEAL

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DATUM:
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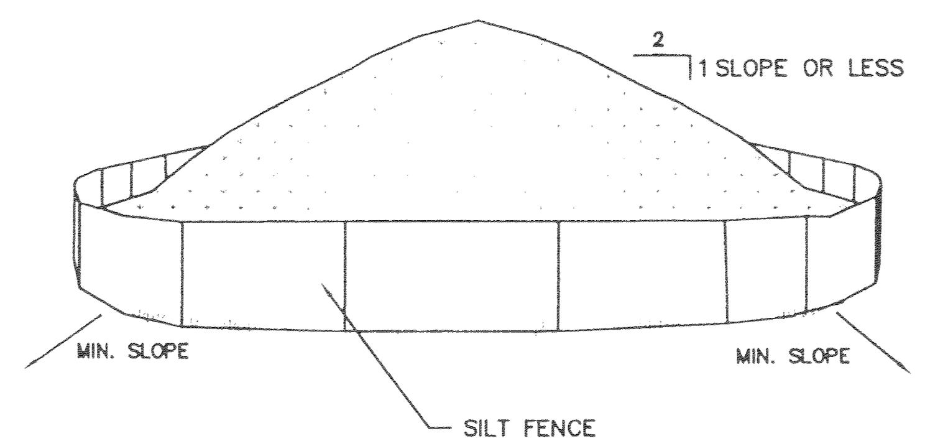
HUDSON HERITAGE DEVELOPMENT, LLC

AREA 6 LANDFILL MODIFIED IRM WORK PLAN EXISTING CONDITIONS PLAN FORMER HUDSON RIVER PSYCHIATRIC CENTER

TOWN OF POUGHKEEPSIE DUTCHESS COUNTY, NEW YORK

PROJ. No.: 20080291.A1N
DATE: JULY 2008

C-110

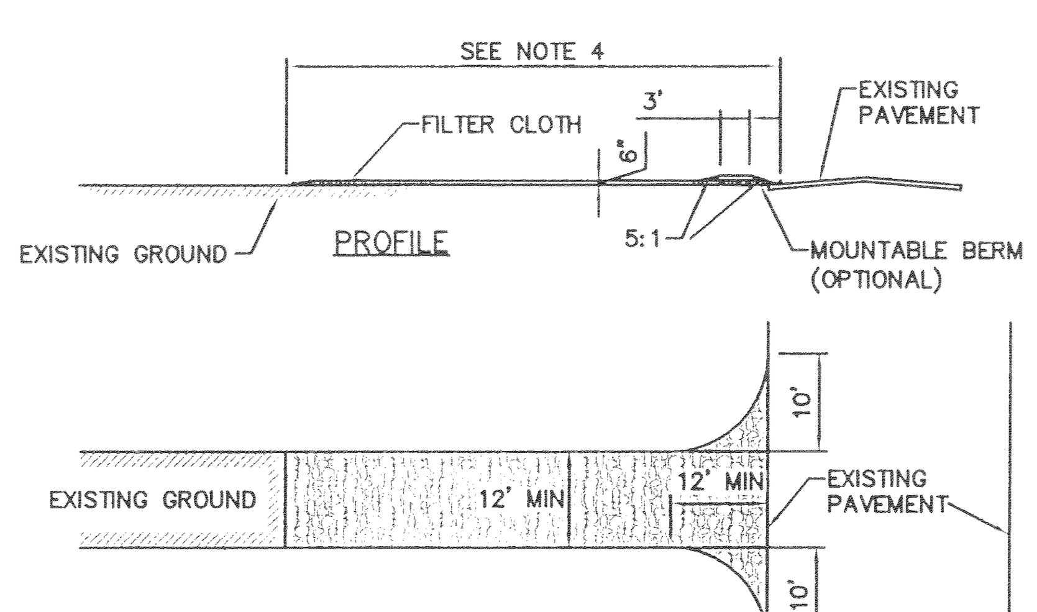


NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1V: 2H.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH SILT FENCING, THEN STABILIZED WITH VEGETATION OR COVERED.
4. SEE SPECIFICATIONS FOR INSTALLATION OF SILT FENCE.

1 / C-520 TEMPORARY SOIL STOCKPILE DETAIL

SCALE: NOT TO SCALE



CONSTRUCTION ENTRANCE SPECIFICATIONS:

1. CONSTRUCTION ENTRANCE TO FIELD LOCATED AT A LOCATION ACCEPTABLE TO THE OWNER AND ENGINEER.
2. STONE SIZE – USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY FOUR FEET (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. LENGTH – NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH WOULD APPLY).
6. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
7. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
8. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
9. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
10. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

2 / C-520 STABILIZED CONSTRUCTION ENTRANCE

SCALE: NOT TO SCALE

EROSION AND SEDIMENT INSPECTION AND MAINTENANCE SCHEDULE

STRUCTURE	DAILY	WEEKLY	NECESSARY TO MAINTAIN FUNCTION	AFTER COMPLETION OF CONSTRUCTION
SILT FENCE BARRIER	--	INSPECT	CLEAN/ REPLACE	REMOVE
DUST CONTROL	INSPECT	--	MULCHING/ SPRAYING WATER	N/A
VEGETATIVE ESTABLISHMENT	--	INSPECT	WATERING/ RE-SEEDING/ RE-MULCHING	PERMANENT
INLET PROTECTION	--	INSPECT	CLEAN/ REPAIR/ REPLACE	REMOVE

MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES:

PERMANENT AND TEMPORARY VEGETATION:

INSPECT ALL AREAS THAT HAVE RECEIVED VEGETATION EVERY SEVEN DAYS. ALL AREAS DAMAGED BY EROSION OR WHERE SEED HAS NOT ESTABLISHED SHALL BE REPAIRED AND RESTABILIZED IMMEDIATELY.

SILT FENCE:

INSPECT FOR DAMAGE EVERY SEVEN DAYS. MAKE ALL REPAIRS IMMEDIATELY. REMOVE SEDIMENT FROM THE UP-SLOPE FACE OF THE FENCE BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO 1/3 THE HEIGHT OF THE FENCE. IF FENCE FABRIC TEARS, BEGINS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED SECTION OF FENCE IMMEDIATELY.

SOIL STOCKPILE:

INSPECT SEDIMENT CONTROL BARRIERS (SILT FENCE OR HAYBALE) AND VEGETATION FOR DAMAGE EVERY SEVEN DAYS. MAKE ALL REPAIRS IMMEDIATELY. REMOVE SEDIMENT FROM THE UP-SLOPE FACE OF THE SEDIMENT CONTROL BARRIER BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO 1/3 THE HEIGHT OF THE SEDIMENT CONTROL BARRIER. IF SEDIMENT CONTROL BARRIER TEARS, BEGINS TO DECOMPOSE, OR IN ANYWAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED SECTION OF SEDIMENT CONTROL BARRIER IMMEDIATELY. REVEGETATE DISTURBED AREA TO STABILIZE SOIL STOCK PILE. REMOVE THE SEDIMENT CONTROL BARRIER WHEN THE SOIL STOCKPILE HAS BEEN REMOVED.

DUST CONTROL:

SCHEDULE CONSTRUCTION OPERATIONS TO MINIMIZE THE AMOUNT OF DISTURBED AREAS AT ANY ONE TIME DURING THE COURSE OF WORK. APPLY TEMPORARY SOIL STABILIZATION PRACTICES SUCH AS MULCHING, SEEDING, AND SPRAYING (WATER). STRUCTURAL MEASURES (MULCH, SEEDING) SHALL BE INSTALLED IN DISTURBED AREAS BEFORE SIGNIFICANT BLOWING PROBLEMS DEVELOP. WATER SHALL BE SPRAYED AS NEEDED. REPEAT AS NEEDED, BUT AVOID EXCESSIVE SPRAYING, WHICH COULD CREATE RUNOFF AND EROSION PROBLEMS.

EROSION CONTROL BLANKET:

INSPECT THE BLANKET EVERY SEVEN DAYS. REPLACE WIRE STAPLES AS REQUIRED. REPAIR AND RESEED WHERE CRACKS AND DAMAGED VEGETATION IS EVIDENT. WHEN DAMAGED BEYOND REPAIR OR NO LONGER FUNCTIONING, THE BLANKET SHALL BE REPLACED.

SNOW AND ICE CONTROL:

PARKING LOTS, ROADWAYS, AND DRIVEWAYS ADJACENT TO WATER QUALITY FILTERS SHALL NOT BE SANDED DURING SNOW EVENTS DUE TO HIGH POTENTIAL FOR CLOGGING FROM SAND IN SURFACE WATER RUNOFF. USE SALT ONLY FOR SNOW AND ICE CONTROL.

EROSION AND SEDIMENT CONTROL MEASURES:

GENERAL MEASURES:

1. DAMAGE TO SURFACE WATERS RESULTING FROM EROSION AND SEDIMENTATION SHALL BE MINIMIZED BY STABILIZING DISTURBED AREAS AND BY REMOVING SEDIMENT FROM CONSTRUCTION SITE DISCHARGES.
2. AS MUCH AS IS PRACTICAL, EXISTING VEGETATION SHALL BE PRESERVED. FOLLOWING THE COMPLETION OF CONSTRUCTION ACTIVITIES IN ANY PORTION OF THE SITE, PERMANENT VEGETATION SHALL BE ESTABLISHED ON ALL EXPOSED SOILS.
3. SITE PREPARATION ACTIVITIES SHALL BE PLANNED TO MINIMIZE THE SCOPE AND DURATION OF SOIL DISRUPTION.
4. PERMANENT TRAFFIC CORRIDORS SHALL BE ESTABLISHED AND "ROUTES OF CONVENIENCE" SHALL BE AVOIDED.
5. SOIL STOCKPILES: SILT FENCES SHALL BE CONSTRUCTED AROUND ALL STOCKPILES OF FILL, TOPSOIL, AND EXCAVATED OVERBURDEN THAT ARE TO REMAIN EXPOSED FOR PERIODS LESS THAN 21 DAYS. SILT FENCES SHALL BE ANCHORED AND MAINTAINED IN GOOD CONDITION UNTIL SUCH TIME AS SAID STOCKPILES ARE REMOVED AND STOCKPILING AREAS ARE BROUGHT TO FINAL GRADE AND PERMANENTLY STABILIZED. TOPSOIL AND FILL THAT IS TO REMAIN STOCKPILED ON-SITE FOR PERIODS GREATER THAN 21 DAYS SHALL BE STABILIZED BY SEEDING. PRIOR TO THE SEEDING OPERATION, THE STOCKPILED MATERIAL SHALL BE GRADED AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. IN NO CASE SHALL ERODIBLE MATERIALS BE STOCKPILED WITHIN 25 FEET OF ANY DITCH, STREAM, OR OTHER SURFACE WATER BODY.

HEALTH AND SAFETY NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN A SAFE WORKPLACE AND TO MONITOR WORKING CONDITIONS AT ALL TIMES DURING CONSTRUCTION AND, AS NECESSARY, TO PROVIDE APPROPRIATE PROTECTIVE CLOTHING, EQUIPMENT AND FACILITIES FOR HIS PERSONNEL, AND/OR ESTABLISH WORKPLACE PROCEDURES, EQUIPMENT AND/OR FACILITIES IN ACCORDANCE WITH THE FOLLOWING GUIDELINES:
   - A. SAFETY AND HEALTH REGULATIONS PROMULGATED BY THE U.S. DEPARTMENT OF LABOR OSHA, 29 CFR 1910 – CCUPATIONAL SAFETY AND HEALTH STANDARDS, AND 29 CFR 1920 – SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION.
   - B. U.S. ENVIRONMENTAL PROTECTION AGENCY MEDICAL MONITORING PROGRAM GUIDELINES.
   - C. PROJECT HEALTH AND SAFETY PLAN.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO TAKE APPROPRIATE SAFETY PRECAUTIONS TO MEET WHATEVER CONDITIONS OF HAZARD MAY BE PRESENT DURING THE PERFORMANCE OF THE WORK, WHETHER REASONABLY FORESEEABLE OR NOT. THE CONTRACTOR IS ALERTED TO THE FACT THAT IT SHALL BE HIS SOLE RESPONSIBILITY TO ANTICIPATE AND PROVIDE SUCH ADDITIONAL SAFETY PRECAUTIONS, FACILITIES, PERSONNEL AND EQUIPMENT AS SHALL BE NECESSARY TO PROTECT LIFE AND PROPERTY FROM WHATSOEVER CONDITIONS OF HAZARD ARE PRESENT OR MAY BE PRESENT.
3. THE CONTRACTOR IS HEREBY NOTIFIED THAT THE PROPOSED WORK IS IN CLOSE PROXIMITY TO AN EXISTING LANDFILL. THE CONTRACTOR SHALL PROTECT ALL PERSONNEL, EQUIPMENT, AND WORK FROM ASSOCIATED HAZARDS, INCLUDING LEACHATE (WHICH HAS BEEN ENCOUNTERED IN THE WORK AREA).

EROSION AND SEDIMENT CONTROL NOTES:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE IN STRICT COMPLIANCE WITH "NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL", AUGUST 2005.
2. ESTABLISH THE LIMIT OF DISTURBANCE FOR ANY PROPOSED SITE CLEARING OR GRADING.
3. ESTABLISH THE LOCATION OF PROPOSED EROSION AND SEDIMENT CONTROL MEASURES SILT FENCE, TOPSOIL STOCKPILE AREA, ETC.). CLEAR SAID LOCATION FOR INSTALLATION.
4. INSTALL SEDIMENT BARRIERS AND TRAPS (SILT FENCE, BASIN TRAPS, OUTLET PROTECTION, ETC.). INSTALL ADDITIONAL TRAPS AND BARRIERS AS NEEDED DURING GRADING.
5. CLEAR AND GRADE THE PROPOSED AREA OF DISTURBANCE.
6. EXCESS SOIL TO BE STOCKPILED WITHIN THE LIMITS OF SITE DISTURBANCE IF NOT USED IMMEDIATELY FOR GRADING PURPOSES. INSTALL SILT FENCE AROUND SOIL STOCKPILES.
7. APPLY SURFACE STABILIZATION AND RESTORATION MEASURES. AREAS UNDERGOING CLEARING OR GRADING AND ANY AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WHERE WORK IS DELAYED, SUSPENDED, OR INCOMPLETE AND WILL NOT BE REDISTURBED FOR 21 DAYS OR MORE SHALL BE STABILIZED WITH TEMPORARY VEGETATIVE COVER WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS CEASED. (SEE SPECIFICATIONS FOR TEMPORARY VEGETATIVE COVER). AREAS UNDERGOING CLEARING OR GRADING AND ANY AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WHERE WORK IS COMPLETE AND WILL NOT BE REDISTURBED SHALL BE STABILIZED AND RESTORED WITH PERMANENT VEGETATIVE COVER AS SOON AS SITE AREAS ARE AVAILABLE AND WITHIN 7 DAYS AFTER WORK IS COMPLETE. (SEE SPECIFICATIONS FOR PERMANENT VEGETATIVE COVER). SEEDING FOR PERMANENT VEGETATIVE COVER SHALL BE WITHIN THE SEASONAL LIMITATIONS. PROVIDE STABILIZATION WITH TEMPORARY VEGETATIVE COVER WITHIN 7 DAYS AFTER WORK IS COMPLETE, FOR SEEDING OUTSIDE PERMITTED SEEDING PERIODS.
8. SEEDED AREAS TO BE MULCHED WITH STRAW OR HAY MULCH, SPREAD UNIFORMLY AT A RATE OF TWO (2) TONS PER ACRE.
9. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION.
10. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST BY SPRINKLING EXPOSED SOIL AREAS PERIODICALLY WITH WATER AS REQUIRED. THE CONTRACTOR IS TO SUPPLY ALL EQUIPMENT AND WATER.
11. WHEN ALL DISTURBED AREAS ARE STABLE, ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED.

CONSTRUCTION NOTES:

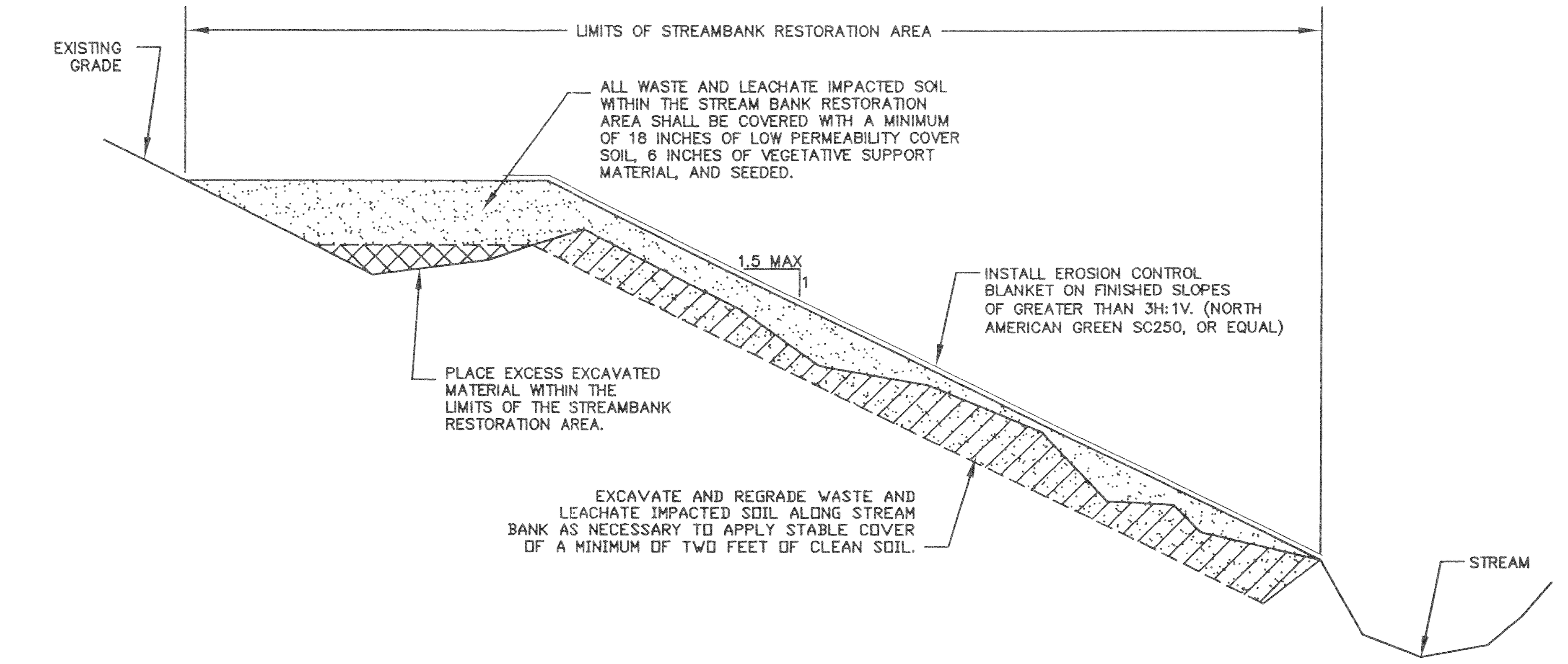
1. ALL UNDERGROUND UTILITIES ARE SHOWN IN THEIR RELATIVE POSITION AND ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR TO VERIFY THEIR ACTUAL LOCATION IN THE FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. ANY CONDITION ENCOUNTERED IN THE FIELD DIFFERING FROM THOSE SHOWN HEREON, SHALL BE REPORTED TO THE DESIGN ENGINEER BEFORE CONSTRUCTION IS TO PROCEED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL FIELD LAYOUT. THE CONTRACTOR SHALL TAKE TIES TO ALL UTILITY CONNECTIONS AND PROVIDE MARKED-UP AS BUILT PLANS FOR ALL UTILITIES SHOWING TIES TO CONNECTIONS, BENDS, VALVES, LENGTHS OF LINES AND INVERTS. AS-BUILT PLANS SHALL BE REVIEWED BY THE OWNER AND THE ENGINEER AND THE CONTRACTOR SHALL PROVIDE ANY CORRECTION OR ADMISSIONS TO THE SATISFACTION OF THE OWNER AND THE ENGINEER BEFORE UTILITIES WILL BE ACCEPTED.
4. THE DESIGN ENGINEER AND OWNER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT PRIOR REVIEW FROM THE ENGINEER.
5. CONTRACTOR TO VERIFY ALL UTILITY SERVICES PRIOR TO INTERRUPTION.
6. EXPLORATORY EXCAVATIONS SHALL BE PERFORMED AT ALL UTILITY CONNECTION LOCATIONS AND AS NEEDED BY THE CONTRACTOR TO VERIFY EXISTING CONDITIONS PRIOR TO WORK IN CONGESTED UTILITY AREAS.
7. BEFORE CONSTRUCTING LINES TO CONNECT TO EXISTING UTILITIES, VERIFY EXISTING UTILITY INVERTS AND NOTIFY THE DESIGN ENGINEER IF ANY VARIATION FROM THE PLAN IS REQUIRED.
8. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES IN SERVICE FOR THE DURATION OF THE WORK, UNLESS OTHERWISE NOTED.
9. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRED PERMITS AND ASSOCIATED CONDITIONS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING UTILITY TRENCHES AND EXCAVATIONS AND FOR THE MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF THE WORK.
11. AREAS OF LANDFILL DISTURBED WITHIN LIMITS OF WASTE SHALL HAVE VEGETATIVE SUPPORT MATERIAL APPLIED AND SEEDED AS SHOWN ON 5/C-510.
12. ANY SOILS BROUGHT TO THE SITE FOR USE AS A SOIL COVER OR BACKFILL MUST NOT EXCEED SOIL CLEANUP OBJECTIVES APPROPRIATE TO THE FUTURE USE OF THE SITE, AS PER NYSDEC TABLE 375-6.8(b).

DRAINAGE INSPECTIONS:

1. FOLLOWING CONSTRUCTION INSPECTIONS OF STORMWATER CONVEYANCE SWALES AND LEVEL SPREADER SHALL BE CONDUCTED MONTHLY. ACCUMULATED SILT, SEDIMENT, AND DEBRIS WITHIN SWALE AND LEVEL SPREADER SHALL BE REMOVED. ERODED AREAS WITHIN LEVEL SPREADER SHALL BE STABILIZED IMEDIATELY AND STONE AND GEOTEXTILE SHALL BE REPLACED.

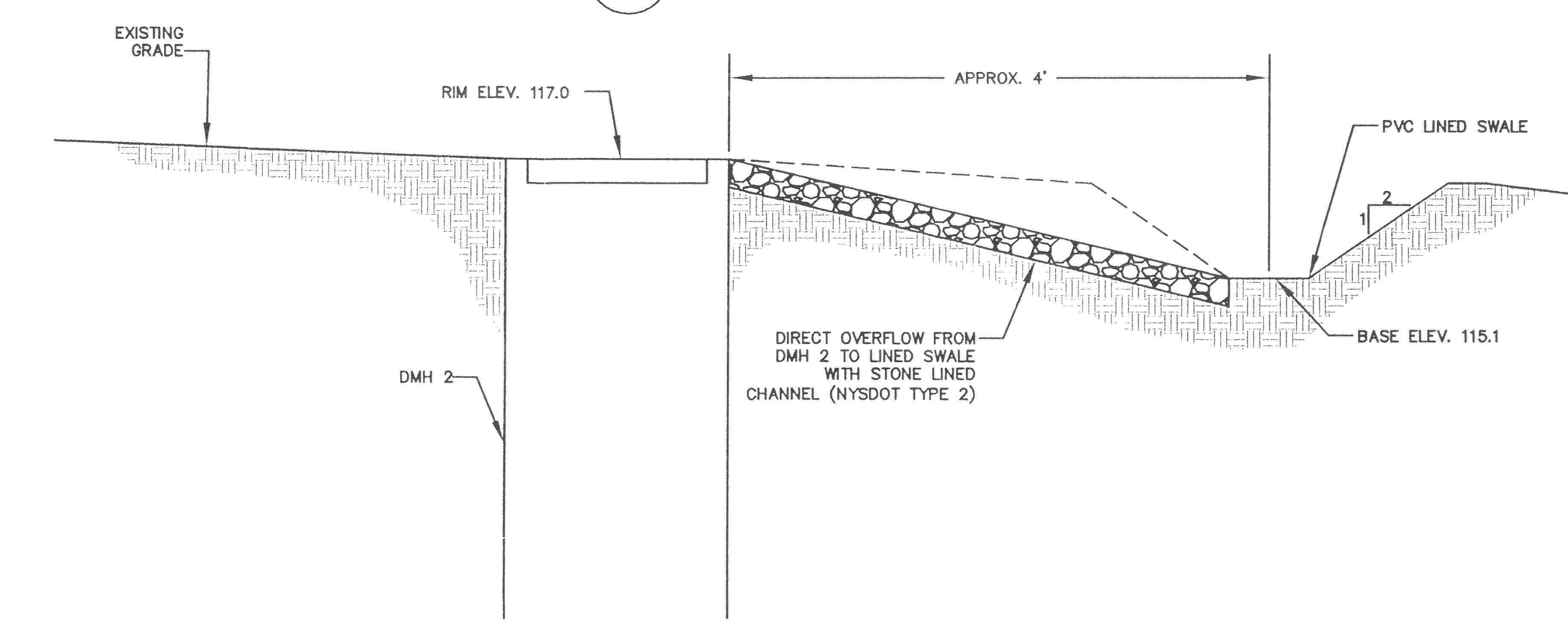
NOTES:

1. DETAIL 1/C-520 AND ALL NOTES SUBSTANTIALLY TAKEN FROM DRAWINGS ENTITLED "AREA 6 LANDFILL LEACHATE COLLECTION SYSTEM IRM WORK PLAN SITE, UTILITY & LEACHATE MANAGEMENT DETAILS" DATED 12/20/07, "AREA 6 LANDFILL LEACHATE COLLECTION SYSTEM IRM WORK PLAN EROSION, SEDIMENT CONTROL & UTILITY DETAIL" DATED 12/20/07, AND "AREA 6 LANDFILL LEACHATE COLLECTION SYSTEM IRM WORK PLAN CONCEPTUAL UTILITY PLAN" DATED 12/20/07, BY THE CHAZEN COMPANIES.



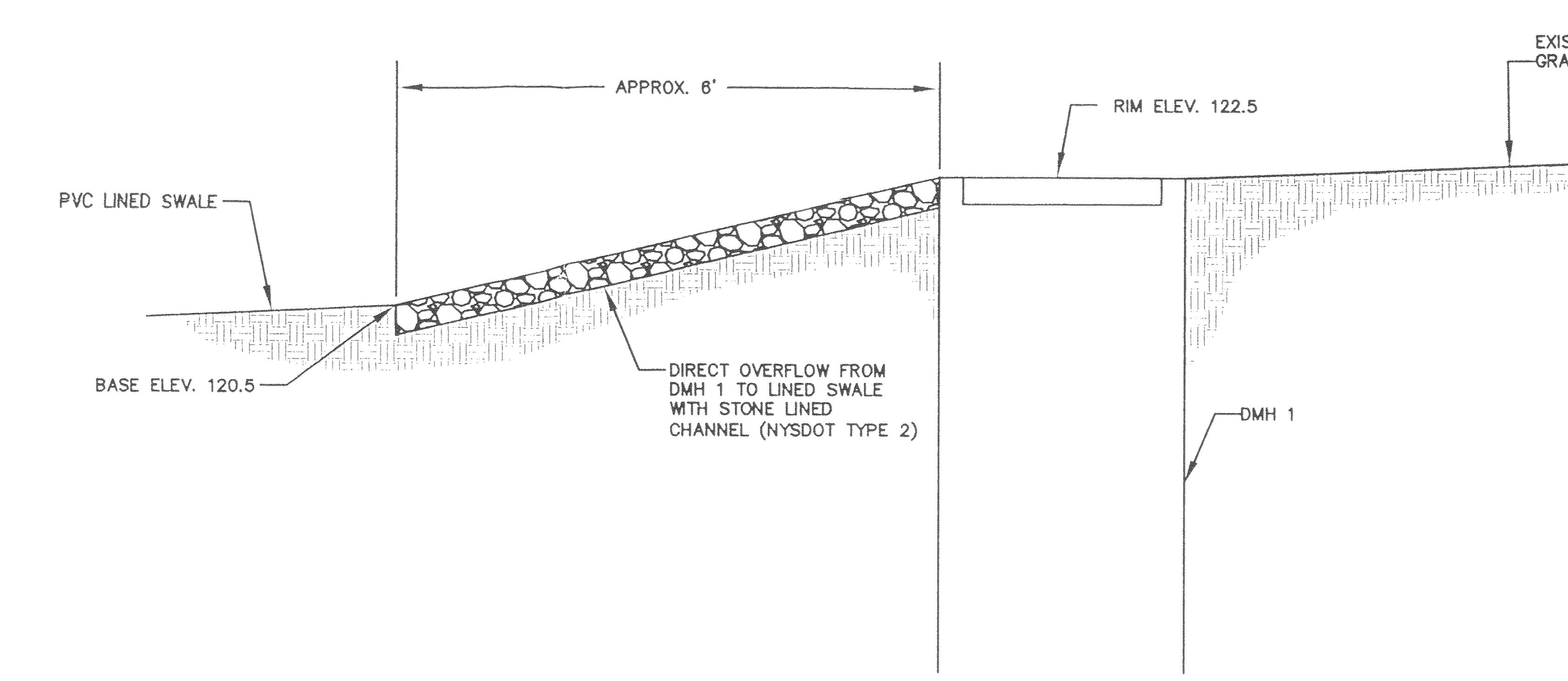
3 / C-520 STREAM BANK RESTORATION DETAIL

SCALE: NOT TO SCALE



4 / C-520 SECTION A-A'

SCALE: NOT TO SCALE



5 / C-520 SECTION B-B'

SCALE: NOT TO SCALE

No.	DATE	DESCRIPTION	BY
1.			

REVISIONS

PROJ. MANAGER:
CHIEF DESIGNER:
REVIEWED BY: DATE

SEAL

SCALE: HORZ.: NTS VERT.:
DATUM: HORZ.: VERT.:
GRAPHIC SCALE

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PROJ. No.: 20080291.A1N
DATE: JULY 2008

C-520