November 2009

SITE MANAGEMENT PLAN

Coral Island Shopping Center
1650 Richmond Avenue
Staten Island, Richmond County, New York
NYSDEC BCP Number: C243033

Prepared for:

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1.0 INTRODUCTION

This document is required for fulfillment of Remedial Action at the Coral Island Shopping Center, an approximately 3.9 acre property located at 1650 Richmond Avenue, Staten Island, Richmond County, New York (hereafter referred to as the "Site" or "Controlled Property", Figure 1) under the New York State ("NYS") Brownfield Cleanup Program ("BCP") administered by New York State Department of Environmental Conservation ("NYSDEC"). The Site was remediated in accordance with the Brownfield Cleanup Agreement ("BCA") Index# W2-1040-05-01, Site # C243033, which was issued March 2005.

WWP Associates, LLP ("WWP") entered into a BCA with the NYSDEC to address an area of impacted soil and groundwater that resulted from historic releases associated with a dry cleaner at the Site. This BCA required WWP, to investigate and remediate contaminated media at the Site.

Following completion of the remedial work described in the Remedial Action Work Plan between August 20, 2007 and September 10, 2007, some contamination was left in the subsurface at this Site, which is hereafter referred to as 'residual contamination.' This Site Management Plan ("SMP") was prepared to manage residual contamination at the Site in perpetuity or until extinguishment of the Environmental Easement in accordance with 6 NYCRR Part 375.

- This SMP defines Site-specific implementation procedures as required by the Environmental Easement. The penalty for failure to implement the SMP is revocation of the Certificate of Completion ("COC"); and
- The Brownfield Cleanup Agreement (Index #W2-1040-05-01; Site # C243033) for the Site requires conformance with this SMP, and therefore, serves as a contractual binding authority under which this SMP is to be implemented.

This Site Management Plan was prepared on behalf of WWP, in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated December 25, 2002 and the guidelines provided by NYSDEC. This SMP addresses the means for implementation of Institutional Controls ("ICs") and Engineering Controls ("ECs"), which are required by the Environmental Easement for the Site and includes an "Engineering and

Institutional Control Plan" found in Section 2.0, a "Monitoring Plan" found in Section 3.0, and a "Site Management Reporting Plan" found in Section 5.0.

Purpose

The Site contains residual contamination left after completion of the Remedial Action performed under the BCP. ECs have been incorporated into the Site remedy to provide proper management of residual contamination in the future to ensure protection of public health and the environment. A Site-specific Environmental Easement has been recorded with the Richmond County Clerk that provides an enforceable means to ensure the continued and proper management of residual contamination and protection of public health and the environment. It requires strict adherence to all Engineering Controls and all Institutional Controls placed on this Site by NYSDEC by the grantor of the Environmental Easement and any and all successors and assigns of the grantor. ICs provide restrictions on Site usage and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. This SMP includes all methods necessary ensure compliance with all ECs and ICs required by the Environmental Easement for residual contamination at the Site. The SMP has been approved by the NYSDEC, and compliance with this Plan is required by the grantor of the Environmental Easement and grantor's successors and assigns. This plan is subject to change by NYSDEC.

Site management is the last phase of the remedial process and is triggered by the approval of the Final Engineering Report and issuance of the Certificate of Completion ("COC") by NYSDEC. The SMP continues in perpetuity or until extinguished in accordance with 6NYCRR Part 375. It is the responsibility of the Environmental Easement grantor, and its successors and assigns to ensure that all Site Management responsibilities under this plan are performed.

The SMP provides a detailed description of all procedures required to manage residual contamination at the Site following the completion of the Remedial Action in accordance with the NYS BCA with the NYSDEC. This includes: (1) development, implementation, and management of all Engineering and Institutional Controls; (2) development and implementation of monitoring systems and a Monitoring Plan; (3) development of a plan to operate and maintain all treatment, collection, containment, or recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual); (4) submittal of Site Management

Reports, performance of inspections and certification of results, and demonstration of proper communication of Site information to NYSDEC; and (5) defining criteria for termination of treatment system operation. To address these needs, this SMP includes four plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; (3) an Operation and Maintenance Plan for implementation of remedial collection, containment, treatment, and recovery systems; and (4) a Site Management Reporting Plan for submittal of data, information, recommendations, and certifications to NYSDEC.

Site Management activities, reporting, and EC/IC certification will be scheduled on a certification period basis. The certification period will be annually. Important notes regarding this SMP are as follows:

- This SMP defines Site-specific implementation procedures as required by the Environmental Easement. The penalty for failure to implement the SMP is revocation of the COC;

- The Brownfield Cleanup Agreement (No. W2-1040-05-01 Site No. C243033) for the Site requires conformance with this SMP, and therefore, serves as a contractual binding authority under which this SMP is to be implemented. The BCP law itself also requires the preparation of a SMP (formerly known as an Operation, Maintenance and Monitoring Plan) in ECL 27-1415 and 27-1419. Therefore, the BCA is a binding contract and the BCP law is statutory authority under which this SMP is required and is to be implemented; and

- At the time this report was prepared, the SMP and all Site documents related to Remedial Investigation and Remedial Action are maintained at the NYSDEC Region 2 offices in Long Island City. At the time of SMP submission November, 2008, the Site documents can also be found in the repositories established for this project, including: New York Public Library, Todt Hill-Westerleigh Branch, 2550 Victory Boulevard, Staten Island, New York 10314.

1.1 Site Description

The “Site” is the Coral Island Shopping Center and is defined, for the purposes of the BCP, as the area within the limits of the property boundary as shown on Plate 1. The Site is located at 1650 Richmond Avenue, Staten Island, Richmond County New York (Figure 1). Furthermore, the Site is defined as Block 2236, Lot 125, at latitude 40° 36’ 27” north and longitude 74° 9’ 47” west. The Coral Island Shopping Center consists of two single story buildings, each with multiple tenants and a parking lot (Plate 1). The building at the north end of the Site

includes the Charming Cleaners ("Dry Cleaner"), the focus of the remediation. The areas of contamination exceeding unrestricted use soil cleanup objectives ("SCO") are located under the parking lot, behind the southern building, and behind the Dry Cleaner. The latter is gravel covered (over landscaping fabric) and is approximately 15 feet wide, with the building to the south and a chain link fence on the property line to the north.

The boundary of the Site is shown on Plate 1. A metes and bounds description is included as Appendix A.

1.2 Site History

A complete description of the Site's history, Remedial Investigation findings, and Remedial Action is presented in the following documents:

- *Remedial Investigation Work Plan,* April 18, 2005. Roux Associates, Inc.;
- *Remedial Investigation Report*, February 23, 2007. Roux Associates, Inc;
- *Alternatives Analysis Report/ Remedial Action Work Plan,* August 16, 2007. Remedial Engineering, P.C.; and
- *Final Engineering Report*, February 2008. Remedial Engineering, P.C.

Electronic copies of these documents are presented in Appendix B. In addition, at the time this SMP was prepared, all Site documents related to Remedial Investigation and Remedial Action are maintained at the NYSDEC Region 2 offices in Long Island City and the local repository at the New York Public Library, Todt Hill-Westerleigh Branch, 2550 Victory Boulevard, Staten Island, New York 10314.

As part of the RI, Roux Associates conducted a search for records in the Staten Island Department of Buildings, as well as with the current owner of the shopping center. Based on those searches and a review of historical reports, it was determined that dry cleaning operations at the Site commenced in 1975 . All dry cleaning operations were performed in the same tenant space since 1975, and no other occupants of any building at the Site that would potentially use PCE were identified. Since 1975, there have been four operators of the Dry Cleaners at the Site. Ilio-Umberto Cleaning & Tailoring, Inc. operated the facility from 1975 to 1986. DFG Dry

Cleaning Corp., doing business as (d/b/a) Coral Lanes Cleaners, began operation in 1986. Operation of the facility transitioned to Chim Bok Chung d/b/a Charming French Cleaners between 1986 and 1993 (the exact date is unknown). In 1993, the current operator, Guyon Cleaners, Inc. d/b/a Charming Cleaners assumed operation of the facility.

A 1994 "Hazardous Substances Survey and Report" prepared by MTS EnviroSurv reported that a majority of cleaning activities conducted by Charming Cleaners were performed offsite. In addition, MTS EnviroSurv was able to review waste manifests for verification of removal of PCE waste by Safety Kleen. There were no floor drains observed in the Dry Cleaner space during the 1991 inspection by MTS EnviroSurv. The current dry cleaning tenant, Charming Cleaners, operates fourth generation self-enclosed units, as reported in the June 17, 2004 "Phase I Environmental Site Assessment Report" ("Phase I ESA") and in the facility audit conducted as part of RI. These units were installed at the facility after 2000. There were no floor drains observed in the Dry Cleaner space during the 2004 inspection by EBI Consultants ("EBI") or during the RI. Waste handling manifests dating back to 2000 were reviewed by EBI as part of the Phase I ESA and to January 2007 by Roux Associates. A Compliance Audit of the facility dated February 23, 2007 was included as an appendix to the RI Report.

1.3 Sanborn Maps

Sanborn Fire Insurance Maps reviewed by EBI, as presented in the Phase I ESA, indicated that a house was located on the Site in 1917 and that between 1937 and 1950, the Site appeared vacant. Building Department records indicate that the property was used as a parking lot as early as 1949 and a bowling alley was constructed on the Site sometime between 1955 and 1958. In 1958, two pipeline easements (one liquefied natural gas and one jet fuel) were granted that cross the Site in a west to east direction approximately 30 feet south of the building. These pipelines currently exist on the Site.

In 1974, the bowling alley was converted into a strip mall-type shopping center. The building was expanded in 1995 to its current configuration (Plate 1). A separate building was constructed in the southern portion of the Site, also in 1995 (Plate 1).

1.4 Geological Conditions

The Site is located in the Embayed section of the Coastal Plain physiogeographic province. The province is characterized by areas of low relief and consists of unconsolidated Cretaceous Coastal Plain sediments overlying igneous and metamorphic bedrock.

1.4.1 Lithology

Based on a review of the RI results, the area of the Site immediately behind and beneath the Dry Cleaner (i.e., the source area) is underlain by the following generalized layers:

- A one-inch thick surface course of gravel underlain by landscaping fabric.
- Fill: ranging from two to four-feet thick and described as a brown coarse to fine sand with brick, glass, concrete and wood fragments.
- Sand and Silt: two to six-foot thick layer of grey to brown, coarse to fine sand and silt, with occasional variable amounts of gravel. For clarification purposes in the discussion below, this layer will be referred to as the sand layer.
- Silt: eight to 13-foot thick layer of brown silt with some gravel and little fine sand.
- Silt and Clay: brown silt and clay, greater than 12-feet thick immediately beneath the Dry Cleaner.

The sand layer ranges from two to 6.5 feet in thickness beneath most of the Site, with the exception of the western portion. In the vicinity of Well Cluster MW-103S/D beneath the western portion of the Site, the sand layer dips down and increases in thickness to approximately 15 feet, and is overlain by a four-foot thick zone of primarily silt with a one-foot thick embedded sand and silt layer. The shallow silt zone was observed to the west at the MW-104S/D cluster, where it is approximately three-feet thick. In the vicinity of Well Cluster MW-108S/D in the eastern portion of the Site, the sand layer is also overlain by a two-foot thick silt layer.

The eight to 13 foot-thick layer consisting of primarily silt beneath the sand layer was also identified beneath most of the Site, with the exception of the western portion, where it pinches out or grades to the coarser sand and silt layer in the vicinity of Well Cluster MW-103S/D. Deep wells screened in this silt layer beneath the Dry Cleaner (MW-101D and MW-102D) indicated impacts by VOCs.

Beneath the silt layer is a finer-grained silt and clay to clay layer. The silt and clay layer is thickest beneath the source area in the vicinity of Well Cluster MW-101S/D, where it is over 12 feet thick. Note that the bottom of the silt and clay layer was not encountered in the boring for Well Cluster MW-101S/D. The silt and clay layer decreases in thickness toward the east and west away from beneath the source area. Toward the east at MW-108S/D, the silt and clay layer is only approximately two feet thick. Toward the west at Well Cluster MW-103S/D, only a 1.5-foot thick clay layer is present. The clay layer increases again in thickness further toward the west at Well Cluster MW-104S/D, where it is over three feet thick. Note that the bottom of the clay layer at MW-104S/D was not encountered.

A sand and silt layer was observed beneath the silt and clay layer at the borings for SB-1, MW-103S/D, and MW-108S/D. The thickness of this layer is unknown and it represents the lowest unit observed at the Site.

1.5 Remedial Investigation Findings

The following is a summary of the Remedial Investigation Findings.

1.5.1 Air

Indoor air sampling in the adjacent Church and School indicated that all but one detection of tetrachloroethene ("PCE") in indoor air were below the outdoor ambient air concentrations collected concurrently with each sampling event. Confirmation sampling suggested that the one PCE detection was an anomalous sampling event. Based on NYSDOH guidance, the concentrations of trichloroethene ("TCE") in one indoor air sample required that, "reasonable and practical measures should be taken to identify the sources and reduce the exposure." The remedial actions described below included those reasonable and practical measures.

1.5.2 Soil

The results of the investigation indicated that shallow soil (i.e., less than five feet deep) in the immediate vicinity of the back of the Dry Cleaner is impacted by concentrations of PCE above 6 NYCRR Subpart 375-6 Restricted Commercial SCOs. Shallow soils impacted by high concentrations of PCE were also observed in a small area immediately north of the Site on Church property.

1.5.3 Groundwater

Associated with the impacted soil is a plume of relatively high concentrations of dissolved VOCs in the underlying groundwater. The plume extends offsite toward the west-northwest beneath Church and School properties. The maximum down gradient extent of the plume is approximately 260 feet. The VOCs detected in groundwater include PCE and high concentrations of associated degradation products: TCE, cis- and trans-1,2-dichloroethene ("DCE"), and vinyl chloride. The presence of significant concentrations of degradation products indicates that natural biodegradation of the VOCs in the plume is occurring.

1.6 Summary of Remedial Action

Below is a description of the Remedial Action as described in the NYSDEC-approved Remedial Action Work Plan.

1. Onsite soils impacted with PCE and degradation products were excavated from four areas and disposed of offsite. At each area, the upper two to five feet of fill was excavated. Post-excavation samples were collected and additional excavation was conducted until Restricted Commercial Use SCOs were met or to the extent feasible based on the water table and lateral limitations of underground utilities, building foundations, and a nearby transformer. Excavations were backfilled with clean soil that meets 6 NYCRR Subpart 375-6 Track 1 Unrestricted Use SCOs.

2. Offsite soils impacted with PCE and degradation products were excavated from one area and disposed of offsite. Initially, the upper five feet of soil was excavated. Post-excavation samples were collected and additional excavation was conducted until Unrestricted Use SCOs were met. Excavations were backfilled with clean soil that meets 6 NYCRR Subpart 375-6 Track 1 Unrestricted Use SCOs.

3. Prior to backfilling, Enhanced Reductive Dechlorination ("ERD") substrates were applied to the bottom of the open onsite and offsite excavations created during the removal of impacted soils.

4. One round of offsite ERD injections were conducted in the area of the leading edge of the 10,000 microgram per liter total volatile organic compound. The ERD substrate was injected every five feet as a row of injections. The depth of ERD injection was extend from approximately 4 ft to 8 feet bls into the groundwater (depth to groundwater is approximately 4 feet bls).

5. To assess the performance of the ERD injections, periodic groundwater monitoring will be conducted.

1.6.1 Engineering and Institutional Controls

Since contaminated groundwater/soil vapor remains beneath the Site, Engineering and Institutional Controls (ECs and ICs) are required to protect human health and the environment. Long-term management of EC/ICs and of residual contamination will be executed under this Site specific Site Management Plan ("SMP").

The Controlled Property has one long-term primary Engineering Control as follows:

- Cover

A series of Institutional Controls are required to implement, maintain and monitor this Engineering Control. The Environmental Easement requires compliance with these Institutional Controls. These Institutional Controls consist of the following:

- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls on the Controlled Property (the Site) must be inspected and certified at a frequency and in a manner defined in this SMP;
- Groundwater, soil vapor, and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to Site Management for the Controlled Property must be reported at the frequency and in a manner defined in this SMP;
- On-Site environmental monitoring devices, including but not limited to, groundwater monitor wells and soil vapor probes, must be protected and replaced as necessary to ensure continued functioning in the manner specified in this SMP;
- Compliance with the Environmental Easement by the Grantor and the Grantor's successors and assigns with all elements of this SMP; and
- Engineering Controls may not be discontinued without an amendment or the extinguishment of this Environmental Easement.

The Controlled Property has a series of Institutional Controls in the form of Site restrictions. Adherence to these Institutional Controls is required under the Environmental Easement. Site restrictions that apply to the Controlled Property are:

- The Controlled Property may be used for restricted commercial use only provided the long-term Engineering and Institutional Controls included in this SMP remain in use; and

- Use of groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for the intended use.

These EC/ICs should:

- Prevent ingestion of groundwater with contamination levels that exceed drinking water standards;
- Prevent contact with or inhalation of volatiles from contaminated groundwater;
- Restore groundwater to pre-disposal/pre-release conditions, to the extent practicable; and
- Prevent contaminated groundwater from migrating off-site.

2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

Remedial activities completed at the Site were conducted in accordance with the NYSDEC-approved Remedial Action Work Plan ("RAWP") dated August 16, 2007. The remedial goals included attainment of Track 4 Soil Cleanup Objectives ("SCOs") for on-site soils for restricted commercial use and Track 1 SCOs for off-site soils.

Since residual contaminated soil and groundwater exists beneath a portion of the Site, Engineering Controls and Institutional Controls ("EC/ICs") are required to protect human health and the environment. This Engineering and Institutional Control Plan describes the procedures for the implementation and management of all EC/ICs at the Site.

The purpose of this Plan is to provide:

- A description of all EC/ICs on the Site;
- The basic operation and intended role of each implemented EC/IC;
- A description of the key components of the ICs created as stated in the Environmental Easement;
- A description of the features that should be evaluated during each annual inspection and compliance certification period;
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Soil Management Plan for the safe handling of residual contamination that may be disturbed during maintenance or redevelopment work on the Site; and
- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the Site remedy, as determined by the NYSDEC.

2.1 Engineering Control ("EC") Components

The ECs include: (1) a composite cover system and, (2) monitoring enhanced natural attenuation of groundwater on and off the Site.

2.1.1 Composite Cover System

Exposure to residual contaminated soil/fill exceeding restricted commercial use SCOs at the Site will be prevented by a cover. The current cover system is comprised of asphalt, building foundations, landscaped areas, and gravel covered landscaped areas. A Soil Management Plan

that outlines the procedures required in the event the composite cover system and underlying residual contamination are disturbed is presented as Appendix C. The monitoring and maintenance of this cover are provided in the Monitoring Plan included in Section 3 of this SMP. A figure showing the location and cross section of each cover system is presented as Plate 3.

2.1.2 Monitored Enhanced Natural Attenuation

Groundwater monitoring activities to assess natural attenuation will continue, as determined by NYSDOH and NYSDEC, until residual groundwater concentrations are found to be below NYSDEC standards or have become asymptotic over an extended period. Monitoring will continue until permission to discontinue is granted in writing by NYSDEC and NYSDOH. The monitoring activities are outlined in the Monitoring Plan included in Section 3 of this SMP.

2.2 Institutional Controls ("ICs") Components

The ICs are required under the RAWP to: (1) implement, maintain and monitor EC systems; (2) prevent future exposure to residual contamination by controlling disturbances of the subsurface contamination; and, (3) restrict the use of the Site to restricted commercial uses only. Adherence to these ICs on the Site is required under the Environmental Easement and will be implemented under this SMP. A copy of the Environmental Easement is presented as Appendix D.

The following are the ICs for the Site:

1. The Grantor and the Grantor's successors must comply with the Environmental Easement and with all elements of this SMP.

2. All ECs must be operated and maintained as specified in this SMP (Section 3.0).

3. All ECs on the Site must be inspected and certified at a frequency and in a manner defined in the SMP (Section 5.0).

4. Groundwater, and other environmental or public health monitoring must be performed as defined in this SMP (Section 3.0).

5. On-Site environmental monitoring devices, including but not limited to, groundwater monitor wells must be protected and replaced as necessary to ensure continued functioning in the manner specified in this SMP.

6. ECs may not be discontinued without an amendment or the extinguishment of the Environmental Easement for the Site.

7. The following Site Restrictions apply to the Site:

    - Use of groundwater underlying the Site is prohibited without treatment rendering it safe for the intended use.

    - Vegetable gardens and farming on the Site are prohibited.

    - All future activities on the Site that will disturb residual contaminated material are prohibited unless they are conducted in accordance with the soil management provisions in this SMP (Appendix C).

    - The Site may be used for restricted commercial use only provided the long-term EC/ICs included in the SMP remain in use. The Site may not be used for a higher level of use, such as restricted residential use without an amendment or the extinguishment of this Environmental Easement.

    - Grantor agrees to submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Site are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Site at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow. This annual statement must be certified by an expert that the NYSDEC finds acceptable.

2.3 Objectives of Site EC/ICs

The objectives of the Site EC/IC are to:

- Prevent ingestion of groundwater with contamination levels that exceed drinking water standards;

- Prevent contact with or inhalation of volatiles from contaminated groundwater;

- Restore groundwater to pre-disposal/pre-release conditions, to the extent practicable;

- Prevent the discharge of contaminants to surface water; and

- Prevent ingestion/direct contact with contaminated soil.

3.0 MONITORING PLAN

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the implemented ECs in reducing or mitigating contamination at the Site.

Monitoring of the performance of the remedy and overall reduction in contamination on-site (and off-site) will be conducted on a quarterly basis for two years after the remedy was implemented through excavation and treatment in September 2007. Frequency of the groundwater monitoring will be determined by NYSDEC thereafter based upon trends in contaminant levels in groundwater in the affected areas and an assessment whether the remedy continues to be effective in achieving remedial goals. Monitoring programs are summarized in the embedded table below and outlined in detail in Sections 3.1 and 3.2.

Monitoring/Inspection Schedule

Monitoring Program	Frequency*	Matrix	Analysis
Composite Cover System	Annually	-	None
Groundwater	Quarterly until September 2009 *	Groundwater	VOCs

*The frequency of events will be conducted as specified and will be determined by the NYSDEC thereafter.

3.1 Engineering Control System Monitoring

3.1.1 Cover Monitoring

Several covers exist on the Site that include landscaped areas, gravel covered landscaped areas, asphalt, and building foundations. These covers limit exposure to residual contaminated soil/fill. The gravel covered landscaped areas consist of approximately two inches of gravel over a landscape fabric. A figure showing the location and cross section of each cover system is presented as Plate 3.

The composite cover system is a permanent control and the existence, quality, and integrity of this system will be inspected annually in perpetuity as described in the Reporting Plan included in Section 5 of this SMP.

3.1.2 Monitored Enhanced Natural Attenuation

As described in the Remedial Action Work Plan, natural attenuation monitoring for groundwater will be performed on a quarterly basis for two years following the September 2007 excavation of the source material and application of ERD (from December 2007 to September 2009) to assess the performance of the remedy.

A network of monitoring wells has been installed to monitor both up-gradient and down-gradient groundwater conditions at the Site. The locations of on-Site and off-site wells, ERD injection locations, and the groundwater flow direction are shown on Plate 2. An isoconcentration map is presented as Plate 4. Monitoring well construction logs are presented in Appendix E.

As described in the Remedial Action Work Plan, performance monitoring samples have been collected from monitoring wells MW-101S, MW-101D, MW-103S, MW-103D, MW-113S, MW-113D, MW-205S, MW-205D, MW-206S, MW-206D, MW-207S, and MW-207D using low flow purging and sampling procedures during each sampling event, which will continue until September 2009.

Following September 2009, WWP will propose a revised sampling frequency and monitoring well network for review and approval by the NYSDEC. The revised monitoring plan will be based on a review of the September 2009 groundwater sampling data. The NYSDEC has requested that WWP considers collecting samples from monitoring wells MW-101S, MW-101D, MW-103S, MW-103D, MW-113S, MW-113D, MW-205S, MW-205D, MW-206S, MW-206D, MW-207S, and MW-207D on a periodic basis (to be determined), and from monitoring wells MW-108S, MW-108D, MW-111S, MW-111D, MW-112S, MW-112D, MW-202S, MW-202D, MW-203S, and MW-203D on an annual basis.

Prior to sample and data collection, the monitoring wells will be gauged and then purged via low-flow means using a submersible or peristaltic pump. Samples and parameter readings will

be collected using a flow-through cell to prevent sample contact with atmospheric air. All well sampling activities will be recorded in a field book and a groundwater-sampling log presented. Other observations (e.g., well integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the groundwater monitoring well network.

Following September 2009, all wells in the monitoring well network (to be determined) will be sampled for VOC (focusing on PCE, TCE, 1,2 DCE, and VC). In addition, the monitoring well(s) immediately downgradient of any future ERD injection points will also be sampled for total organic carbon. All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan ("QAPP") prepared for the Site (Appendix F). Groundwater monitoring data will be submitted following each sampling event and will be incorporated into the annual Site Management Report as discussed in Section 5.0.

The necessity for additional ERD injection will be evaluated based on a review of the groundwater analytical data presented in the annual Site Management Report. Should the NYSDEC require additional ERD injection, approximately 5 gallons of ERD (blackstrap molasses) will be mixed with approximately 20 gallons of water in a holding tank and then pumped under low pressure to injection points. The number and location of injection points will be determined based on the evaluation of groundwater analytical data presented in the annual Site Management Report. The network of monitoring wells and sampling frequency required following ERD injection will be determined by the NYSDEC based on the specific conditions of the data presented in the annual Site Management Report. Groundwater sampling will follow the standard sampling protocols defined above (VOCs from all monitoring wells and TOC from select monitoring wells).

In addition, should ERD injection occur, baseline and post-injection soil vapor sampling will be conducted to assess the potential for degradation byproduct and end product generation as a result of ERD injection. For each event, a soil vapor sample will be collected from soil vapor points near ERD injection locations. An outdoor ambient air sample will also be collected. Soil vapor samples will be analyzed for VOCs and methane. The post-injection sampling round will be collected approximately one month following ERD injections.

3.2 Groundwater Monitoring Well Maintenance

If biofouling or silt accumulation has occurred in the on-site and/or off-site monitoring wells, as determined by significant changes in well production or depth to bottom measurements, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced in kind, if an event renders the wells unusable. Well decommissioning, for the purpose of replacement, should be reported to NYSDEC prior to performance and in the annual report. Well decommissioning without replacement in kind must receive prior approval by NYSDEC. Well abandonment will be performed in accordance with NYSDEC's "Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC and NYSDOH.

3.3 Inspections

Inspections of all systems installed on the Site will be conducted at the frequency specified in SMP Monitoring Plan schedule. A comprehensive Site inspection will be conducted annually. Site-wide inspection should also be performed after all severe weather conditions that may affect Engineering Controls or monitoring devices. During these inspections, an inspection form will be completed (Appendix G). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including Site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General Site conditions at the time of the inspection;
- The Site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;
- Confirm that any Site records are up to date; and
- Changes, or needed changes, to the remedial or monitoring system.

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements are outlined in the Site Management Reporting Plan (Section 5).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the Site will be conducted to verify the effectiveness of the EC/ICs implemented at the Site by a qualified environmental professional as determined by NYSDEC.

3.4 Monitoring Reporting Requirements

Forms and any other information generated during regular monitoring events and inspections will be kept on file. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by the NYSDEC and (2) submitted at the time of the annual Site Management Report, as specified in the Reporting Plan of the SMP. A report or letter will be prepared for submission, subsequent to each groundwater sampling event and submitted to the NYSDEC within 30 days of the receipt of the laboratory data. The report (or letter) will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., groundwater, outdoor air, etc);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (also to be submitted electronically in the NYSDEC-identified format);
- A copy of the laboratory certification;
- Any observations, conclusions, or recommendations; and
- A determination as to whether plume conditions have changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by NYSDEC. A summary of the monitoring program deliverables are summarized in the table below.

Monitoring/Inspection Deliverables

Task	Frequency*	Quarterly Reporting Requirement	Annual Reporting Requirement
Groundwater Monitoring	Quarterly until September 2009 *	Yes*	Yes*
Site Inspection	Annually	No	Yes

*The frequency of events will be conducted as specified and will be determined by the NYSDEC thereafter.

A summary of all monitoring data collected during the year will be reported to NYSDEC on an annual basis in the Site Management Report. The Site Management Report will be submitted to NYSDEC on a calendar year basis and must be submitted by March 1 of the following year. Further information on the reporting requirements are outlined in the Reporting Plan of the SMP.

3.5 Notifications

The following information is presented as an Electronic Database in Appendix B in an electronic database format:

- A Site summary;
- The name of the current Site owner and/or the remedial party implementing the SMP for the Site;
- The location of the Site;
- The current status of Site remedial activity;
- A copy of the Environmental Easement; and
- A contact name and phone number of a person knowledgeable about the Environmental Easement's requirements, in order for NYSDEC to obtain additional information, as necessary.

This information should be: 1) modified as conditions change; (2) revised in Appendix B of this document; and, (3) submitted to NYSDEC in the Annual Site Monitoring Report. Should the Environmental Easement be modified or terminated, the copy of the revised Environmental Easement will also be updated in this manner.

3.5.1 Non-routine Notifications

Non-routine notifications are to be submitted by the property owner(s) to the NYSDEC on an as-needed basis for the following reasons:

- 60-day advance notice of any proposed changes in Site use that are consistent with the terms of the Brownfield Cleanup Agreement.
- 10-day advance notice of any proposed Site ground-intrusive activities.
- Notice within 48-hours of any damage or defect to the foundation structures in the Site that reduces or has the potential to reduce the effectiveness of other Engineering Controls and likewise any action taken to mitigate the damage or defect.
- Notice within 48-hours of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the Site, including a summary of action taken and the impact to the environment and the public.

Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

3.6 Certification

Site inspections and sampling activities will take place as outlined above. Frequency of inspection is subject to change by NYSDEC. Inspection certification for all ICs and ECs will be submitted to NYSDEC on a calendar year basis and must be submitted by March 1 of the following year. A qualified environmental professional, as determined by NYSDEC, will perform inspection and certification. Further information on the certification requirements are outlined in the Reporting Plan of the SMP.

4.0 OPERATION AND MAINTENANCE PLAN

The Operation and Maintenance Plan describes the measures necessary to operate and maintain any components of the remedy selected for the Site. This Operation and Maintenance Plan includes groundwater monitoring well maintenance.

4.1 Groundwater Monitoring Well Maintenance

As described in Section 3, if biofouling or silt accumulation has occurred in the on-site and/or off-site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced in kind, if an event renders the wells unusable.

4.2 Maintenance Reporting Requirements

Maintenance reports and any other information generated during regular operations at the Site will be kept on-file. All reports, forms, and other relevant information generated will be available upon request to the NYSDEC and submitted as part of the Annual Site Management Report, as specified in the Section 5 of this SMP.

5.0 SITE MANAGEMENT REPORTING PLAN

A comprehensive Site-wide inspection will be conducted annually. The inspections will determine and document the following:

The form will compile sufficient information to assess the following:

- Compliance with all ICs, including Site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General Site conditions at the time of the inspection;
- The Site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;
- Confirm that any Site records are up to date; and
- Changes, or needed changes, to the remedial or monitoring system.

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the Site will be conducted to verify the effectiveness of the EC/ICs implemented at the Site by a qualified environmental professional as determined by NYSDEC.

In case of an emergency, the site owner, WWP, can be contacted at (919) 846-4046 and the NYSDEC can be contacted at (718) 482-4897.

5.1 Reporting

An annual Site Management Report will be submitted to NYSDEC following the reporting period, by March 1 of the calendar year. Groundwater monitoring reports will be submitted following sample collection. Those results will also be incorporated into the annual Site Management Report. The Site Management Report will be prepared in accordance with Section 6 of the NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation requirements. This Site Management Report Plan and its requirements are subject to revision by NYSDEC, will include the following:

- Identification of all required EC/ICs required by the RAWP for the Site;
- An evaluation of the Engineering and Institutional Control Plan and the Monitoring Plan for adequacy in meeting remedial goals;
- Assessment of the continued effectiveness of all IC/ECs for the Site;

- Certification of the EC/ICs;
- Results of the required periodic Site Inspections; and
- All deliverables generated during the reporting period.
- All applicable inspection forms and other records generated for the Site during the reporting period;
- Cumulative data summary tables and/or graphical representations of contaminants of concern by media (groundwater) which include a listing of all compounds analyzed along with the applicable standards, with all exceedances highlighted;
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables required for all points sampled during the calendar year (also to be submitted electronically in the NYSDEC-specified format);
- A Site evaluation, which will address the following:
  - The compliance of the remedy with the requirements of the Site-specific RAWP and FER;
  - The performance and effectiveness of the remedy;
  - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
  - Any new conclusions or observations regarding Site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored; and
  - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan.
- A figure showing sampling and well locations, and significant analytical values at sampling locations; and
- Comments, conclusions, and recommendations, based on an evaluation of the information included in the report, regarding EC/ICs at the Site.

The Site Management Report will be submitted, in hard-copy format, to the Region 2 NYSDEC offices, located at 41-40 21st Street, Long Island City, New York, and in electronic format to NYSDEC and NYSDOH.

5.2 Certification of EC/ICs

A Professional Engineer licensed to practice in New York State will sign and certify in the Annual Site Management Report that:

- On-Site EC/ICs are unchanged from the previous certification;
- The EC/ICs remain in-place and effective;
- Nothing has occurred that would impair the ability of the controls to protect the public health and environment;
- Access is available to the Site by NYSDEC and NYSDOH to evaluate continued maintenance of the EC/ICs; and
- Site usage is compliant with the environmental easement.

5.3 Non-Routine Notifications

Non-routine notifications are to be submitted by the property owner(s) to the NYSDEC on an as-needed basis for the following reasons:

- 60-day advance notice of any proposed changes in Site use that are consistent with the terms of the Brownfield Cleanup Agreement.
- 10-day advance notice of any proposed ground-intrusive activities in the Site.
- Notice within 48-hours of any damage or defect to the foundation structures in the Site that reduces or has the potential to reduce the effectiveness of other ECs and likewise any action taken to mitigate the damage or defect.
- Notice within 48-hours of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the Site, including a summary of action taken and the impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

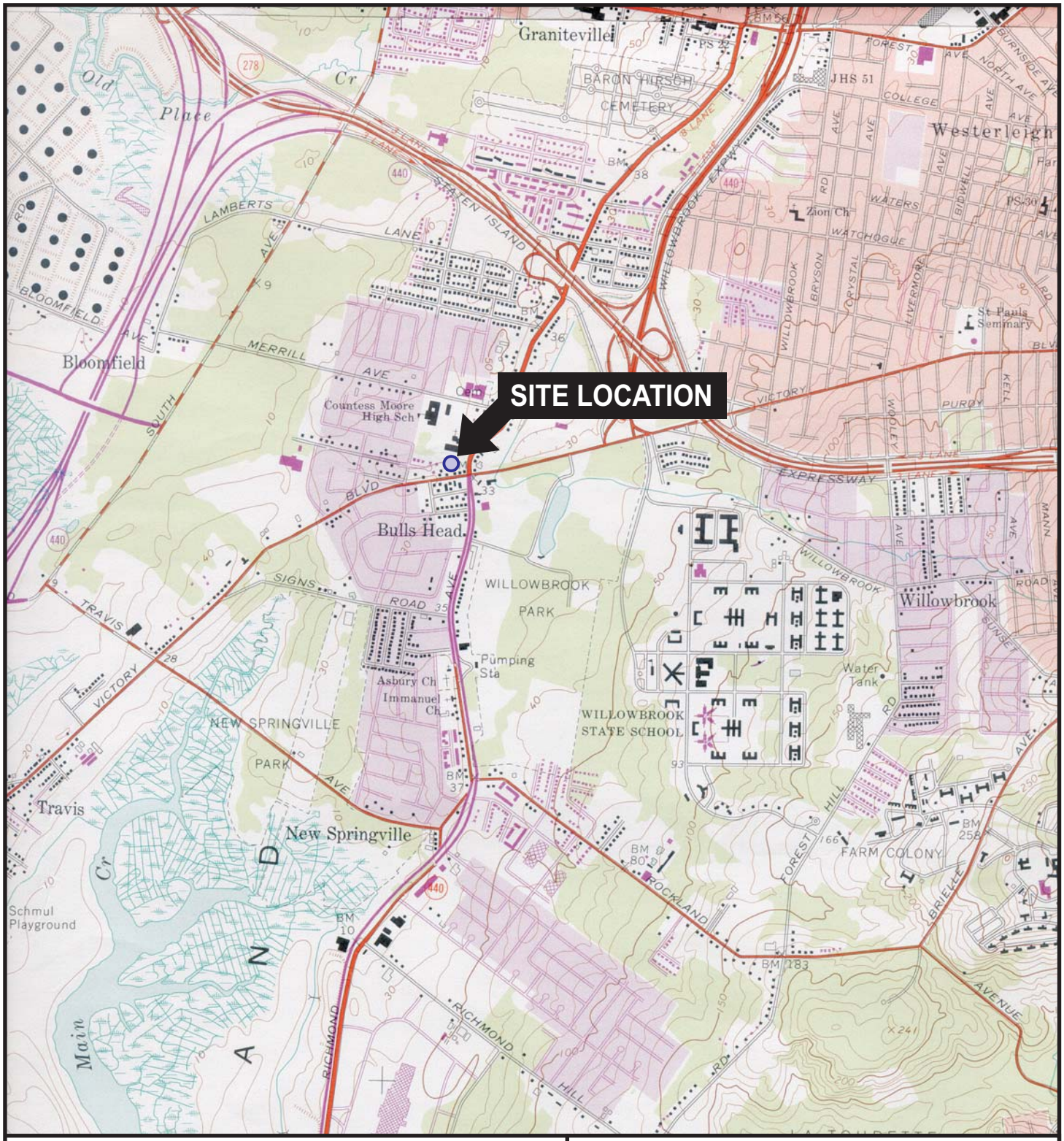
5.4 NYSDEC-acceptable Electronic Database

The following information is presented in Appendix A in an electronic database format:

- A Site summary;
- The name of the current Site owner and/or the remedial party implementing the SMP for the Site;
- The location of the Site;

- The current status of Site remedial activity;
- A copy of the Environmental Easement; and
- A contact name and phone number of a person knowledgeable about the Environmental Easement's requirements, in order for NYSDEC to obtain additional information, as necessary.

This information should be: 1) modified as conditions change; (2) revised in Appendix A of this document; and, (3) submitted to NYSDEC in the annual Site Management Report. Should the Environmental Easement be modified or terminated, the copy of the revised Environmental Easement will also be updated in this manner.



QUADRANGLE LOCATION

SOURCE:
USGS; 1981. Arthur Kill, N.Y.-N.J.
7.5 Minute Topographic Quadrangle

N

0 2000'

Title:

SITE LOCATION PLAN

CORAL ISLAND SHOPPING CENTER
STATEN ISLAND, NEW YORK

Prepared for:

WWP ASSOCIATES, LLP

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: M.R.		Date: 17DEC04	FIGURE
Prepared by: M.R.		Scale: AS SHOWN	1
Project Mgr.: M.R.		Office: NY	
File No.: RRA012509.CDR		Project No.: 125801Y	

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APPENDIX A

Metes and Bounds Description
(intentionally omitted)

APPENDIX B

Electronic Copy of Project Documents

APPENDIX C

Soil Management Plan

April 2009

SOIL MANAGEMENT PLAN

Coral Island Shopping Center
1650 Richmond Avenue
Staten Island, New York
NYSDEC BCP Number: C243033

Prepared for:

WWP ASSOCIATES, LLP
8816 Six Forks Road
Suite 201
Raleigh, North Carolina 27615

Remedial Engineering, P.C.
Environmental Engineers

209 Shafter Street, Islandia, New York 11749 ♦ 631-232-2600

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1.0 AREA DESCRIPTION

The "Site" is the Coral Island Shopping Center located at 1650 Richmond Avenue, Staten Island, Richmond County New York (Figure 1) and is defined, for the purposes of the BCP, as the area within the limits of the property boundary. The area of residual contamination, however, is primarily located behind the Dry Cleaner, which is gravel covered (over landscaping fabric) and is approximately 15 feet wide, with the building to the south and a chain link fence on the property line to the north. The boundary of the Site is shown on Plate 1.

In the event that the composite cover system is disturbed, the procedures described below must be followed. Intrusive construction work must also be conducted in accordance with the procedures defined in a Health and Safety Plan ("HASP") and Community Air Monitoring Plan ("CAMP") prepared for the Site. The CAMP is presented in Appendix A of this Soil Management Plan. The HASP is the responsibility of the property owner and should be in compliance with DER-10 Technical Guide and 29 CFR 1910 and 1926, and all other applicable Federal, State and local regulations. Any intrusive construction work must be certified as compliant with the Site Management Plan and be included in the periodic inspection and certification reports submitted under the Site Management Plan. Due to the residual contamination, the Site is limited to restricted commercial use only.

2.0 SOIL MANAGEMENT

2.1 Soil Screening Methods

Visual, olfactory and PID soil screening and assessment will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material. Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Screening will be performed by qualified environmental professionals. Resumes will be provided in the annual Site Management Report for all personnel conducting invasive work field screening (i.e. those representing the Remedial Engineer) for unknown contaminant sources during remediation and development work.

2.2 Stockpile Methods

All excavated materials are to be stored in stockpiles lined and covered with a single layer of minimum 6-mil plastic sheeting. Covers will be appropriately anchored. Stockpiles will be routinely inspected and damaged sheeting covers will be promptly replaced. Soil stockpiles will be continuously encircled with silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC.

If necessary, a dedicated water truck equipped with a water cannon will be available on-Site for dust control.

2.3 Materials Excavation and Load Out

The Remedial Engineer or a qualified environmental professional under his/her supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the Site and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the Site will be investigated by the Remedial Engineer. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the Site.

Loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, decontaminated (i.e., brushed, washed), manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

Locations where vehicles enter or exit the Site shall be inspected daily for evidence of off-Site sediment tracking.

The Remedial Engineer will be responsible for ensuring that all egress points for truck and equipment transport from the Site will be clean of dirt and other materials derived from the Site. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials. The Remedial Engineer will ensure that excavation activities will not interfere with remedial activities.

The Site owner and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all invasive work, the structural integrity of excavations, and for structures that may be affected by excavations (such as building foundations).

All primary contaminant sources (including but not limited to tanks and hotspots) identified during post-remedial action invasive work will be surveyed by a surveyor licensed to practice in the State of New York. The survey information will be shown on maps to be reported in the Annual Site Management Report.

2.4 Materials Transport Off-Site

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

Appropriately licensed haulers will be used for material removed from the Site and will be in full compliance with all applicable local, State and Federal regulations.

Proposed in-bound and out-bound truck routes to the Site are shown in Figure 2. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport. Access / egress points will be kept clean. Trucks will be decontaminated before leaving the Site.

2.5 Materials Disposal Off-Site

The disposal locations will be identified and reported to NYSDEC in the annual Site Management Report.

All soil/fill/solid waste excavated and removed from the Site will be treated as contaminated and regulated material and will be disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil/fill from the Site is proposed for unregulated disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to NYSDEC's Project Manager. The Remedial Engineer is responsible for obtaining documentation from the disposal facility (i.e., letter from Remedial Engineer to the receiving facility, and letter from receiving facility). Unregulated off-Site management of materials from the Site is prohibited without formal NYSDEC approval.

Soils that are contaminated (exceed Track 1 unrestricted use standards) but non-hazardous, and are being removed from the Site are considered by the Division of Solid & Hazardous Materials (DSHM) in NYSDEC to be C/D materials with contamination not typical of virgin soils. These soils may be sent to a permitted Part 360 landfill. They may be sent to a permitted C/D processing facility without permit modifications only upon prior notification of NYSDEC Region 2 DSHM. This material is prohibited from being sent or redirected to a Part 360-16 Registration Facility. All non-hazardous historic fill and contaminated soils taken off Site will be handled, at a minimum, as managed solid waste per 360-1.2.

The annual Site Management Report will include an accounting of the destination of all material removed from the Site Controlled Property during work performed under this plan, including excavated soil, contaminated soil, historic fill, solid waste, and hazardous waste, non-regulated material, and fluids. Documentation associated with disposal of all material must also include records and approvals for receipt of the material. This information will also be presented in a tabular form in the annual Site Management Report.

Bill of Lading system or equivalent will be used for off-Site movement of non-hazardous wastes and contaminated soils. This information will be reported in the annual Site Management Report.

Hazardous wastes derived from the Site Controlled Property will be stored, transported, and disposed of in full compliance with applicable local, State, and Federal regulations.

Appropriately licensed haulers will be used for material removed from the Site Controlled Property and will be in full compliance with all applicable local, State and Federal regulations.

Waste characterization will be performed for off-Site disposal in a manner suitable to the receiving facility and in conformance with applicable permits. Sampling/analytical methods, frequency, results, and QA/QC will be reported in a Final Engineering Report.

2.6 Fluids Management

All liquids to be removed from the Site Controlled Property, including dewatering fluids, will be handled, transported and disposed in accordance with applicable local, State, and Federal

regulations. Liquids discharged into the New York City sewer system will be addressed through approval by NYCDEP.

Dewatered fluids will not be recharged back to the land surface or subsurface of the Site. Dewatering fluids will be managed off-Site.

Discharge of water generated during remedial construction to surface waters (i.e. a local pond, stream or river) is prohibited without a SPDES permit.

2.7 Demarcation

After the completion of soil removal and any other invasive remedial activities that identify residual contamination, and prior to backfilling, as necessary, a land survey will be performed by a New York State licensed surveyor. The survey will define the top elevation of residual contaminated soils. A physical demarcation layer, consisting of orange snow fencing material or equivalent material will be placed on this surface to provide a visual reference. This demarcation layer will constitute the top of the **'**Residuals Management Zone**'**, the zone that requires adherence to special conditions for disturbance of contaminated residual soils defined in this Site Management Plan. The survey will measure the grade covered by the demarcation layer before the placement of cover soils, pavement and sub-soils, structures, or other materials. This survey and the demarcation layer placed on this grade surface will constitute a modification of the physical and written record of the upper surface of the **'**Residuals Management Zone**'** in the Site Management Plan. A map showing the survey results will be included in the Annual Site Management Report and updates to the Site Management Plan.

2.8 Backfill from Off-Site Sources

All materials proposed for import onto the Site Controlled Property will be approved by the Remedial Engineer and will be in compliance with provisions in this SMP prior to receipt at the Site Controlled Property.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the Site.

All imported soils will meet NYSDEC approved backfill or cover soil quality objectives for this Site Controlled Property. These NYSDEC approved backfill or cover soil quality objectives are unrestricted use SCOs as listed in Part 375 Regulations. Non-compliant soils will not be imported onto the Site Controlled Property without prior approval by NYSDEC. Nothing in the approved SMP or its approval by NYSDEC should be construed as an approval for this purpose.

Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this Site Controlled Property, will not be imported onto the Site without prior approval by NYSDEC. Nothing in this SMP should be construed as an approval for this purpose.

Solid waste will not be imported onto the Site Controlled Property.

Trucks entering the Site with imported soils will be securely covered with tight fitting covers.

2.9 Contingency Plan

If underground tanks or other previously unidentified contaminant sources are found during post-remedial action excavation or development related construction, sampling will be performed on product, sediment and surrounding soils, etc. Chemical analytical work will be for full scan parameters (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs). These analyses will not be limited to STARS parameters where tanks are identified without prior approval by NYSDEC. Analyses will not be otherwise limited without NYSDEC approval.

Identification of unknown or unexpected contaminated media identified by screening during invasive Site work will be promptly communicated by phone to NYSDEC's Project Manager. These findings will be also included in daily and periodic electronic media reports.

2.10 Community Air Monitoring Plan

Ambient air will be monitored at the perimeter of the Site Controlled Property throughout the course of the work for particulate matter and VOCs in accordance with the CAMP included as Appendix A. During the course of the work, the Contractor will take abatement measures, as

directed or as otherwise necessary, to minimize the levels of particulates at the limits of the work.

Exceedances observed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

2.11 Odor Control Plan

This odor control plan is capable of controlling emissions of nuisance odors. If nuisance odors are identified, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of all other complaints about the project. Implementation of all odor controls, including the halt of work, will be the responsibility of the Site Controlled Property owner's Remediation Engineer, who is responsible for certifying the annual Site Management Report.

All necessary odor control methods will be employed to prevent on- and off-Site nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-Site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

Where odor nuisances have developed and cannot be corrected, or where the release of nuisance odors cannot otherwise be avoided due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering excavation and handling areas under tented containment structures equipped with appropriate air venting/filtering systems.

2.12 Dust Control Plan

A dust suppression plan that addresses dust management during invasive work in the Site Controlled Property, may include, the items listed below:

- If necessary, dust suppression will be achieved through the use of a dedicated on-Site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- Roads will be limited in total area to minimize the area required for water truck sprinkling.

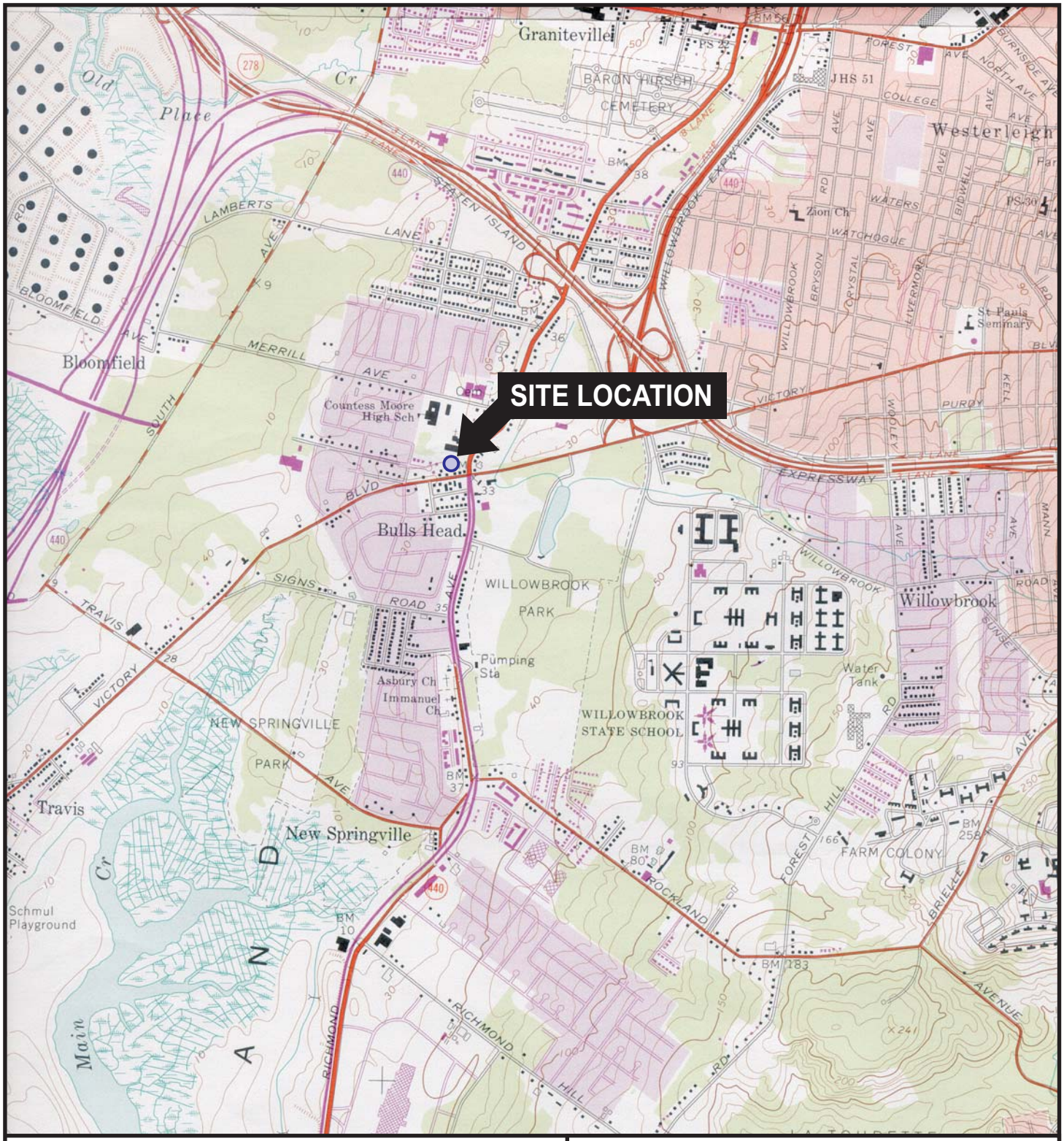
2.13 Other Nuisances

If necessary, a plan for rodent control will be developed and utilized by the contractor prior to and during clearing and grubbing, and during remedial work at the Site.

If necessary, a plan will be developed and utilized by the contractor for all remedial work and will conform, at a minimum, to NYCDEP noise control standards.

2.14 Quality Assurance/Quality Control

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan prepared for the Site (Appendix B).



QUADRANGLE LOCATION

SOURCE:
USGS; 1981. Arthur Kill, N.Y.-N.J.
7.5 Minute Topographic Quadrangle

N

0 2000'

Title:

SITE LOCATION PLAN

CORAL ISLAND SHOPPING CENTER
STATEN ISLAND, NEW YORK

Prepared for:

WWP ASSOCIATES, LLP

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: M.R.		Date: 17DEC04	FIGURE
Prepared by: M.R.		Scale: AS SHOWN	1
Project Mgr.: M.R.		Office: NY	
File No.: RRA012509.CDR		Project No.: 125801Y	

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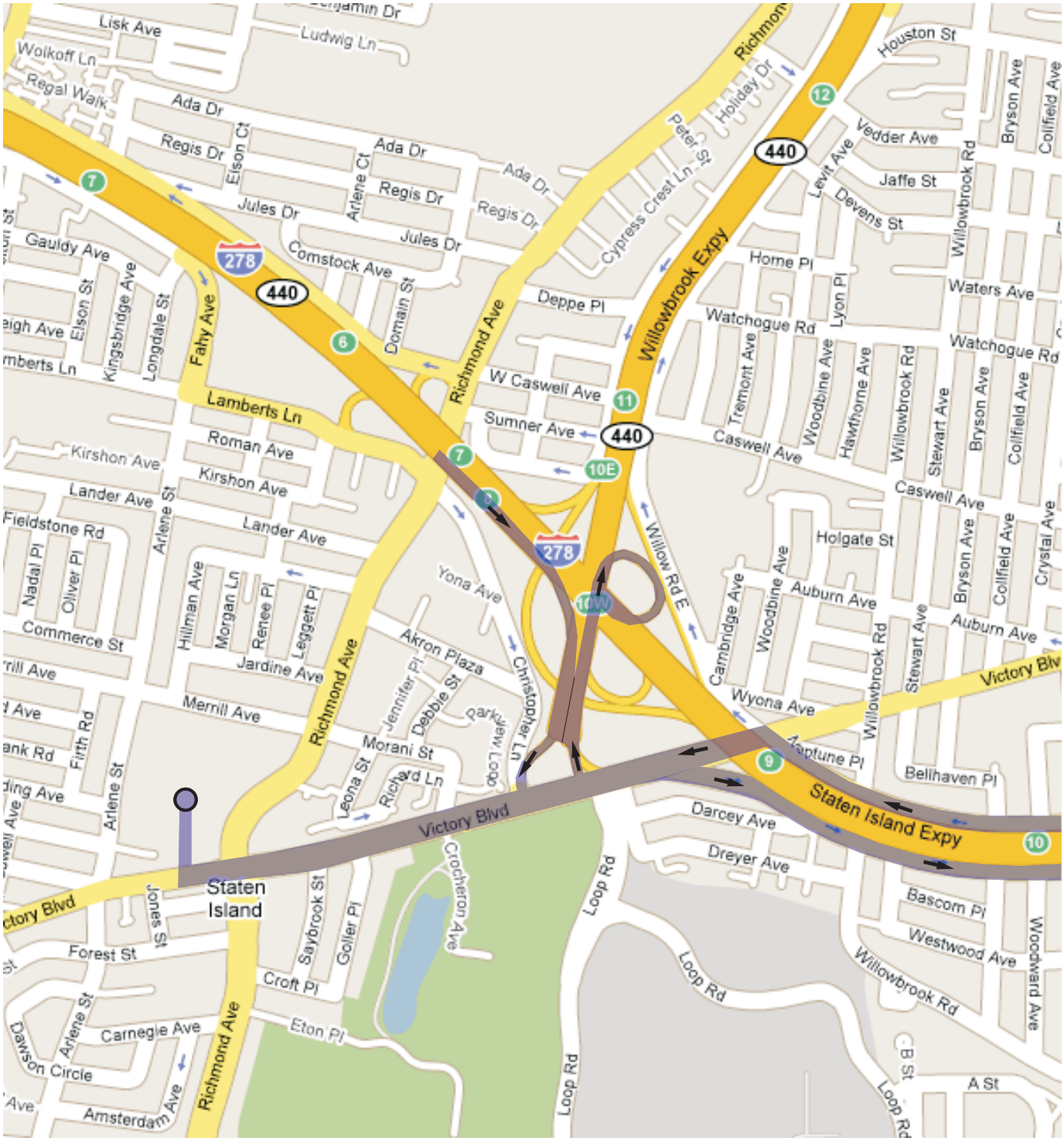

Title:

TRUCK ROUTE

SITE MANAGEMENT PLAN
CORAL ISLAND SHOPPING CENTER
STATEN ISLAND, NEW YORK

Prepared for:

WWP ASSOCIATES, LLP

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: M.R.	Date: 06NOV08	FIGURE
Prepared by: J.A.D.	Scale: AS SHOWN	2
Project Mgr.: M.R.	Office: NY	
File No.: RRA0114404	Project No.: 125801Y	

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SOIL MANAGEMENT PLAN

APPENDIX A

Community Air Monitoring Plan

COMMUNITY AIR MONITORING PLAN

This Community Air Monitoring Plan (CAMP) provides real-time monitoring for volatile organic compounds (VOCs) in the designated work area during intrusive activities to provide a measure of protection for the downwind community from potential airborne contaminant releases. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown.

This CAMP addresses the scope of work presented in the January 25, 2007 Remedial Alternatives Analysis/Remedial Action Work Plan for the Coral Island Shopping Center facility in Staten Island, New York. The scope of work includes ground intrusive activities including: Geoprobe soil borings, and soil excavation using hand or mechanical methods. Remedial Investigations at the Coral Island Shopping Center facility have determined that the contaminants of concern are limited to VOCs. Based on the scope of work and known contaminants, only real-time air monitoring for VOCs will be performed.

Upwind VOC concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. All monitoring will be performed using a PID calibrated at least once per day.

Due to the restricted work area and close proximity of buildings, VOCs will be monitored in the immediate work area on a continuous basis. If the ambient air concentration of total organic vapors within the work area exceeds 5 parts per million (ppm) above background for a 15-minute average, work activities will be temporarily halted and monitoring continued. Work activities will resume, with continued monitoring, when total organic vapor levels decrease below 5 ppm over background.

Should total organic vapor levels in the work area persist at levels in excess of 5 ppm over background, the source of vapors will be identified, corrective actions will be taken to abate emissions, and monitoring continued until total organic vapor levels decrease below 5 ppm over background. Work activities will resume, with continued monitoring, when total organic vapor levels decrease below 5 ppm over background.

All readings will be recorded and be available for New York State Department of Environmental Conservation and New York State Department of Health personnel to review.

SOIL MANAGEMENT PLAN

APPENDIX B

Quality Assurance Project Plan

April 2009

QUALITY ASSURANCE PROJECT PLAN

Coral Island Shopping Center
1650 Richmond Avenue
Staten Island, New York

Prepared for:

WWP ASSOCIATES, LLP
8816 Six Forks Road
Suite 201
Raleigh, North Carolina 27615

Remedial Engineering, P.C.
Environmental Engineers

209 Shafter Street, Islandia, New York 11749 ♦ 631-232-2600

TABLE OF CONTENTS

1.0 INTRODUCTION

Roux Associates, Inc. (Roux Associates) and Remedial Engineering, P.C. (Remedial Engineering) have developed this Quality Assurance Project Plan (QAPP) for the Coral Island Shopping Center (Site) located at 1650 Richmond Avenue, Staten Island, New York to describe in detail the field sampling and quality assurance/quality control methods to be used during groundwater sampling and soil management tasks.

The tasks covered by this QAPP are post-excavation soil sampling, waste characterization sampling, and backfill sampling for soil, and groundwater monitoring.

This QAPP was prepared in accordance with the NYSDEC's December 2002 Draft DER-10 Technical Guidance for Site Investigation and Remediation (DER-10) and provides guidelines and procedures to be followed by field personnel during performance of the remedial action sampling. Information contained in this QAPP relates to:

- Sampling objectives (Section 2);
- Sample media, sampling locations, analytical suites, sampling frequencies, and analytical laboratory (Section 3);
- Field sampling procedures (Section 4);
- Sample handling, sample analysis, and quality assurance/quality control (Section 5); and
- Site control procedures and decontamination (Section 6).

2.0 SAMPLING OBJECTIVES

The remedial action sampling program is designed to meet the data quality objectives (DQOs) set forth in the Draft DER-10. Specifically, analytical parameters selected for each sample, as described in Section 3, are comprehensive and are intended to meet the following objectives:

- Analyze post-excavation soil samples for likely contaminants of concern given the known history and current use of the property (e.g., sampling for volatile organic compounds [VOCs] which were identified in previous investigations above the proposed restricted commercial criteria or the unrestricted use criteria presented in the Alternatives Analysis Report/Remedial Action Work Plan "AAR/RAWP");

- Analyze excavated soil for parameters required by the selected disposal facility;

- Analyze offsite backfill for parameters required to evaluate its suitability for use as backfill that meets the unrestricted use criteria; and

- Analyze groundwater samples following the remedial action to evaluate levels of VOCs and naturally occurring biogeochemical conditions in the groundwater zone.

Sampling procedures are discussed in Section 4 of this QAPP. A discussion of the data quality objectives (DQOs) and quality assurance/quality control for the project is provided in Section 5.

3.0 SAMPLE MEDIA, LOCATIONS, ANALYTICAL SUITES, AND FREQUENCY

The media to be sampled may include soil and groundwater. Sampling locations, analytical suites, and frequency vary by the type of media to be sampled. A discussion of the sampling for each type of soil and groundwater is provided below. Specifics regarding the collection of samples for each type of soil and groundwater are provided in Section 4 of this QAPP.

3.1 Post-Excavation Soil Sampling

Post excavation bottom sampling (at a frequency of one sample per 900 square feet of bottom area in accordance with the guidance provided in NYSDEC DER-10 Sections 3.5 and 5.4 for excavations 20 to 300 feet in perimeter) would be conducted for constituents that exceeded the restricted commercial use criteria (for on-site areas) or the unrestricted use criteria (for off-site areas) in previous sampling events to confirm that the criteria were met (target compound list [TCL] VOCs via method 8260). Constituents or groups of constituents that did not exceed the criteria in previous investigations would not be sampled for. Areas that appear more heavily impacted, if any, will be given sampling preference. If the post-excavation bottom sample results indicate that concentrations of target constituents are detected below the criteria, the excavation activities will be considered complete. However, if concentrations of target constituents are detected at a level above the criteria, the excavation activities, including additional post-excavation bottom sampling, will continue deeper until these conditions are met or to the extent feasible based on Site-specific limitations or potential damage to those limitations including but not necessarily limited to underground utilities, building foundations, and a nearby electrical transformer.

Post excavation sidewall samples (at a frequency of one sample per 30 linear feet or at least one sample per sidewall) would be conducted for constituents that exceeded the restricted commercial use criteria in previous sampling events to confirm that the criteria were met (TCL VOCs via method 8260). Areas that appear more heavily impacted, if any, will be given sampling preference. If the post-excavation sidewall sample results indicate that concentrations of target constituents are detected below the criteria, the excavation activities will be considered complete. However, if concentrations of target constituents are detected at a level above the criteria, the excavation activities, including additional post-excavation sidewall sampling, will continue until these conditions are met or to the extent feasible based on Site-specific limitations

or potential damage to those limitations including but not necessarily limited to underground utilities, building foundations, and a nearby electrical transformer.

QA/QC samples, including duplicates and matrix spike/matrix spike duplicate (MS/MSD) will be collected at a 5 percent of normal sample frequency. Field blanks will be collected at a rate of one per day.

3.2 Waste Characterization Sampling

One sample per 500 cubic yards of excavated material will be collected from the soil for waste characterization. The samples will be composite samples comprised of three representative grab samples. The samples will be analyzed as required by the disposal facility selected based on a competitive bid. QA/QC samples are not required for waste characterization samples.

3.3 Backfill Sampling

When excavation and removal of the impacted soil is complete, the excavation will be backfilled and compacted using offsite clean fill material meeting the unrestricted use criteria for the parameters described below. The backfill material will be free of extraneous debris or solid waste.

For offsite fill material (common fill and topsoil), if the NYSDEC agrees that the material originated from a virgin source, then a minimum of one composite sample will be collected and analyzed per source. If the source is not virgin, the following sampling frequency will apply to each source: one composite sample per 250 cubic yards for the first 1,000 yards and one composite sample per 1,000 cubic yards for 1,000 to 5,000 cubic yards. The backfill material will be common fill material. The source of the offsite fill must be documented by the supplier, including the location where the fill was obtained and a brief history of the site that is the source of the fill.

Samples of offsite backfill will be analyzed by the supplier for the following parameters:

- Herbicides by United States Environmental Protection Agency (USEPA) method SW-846-8151A.
- Pesticides and polychlorinated biphenyls (PCBs) by USEPA methods SW-846-8081A/8082.

- VOCs by USEPA method SW-846-8260.
- SVOCs by USEPA method SW-846-8270.
- Arsenic, barium, beryllium, cadmium, copper, cyanide, lead, manganese, nickel, selenium, silver, thallium, vanadium, and zinc by USEPA method SW-846-6010B.
- Total mercury by USEPA method SW-846-7471.
- Total chromium, hexavalent chromium, and trivalent chromium method SW-846-7196A.

QA/QC samples are not required for backfill samples.

3.4 Groundwater Sampling

Field monitoring of selected indicator parameters and groundwater sampling for field and laboratory analyses will be conducted to evaluate levels of VOCs and naturally occurring biogeochemical conditions in the groundwater zone.

Monitoring will take the form of periodic monitoring events. Periodic monitoring will commence in October 2007 from existing monitoring wells MW-101S, MW-101D, MW-103S, MW-103D, MW-112S, MW-112D, MW-113S, MW-113D, MW-205S, MW-205D, MW-206S, MW-206D, MW-207S, and MW-207D. Monthly monitoring of field parameters and total organic carbon (TOC) from the existing or replacement baseline monitoring wells will be conducted for the first six months (6 events). Quarterly monitoring of electron acceptors and biodegradation indicators will be conducted for one year following the monthly monitoring period (four events). This includes the following:

- Nitrate and nitrite by USEPA methods SW-846-353.2/300.0.
- Sulfate by USEPA methods SW-846-375.3/300.0.
- Ferric and dissolved iron, and total and dissolved manganese by USEPA method SW-846-6010.
- Chloride by USEPA methods SW-846-9056/300.0.
- Ethene and Ethane by USEPA modified method SW-846-3810.
- Total organic carbon by USEPA method SW-846-9060.

Quarterly monitoring of VOCs by USEPA method SW-846 8260B will be conducted for two years following the ERD injections (eight events).

QA/QC samples, including duplicates and matrix spike/matrix spike duplicate (MS/MSD) will be collected at a 5 percent of normal sample frequency. Field blanks will be collected at a frequency of one per day. Trip blanks will be submitted at a frequency of one per sample delivery group or one per 20 samples, whichever is greater.

3.5 Analytical Laboratory

Laboratory analyses will be performed by a NYSDOH ELAP certified laboratory in accordance with the NYSDEC Analytical Services Protocol (ASP) using USEPA SW-846 Methods.

4.0 FIELD SAMPLING PROCEDURES

This section provides a discussion of the field procedures to be used for sampling of soil and groundwater.

4.1 Soil Sampling

Post-excavation soil samples will be collected as a grab sample at the middle of the excavation using pre-cleaned stainless steel sampling tools (i.e., trowels, spatulas, etc.) or the excavator bucket. However, areas that appear more heavily impacted, if any, will be given sampling preference. Samples will be labeled based on each area's designation.

The waste characterization samples will be composite samples comprised of three grab samples, collected by using pre-cleaned stainless steel sampling tools (i.e., trowels, spatulas, etc.).

4.2 Groundwater Sampling

Prior to sample and data collection, the monitoring wells will be gauged and then purged via low-flow means using a submersible pump. Samples and parameter readings will be collected using a low flow-through cell to prevent sample contact with atmospheric air. All well sampling activities will be recorded in a field book and a groundwater-sampling log presented. Other observations (e.g., well integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the groundwater monitoring well network.

5.0 SAMPLE HANDLING AND ANALYSIS

To ensure quality data acquisition and collection of representative samples, there are selective procedures to minimize sample degradation or contamination. These include procedures for preservation of the samples, as well as sample packaging, shipping procedures, and quality assurance/quality control.

5.1 Field Sample Handling

A detailed discussion of the proposed number and types of samples to be collected during each task, as well as the analyses to be performed can be found in Section 3.0 of this QAPP.

5.2 Sample Custody Documentation

The purpose of documenting sample custody is to ensure that the integrity and handling of the samples is not subject to question. Sample custody will be maintained from the point of sampling through the analysis (and return of unused sample portion, if applicable).

Each individual collecting a sample is personally responsible for the care and custody of the samples. All sample labels should be pre-printed or filled out using waterproof ink. The technical staff will review all field activities with the Field Team Leader to determine whether proper custody procedures were followed during the field work and to decide if additional samples are required.

All samples being shipped offsite for analysis must be accompanied by a properly completed chain of custody form. The sample numbers will be listed on the chain of custody form. When transferring the possession of samples, individuals relinquishing and receiving will sign, date, and note the time on the record. This record documents transfer of custody of samples from the sampler to another person and/or to/from a secure storage area and/or to the shipper, and/or to the laboratory.

Samples will be packaged for shipment and dispatched to the appropriate laboratory for analysis with a separate signed custody record enclosed in each sample box or cooler. Shipping containers will be locked and/or secured with strapping tape in at least two locations for shipment to the laboratory.

5.3 Sample Shipment

Sample packaging and shipping procedures are based upon USEPA specifications, as well as U.S. Department of Transportation (DOT) regulations. The procedures vary according to potential sample analytes, concentration, and matrix and are designed to provide optimum protection for the samples and the public. All samples will be shipped within 24 hours of collection and will be preserved appropriately from the time of sample collection.

5.4 Quality Assurance/Quality Control

The primary DQO of the post-excavation, backfill and waste characterization soil sampling and groundwater sampling is that data be accurate and precise and, hence, representative of the actual Site conditions. Accuracy refers to the ability of the laboratory to obtain a true value (i.e., compared to a standard) and is assessed through the use of laboratory quality control (QC) samples, including laboratory control samples and matrix spike samples, as well as through the use of surrogates, which are compounds not typically found in the environment that are injected into the samples prior to analysis. Precision refers to the ability to replicate a value and is assessed through both field and laboratory duplicate samples. Field MS/MSD and field duplicate samples will only be collected for the post-excavation soil samples and all groundwater samples. They are not required for the waste characterization or backfill samples.

Sensitivity is also a critical issue in generating representative data. Laboratory equipment must be of sufficient sensitivity to detect target compounds and analytes at levels below NYSDEC standards and guidelines whenever possible. Equipment sensitivity can be decreased by field or laboratory contamination of samples and by sample matrix effects. Assessment of instrument sensitivity is performed through the analysis of reagent blanks, near-detection-limit standards, and response factors. Potential field and/or laboratory contamination is assessed through use of trip blanks, method blanks, and equipment rinse blanks (also called “field blanks”). Field blanks will only be collected for the post-excavation soil samples and are not required for the waste characterization or backfill samples.

All soil and groundwater sample analyses will be performed in accordance with the NYSDEC Analytical Services Protocol (ASP) using USEPA SW-846 methods. The laboratory selected to

analyze the field samples collected during the remedial action will maintain New York State Department of Health (NYSDOH) ELAP CLP certification for each of the required analyses.

All groundwater sample laboratory data and post-excavation data are to be reported in NYSDEC ASP Category B deliverables. Waste characterization and backfill characterization laboratory data are to be reported in NYSDEC ASP Category A deliverables.

6.0 SITE CONTROL PROCEDURES

Site control procedures have been developed to minimize both the risk of exposure to contamination and the spread of contamination during field activities at the site. In order to accomplish this objective, the QAPP addresses three main considerations:

- The establishment of discrete work zones in the work area;
- The decontamination of field equipment; and
- The handling and disposal of all remediation-derived waste.

All personnel who come into designated work areas, including contractors and observers, will be required to adhere strictly to the conditions imposed herein and to the provisions of the contractor's Site-Specific Health and Safety Plan (HASP), which will be submitted under separate cover.

6.1 Field Work Zones

Field work zones will be limited to areas where excavation, stockpiling, and soil sampling is being conducted for the soil handling. Access to these areas will be limited in accordance with the HASP. Control of work zone access will be the responsibility of the individual(s) designated as a Site Health and Safety Manager. At the completion of each working day, all loose equipment (e.g., sampling equipment, coolers, etc.) will be secured. Heavy equipment, such as the excavator, may remain onsite within an established, secured zone.

6.2 Decontamination

In an attempt to avoid the spread of contamination, all excavation and sampling equipment must be decontaminated at a reasonable frequency. Temporary decontamination pads will be set up by the contractor as deemed necessary. The location of the decontamination area(s) will be determined as necessary during the field operations. The decontamination area will be constructed to ensure that any wash water generated during decontamination can be collected. Decontamination water (if any) will be disposed offsite at an approved disposal facility.

6.3 Waste Handling and Disposal

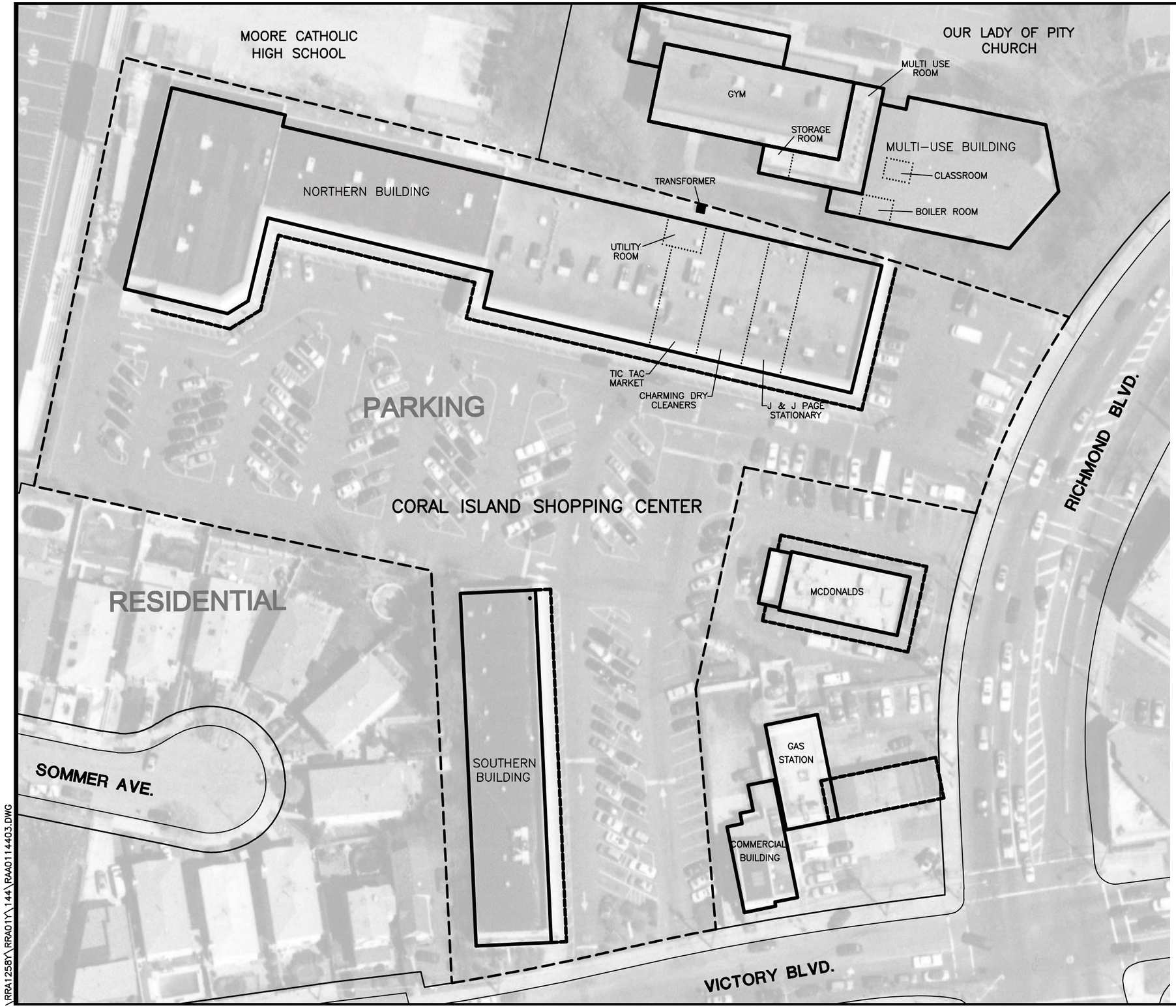
All impacted soil excavated from the Site and other remediation-derived waste will be transported and disposed of in accordance with all applicable federal, state, and local regulations at an approved disposal facility. The remediation-derived waste that will be generated during the construction activities include:

- Impacted soil from the Site (non-hazardous);
- Personal Protective Equipment (PPE); and
- Decontamination water, if any is generated.

Haul vehicles for bulk soil will be secured with appropriate covers prior to exiting the construction area to prevent release of waste.

PPE generated during the implementation of the remedial action will be consolidated and stored in appropriate bulk containers (drums, etc.), and temporarily staged at a waste storage area within the Site limits. Any full or partially filled containers will be appropriately labeled after the completion of the work.

Decontamination water, if any, will be collected and disposed offsite at an approved disposal facility.



LEGEND

SITE BOUNDARY

APPROXIMATE LOCATION OF INTERIOR SPACE

N

60' 0 60'

Title:

SITE PLAN

SITE MANAGEMENT PLAN
CORAL ISLAND SHOPPING CENTER
STATEN ISLAND, NEW YORK

Prepared For:
SITE MANAGEMENT PLAN
CORAL ISLAND SHOPPING CENTER
STATEN ISLAND, NEW YORK

REMEDIAL ENGINEERING, P.C. *ENVIRONMENTAL ENGINEERS*	Compiled by: M.R.	Date: 14APR09	FIGURE 1
	Prepared by: J.A.D.	Scale: AS SHOWN	
	Project Mgr: M.R.	Office: NY	
	File No: RRA0114403	Project: 125801Y	

\RRA1258Y\RRA01Y\144\RAA0114403.DWG

APPENDIX D

Copy of Environmental Easement
(intentionally omitted)

APPENDIX E

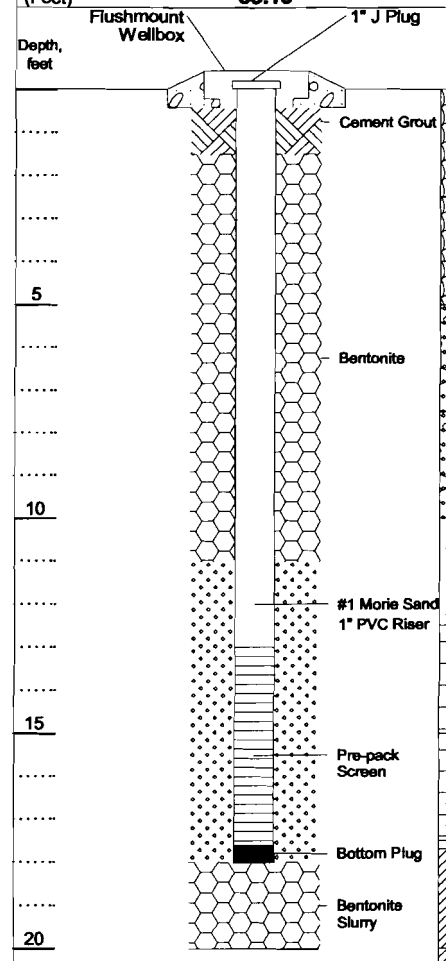
Monitoring Well Construction Logs

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

209 Shafter Street
Islandia, New York 11749
Telephone: 631-232-2600
Fax: 631-232-9898

WELL CONSTRUCTION LOG

WELL NO. **MW-101D**	NORTHING **160978.9**	EASTING **938957.8**		
PROJECT NO./NAME **125801Y / Coral Island Shopping Center**		LOCATION **1650 Richmond Avenue**		
APPROVED BY **DRAFT**	LOGGED BY **J. Sakellis**	**Staten Island, New York**		
DRILLING CONTRACTOR/DRILLER **Roux Associates / J. Veiss**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **3.25-inches**	DRILLING EQUIPMENT/METHOD **6620 / Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **8/26/05-8/26/05**
CASING MAT./DIA. **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE **33.16**	TOP OF WELL CASING **32.79**	TOP & BOTTOM SCREEN **20.2 / 15.2**	GRAVEL PACK SIZES **Morie #1**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown, coarse to fine SAND, little Gravel, little Silt, trace Brick, trace Glass; moist (fill)		725	Lithology data was obtained from SB-101. Hand excavated to 5ft bls as part of utility clearance.
		Dark brown to black, coarse to fine SAND, little organics (Weeds, Roots); moist (fill)	G	13.3	Sampled 0.5 to 2 ft. interval for VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals and Cyanide analyses.
5		Grey, medium to fine SAND, trace Silt, trace Brick; moist/wet (fill)			
		Grey to brown, coarse to fine SAND, some Gravel, trace Silt; wet		248	Sampled groundwater for VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals and Cyanide analyses. Sampled 5 to 7.5 ft. interval for VOC analysis.
		Brown, coarse to fine SAND, some Gravel, little Silt; wet		20.7	
10		Brown, SILT, some medium to fine Sand, little Gravel; wet		43.5	
		Brown, SILT, little Clay, trace Gravel; moist/wet		71.1	
15		Brown, SILT, little Clay, trace Gravel; moist/wet		84.5	
		Brown, crushed Rock, little Gravel, little Silt; moist/dry			
		Brown, SILT, some Clay, trace Gravel; moist		208	
20		Brown, SILT, little Clay; moist		42.4	
		Brown, SILT, some Clay; moist		34.7	
25		Brown, SILT, some Clay, little fine Sand; moist		27.3	
		Brown, SILT, some Clay, little fine Sand, little crushed Rock; moist		22.5	Sampled 27.5 to 30 ft. interval for VOC analysis.
30					Bottom of soil boring at 30 ft bls.

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MW-101S	**160977.3**	**938957.3**

PROJECT NO./NAME	LOCATION
125801Y / Coral Island Shopping Center	**1650 Richmond Avenue**

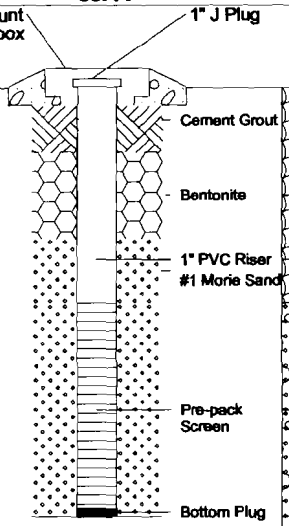
APPROVED BY	LOGGED BY	
DRAFT	**J. Sakellis**	**Staten Island, New York**

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
Roux Associates / J. Veiss	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**3.25-inches**	**6620 / Geoprobe**	**2" Macro-Core**	**8/26/05-8/26/06**

CASING MAT./DIA. **PVC / 1-inch** | SCREEN: TYPE **Pre-Packed** MAT. **PVC** TOTAL LENGTH **5.0** ft DIA. **1-inch** SLOT SIZE **20-Slot**

ELEVATION OF:	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
(Feet)	**33.44**	**33.25**	**28.4 / 23.4**	**Morie #1**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown, coarse to fine SAND, little Gravel, little Silt, trace Brick, trace Glass; moist (fill)			Lithology data was obtained from SB-101.
				725	Hand excavated to 5ft bls as part of utility clearance
		Dark brown to black, coarse to fine SAND, little organics (Weeds, Roots); moist (fill)	G	13.3	Sampled 0.5 to 2 ft. interval for VOC analysis.
5		Grey, medium to fine SAND, trace Silt, trace Brick; moist/wet (fill)			
		Grey to brown, coarse to fine SAND, some Gravel, trace Silt; wet			Sampled groundwater for VOC, SVOC, TAL Metals, and CN analysis.
				248	Sampled 5 to 7.5 ft. interval for VOC analysis.
		Brown, coarse to fine SAND, some Gravel, little Silt; wet		20.7	
10					Bottom of soil boring at 10 ft bls.
15					
20					
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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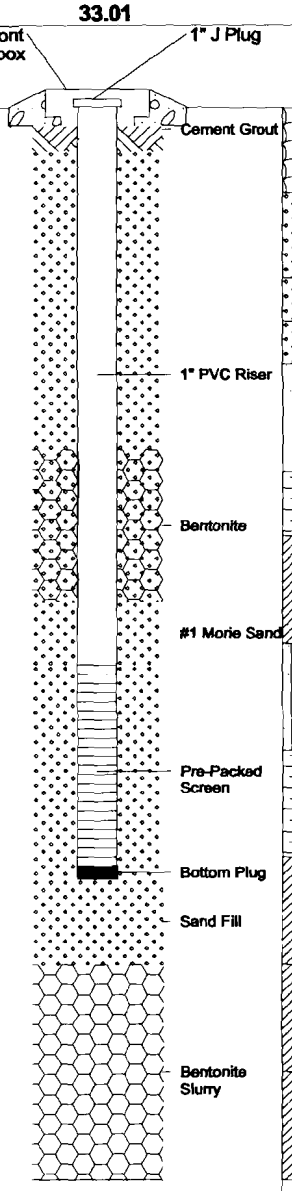
WELL CONSTRUCTION LOG

WELL NO.: **MW-102D**	NORTHING: **160999.8**	EASTING: **938928.6**		
PROJECT NO./NAME: **125801Y / Coral Island Shopping Center**		LOCATION: **1650 Richmond Avenue**		
APPROVED BY: **DRAFT**	LOGGED BY: **J. Sakellis**	**Staten Island, New York**		
DRILLING CONTRACTOR/DRILLER: **Roux Associates / J. Veiss**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **3.25-inches**	DRILLING EQUIPMENT/METHOD: **6620 / Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **8/24/05-8/24/05**
CASING MAT./DIA.: **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE: **33.01**	TOP OF WELL CASING: **32.60**	TOP & BOTTOM SCREEN: **20.0 / 15.0**	GRAVEL PACK SIZES: **Morie #1**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown to tan, coarse to fine SAND, little Gravel, trace Glass, trace Plastic; dry (fill)	G	0.5	
		Dark brown to black, medium to fine SAND, some organic material, trace Gravel; moist	G	2.2	
		Grey, medium to fine SAND; moist		12.0	
5		Brown, medium to fine SAND, trace Silt; wet	G		Sampled groundwater for VOC analysis.
		Brown, fine SAND, little Silt, trace Gravel; wet		17.9	
		Brown, SILT, little Clay, trace Gravel; moist		6.5	
10		Brown, SILT, some Clay, trace Gravel; moist		2.3	
		Brown, SILT, some fine Sand, trace Gravel; wet		10.4	
15		Brown, SILT, little Clay, trace Gravel; moist		6.6	
		Brown, SILT, some Clay, trace Gravel; moist		17.4	
20		Brown, SILT, some Clay, trace fine Sand; moist		65.5	
		Brown, SILT, some Clay, trace fine Sand; moist		77.9	
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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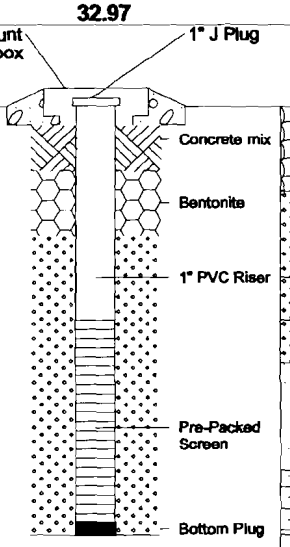
Fax: 631-232-9898

WELL CONSTRUCTION LOG

WELL NO.: **MW-102S**	NORTHING: **160922.5**	EASTING: **938927.9**		
PROJECT NO./NAME: **125801Y / Coral Island Shopping Center**		LOCATION: **1650 Richmond Avenue**		
APPROVED BY: **DRAFT**	LOGGED BY: **J. Sakellis**	**Staten Island, New York**		
DRILLING CONTRACTOR/DRILLER: **Roux Associates / J. Veiss**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **3.25-inches**	DRILLING EQUIPMENT/METHOD: **6620 / Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **8/24/05-8/24/05**
CASING MAT./DIA.: **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE: **32.97**	TOP OF WELL CASING: **32.49**	TOP & BOTTOM SCREEN: **28.0 / 23.0**	GRAVEL PACK SIZES: **Morie #1**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown to tan, coarse to fine SAND, little Gravel, trace Glass, trace Plastic; dry (fill)			
		Dark brown to black, medium to fine SAND, some organic material, trace Gravel; moist			Sampled 0.5 to 2 ft. interval for VOC analysis. Sampled 2.5 to 5 ft. interval for VOC analysis.
5		Grey, medium to fine SAND; moist			
		Brown, medium to fine SAND, trace Silt; wet			Sampled groundwater for VOC analysis.
		Brown, fine SAND, little Silt, trace Gravel; wet			
10		Brown, SILT, little Clay, trace Gravel; moist			
15					
20					
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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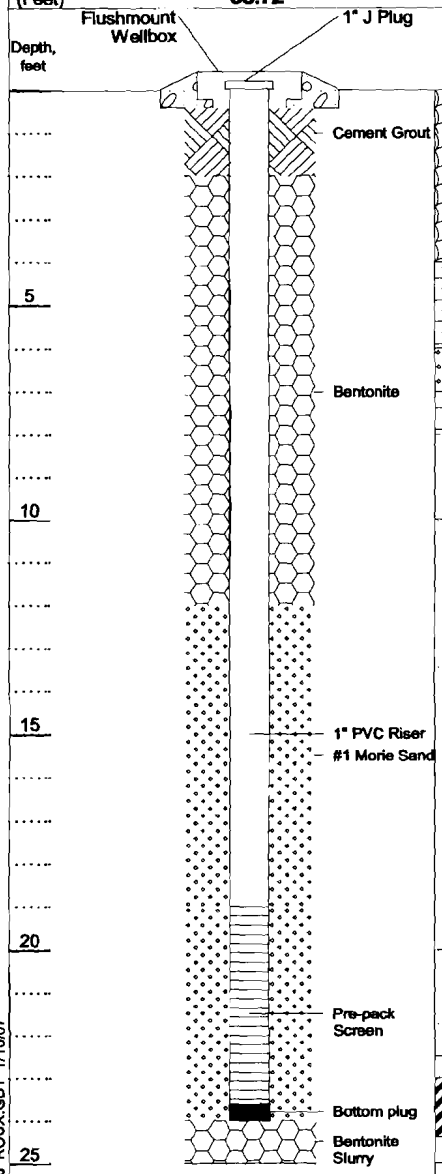
WELL CONSTRUCTION LOG

WELL NO. **MW-103D**	NORTHING **161040.8**	EASTING **938716**			
PROJECT NO./NAME **125801Y / Coral Island Shopping Center**		LOCATION **1650 Richmond Avenue**			
APPROVED BY **DRAFT**	LOGGED BY **J. Sakellis**	**Staten Island, New York**			
DRILLING CONTRACTOR/DRILLER **Roux Associates / J. Veiss**		GEOGRAPHIC AREA			
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **3.25-inches**	DRILLING EQUIPMENT/METHOD **6620 / Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **8/25/05-8/25/05**	
CASING MAT./DIA. **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed**	MAT. **PVC**	TOTAL LENGTH **5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE **33.72**	TOP OF WELL CASING **33.45**	TOP & BOTTOM SCREEN **14.7 / 9.7**	GRAVEL PACK SIZES **Morie #1**	



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown, medium to fine SAND, some Gravel, little cobbles, trace plactic, metal wire and brick, dry.	G	0.6	
				0.3	Sampled 0.5 to 2 ft. interval for VOC analysis.
		Dark Brown, course to fine SAND, some Gravel, trace silt, trace brick, organic material, moist.	G		
		Grey SILT, little fine sand, moist.	G	0.5	
5					5
		Dark Brown to black, medium to fine SAND, some Silt, little organic material, moist.		0.4	Sampled groundwater for VOC analysis.
		Gray SILT, little clay, little fine sand, moist/wet.		0.6	Sampled 7.5 to 10 ft. interval for VOC analysis.
		Brown, fine SAND, little silt, wet.			
10					10
		Brown, fine SAND, trace silt, wet.		1.0	
				1.2	
15					15
		Brown, fine sand, trace silt, wet		1.6	
				1.7	
20					20
		Brown, fine SAND, little silt, wet.		1.6	
		Brown, fine SAND, some Silt, wet.		0.9	
		Brown, medium to high plasticity clay, wet.			
25		Brown, medium to fine SAND, some Silt, some Gravel, wet.			25
30					30

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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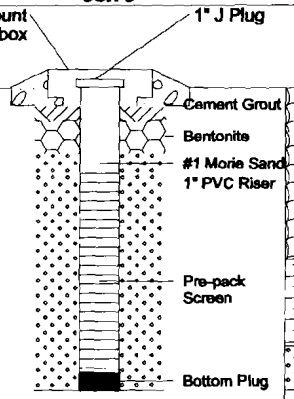
Page 1 of 1

WELL CONSTRUCTION LOG

WELL NO. **MW-103S**	NORTHING **161041**	EASTING **938714.4**		
PROJECT NO./NAME **125801Y / Coral Island Shopping Center**		LOCATION **1650 Richmond Avenue**		
APPROVED BY **DRAFT**	LOGGED BY **J. Sakellis**	**Staten Island, New York**		
DRILLING CONTRACTOR/DRILLER **Roux Associates / J. Veiss**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **3.25-inches**	DRILLING EQUIPMENT/METHOD **6620 / Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **8/25/05-8/25/05**
CASING MAT./DIA. **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE **33.73**	TOP OF WELL CASING **33.39**	TOP & BOTTOM SCREEN **31.7 / 26.7**	GRAVEL PACK SIZES **Morie #1**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown, medium to fine SAND, some Gravel, little cobbles, trace plactic, metal wire and brick, dry.			Sampled 0.5 to 2 ft. interval for VOC analysis.
		Dark Brown, course to fine SAND, some Gravel, trace silt, trace brick, organic material, moist.			
5		Grey SILT, little fine sand, moist.			
		Dark Brown to black, medium to fine SAND, some Silt, little organic material, moist.			Sampled 7.5 to 10 ft. interval for VOC analysis.
10					
15					
20					
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MW-104D	161053.6	938600.7

PROJECT NO./NAME	LOCATION
125801Y / Coral Island Shopping Center	1650 Richmond Avenue

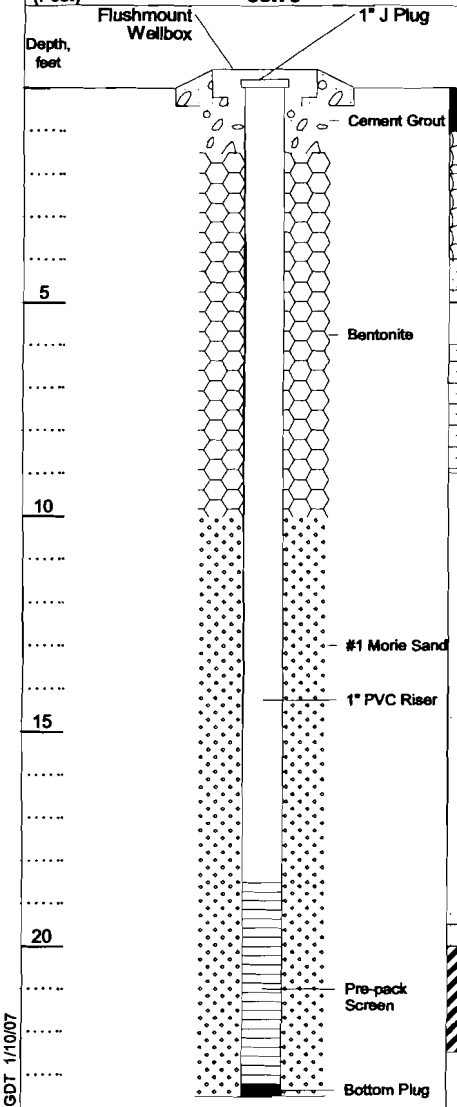
APPROVED BY	LOGGED BY	
DRAFT	J. Sakellis	Staten Island, New York

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
Roux Associates / J. Veiss	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	3.25-inches	6620 / Geoprobe	2" Macro-Core	8/30/05-9/9/05

CASING MAT./DIA.	SCREEN:				
PVC / 1-inch	TYPE Pre-Packed	MAT. PVC	TOTAL LENGTH -5.0 ft	DIA. 1-inch	SLOT SIZE 20-Slot

ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
	33.75	33.56	10.3 / 15.3	Morie #1



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Asphalt			
		Brown, course to fine SAND, some Gravel, trace Brick, trace Concrete, trace organic material (Lumber), moist. (fill)		0.3	Sampled 0.5 to 2 ft. interval for VOC analysis.
		Brown, course to fine SAND, little gravel, little organic material (Lumber), trace Brick trace Concrete, moist. (fill)		9.3	
		Grey, fine SAND, little silt, moist.			
5		Brown to black, fine SAND, little Silt, little organic material (Roots, Weeds), moist.		0.1	Sampled 4 to 6 ft. interval for VOC analysis. 5
		Grey to black, fine SAND, some Silt, little black organic material, moist.			Sampled groundwater for VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals and Cyanide analyses.
		Grey SILT, little clay, moist.		0.2	
		Grey SILT, little clay, moist/wet			Sampled 7.5 to 10 ft. interval for VOC analysis.
				0.3	
10		Brown, fine SAND, trace silt, wet.			10
		Brown, fine SAND, trace silt, wet.			
				0.2	
		Brown fine SAND, trace silt, wet.			
				0.1	
15		Brown, fine SAND, trace silt, wet.			15
				0.4	
		Brown, fine SAND, some Silt, wet.			
				0.9	
20		Brown, fine SAND, some Silt, wet.			20
		Brown CLAY, little silt, wet.		0.1	
					Bottom of soil boring at 22.5 ft bls.
25					25
30					30

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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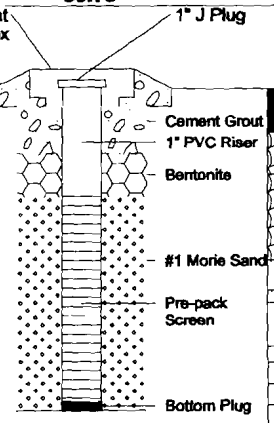
WELL CONSTRUCTION LOG

WELL NO. **MW-104S**	NORTHING **161053.3**	EASTING **938602.2**		
PROJECT NO./NAME **125801Y / Coral Island Shopping Center**		LOCATION **1650 Richmond Avenue**		
APPROVED BY **DRAFT**	LOGGED BY **J. Sakellis**	**Staten Island, New York**		
DRILLING CONTRACTOR/DRILLER **Roux Associates / J. Veiss**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **3.25-inches**	DRILLING EQUIPMENT/METHOD **6620 / Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **9/9/05-9/9/05**
CASING MAT./DIA. **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **-5.0 ft**	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE **33.78**	TOP OF WELL CASING **33.53**	TOP & BOTTOM SCREEN **26.3 / 31.3**	GRAVEL PACK SIZES **Morie #1**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Asphalt			
		Brown, course to fine SAND, some Gravel, trace Brick, trace Concrete, trace organic material (Lumber), moist. (fill)		0.3	Sampled 0.5 to 2 ft. interval for VOC analysis.
		Brown, course to fine SAND, little gravel, little organic material (Lumber), trace Brick trace Concrete, moist. (fill)		9.3	
		Grey, fine SAND, little silt, moist.			
5		Brown to black, fine SAND, little Silt, little organic material (Roots, Weeds), moist.		0.1	Sampled 4 to 6 ft. interval for VOC analysis.
		Grey to black, fine SAND, some Silt, little black organic material, moist.			
		Grey SILT, little clay, moist.		0.2	
					Bottom of well at 7.5 ft bls.
10					
15					
20					
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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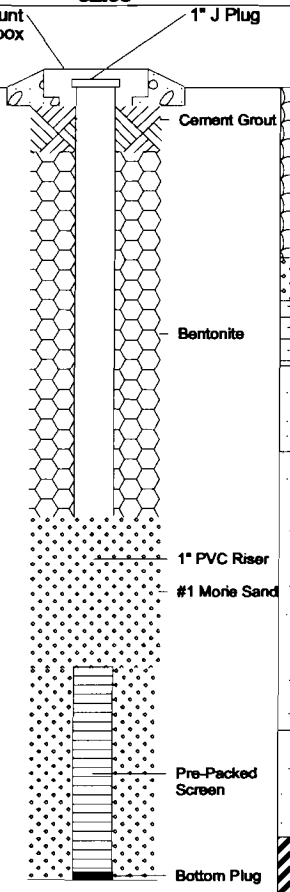
WELL CONSTRUCTION LOG

WELL NO.: **MW-105D**	NORTHING: **160931.7**	EASTING: **938567**			
PROJECT NO./NAME: **125801Y / Coral Island Shopping Center**		LOCATION: **1650 Richmond Avenue**			
APPROVED BY: **DRAFT**	LOGGED BY: **J. Sakellis**	**Staten Island, New York**			
DRILLING CONTRACTOR/DRILLER: **Roux Associates / J. Veiss**		GEOGRAPHIC AREA			
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **3.25-inches**	DRILLING EQUIPMENT/METHOD: **6620 / Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **8/29/05-8/29/05**	
CASING MAT./DIA.: **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **-5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**	
ELEVATION OF: (Feet)	GROUND SURFACE: **32.85**	TOP OF WELL CASING: **32.56**	TOP & BOTTOM SCREEN: **14.4 / 19.4**	GRAVEL PACK SIZES: **Morie #1**	



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		Grey to brown, course to fine SAND, some Gravel, some Concrete, little brick and silt, dry/moist	G	0.4	Sampled 1.5 to 3 ft. interval for VOC analysis.
5		Brown to grey, medium to fine SAND, some Silt, little organic material, trace gravel, moist.	G	0.4	Sampled 4.5 to 6 ft. interval for VOC analysis.
		Grey SILT, little clay, trace fine sand, dry/moist.		0.5	Sampled groundwater for VOC analysis.
		Grey, fine SAND, some Silt, moist/wet.			
		Grey, fine SAND, some Silt, wet		0.6	
10		Brown, fine SAND, little silt, wet.		0.6	
		Brown, fine SAND, little silt, wet.		1.1	
15		Brown, fine SAND, some Silt, wet		0.9	
		Brown, high plasticity CLAY, little silt, wet.		0.6	
20					
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MW-105S	160933.4	938567.5

PROJECT NO./NAME	LOCATION
125801Y / Coral Island Shopping Center	1650 Richmond Avenue

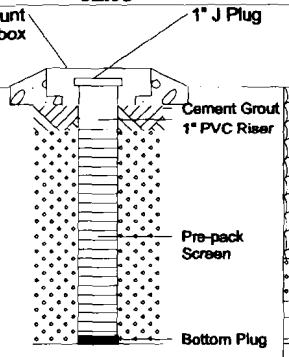
APPROVED BY	LOGGED BY	
DRAFT	J. Sakellis	Staten Island, New York

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
Roux Associates / J. Veiss	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	3.25-inches	6620 / Geoprobe	2" Macro-Core	8/29/05-8/29/05

CASING MAT./DIA.	SCREEN:				
PVC / 1-inch	TYPE Pre-Packed	MAT. PVC	TOTAL LENGTH 5.0 ft	DIA. 1-inch	SLOT SIZE 20-Slot

ELEVATION OF:	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
(Feet)	32.85	32.61	31.9 / 26.9	Morie #1



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		Grey to brown, course to fine SAND, some Gravel, some Concrete, little brick and silt, dry/moist			Sampled 1.5 to 3 ft. interval for VOC analysis.
5		Brown to grey, medium to fine SAND, some Silt, little organic material, trace gravel, moist.			Sampled 4.5 to 6 ft. interval for VOC analysis.
		Grey SILT, little clay, trace fine sand, dry/moist.			
10					
15					
20					
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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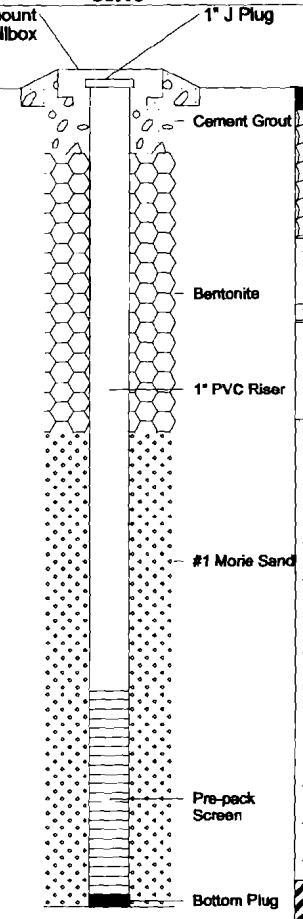
WELL CONSTRUCTION LOG

WELL NO. **MW-106D**	NORTHING **160942.2**	EASTING **938703.2**		
PROJECT NO./NAME **125801Y / Coral Island Shopping Center**		LOCATION **1650 Richmond Avenue**		
APPROVED BY **DRAFT**	LOGGED BY **J. Sakellis**	**Staten Island, New York**		
DRILLING CONTRACTOR/DRILLER **Roux Associates / J. Veiss**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **3.25-inches**	DRILLING EQUIPMENT/METHOD **6620 / Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **9/12/05-9/12/05**
CASING MAT./DIA. **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **-5.0 ft**	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE **33.13**	TOP OF WELL CASING **32.80**	TOP & BOTTOM SCREEN **14.1 / 19.1**	GRAVEL PACK SIZES **Morie #1**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Asphalt		0.6	
		Brown, course to fine SAND, some Gravel, little silt, trace brick, dry/moist.			Sampled 0.5 to 2 ft. interval for VOC analysis.
		Grey to dark grey, fine SAND, some Silt, trace black organic material.			
5		Grey SILT, little fine sand, little clay, moist.		0.0	Sampled 4 to 6 ft. interval for VOC analysis.
		Grey, fine SAND, trace silt, moist/wet.			Upper silt/clay unit begins at approximately 5.5 ft. bls.
		Brown, fine SAND, trace silt, wet.		0.2	Sampled groundwater for VOC analysis.
10				0.4	
		Brown, fine SAND, trace silt, wet.		0.5	
15				0.9	
				1.2	
		Brown CLAY, little silt, moist/wet.			Lower silt/clay unit begins at approximately 18 ft. bls.
20					Bottom of well at 19 ft bls.
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MW-106S	**160942.2**	**938705.2**

PROJECT NO./NAME	LOCATION
125801Y / Coral Island Shopping Center	**1650 Richmond Avenue**

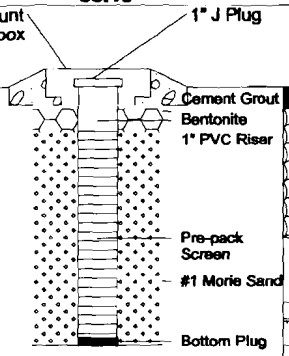
APPROVED BY	LOGGED BY	
DRAFT	**J. Sakellis**	**Staten Island, New York**

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
Roux Associates / J. Veiss	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**3.25-inches**	**6620 / Geoprobe**	**2" Macro-Core**	**9/12/05-9/12/05**

CASING MAT./DIA.	SCREEN:				
PVC / 1-inch	TYPE **Pre-Packed**	MAT. **PVC**	TOTAL LENGTH **-5.0 ft**	DIA. **1-inch**	SLOT SIZE **20-Slot**

ELEVATION OF:	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
(Feet)	**33.15**	**32.94**	**27.2 / 32.2**	**Morie #1**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Asphalt		0.6	
		Brown, course to fine SAND, some Gravel, little silt, trace brick, dry/moist.			Sampled 0.5 to 2 ft. interval for VOC analysis.
		Grey to dark grey, fine SAND, some Silt, trace black organic material.			
5		Grey SILT, little fine sand, little clay, moist.		0.0	Sampled 4 to 6 ft. interval for VOC analysis.
		Grey, fine SAND, trace silt, moist/wet.			Upper silt/clay unit begins at approximately 5.5 ft. bls.
					Bottom of well is at 6 ft bls.
10					
15					
20					
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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WELL CONSTRUCTION LOG

WELL NO.: **MW-107AD**	NORTHING: **160912.4**	EASTING: **938787.8**		
PROJECT NO./NAME: **125801Y / Coral Island Shopping Center**		LOCATION: **1650 Richmond Avenue**		
APPROVED BY: **DRAFT**	LOGGED BY: **J. Sakellis**	**Staten Island, New York**		
DRILLING CONTRACTOR/DRILLER: **Roux Associates / J. Velss**		GEOGRAPHIC AREA: **In Front of Jeweler**		
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **3.25-inches**	DRILLING EQUIPMENT/METHOD: **6620 / Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **9/14/05-9/14/05**
CASING MAT./DIA.: **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **-5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE: **32.61**	TOP OF WELL CASING: **32.40**	TOP & BOTTOM SCREEN: **5.6 / 10.6**	GRAVEL PACK SIZES: **Morie #1**

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Asphalt			
		Brown, coarse to fine SAND, some Gravel, little Asphalt, trace Silt, Glass, and Brick, (fill); dry.		18.2	Sampled 0.5 to 2 ft. interval for VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals and Cyanide analyses.
		Brown to grey, fine SAND, little Silt, trace Gravel, trace organic materials (i.e. weeds and roots); moist.		3.0	Hand excavated to 4ft bls as part of utility clearance
5		Brown, medium to fine SAND; moist.		4.8	
		Grey to brown, medium to fine SAND, trace Silt; moist/wet.		1.9	
		Brown, medium to fine SAND, trace Silt; wet		4.6	Sampled 4 to 6 ft. interval for VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals and Cyanide analyses.
		Brown, medium to fine SAND; wet.		4.2	
10		Brown, medium to fine SAND, trace Silt; wet		3.6	
		Brown SILT, little fine SAND; wet.		4.1	
		Brown Clay, trace Silt; moist/wet			
15		Brown SILT, little Gravel, trace fine Sand; moist/wet.		6.3	
				5.8	
20		Brown, fine SAND, trace Gravel and Silt; wet.		4.9	
		Brown, coarse to fine SAND, trace Silt and Gravel; wet.		4.2	
25		Brown, fine SAND, some Silt, trace Clay and Gravel; wet.		5.3	Lithology data was obtained from SB-107A, performed 9/14/2005
		Brown SILT, little Clay, trace fine Sand; moist/wet.		5.1	
30					

Flushmount Wellbox; 1" J Plug; Cement Grout; Bentonite; 1" PVC Riser; #1 Morie Sand; Pre-pack Screen; Bottom Plug; GROUND WATER LEVEL

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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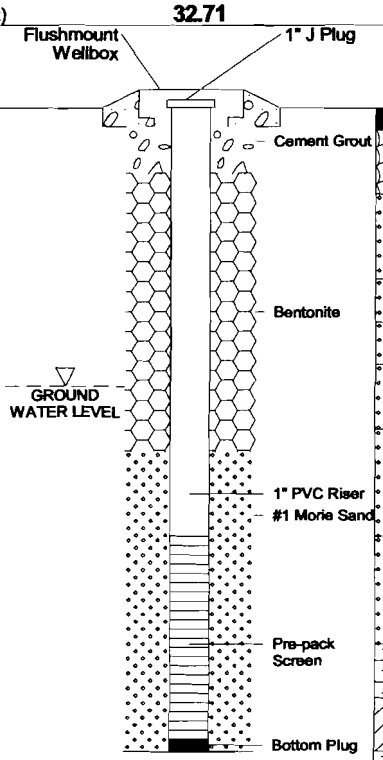
WELL CONSTRUCTION LOG

WELL NO.: **MW-107AS**	NORTHING: **160913.2**	EASTING: **938785.8**		
PROJECT NO./NAME: **125801Y / Coral Island Shopping Center**		LOCATION: **1650 Richmond Avenue**		
APPROVED BY: **DRAFT**	LOGGED BY: **J. Sakellis**	**Staten Island, New York**		
DRILLING CONTRACTOR/DRILLER: **Roux Associates / J. Veiss**		GEOGRAPHIC AREA: **In Front of Jeweler**		
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **3.25-inches**	DRILLING EQUIPMENT/METHOD: **6620 / Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **9/14/05-9/15/05**
CASING MAT./DIA.: **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **-5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE: **32.71**	TOP OF WELL CASING: **32.42**	TOP & BOTTOM SCREEN: **17.7 / 22.7**	GRAVEL PACK SIZES: **Morie #1**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Asphalt			Hand excavated to 4ft bls as part of utility clearance
		Brown, coarse to fine SAND, some Gravel, little Asphalt, trace Silt, Glass, and Brick, (fill); dry.		18.2	Sampled 0.5 to 2 ft. interval for VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals and Cyanide analyses.
		Brown to grey, fine SAND, little Silt, trace Gravel, trace organic materials (i.e. weeds and roots); moist.	G	3.0	Lithology data was obtained from SB-107A, performed 9/14/2005
5		Brown, medium to fine SAND; moist.		4.8	Sampled 4 to 6 ft. interval for VOC analysis.
		Grey to brown, medium to fine SAND, trace Silt; moist/wet.		1.9	
		Brown, medium to fine SAND, trace Silt; wet		4.6	Sampled 4 to 6 ft. interval for VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals and Cyanide analyses.
		Brown, medium to fine SAND; wet.			
				4.2	
10		Brown, medium to fine SAND, trace Silt; wet			
				3.6	
		Brown SILT, little fine SAND; wet.			
		Brown Clay, trace Silt; moist/wet		4.1	
15		Brown SILT, little Gravel, trace fine Sand; moist/wet.			
20		Brown, fine SAND, trace Gravel and Silt; wet.			
		Brown, coarse to fine SAND, trace Silt and Gravel; wet.			
25		Brown, fine SAND, some Silt, trace Clay, trace Gravel; wet.			
		Brown, SILT, little Clay, trace fine Sand; moist/wet.			
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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Environmental Consulting & Management

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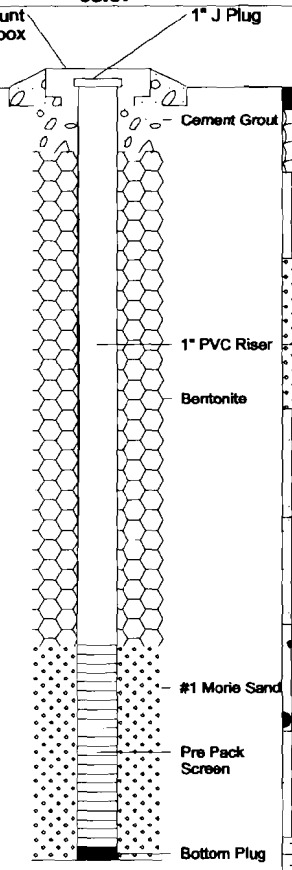
Page 1 of 1

WELL CONSTRUCTION LOG

WELL NO. **MW-108D**	NORTHING **160910.9**	EASTING **939137.4**			
PROJECT NO./NAME **125801Y / Coral Island Shopping Center**		LOCATION **1650 Richmond Avenue**			
APPROVED BY **DRAFT**	LOGGED BY **J. Sakellis**	**Staten Island, New York**			
DRILLING CONTRACTOR/DRILLER **Roux Associates / J. Veiss**		GEOGRAPHIC AREA			
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **3.25-inches**	DRILLING EQUIPMENT/METHOD **6620 / Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **9/19/05-9/19/05**	
CASING MAT./DIA. **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed**	MAT. **PVC**	TOTAL LENGTH **-5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE **35.07**	TOP OF WELL CASING **34.85**	TOP & BOTTOM SCREEN **17.1 / 22.1**	GRAVEL PACK SIZES **Morie #1**	



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Asphalt			
		Brown, fine SAND, some Silt, little Gravel, trace asphalt, trace Brick; dry (fill)		0.9	Hand excavated to 4ft bls as part of utility clearance
		Black to grey, SILT, little fine Sand, trace organic materials (Weeds, Roots, Grasses); moist		1.0	Sampled 0.5 to 2 ft. interval for VOC analysis.
5		Grey, fine SAND, some Silt, trace Clay; moist		0.7	Sampled 2 to 4 ft. interval for VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals and Cyanide analyses.
		Brown to grey, fine SAND, some Silt, little Clay; moist/wet		1.5	Sampled 4 to 6 ft. interval for VOC analysis.
		Brown, SILT, some fine Sand, little Clay; moist		1.0	Sampled groundwater for VOC, SVOC, Pesticide, and TAL Metals analyses.
10		Brown, SILT, some fine SAND, little Gravel, trace Clay; wet		0.8	
		Brown to grey, crushed rock (Sandstone), some Silt, little fine Sand, trace Gravel; moist		0.6	
15		Brown SILT, little fine Sand, trace Gravel, trace Clay; wet		0.7	
		Brown, SILT, little Clay, trace Gravel, trace fine Sand, wet		0.6	Bottom of well at 18 ft bls.
20		Brown, medium to fine SAND, some Silt, little Gravel, little Clay; wet		0.2	
		Brown, coarse to fine SAND, little Gravel, trace Silt; wet		0.2	Lithology data was obtained from SB-108, performed 9/19/2005
25					Bottom of soil boring at 25 ft bls.
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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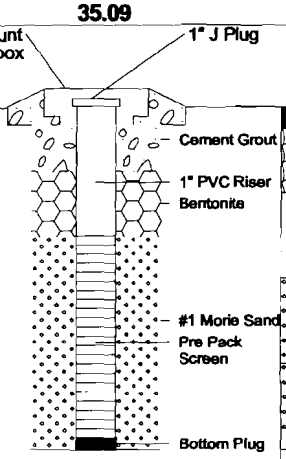
WELL CONSTRUCTION LOG

WELL NO.: **MW-108S**	NORTHING: **160912.9**	EASTING: **939137.9**		
PROJECT NO./NAME: **125801Y / Coral Island Shopping Center**		LOCATION: **1650 Richmond Avenue**		
APPROVED BY: **DRAFT**	LOGGED BY: **J. Sakellis**	**Staten Island, New York**		
DRILLING CONTRACTOR/DRILLER: **Roux Associates / J. Veiss**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **3.25-inches**	DRILLING EQUIPMENT/METHOD: **6620 / Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **9/19/05-9/19/05**
CASING MAT./DIA.: **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **-5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE: **35.09**	TOP OF WELL CASING: **34.83**	TOP & BOTTOM SCREEN: **27.1 / 32.1**	GRAVEL PACK SIZES: **Morie #1**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Asphalt			Hand excavated to 4ft bls as part of utility clearance
		Brown, fine SAND, some Silt, little Gravel, trace asphalt, trace Brick; dry (fill)		0.9	Sampled 0.5 to 2 ft. interval for VOC analysis.
		Black to grey, SILT, little fine Sand, trace organic materials (Weeds, Roots, Grasses); moist		1.0	Lithology data was obtained from SB-108, performed 9/19/2005
5		Grey, fine SAND, some Silt, trace Clay; moist		0.7	Sampled 2 to 4 ft. interval for VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals and Cyanide analyses. Sampled 4 to 6 ft. interval for VOC analysis.
		Brown to grey, fine SAND, some Silt, little Clay; moist/wet		1.5	
		Brown, SILT, some fine Sand, little Clay; moist			Bottom of well at 8 ft bls.
10					
15					
20					
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MW-109D	160676.5	938885.4

PROJECT NO./NAME	LOCATION
125801Y / Coral Island Shopping Center	1650 Richmond Avenue

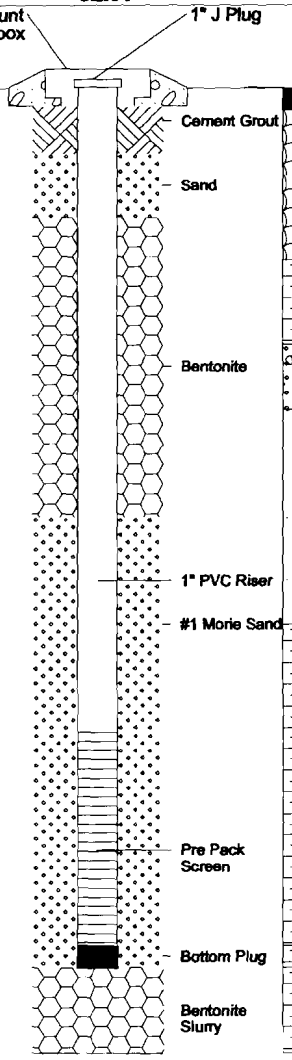
APPROVED BY	LOGGED BY	
DRAFT	J. Sakellis	Staten Island, New York

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
Roux Associates / J. Veiss	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	3.25-inches	6620 / Geoprobe	2" Macro-Core	9/1/05-9/1/05

CASING MAT./DIA.	SCREEN:				
PVC / 1-inch	TYPE Prepacked	MAT. PVC	TOTAL LENGTH -5.0 ft	DIA. 1-inch	SLOT SIZE 20-Slot

ELEVATION OF:	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
(Feet)	32.61	32.25	12.6 / 17.6	Morie #1



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Asphalt			
		Brown to grey, course to fine SAND, little gravel, little silt, trace brick, trace concrete, trace glass, dry/moist.	G	2.6	Sampled 0.5 to 2 ft. interval for VOC, SVOC, Pesticide, PCB, Herbicides, TAL Metals and Cyanide analyses.
		Brown to grey, course to fine SAND, little gravel, little silt, trace brick, trace concrete, trace glass, dry/moist.	G	2.0	
5		Grey to brown SILT, little clay, little fine sand, moist.	G	1.9	Sampled 4 to 6 ft interval for VOC analysis. Sampled groundwater for VOC analysis.
		Brown, course to fine SAND, some Gravel, little silt, moist.		0.7	
		Brown, fine SAND, little silt, little gravel, moist.		1.2	
10		Brown, fine SAND, little silt, little gravel, wet.		1.0	
		Brown SILT, little fine sand, little clay, trace gravel, wet.		0.8	
15		Brown SILT, little fine sand, little clay, wet.		1.5	
				1.0	
20		Brown SILT, little clay, moist.		1.0	
		Brown SILT, little clay, little fine sand, wet.			
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MW-109S	160677.4	938883.8

PROJECT NO./NAME	LOCATION
125801Y / Coral Island Shopping Center	1650 Richmond Avenue

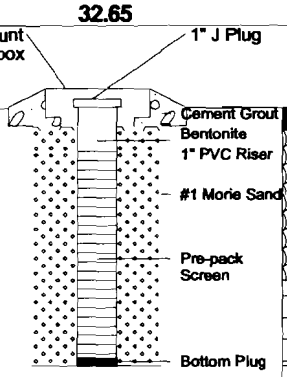
APPROVED BY	LOGGED BY	
DRAFT	J. Sakellis	Staten Island, New York

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
Roux Associates / J. Veiss	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	3.25-inches	6620 / Geoprobe	2" Macro-Core	9/9/05-9/9/05

CASING MAT./DIA.	SCREEN:				
PVC / 1-inch	TYPE Pre-Packed	MAT. PVC	TOTAL LENGTH -5.0 ft	DIA. 1-inch	SLOT SIZE 20-Slot

ELEVATION OF:	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
(Feet)	32.65	32.38	26.7 / 31.7	Morie #1



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"		PID Values (ppm)	REMARKS
		Asphalt				
		Brown to grey, course to fine SAND, little gravel, little silt, trace brick, trace concrete, trace glass, dry/moist.		G	2.6	Sampled 0.5 to 2 ft. interval for VOC, SVOC, Pesticide, PCB, Herbicides, TAL Metals and Cyanide analyses.
		Brown to grey, course to fine SAND, little gravel, little silt, trace brick, trace concrete, trace glass, dry/moist.		G	2.0	
5		Grey to brown SILT, little clay, little fine sand, moist.		G	1.9	Sampled 4 to 6 ft interval for VOC analysis. Soil boring shown here is from Pilot boring MW-109D, less than 3 ft away.
10						
15						
20						
25						
30						

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MW-111D	160873.8	938947.4

PROJECT NO./NAME	LOCATION
125801Y / Coral Island Shopping Center	1650 Richmond Avenue

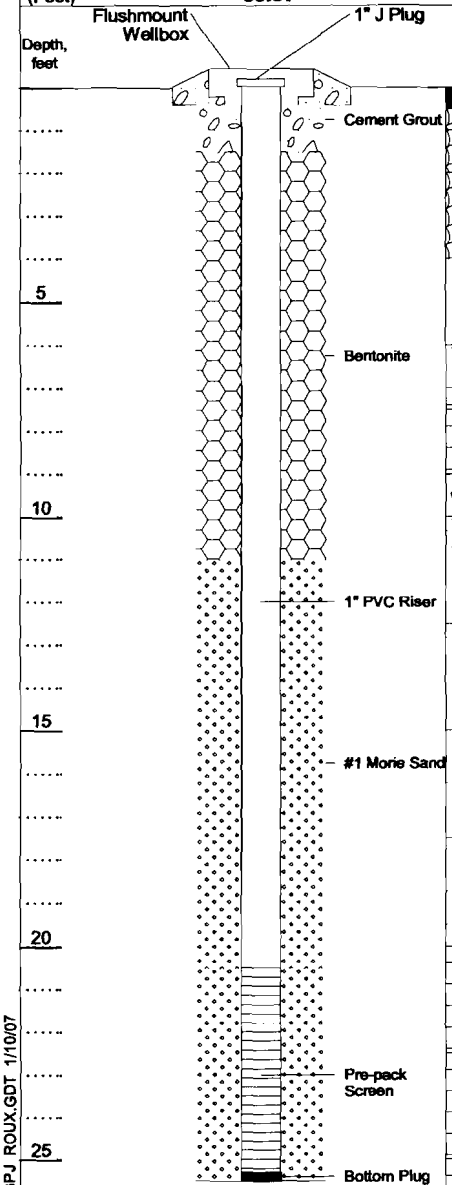
APPROVED BY	LOGGED BY	
DRAFT	J. Sakellis	Staten Island, New York

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
Roux Associates / J. Veiss	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	3.25-inches	6620 / Geoprobe	2" Macro-Core	9/16/05-9/16/05

CASING MAT./DIA.	SCREEN:				
PVC / 1-inch	TYPE Pre-Packed	MAT. PVC	TOTAL LENGTH -5.0 ft	DIA. 1-inch	SLOT SIZE 20-Slot

ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
	33.87	33.60	8.4 / 13.4	Morie #1



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Asphalt			
		Brown to grey, coarse to fine SAND, little Asphalt little Gravel; dry/moist		7.8	Sampled 0.5 to 2 ft. interval for VOC analysis.
		Brown, coarse to fine SAND, little Silt, little Gravel; dry/moist	G	2.4	
		Brown, coarse to fine SAND, little Silt, little Gravel, trace organic material (Lumber); dry/moist (fill)		2.8	
5		Brown to grey, SILT, little fine Sand, trace organic material (Weeds, Roots); moist/wet			Sampled 4 to 6 ft. interval for VOC analysis.
		Grey, fine SAND, little Silt; wet		2.3	Sampled groundwater for VOC analysis.
		Grey, SILT, trace Clay; moist		1.6	
		Brown, SILT, trace Clay, trace Gravel; moist		1.8	
10		Brown SILT, little Gravel, trace Clay; moist			
		Brown, SILT, little fine Sand, trace Gravel; moist/wet		3.9	
		Brown, SILT, little fine Sand, trace Gravel; moist/wet		4.3	
15		Brown SILT, little fine Sand, trace Gravel; moist/wet		3.7	
		Brown SILT, little fine Sand, trace Gravel; moist/wet		4.1	
20		Brown, SILT, trace fine Sand, trace Clay, trace Gravel; wet		0.8	
		Brown, SILT, little fine Sand, little Clay; moist/wet.		0.5	
25		Brown, SILT, little Clay, little Gravel; moist/wet		2.8	Bottom of well at 25.5 ft bls.
		Brown SILT, little Gravel, little medium to fine Sand, trace Clay; wet		3.1	Bottom of soil boring at 30 ft bls.
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MW-111S	**160873.2**	**938949.7**

PROJECT NO./NAME	LOCATION
125801Y / Coral Island Shopping Center	**1650 Richmond Avenue**

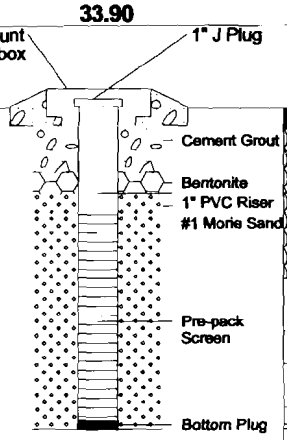
APPROVED BY	LOGGED BY	
DRAFT	**J. Sakellis**	**Staten Island, New York**

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
Roux Associates / J. Veiss	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**3.25-inches**	**6620 / Geoprobe**	**2" Macro-Core**	**9/16/05-9/16/05**

CASING MAT./DIA. **PVC / 1-inch** | SCREEN: TYPE **Pre-Packed** MAT. **PVC** TOTAL LENGTH **-5.0** ft DIA. **1-inch** SLOT SIZE **20-Slot**

ELEVATION OF:	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
(Feet)	**33.90**	**33.63**	**26.4 / 31.4**	**Morie #1**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Asphalt			Hand excavated to 4ft bls as part of utility clearance
		Brown to grey, coarse to fine SAND, little Asphalt little Gravel; dry/moist		7.8	Sampled 0.5 to 2 ft. interval for VOC analysis.
		Brown, coarse to fine SAND, little Silt, little Gravel; dry/moist	G	2.4	
		Brown, coarse to fine SAND, little Silt, little Gravel, trace organic material (Lumber); dry/moist (fill)		2.8	Lithology data was obtained from SB-111, performed 9/16/2005
5		Brown to grey, SILT, little fine Sand, trace organic material (Weeds, Roots); moist/wet		2.3	Sampled 4 to 6 ft. interval for VOC analysis.
		Grey, fine SAND, little Silt; wet			
		Grey, SILT, trace Clay; moist		1.6	Bottom of well at 7.5 ft bls.
10					
15					
20					
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MW-112D	161125.5	938699.4

PROJECT NO./NAME	LOCATION
125801Y / Coral Island Shopping Center	1650 Richmond Avenue

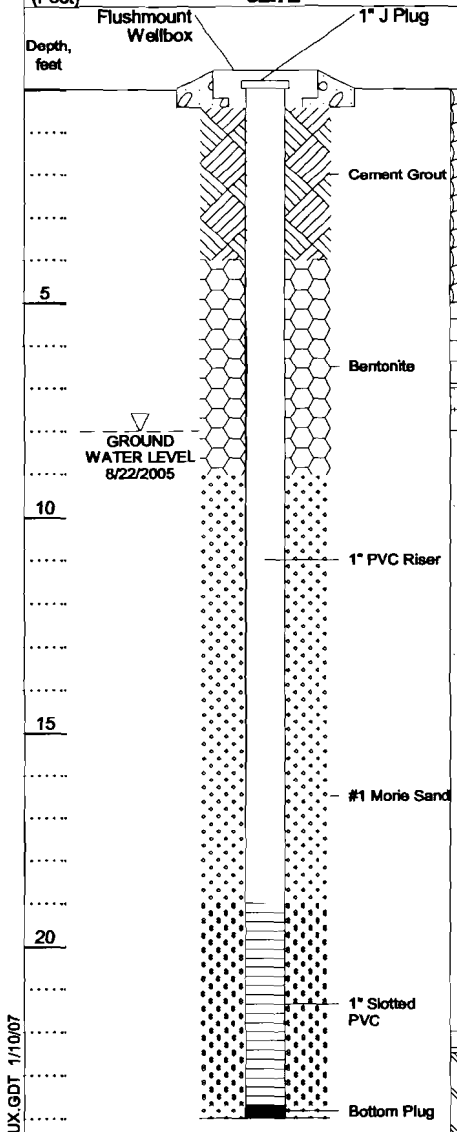
APPROVED BY	LOGGED BY	
DRAFT	J. Sakellis	Staten Island, New York

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
Roux Associates / J. Veiss	School Yard

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	3.25-inches	6620 / Geoprobe	2" Macro-Core	8/22/05-8/22/05

CASING MAT./DIA.	SCREEN:				
PVC / 1-inch	TYPE Pre-Packed	MAT. PVC	TOTAL LENGTH -5.0 ft	DIA. 1-inch	SLOT SIZE 20-Slot

ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
	32.72	32.53	8.7 / 13.7	Morie #1



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown, course to fine SAND, some Gravel, little silt, trace brick, glass, concrete, dry/moist.		0.3	
		Brown to dark brown, course to fine SAND, some Gravel, little silt, trace, brick, glass, asphalt, dry/moist.		0.1	
5		Grey to brown SILT, little clay, dry		0.1	Top clayey-silt layer begins at 5 ft. bls.
		Grey, fine SAND, little silt, moist.			
		Grey, fine SAND, trace silt, wet.		0.5	Sampled groundwater for VOC analysis.
		Brown, fine SAND, trace silt, wet.			Top clayey-silt layer ends at approximately 9 ft. bls.
10				0.9	
				0.8	
15		Brown fine SAND, trace silt, wet.		2.2	
				3.3	
20				3.0	
		Brown SILT, little fine sand, wet.			
		Brown, medium to high plasticity CLAY, wet.		3.0	
					Bottom clay layer begins at 23.5 ft. bls.
25					Bottom of boring at 25 ft. bls.
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MW-112S	161125.9	938698

PROJECT NO./NAME	LOCATION
125801Y / Coral Island Shopping Center	1650 Richmond Avenue

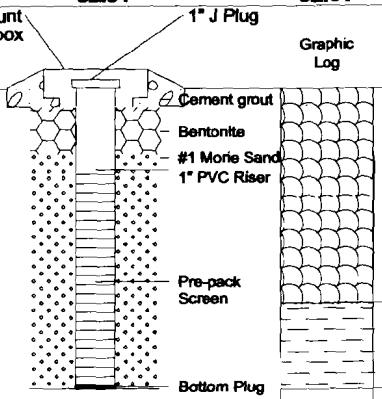
APPROVED BY	LOGGED BY	
DRAFT	J. Sakellis	Staten Island, New York

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
Roux Associates / J. Veiss	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	3.25-inches	6620 / Geoprobe	2" Macro-Core	8/22/05-8/22/05

CASING MAT./DIA. PVC / 1-inch
SCREEN: TYPE Pre-Packed MAT. PVC TOTAL LENGTH -5.0 ft DIA. 1-inch SLOT SIZE 20-Slot

ELEVATION OF:	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
(Feet)	32.81	32.61	25.8 / 30.8	Morie #1



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		Brown, course to fine SAND, some Gravel, little silt, trace brick, glass, concrete, dry/moist.			
		Brown to dark brown, course to fine SAND, some Gravel, little silt, trace, brick, glass, asphalt, dry/moist.			
5		Grey to brown SILT, little clay, dry			
10					
15					
20					
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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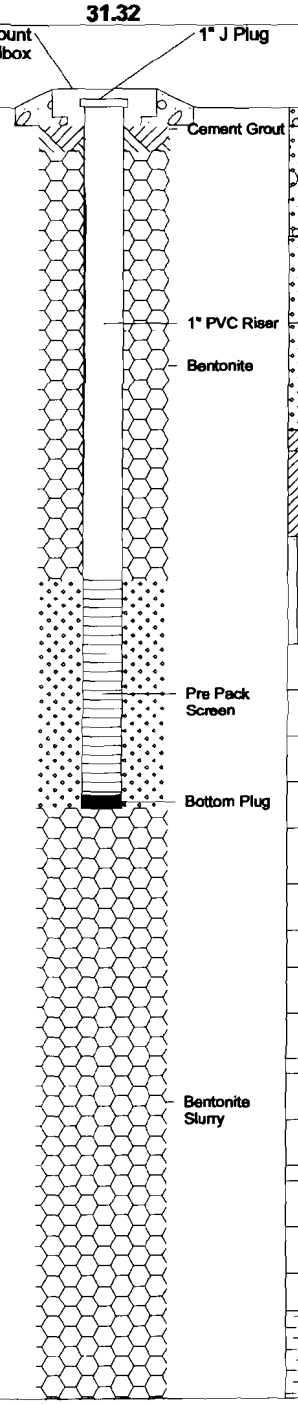
WELL CONSTRUCTION LOG

WELL NO.: MW-113D	NORTHING: 161022	EASTING: 938907.6		
PROJECT NO./NAME: 125801Y / Coral Island Shopping Center		LOCATION: 1650 Richmond Avenue		
APPROVED BY: DRAFT	LOGGED BY: J. Sakellis	Staten Island, New York		
DRILLING CONTRACTOR/DRILLER: Roux Associates / J. Veiss		GEOGRAPHIC AREA: Church backyard		
DRILL BIT DIAMETER/TYPE: 2-in. / Drive Sampler	BOREHOLE DIAMETER: 3.25-inches	DRILLING EQUIPMENT/METHOD: 6620 / Geoprobe	SAMPLING METHOD: 2" Macro-Core	START-FINISH DATE: 8/23/05-8/23/05
CASING MAT./DIA.: PVC / 1-inch	SCREEN: TYPE Pre-Packed	MAT. PVC	TOTAL LENGTH -5.0 ft	DIA. 1-inch SLOT SIZE 20-Slot
ELEVATION OF: (Feet)	GROUND SURFACE: 31.32	TOP OF WELL CASING: 31.04	TOP & BOTTOM SCREEN: 15.3 / 20.3	GRAVEL PACK SIZES: Morie #1



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown, course to fine SAND, some Gravel, trace silt, moist.	G	0.8	Sampled 0-2 ft. interval for VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals and Cyanide analyses.
		Brown to grey, medium to fine SAND, little silt, wet.	G	2.1	
5		Grey to brown, medium to fine SAND, some Silt, wet.		2.8	
		Brown CLAY, some Silt, moist/wet.		1.5	Sampled groundwater for VOC analysis.
		Brown CLAY, some Silt, little gravel, moist.			
10		Brown SILT, some fine Sand, some Gravel, wet.		1.5	
		Brown SILT, some Clay, little gravel, moist.		1.3	
15				2.9	
		Brown SILT, some Clay, little gravel, moist		10.1	
20		Brown SILT, some Clay, trace gravel, moist		16.5	
		Brown SILT, some Clay, trace fine sand, moist.		40.7	
25		Brown SILT, some Clay, moist		36.7	
		Brown SILT, little clay, little gravel, moist.		44	
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MW-113S	161020.4	938907.1

PROJECT NO./NAME	LOCATION
125801Y / Coral Island Shopping Center	1650 Richmond Avenue

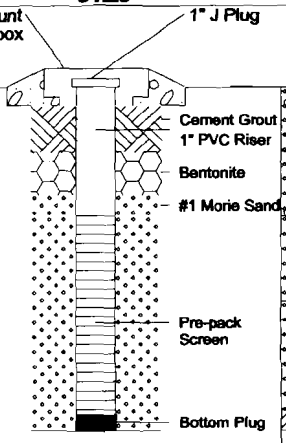
APPROVED BY	LOGGED BY	
DRAFT	J. Sakellis	Staten Island, New York

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
Roux Associates / J. Veiss	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	3.25-inches	6620 / Geoprobe	2" Macro-Core	8/23/05-8/23/05

CASING MAT./DIA. PVC / 1-inch
SCREEN: TYPE Pre-Packed MAT. PVC TOTAL LENGTH 5.0 ft DIA. 1-inch SLOT SIZE 20-Slot

ELEVATION OF:	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GRAVEL PACK SIZES
(Feet)	31.23	30.89	28.2 / 23.2	Morie #1



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		Brown, course to fine SAND, some Gravel, trace silt, moist.			Sampled 0-2 ft. interval for VOC, SVOC, Pesticide, PCB, Herbicide, TAL Metals and Cyanide analyses.
		Brown to grey, medium to fine SAND, little silt, wet.			
5		Grey to brown, medium to fine SAND, some Silt, wet.			
		Brown CLAY, some Silt, moist/wet.			Sampled groundwater for VOC analysis.
10					
15					
20					
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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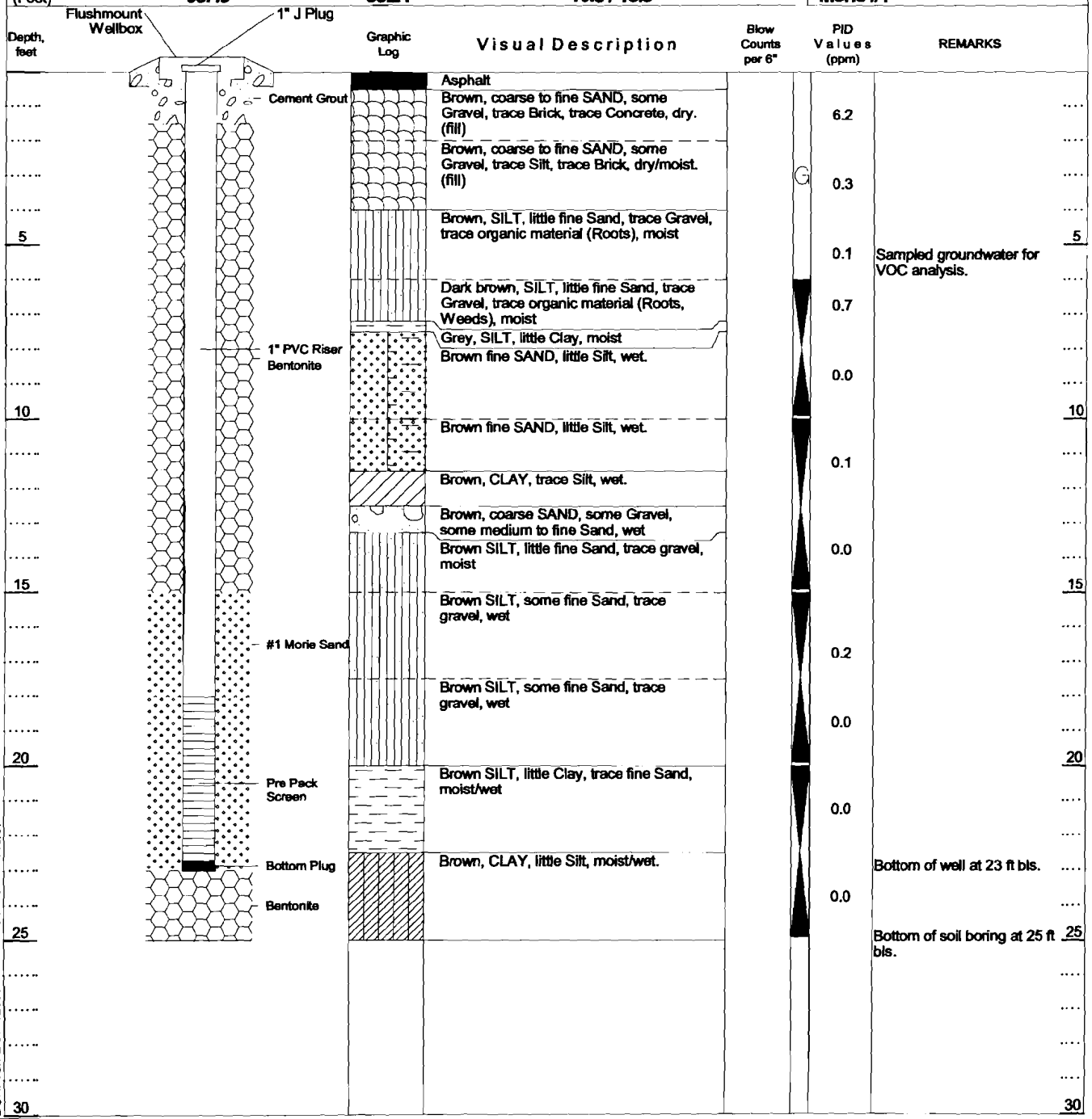
WELL CONSTRUCTION LOG

WELL NO. **MW-126D**	NORTHING **160818.1**	EASTING **938544.5**			
PROJECT NO./NAME **125801Y / Coral Island Shopping Center**		LOCATION **1650 Richmond Avenue**			
APPROVED BY **DRAFT**	LOGGED BY **J. Sakellis**	**Staten Island, New York**			
DRILLING CONTRACTOR/DRILLER **Roux Associates / J. Veiss**		GEOGRAPHIC AREA			
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **3.25-inches**	DRILLING EQUIPMENT/METHOD **6620 / Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **9/13/05-9/13/05**	
CASING MAT./DIA. **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed**	MAT. **PVC**	TOTAL LENGTH **-5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE **33.49**	TOP OF WELL CASING **33.24**	TOP & BOTTOM SCREEN **10.5 / 15.5**	GRAVEL PACK SIZES **Morie #1**	



BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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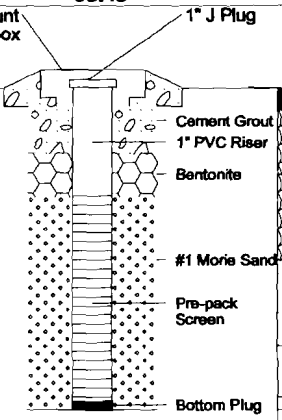
WELL CONSTRUCTION LOG

WELL NO.: **MW-126S**	NORTHING: **160819.7**	EASTING: **938544.9**		
PROJECT NO./NAME: **125801Y / Coral Island Shopping Center**		LOCATION: **1650 Richmond Avenue**		
APPROVED BY: **DRAFT**	LOGGED BY: **J. Sakellis**	**Staten Island, New York**		
DRILLING CONTRACTOR/DRILLER: **Roux Associates / J. Veiss**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **3.25-inches**	DRILLING EQUIPMENT/METHOD: **6620 / Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **9/13/05-9/13/05**
CASING MAT./DIA.: **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **-5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE: **33.48**	TOP OF WELL CASING: **33.26**	TOP & BOTTOM SCREEN: **26.0 / 31.0**	GRAVEL PACK SIZES: **Morie #1**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Asphalt			
		Brown, coarse to fine SAND, some Gravel, trace Brick, trace Concrete, dry. (fill)		6.2	
		Brown, coarse to fine SAND, some Gravel, trace Silt, trace Brick, dry/moist. (fill)	G	0.3	
5		Brown, SILT, little fine Sand, trace Gravel, trace organic material (Roots), moist		0.1	
		Dark brown, SILT, little fine Sand, trace Gravel, trace organic material (Roots, Weeds), moist		0.7	
		Grey, SILT, little Clay, moist			Bottom of well at 7.5 ft bls.
10					
15					
20					
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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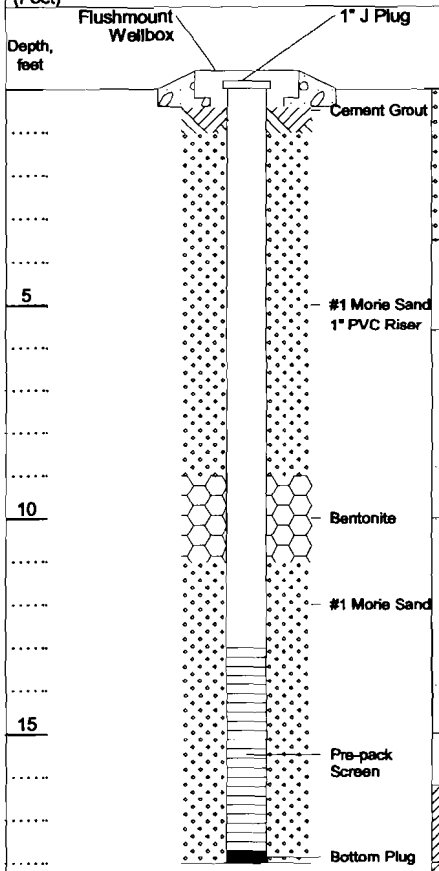
WELL CONSTRUCTION LOG

WELL NO.: **MW-201D**	NORTHING: **Not Measured**	EASTING: **Not Measured**		
PROJECT NO./NAME: **125801Y / Coral Island Shopping Center**		LOCATION: **1650 Richmond Avenue**		
APPROVED BY: **DRAFT**	LOGGED BY: **L. Derrendinger**	**Staten Island, New York**		
DRILLING CONTRACTOR/DRILLER: **Roux Associates / J. Veiss**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **3.25-inches**	DRILLING EQUIPMENT/METHOD: **6620 / Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **8/3/06-8/3/06**
CASING MAT./DIA.: **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN /	GRAVEL PACK SIZES: **Morie #1**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown fine SAND, some Silt, little fine Gravel; some roots and natural organic matter in top 3 inches; moist; soft; cemented red sand at 2.5 and 3.5 feet.		1.0	No samples collected; PID monitoring only.
				1.2	
5		Light Grey fine(-) SAND, some Silt; Brown staining in top 2 inches; moist; firm.		1.4	
		Reddish fine SAND; wet at bottom 4 feet; soft.		0.7	
10		Reddish fine SAND; wet; firm.		1.6	
				1.5	
15		Reddish fine(-) SAND, some Silt; wet; very soft.		1.3	
		Reddish CLAY, some Silt; wet; very firm; cemented red sand at bottom 3 inches.			
		Reddish CLAY, little Silt; wet; very firm; cemented red sand at bottom 3 inches.		1.3	
20					
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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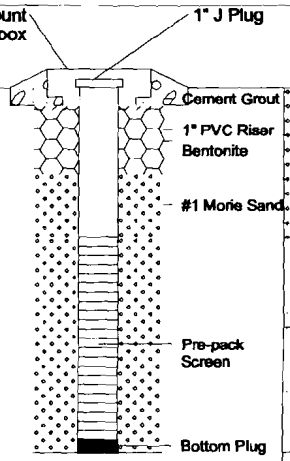
Page 1 of 1

WELL CONSTRUCTION LOG

WELL NO.: **MW-201S**	NORTHING: **Not Measured**	EASTING: **Not Measured**		
PROJECT NO./NAME: **125801Y / Coral Island Shopping Center**		LOCATION: **1650 Richmond Avenue**		
APPROVED BY: **DRAFT**	LOGGED BY: **L. Derrendinger**	**Staten Island, New York**		
DRILLING CONTRACTOR/DRILLER: **Roux Associates / J. Veiss**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **3.25-inches**	DRILLING EQUIPMENT/METHOD: **6620 / Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **8/3/06-8/3/06**
CASING MAT./DIA.: **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN: **/**	GRAVEL PACK SIZES: **Morie #1**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown fine SAND, some Silt, little fine Gravel; some roots and natural organic matter in top 3 inches; moist; soft; cemented red sand at 2.5 and 3.5 feet.			No samples collected; See MW-201D for PID monitoring results.
5		Light Grey fine(-) SAND, some Silt; Brown staining in top 2 inches; moist; firm.			
		Reddish fine SAND; wet at bottom 2.5 feet; soft.			
10					
15					
20					
25					
30					

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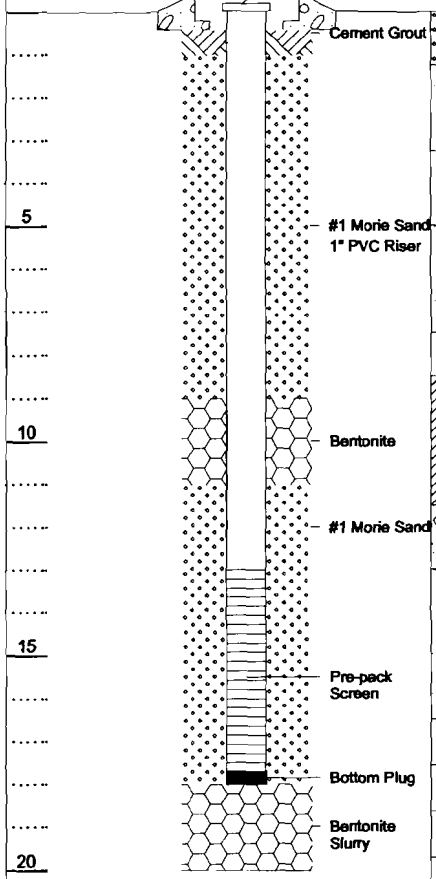
WELL CONSTRUCTION LOG

WELL NO. **MW-202D**	NORTHING **Not Measured**	EASTING **Not Measured**		
PROJECT NO./NAME **125801Y / Coral Island Shopping Center**		LOCATION **1650 Richmond Avenue**		
APPROVED BY **DRAFT**	LOGGED BY **L. Derrendinger**	**Staten Island, New York**		
DRILLING CONTRACTOR/DRILLER **Roux Associates / J. Veiss**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **3.25**	DRILLING EQUIPMENT/METHOD **6620 / Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **8/2/06-8/2/06**
CASING MAT./DIA. **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN /	GRAVEL PACK SIZES **Morie #1**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Dark Brown to Black fine SAND, and Silt, some roots and natural organic matter; moist; soft.	G	0.3	No samples collected; PID monitoring only.
		Light Grey fine(-) SAND, some Silt; Dark Brown staining in top 3 inches; moist; firm.	G	0.3	
		Light Brown fine(+) to medium(-) SAND; wet; firm.	G		
5		Reddish fine(+) to medium(-) SAND; wet; firm.	G	0.5	
		Reddish fine SAND; wet; firm.		0.6	
		Reddish CLAY, and Silt, trace fine Sand; very firm; wet.	G		
10			G	1.2	
		Reddish fine(-) SAND, and layers and pockets of cemented red sand; wet; firm;	G		
		Reddish SILT, and fine(-) Sand, little fine(-) Gravel of cemented Sand; wet; firm.	G	1.1	
15			G	08	
		Reddish SILT, some Clay, little fine Gravel of cemented sand; very firm; moist; increase in cemented sand content in bottom foot.	G	0.7	
20			G		
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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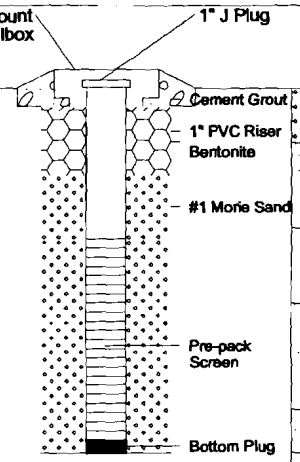
WELL CONSTRUCTION LOG

WELL NO. **MW-202S**	NORTHING **Not Measured**	EASTING **Not Measured**		
PROJECT NO./NAME **125801Y / Coral Island Shopping Center**		LOCATION **1650 Richmond Avenue**		
APPROVED BY **DRAFT**	LOGGED BY **L. Derrendinger**	**Staten Island, New York**		
DRILLING CONTRACTOR/DRILLER **Roux Associates / J. Veiss**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **3.25-inches**	DRILLING EQUIPMENT/METHOD **6620 / Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **8/2/06-8/2/06**
CASING MAT./DIA. **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet) GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN /	GRAVEL PACK SIZES **Morie #1**	



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		Dark Brown to Black SAND, and Silt, some roots and natural organic matter; moist; soft.			No samples collected; See MW-202D for PID monitoring results.
		Light Grey fine(-) SAND, some Silt; Dark Brown staining in top 3 inches; moist; firm.			
		Light Brown fine(+) to medium(-) SAND; wet; firm.			
5		Reddish fine(+) to medium(-) SAND; wet; firm.			
		Reddish fine SAND; wet; firm.			
10					
15					
20					
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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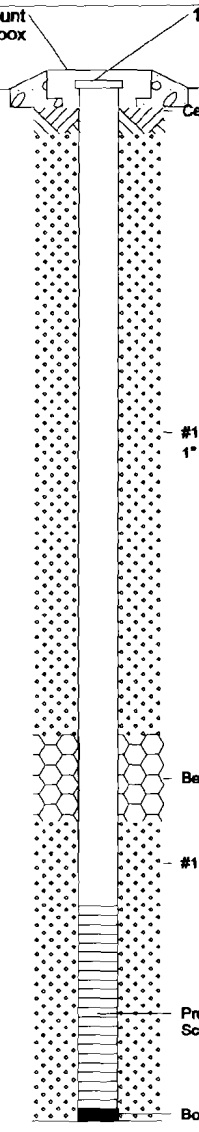
WELL CONSTRUCTION LOG

WELL NO.: **MW-203D**	NORTHING: **Not Measured**	EASTING: **Not Measured**			
PROJECT NO./NAME: **125801Y / Coral Island Shopping Center**		LOCATION: **1650 Richmond Avenue**			
APPROVED BY: **DRAFT**	LOGGED BY: **L. Derrendinger**	**Staten Island, New York**			
DRILLING CONTRACTOR/DRILLER: **Roux Associates / J. Veiss**		GEOGRAPHIC AREA			
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **3.25-inches**	DRILLING EQUIPMENT/METHOD: **6620 / Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **8/5/06-8/5/06**	
CASING MAT./DIA.: **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**	
ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN /	GRAVEL PACK SIZES **Morie #1**	



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		Brown fine SAND, some Silt; some roots and natural organic matter in top 3 inches; moist; soft;		0.5	No samples collected; PID monitoring only.
		Tan fine to medium SAND, trace Silt; moist; soft.		0.5	
5		Light Grey fine(-) SAND, some Silt; wet at bottom 10 inches; firm.		0.7	
		Reddish fine(+) to medium(-) SAND; wet; soft.		0.6	
10		Reddish fine SAND; wet; soft.		0.5	
				0.5	
15				0.5	
				0.6	
20				0.6	
				0.5	
25		Reddish CLAY, some Silt; wet; firm;			
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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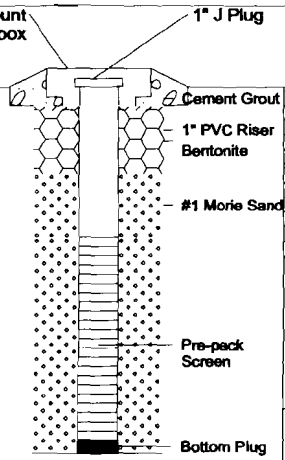
WELL CONSTRUCTION LOG

WELL NO. **MW-203S**	NORTHING **Not Measured**	EASTING **Not Measured**		
PROJECT NO./NAME **125801Y / Coral Island Shopping Center**		LOCATION **1650 Richmond Avenue**		
APPROVED BY **DRAFT**	LOGGED BY **L. Derrendinger**	**Staten Island, New York**		
DRILLING CONTRACTOR/DRILLER **Roux Associates / J. Veiss**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **3.25-inches**	DRILLING EQUIPMENT/METHOD **6620 / Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **8/5/06-8/5/06**
CASING MAT./DIA. **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet) GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN /	GRAVEL PACK SIZES **Morie #1**	



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		Brown fine SAND, some Silt; some roots and natural organic matter in top 3 inches; moist; soft;			No samples collected; See MW-203D for PID monitoring results.
		Tan fine to medium SAND, trace Silt; moist; soft.			
5		Light Grey fine(-) SAND, some Silt; wet at bottom 10 inches; firm.			
		Reddish fine(+) to medium(-) SAND; wet; soft.			
10					
15					
20					
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

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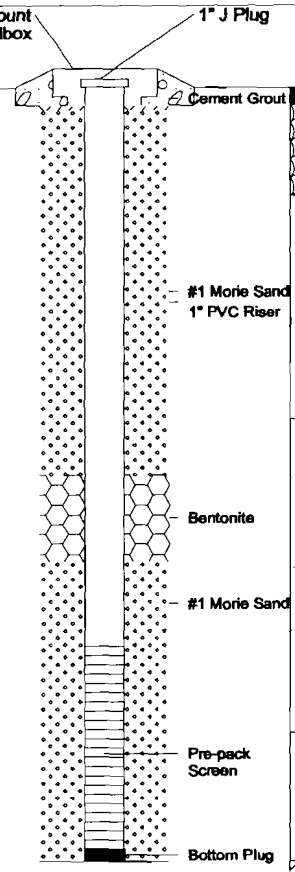
WELL CONSTRUCTION LOG

WELL NO. **MW-204D**	NORTHING **Not Measured**	EASTING **Not Measured**		
PROJECT NO./NAME **125801Y / Coral Island Shopping Center**		LOCATION **1650 Richmond Avenue**		
APPROVED BY **DRAFT**	LOGGED BY **L. Derrendinger**	**Staten Island, New York**		
DRILLING CONTRACTOR/DRILLER **Roux Associates / J. Veiss**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **3.25-inches**	DRILLING EQUIPMENT/METHOD **6620 / Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **8/4/06-8/4/06**
CASING MAT./DIA. **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**
ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN /	GRAVEL PACK SIZES **Morie #1**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		Asphalt paving and gravel base.		1.7	
		Black medium to coarse SAND, and fine Gravel, (fill); moist; soft; mostly asphalt-like material in fine Gravel size fraction.			No samples collected; PID monitoring only.
		Light Grey fine(-) SAND, some Silt; Black staining in top 2 inches; wet in bottom 1.2 feet; very firm.		1.1	
5				1.5	
		Reddish fine SAND; wet; soft.		1.1	
10				1.8	
				1.9	
15		Reddish fine SAND; wet; firm.		1.3	
					No recovery from 15 feet to 18 feet (Driller)
		Reddish CLAY, little Silt; wet; firm; cemented red sand at bottom of section.			
20					
25					
30					

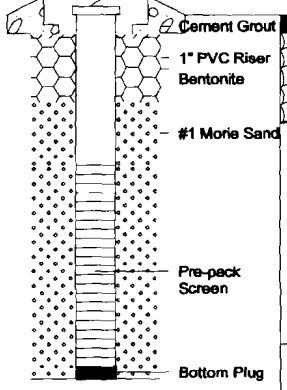
BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

209 Shafter Street
Islandia, New York 11749
Telephone: 631-232-2600
Fax: 631-232-9898

WELL CONSTRUCTION LOG

WELL NO.: **MW-204S**	NORTHING: **Not Measured**	EASTING: **Not Measured**			
PROJECT NO./NAME: **125801Y / Coral Island Shopping Center**		LOCATION: **1650 Richmond Avenue**			
APPROVED BY: **DRAFT**	LOGGED BY: **L. Derrendinger**	**Staten Island, New York**			
DRILLING CONTRACTOR/DRILLER: **Roux Associates / J. Veiss**		GEOGRAPHIC AREA			
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **3.25-inches**	DRILLING EQUIPMENT/METHOD: **6620 / Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **8/5/06-8/5/06**	
CASING MAT./DIA.: **PVC / 1-inch**	SCREEN: TYPE **Pre-Packed** MAT. **PVC**	TOTAL LENGTH **5.0** ft	DIA. **1-inch**	SLOT SIZE **20-Slot**	
ELEVATION OF: (Feet)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN: **/**	GRAVEL PACK SIZES: **Morie #1**	



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		Asphalt paving and gravel base.			
		Black medium to coarse SAND, and fine Gravel, (fill); moist; soft; mostly asphalt-like material in fine Gravel size fraction.			No samples collected; See MW-204D for PID monitoring results.
		Light Grey fine(-) SAND, some Silt; Black staining in top 2 inches; wet in bottom 1.2 feet; very firm.			
5					
		Reddish fine SAND; wet; soft.			
10					
15					
20					
25					
30					

BORING/FEET 125801Y.GPJ ROUX.GDT 1/10/07

APPENDIX F

Quality Assurance Project Plan

April 2009

QUALITY ASSURANCE PROJECT PLAN

Coral Island Shopping Center
1650 Richmond Avenue
Staten Island, New York

Prepared for:

WWP ASSOCIATES, LLP
8816 Six Forks Road
Suite 201
Raleigh, North Carolina 27615

Remedial Engineering, P.C.
Environmental Engineers

209 Shafter Street, Islandia, New York 11749 ♦ 631-232-2600

TABLE OF CONTENTS

1.0 INTRODUCTION

Roux Associates, Inc. (Roux Associates) and Remedial Engineering, P.C. (Remedial Engineering) have developed this Quality Assurance Project Plan (QAPP) for the Coral Island Shopping Center (Site) located at 1650 Richmond Avenue, Staten Island, New York to describe in detail the field sampling and quality assurance/quality control methods to be used during groundwater sampling and soil management tasks.

The tasks covered by this QAPP are post-excavation soil sampling, waste characterization sampling, and backfill sampling for soil, and groundwater monitoring.

This QAPP was prepared in accordance with the NYSDEC's December 2002 Draft DER-10 Technical Guidance for Site Investigation and Remediation (DER-10) and provides guidelines and procedures to be followed by field personnel during performance of the remedial action sampling. Information contained in this QAPP relates to:

- Sampling objectives (Section 2);
- Sample media, sampling locations, analytical suites, sampling frequencies, and analytical laboratory (Section 3);
- Field sampling procedures (Section 4);
- Sample handling, sample analysis, and quality assurance/quality control (Section 5); and
- Site control procedures and decontamination (Section 6).

2.0 SAMPLING OBJECTIVES

The remedial action sampling program is designed to meet the data quality objectives (DQOs) set forth in the Draft DER-10. Specifically, analytical parameters selected for each sample, as described in Section 3, are comprehensive and are intended to meet the following objectives:

- Analyze post-excavation soil samples for likely contaminants of concern given the known history and current use of the property (e.g., sampling for volatile organic compounds [VOCs] which were identified in previous investigations above the proposed restricted commercial criteria or the unrestricted use criteria presented in the Alternatives Analysis Report/Remedial Action Work Plan "AAR/RAWP");

- Analyze excavated soil for parameters required by the selected disposal facility;

- Analyze offsite backfill for parameters required to evaluate its suitability for use as backfill that meets the unrestricted use criteria; and

- Analyze groundwater samples following the remedial action to evaluate levels of VOCs and naturally occurring biogeochemical conditions in the groundwater zone.

Sampling procedures are discussed in Section 4 of this QAPP. A discussion of the data quality objectives (DQOs) and quality assurance/quality control for the project is provided in Section 5.

3.0 SAMPLE MEDIA, LOCATIONS, ANALYTICAL SUITES, AND FREQUENCY

The media to be sampled may include soil and groundwater. Sampling locations, analytical suites, and frequency vary by the type of media to be sampled. A discussion of the sampling for each type of soil and groundwater is provided below. Specifics regarding the collection of samples for each type of soil and groundwater are provided in Section 4 of this QAPP.

3.1 Post-Excavation Soil Sampling

Post excavation bottom sampling (at a frequency of one sample per 900 square feet of bottom area in accordance with the guidance provided in NYSDEC DER-10 Sections 3.5 and 5.4 for excavations 20 to 300 feet in perimeter) would be conducted for constituents that exceeded the restricted commercial use criteria (for on-site areas) or the unrestricted use criteria (for off-site areas) in previous sampling events to confirm that the criteria were met (target compound list [TCL] VOCs via method 8260). Constituents or groups of constituents that did not exceed the criteria in previous investigations would not be sampled for. Areas that appear more heavily impacted, if any, will be given sampling preference. If the post-excavation bottom sample results indicate that concentrations of target constituents are detected below the criteria, the excavation activities will be considered complete. However, if concentrations of target constituents are detected at a level above the criteria, the excavation activities, including additional post-excavation bottom sampling, will continue deeper until these conditions are met or to the extent feasible based on Site-specific limitations or potential damage to those limitations including but not necessarily limited to underground utilities, building foundations, and a nearby electrical transformer.

Post excavation sidewall samples (at a frequency of one sample per 30 linear feet or at least one sample per sidewall) would be conducted for constituents that exceeded the restricted commercial use criteria in previous sampling events to confirm that the criteria were met (TCL VOCs via method 8260). Areas that appear more heavily impacted, if any, will be given sampling preference. If the post-excavation sidewall sample results indicate that concentrations of target constituents are detected below the criteria, the excavation activities will be considered complete. However, if concentrations of target constituents are detected at a level above the criteria, the excavation activities, including additional post-excavation sidewall sampling, will continue until these conditions are met or to the extent feasible based on Site-specific limitations

or potential damage to those limitations including but not necessarily limited to underground utilities, building foundations, and a nearby electrical transformer.

QA/QC samples, including duplicates and matrix spike/matrix spike duplicate (MS/MSD) will be collected at a 5 percent of normal sample frequency. Field blanks will be collected at a rate of one per day.

3.2 Waste Characterization Sampling

One sample per 500 cubic yards of excavated material will be collected from the soil for waste characterization. The samples will be composite samples comprised of three representative grab samples. The samples will be analyzed as required by the disposal facility selected based on a competitive bid. QA/QC samples are not required for waste characterization samples.

3.3 Backfill Sampling

When excavation and removal of the impacted soil is complete, the excavation will be backfilled and compacted using offsite clean fill material meeting the unrestricted use criteria for the parameters described below. The backfill material will be free of extraneous debris or solid waste.

For offsite fill material (common fill and topsoil), if the NYSDEC agrees that the material originated from a virgin source, then a minimum of one composite sample will be collected and analyzed per source. If the source is not virgin, the following sampling frequency will apply to each source: one composite sample per 250 cubic yards for the first 1,000 yards and one composite sample per 1,000 cubic yards for 1,000 to 5,000 cubic yards. The backfill material will be common fill material. The source of the offsite fill must be documented by the supplier, including the location where the fill was obtained and a brief history of the site that is the source of the fill.

Samples of offsite backfill will be analyzed by the supplier for the following parameters:

- Herbicides by United States Environmental Protection Agency (USEPA) method SW-846-8151A.
- Pesticides and polychlorinated biphenyls (PCBs) by USEPA methods SW-846-8081A/8082.

- VOCs by USEPA method SW-846-8260.
- SVOCs by USEPA method SW-846-8270.
- Arsenic, barium, beryllium, cadmium, copper, cyanide, lead, manganese, nickel, selenium, silver, thallium, vanadium, and zinc by USEPA method SW-846-6010B.
- Total mercury by USEPA method SW-846-7471.
- Total chromium, hexavalent chromium, and trivalent chromium method SW-846-7196A.

QA/QC samples are not required for backfill samples.

3.4 Groundwater Sampling

Field monitoring of selected indicator parameters and groundwater sampling for field and laboratory analyses will be conducted to evaluate levels of VOCs and naturally occurring biogeochemical conditions in the groundwater zone.

Monitoring will take the form of periodic monitoring events. Periodic monitoring will commence in October 2007 from existing monitoring wells MW-101S, MW-101D, MW-103S, MW-103D, MW-112S, MW-112D, MW-113S, MW-113D, MW-205S, MW-205D, MW-206S, MW-206D, MW-207S, and MW-207D. Monthly monitoring of field parameters and total organic carbon (TOC) from the existing or replacement baseline monitoring wells will be conducted for the first six months (6 events). Quarterly monitoring of electron acceptors and biodegradation indicators will be conducted for one year following the monthly monitoring period (four events). This includes the following:

- Nitrate and nitrite by USEPA methods SW-846-353.2/300.0.
- Sulfate by USEPA methods SW-846-375.3/300.0.
- Ferric and dissolved iron, and total and dissolved manganese by USEPA method SW-846-6010.
- Chloride by USEPA methods SW-846-9056/300.0.
- Ethene and Ethane by USEPA modified method SW-846-3810.
- Total organic carbon by USEPA method SW-846-9060.

Quarterly monitoring of VOCs by USEPA method SW-846 8260B will be conducted for two years following the ERD injections (eight events).

QA/QC samples, including duplicates and matrix spike/matrix spike duplicate (MS/MSD) will be collected at a 5 percent of normal sample frequency. Field blanks will be collected at a frequency of one per day. Trip blanks will be submitted at a frequency of one per sample delivery group or one per 20 samples, whichever is greater.

3.5 Analytical Laboratory

Laboratory analyses will be performed by a NYSDOH ELAP certified laboratory in accordance with the NYSDEC Analytical Services Protocol (ASP) using USEPA SW-846 Methods.

4.0 FIELD SAMPLING PROCEDURES

This section provides a discussion of the field procedures to be used for sampling of soil and groundwater.

4.1 Soil Sampling

Post-excavation soil samples will be collected as a grab sample at the middle of the excavation using pre-cleaned stainless steel sampling tools (i.e., trowels, spatulas, etc.) or the excavator bucket. However, areas that appear more heavily impacted, if any, will be given sampling preference. Samples will be labeled based on each area's designation.

The waste characterization samples will be composite samples comprised of three grab samples, collected by using pre-cleaned stainless steel sampling tools (i.e., trowels, spatulas, etc.).

4.2 Groundwater Sampling

Prior to sample and data collection, the monitoring wells will be gauged and then purged via low-flow means using a submersible pump. Samples and parameter readings will be collected using a low flow-through cell to prevent sample contact with atmospheric air. All well sampling activities will be recorded in a field book and a groundwater-sampling log presented. Other observations (e.g., well integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the groundwater monitoring well network.

5.0 SAMPLE HANDLING AND ANALYSIS

To ensure quality data acquisition and collection of representative samples, there are selective procedures to minimize sample degradation or contamination. These include procedures for preservation of the samples, as well as sample packaging, shipping procedures, and quality assurance/quality control.

5.1 Field Sample Handling

A detailed discussion of the proposed number and types of samples to be collected during each task, as well as the analyses to be performed can be found in Section 3.0 of this QAPP.

5.2 Sample Custody Documentation

The purpose of documenting sample custody is to ensure that the integrity and handling of the samples is not subject to question. Sample custody will be maintained from the point of sampling through the analysis (and return of unused sample portion, if applicable).

Each individual collecting a sample is personally responsible for the care and custody of the samples. All sample labels should be pre-printed or filled out using waterproof ink. The technical staff will review all field activities with the Field Team Leader to determine whether proper custody procedures were followed during the field work and to decide if additional samples are required.

All samples being shipped offsite for analysis must be accompanied by a properly completed chain of custody form. The sample numbers will be listed on the chain of custody form. When transferring the possession of samples, individuals relinquishing and receiving will sign, date, and note the time on the record. This record documents transfer of custody of samples from the sampler to another person and/or to/from a secure storage area and/or to the shipper, and/or to the laboratory.

Samples will be packaged for shipment and dispatched to the appropriate laboratory for analysis with a separate signed custody record enclosed in each sample box or cooler. Shipping containers will be locked and/or secured with strapping tape in at least two locations for shipment to the laboratory.

5.3 Sample Shipment

Sample packaging and shipping procedures are based upon USEPA specifications, as well as U.S. Department of Transportation (DOT) regulations. The procedures vary according to potential sample analytes, concentration, and matrix and are designed to provide optimum protection for the samples and the public. All samples will be shipped within 24 hours of collection and will be preserved appropriately from the time of sample collection.

5.4 Quality Assurance/Quality Control

The primary DQO of the post-excavation, backfill and waste characterization soil sampling and groundwater sampling is that data be accurate and precise and, hence, representative of the actual Site conditions. Accuracy refers to the ability of the laboratory to obtain a true value (i.e., compared to a standard) and is assessed through the use of laboratory quality control (QC) samples, including laboratory control samples and matrix spike samples, as well as through the use of surrogates, which are compounds not typically found in the environment that are injected into the samples prior to analysis. Precision refers to the ability to replicate a value and is assessed through both field and laboratory duplicate samples. Field MS/MSD and field duplicate samples will only be collected for the post-excavation soil samples and all groundwater samples. They are not required for the waste characterization or backfill samples.

Sensitivity is also a critical issue in generating representative data. Laboratory equipment must be of sufficient sensitivity to detect target compounds and analytes at levels below NYSDEC standards and guidelines whenever possible. Equipment sensitivity can be decreased by field or laboratory contamination of samples and by sample matrix effects. Assessment of instrument sensitivity is performed through the analysis of reagent blanks, near-detection-limit standards, and response factors. Potential field and/or laboratory contamination is assessed through use of trip blanks, method blanks, and equipment rinse blanks (also called “field blanks”). Field blanks will only be collected for the post-excavation soil samples and are not required for the waste characterization or backfill samples.

All soil and groundwater sample analyses will be performed in accordance with the NYSDEC Analytical Services Protocol (ASP) using USEPA SW-846 methods. The laboratory selected to

analyze the field samples collected during the remedial action will maintain New York State Department of Health (NYSDOH) ELAP CLP certification for each of the required analyses.

All groundwater sample laboratory data and post-excavation data are to be reported in NYSDEC ASP Category B deliverables. Waste characterization and backfill characterization laboratory data are to be reported in NYSDEC ASP Category A deliverables.

6.0 SITE CONTROL PROCEDURES

Site control procedures have been developed to minimize both the risk of exposure to contamination and the spread of contamination during field activities at the site. In order to accomplish this objective, the QAPP addresses three main considerations:

- The establishment of discrete work zones in the work area;
- The decontamination of field equipment; and
- The handling and disposal of all remediation-derived waste.

All personnel who come into designated work areas, including contractors and observers, will be required to adhere strictly to the conditions imposed herein and to the provisions of the contractor's Site-Specific Health and Safety Plan (HASP), which will be submitted under separate cover.

6.1 Field Work Zones

Field work zones will be limited to areas where excavation, stockpiling, and soil sampling is being conducted for the soil handling. Access to these areas will be limited in accordance with the HASP. Control of work zone access will be the responsibility of the individual(s) designated as a Site Health and Safety Manager. At the completion of each working day, all loose equipment (e.g., sampling equipment, coolers, etc.) will be secured. Heavy equipment, such as the excavator, may remain onsite within an established, secured zone.

6.2 Decontamination

In an attempt to avoid the spread of contamination, all excavation and sampling equipment must be decontaminated at a reasonable frequency. Temporary decontamination pads will be set up by the contractor as deemed necessary. The location of the decontamination area(s) will be determined as necessary during the field operations. The decontamination area will be constructed to ensure that any wash water generated during decontamination can be collected. Decontamination water (if any) will be disposed offsite at an approved disposal facility.

6.3 Waste Handling and Disposal

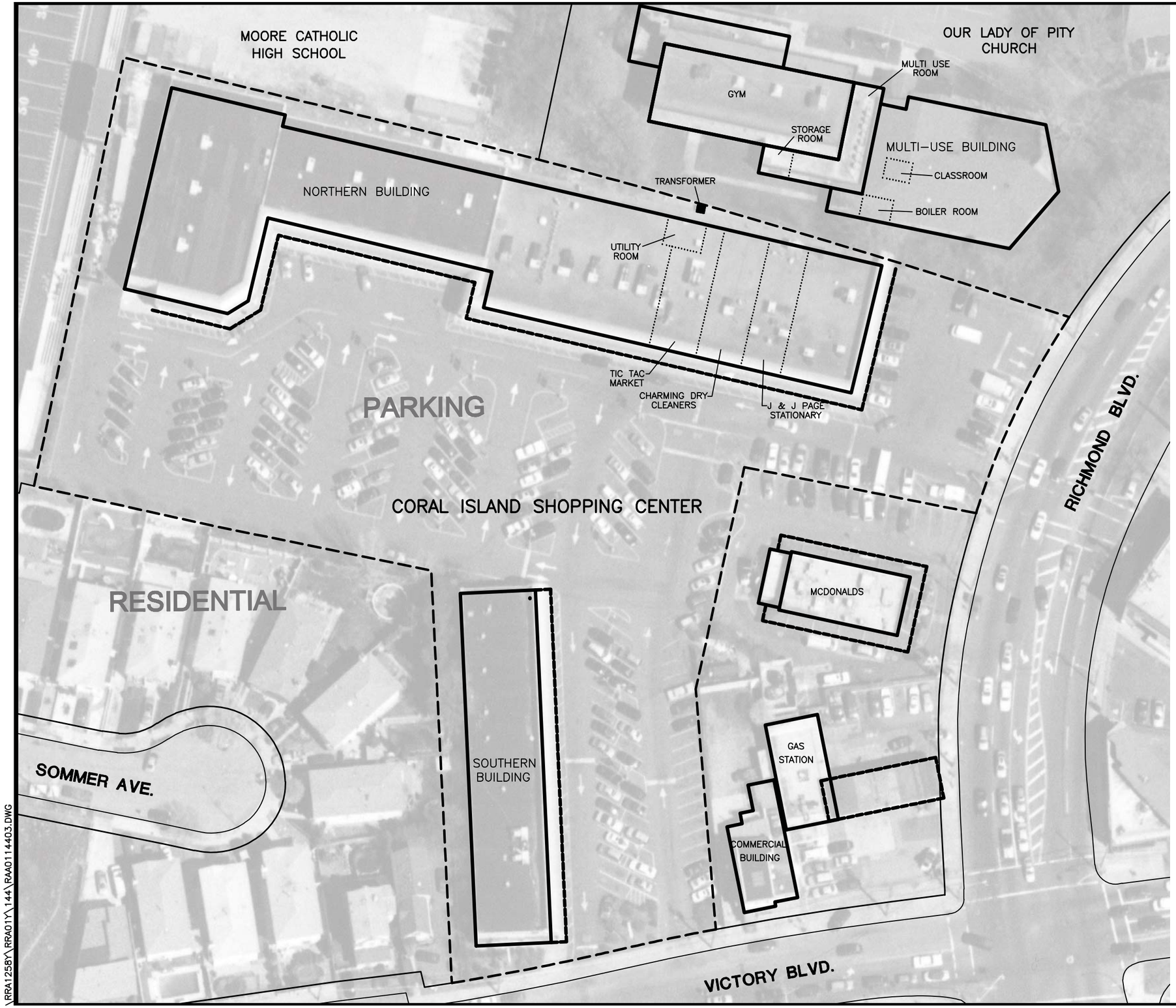
All impacted soil excavated from the Site and other remediation-derived waste will be transported and disposed of in accordance with all applicable federal, state, and local regulations at an approved disposal facility. The remediation-derived waste that will be generated during the construction activities include:

- Impacted soil from the Site (non-hazardous);
- Personal Protective Equipment (PPE); and
- Decontamination water, if any is generated.

Haul vehicles for bulk soil will be secured with appropriate covers prior to exiting the construction area to prevent release of waste.

PPE generated during the implementation of the remedial action will be consolidated and stored in appropriate bulk containers (drums, etc.), and temporarily staged at a waste storage area within the Site limits. Any full or partially filled containers will be appropriately labeled after the completion of the work.

Decontamination water, if any, will be collected and disposed offsite at an approved disposal facility.



LEGEND

SITE BOUNDARY

APPROXIMATE LOCATION OF INTERIOR SPACE

N

60' 0 60'

Title:

SITE PLAN

SITE MANAGEMENT PLAN
CORAL ISLAND SHOPPING CENTER
STATEN ISLAND, NEW YORK

Prepared For:
SITE MANAGEMENT PLAN
CORAL ISLAND SHOPPING CENTER
STATEN ISLAND, NEW YORK

REMEDIAL ENGINEERING, P.C. *ENVIRONMENTAL ENGINEERS*	Compiled by: M.R.	Date: 14APR09	FIGURE 1
	Prepared by: J.A.D.	Scale: AS SHOWN	
	Project Mgr: M.R.	Office: NY	
	File No: RRA0114403	Project: 125801Y	

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APPENDIX G

Site Inspection Form

SITE INSPECTION FORM

Coral Island Shopping Center **Site Mangement Plan**
1650 Richmond Avenue Date: _____
Staten Island, New York Inspector: _____
NYSDEC BCP Nuber: C243033 Reason for Inspection: _____

1. Is the Site compliant with all Institutional Controls, including Site usage (yes/no)? _____
If no, describe: _____

2. Provide a general evaluation of Site conditions.

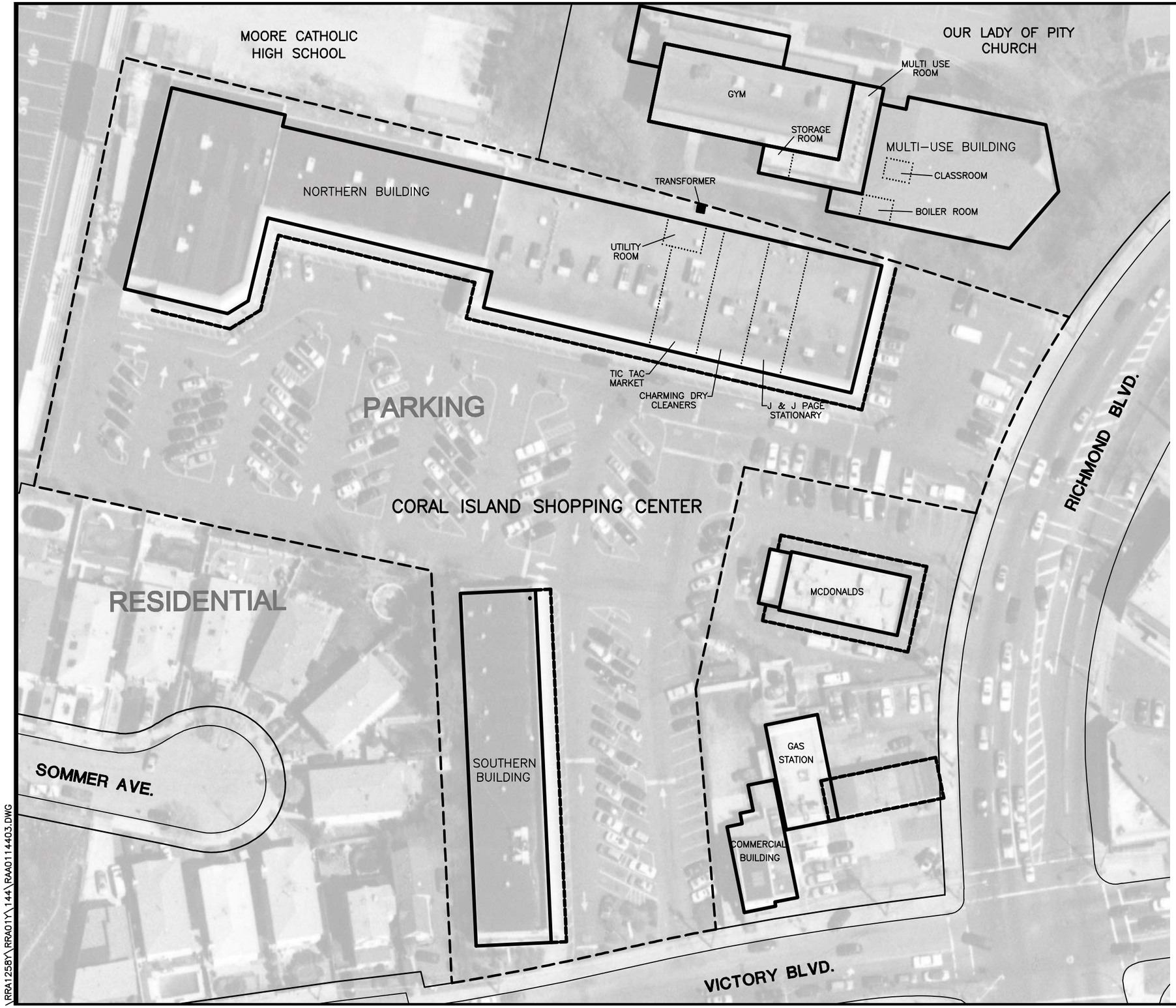
3. Provide a general evaluation of the condition and effectiveness of composite cover systems.

4. Provide a general evaluation of the condition of monitoring wells.

5. Are Site management activities being conducted according to Site Management Plan (yes/no)?
If no, describe: _____

6. Is Site documentation as required by the Site Management Plan up to date (yes/no)?
If no, describe: _____

7. Are any changes to the monitoring program recommended? (yes/no)?
If yes, describe:



LEGEND

SITE BOUNDARY

APPROXIMATE LOCATION OF INTERIOR SPACE

N

60' 0 60'

Title:

SITE PLAN

SITE MANAGEMENT PLAN
CORAL ISLAND SHOPPING CENTER
STATEN ISLAND, NEW YORK

Prepared For:
SITE MANAGEMENT PLAN
CORAL ISLAND SHOPPING CENTER
STATEN ISLAND, NEW YORK

REMEDIAL ENGINEERING, P.C. *ENVIRONMENTAL ENGINEERS*	Compiled by: M.R.	Date: 14APR09	FIGURE 1
	Prepared by: J.A.D.	Scale: AS SHOWN	
	Project Mgr: M.R.	Office: NY	
	File No: RRA0114403	Project: 125801Y	

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LEGEND

MW–111S MONITORING WELL

MW–203D
MW–203S
MW–202D
MW–202S
MW–112S
MW–112D
MW–207
MOORE CATHOLIC HIGH SCHOOL
OUR LADY OF PITY CHURCH
Gym
Multi–Use Building
MW–104D
MW–104S
MW–103S
MW–103D
MW–206
MW–205
MW–113D
MW–113S
MW–102S
MW–102D
MW–101D
MW–101S
MW–106D
MW–106S
MW–105S
MW–105D
MW–107S
MW–107D
MW–108S
MW–108D
MW–111D
MW–111S
PARKING
35' 0 35'
MW–126S
MW–126D
CORAL ISLAND SHOPPING CENTER
RESIDENTIAL

N:\PROJECTS\RRA1258Y\RRA01Y\144\RRA0114402.DWG

Title:

LOCATIONS OF MONITORING WELLS

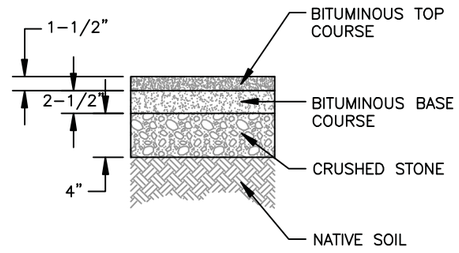
SITE MANAGEMENT PLAN
CORAL ISLAND SHOPPING CENTER,
STATEN ISLAND, NEW YORK

Prepared For:

WWP ASSOCIATES, LLP

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: M.R.	Date: 27FEB08	PLATE 2
Prepared by: B.H.C.	Scale: AS SHOWN	
Project Mgr: M.R.	Office: NY	
File No: RRA014402.DWG	Project: 125801Y	



ASPHALT CAP DETAIL

SCALE: NOT TO SCALE

LEGEND

- SITE BOUNDARY
- APPROXIMATE LOCATION OF INTERIOR SPACE
- BUILDINGS AND CONCRETE SIDEWALK
- GRAVEL COVERED LANDSCAPING
- LANDSCAPED
- ASPHALT

70' 0 70'

Title:

LOCATIONS OF COVERS

SITE MANAGEMENT PLAN
CORAL ISLAND SHOPPING CENTER
STATEN ISLAND, NEW YORK

Prepared For:

WWP ASSOCIATES, LLP

REMEDIAL ENGINEERING, P.C. *ENVIRONMENTAL ENGINEERS*	Compiled by: M.R.	Date: 14APR09
	Prepared by: J.A.D.	Scale: AS SHOWN
	Project Mgr: M.R.	Project: 125801Y
	File: RRA0114405	

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LEGEND

10 — CONTOUR OF EQUAL VOC CONCENTRATION IN GROUNDWATER, DASHED WHERE INFERRED(ug/L) (DATA FROM RI)

MW-111S — MONITORING WELL

MW-203D
MW-203S
MW-202D
MW-202S
MW-112S
MW-112D
MW-207
MW-104D
MW-104S
MW-103S
MW-103D
MW-206
MW-205
MW-113D
MW-113S
MW-102S
MW-102D
MW-101D
MW-101S
MW-106D
MW-106S
MW-105S
MW-105D
MW-107S
MW-107D
MW-108S
MW-108D
MW-111D
MW-111S
MW-126S
MW-126D

10
1,000
10,000
5,000

MOORE CATHOLIC HIGH SCHOOL
OUR LADY OF PITY CHURCH
GYM
MULTI-USE BUILDING
PARKING
CORAL ISLAND SHOPPING CENTER
RESIDENTIAL
MCDONALDS

35' 0 35'

Title:

ISOCONCENTRATION MAP

SITE MANAGEMENT PLAN
CORAL ISLAND SHOPPING CENTER,
STATEN ISLAND, NEW YORK

Prepared For:

WWP ASSOCIATES, LLP

REMEDIAL ENGINEERING, P.C. *ENVIRONMENTAL ENGINEERS*	Compiled by: M.R.	Date: 08APR09	PLATE 4
	Prepared by: J.A.D.	Scale: AS SHOWN	
	Project Mgr: M.R.	Office: NY	
	File No: RRA0114406	Project: 125801Y	

N:\PROJECTS\RRA1258Y\RRA01Y\144\RRA0114406.DWG