SUPPLEMENTAL REMEDIAL INVESTIGATION WORK PLAN
FORMER CHARLTON CLEANERS FACILITY
FOREST AVENUE SHOPPERS TOWN
BOROUGH OF STATEN ISLAND
CITY OF NEW YORK
NYSDEC VOLUNTARY CLEANUP PROGRAM (VCP)
INDEX NUMBER W3-0891-01-06

Prepared For:

KIOP Forest Avenue, LP
Philips Forest Associates, LP

March 2008
Revised May 2008
Revised July 2008

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1.0 INTRODUCTION

The following Supplemental Remedial Investigation Work Plan (SRIWP) was completed by Leggette, Brashears & Graham, Inc. (LBG) on behalf of KIOP Forest Avenue, L.P. (KFA). KFA is an innocent owner volunteer associated with New York State Department of Environmental Conservation (NYSDEC) Voluntary Cleanup Program (VCP) Index Number W3-0891-01-06. The purpose of the SRIWP is to describe the steps necessary to provide data on environmental quality in areas of the Site and offsite. The tasks which are to be included in this SRIWP were discussed during a meeting at the NYSDEC Region 2 offices on January 30, 2008.

The work described in this SRIWP is designed to investigate the following:

- Ground-water quality hydrologically upgradient of the former Charlton Cleaners facility and downgradient of the former Paul Miller Dry Cleaners site (a former dry cleaner offsite but adjacent to the Charlton Site). The site is currently occupied by a Boston Market restaurant. The purpose is to determine if dissolved contamination from the former Paul Miller site has migrated beneath the Charlton Cleaners Site and resulted in a commingled ground-water contaminant plume.
- Sub-slab vapor quality beneath the slab-on-grade portion of the Michaels Craft Store building. These data will supplement the existing indoor air data, sub-slab vapor data (beneath the basement slab) and soil vapor data exterior to the building.
- The lateral and vertical extent of the offsite dissolved-phase ground-water plume. To date the investigation of offsite ground-water quality has been limited in extent.
- The offsite soil-vapor quality in the area corresponding to the offsite ground-water investigation.
- The viability of in-situ ground-water treatment via injection of a proprietary compound called Hydrogen Release Compound Advanced (HRCA®) manufactured by Regenesis Corp. which initiates reductive dechlorination. A pilot-scale test near monitor wells exhibiting high solvent concentrations will test application methodology and the effectiveness of the approach.

All of the field work described in this SRIWP would be performed in accordance with the Site Specific Health and Safety Plan which includes a Community Air Monitoring Plan (Appendix I). All laboratory analysis associated with the Supplemental Remedial Investigation will be performed in accordance with the Quality Assurance/Quality Control Plan (Appendix II).

2.0 UPGRADIENT INVESTIGATION

Adjacent to the Site and approximately 380 feet southwest of the former Charlton Cleaners location is a separate land parcel (figure 1). The parcel contains 1 single-story building currently occupied by a Boston Market restaurant. The building was reportedly operated as Paul Miller Dry Cleaners (Paul Miller) between 1959 and 1994. Environmental sampling (soil and ground water) associated with the Paul Miller site was performed both onsite and nearby on the Charlton Cleaners Site. This work was performed by Apex in 1994, EEA in 1996 and LMS in 2000. Investigation results indicate the presence of dissolved chlorinated solvents and degradation products in ground water both on the Paul Miller site and on the Charlton Cleaners Site, northeast of Paul Miller.

Charlton Monitor Wells MW-1, MW-2A and MW-2B are upgradient and side-gradient of the former Charlton Cleaners location (figure 2). However, ground-water samples from all 3 wells have contained dissolved chlorinated solvents. One method to determine if the Former Paul Miller site is a contributor to the compounds detected in these ground-water samples is the comparison of the relative concentrations of the various compounds.

Paul Miller ground-water quality data only exist for 3 dates in 1994, 1996 and 2000 and is now over 8 years old. Limited sampling of the Charlton Wells MW-1 and MW-2 in 1994 and 1996 shows that the ground-water quality at these locations has changed during the interim years. Finally, only shallow ground water has been sampled in this area of the Site. Therefore, comparison of the historical Paul Miller and the Charlton Cleaners data sets would not reflect the current Site conditions. For these reasons, the upgradient investigation will require the installation and sampling of new monitor wells.

A total of 4 well clusters are proposed at the locations shown on figure 3. Each well cluster would consist of 5 individual 1-inch diameter PVC wells set within a common soil boring. Each of the five 1-inch wells would be screened at a different depth interval below the water table so as to sample only ground water from that interval. This will allow sampling at similar depth intervals to the existing well clusters elsewhere on the Site. The existing wells have demonstrated a vertical contaminant distribution north of the former Charlton Cleaners and it is important to determine if there is a similar distribution pattern upgradient of Charlton.

Soil borings would be drilled with either the hollow-stem auger or mud-rotary drilling techniques, dependant upon the geology encountered. Once the target depth of approximately 90 ft bg (feet below grade) is reached, the five 1-inch wells would be assembled within the boring. Screened intervals for the 5 wells would be 4-14, 20-30, 40-50, 60-70 and 80-90 ft bg. Fluid-level monitoring in this portion of the Site indicates a fluctuation in depth to water between 2.9 and 6.9 ft bg (Charlton MW-1), 4.5 and 6.7 ft bg (Charlton MW-2), 4.07 ft bg (EEA MW-2, near Paul Miller), 4.55 ft bg (EEA MW-4, near Paul Miller).

The natural formation would be allowed to collapse into the annular space surrounding each well screen as the augers are withdrawn. A cement/bentonite grout would be placed in the annular space between the screened zones to prevent the vertical migration of water once the wells are complete. The wells will be completed at grade with a cast iron roadbox set in a concrete pad. The top-of-casing elevations will be measured with respect to the existing Site wells so that the new wells can be used in generating future ground-water elevation contour maps.

The 20 new wells would be sampled using the low-flow sampling technique. Dedicated tubing would be set in each well at the approximate midpoint of each well screen and connected to a variable speed peristaltic pump. The peristaltic pump will be operated at a discharge rate between 0.1 and 0.5 liters per minute and will discharge to a flow-through cell. Geochemical parameters including pH, conductivity, dissolved oxygen and temperature will be continually monitored inside the flow through cell using a multi-parameter meter. When fluctuation of the geochemical parameters stabilizes, a ground-water sample will be collected from the dedicated tubing through an inline sampling port prior to the flow-through cell. All of the ground-water samples will be submitted to a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified laboratory for analysis by EPA Method 8260. Laboratory results will be reported with ASP Category B deliverables.

The results of laboratory analysis will be reviewed to determine if there is a contribution to the Charlton ground-water plume from the former Paul Miller cleaners.

3.0 MICHAELS SUB-SLAB VAPOR AND INDOOR AIR INVESTIGATION

A Michaels Crafts Store is currently the sole occupant of the building which once housed the Charlton Cleaners facility. The building, historically known as the Rock-Landau Building, is a one-story structure of approximately 14,400 square feet. There is a partial basement under the eastern portion of the building which is approximately 3,530 square feet in area or approximately 24 percent of

the building area. The remainder of the building is slab-on-grade construction. Previous to the occupation by Michaels, the building was a multi-tenant space with the former Charlton Cleaners facility occupying approximately 2,440 square feet of the northeast corner (according to property records and Sanborn Maps), see figure 4.

Due to the presence of chlorinated solvents in the soil and ground water beneath the building, the sub-slab vapor (beneath the basement) and indoor air (in the basement and upstairs) have also been impacted. Several interim measures have been implemented to address the indoor-air quality including the installation of a basement vapor barrier, sealing the basement sump pits and adjustment of the building's HVAC system. Six permanent sub-slab vapor sampling points are installed through the basement floor slab and liner. However, due to the proximity of the water table to the basement slab, sampling is only possible through 2-3 of these points.

In order to investigate the sub-slab vapor quality beneath the slab-on-grade portion of the Michaels store, 9 permanent sampling points would be installed through the floor slab at the locations shown on figure 5. A hollow, 0.75-inch diameter stainless steel probe would be driven into the soil. The probe consists of a permanent screened point with a nipple attachment. One-quarter-inch polyethylene tubing connects to the nipple and feeds through the drive rod. Upon reaching the target depth of no greater than 2 inches into sub-slab material, the drive rod is removed leaving the screen in place with the tubing extending through the floor. The point of penetration at grade will be sealed with hydraulic cement to avoid short circuiting of atmospheric air to the sampling point. The polyethylene tubing will be capped and protected by a screw-down lid set flush with the floor.

Prior to sampling, each probe will be purged of 1-3 volumes (of sample probe and tubing) at a rate of less than 0.2 l/m (liter per minute). Subsequently, a sub-slab vapor sample will be collected using a 6-liter Summa canister fitted with a flow regulator set at a rate of less than 0.2 l/m (approximately a 30-60 minute collection period).

The field personnel will include the following conditions in field notes: headspace and purge volume from each soil vapor sampling point, weather conditions (precipitation, outdoor temperature, barometric pressure, wind speeds and direction), any odor in the area and any obvious use of volatile organic compounds (VOCs) in the building. A photographic log of sampling locations will be maintained and the NYSDOH Indoor Air Quality Questionnaire and Building Inventory (October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York, Appendix B) will be completed.

The sampling will be conducted by experienced technicians in accordance with the NYSDOH October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York and the sub-slab vapor samples will be collected and maintained under chain-of-custody procedures. All necessary sampling information will be included on the chain-of-custody form. The vapor samples will be submitted to a NYSDOH ELAP certified laboratory for analysis by EPA Method TO-15. Laboratory results will be reported with ASP Category B deliverables.

In order to correlate sub-slab vapor and indoor air concentrations within Michaels, 4 indoor air samples will be collected concurrently at the same locations as previous surveys: Michaels Main Store, Upstairs Loading Dock, Main Basement and Basement Equipment Room (see figure 5). The indoor air samples will be collected using a 6-liter Summa canister placed approximately 3 feet above the ground surface. Each Summa canister will be fitted with a dedicated regulator set with a sampling flow rate of 0.0125 l/m (approximately an 8-hour collection period). The indoor air samples will be analyzed by a NYSDOH ELAP certified laboratory by EPA Method TO-15. Laboratory results will be reported with ASP Category B deliverables.

4.0 OFFSITE, DOWNGRADIENT GROUND-WATER INVESTIGATION

Based on ground-water elevation contour maps and the lateral distribution of dissolved contaminants, the Charlton Cleaners ground-water plume has propagated primarily to the north and northeast. Limited ground-water sampling and analysis from the east side of Barrett Avenue indicates that the plume has extended under the road. The offsite properties consist of a Pathmark shopping center with associated parking lot (east of the Site) and single family homes (north and northeast of the Site).

In order to define the lateral and vertical extent of the dissolved plume, 6 well nests would be drilled at the locations shown on figure 6. Two wells would be located in the parking lot of the Pathmark mall east of the Site and east of Barrett Avenue. These wells would confirm and determine the eastward extent of ground-water contamination detected in 1996 and 2000. One well would be located in the Pathmark parking lot on the north side of the building. This well would be the southern end of a line of wells along Cornell Street. Three wells would be located along Cornell Street. Installation and sampling of the 3 proposed wells in the Pathmark mall parking lot is contingent upon a property access agreement from the owner(s).

Well installation along the east side of Barrett Avenue is not possible due to the presence of overhead electrical lines and a subsurface natural gas line under the sidewalk.

Each well cluster would consist of 5 individual 1-inch diameter PVC wells set within a common soil boring. Drilling, installation and completion methods would be the same as described for the upgradient wells (Section 2.0). Screened intervals for the 5 wells of each cluster would be 5-15 (or a similar interval leaving approximately 3 feet above the static water level), 20-30, 40-50, 60-70 and 80-90 ft bg.

The new wells would be sampled using the low-flow sampling technique as described in Section 2.0. All of the ground-water samples would be submitted to a NYSDOH ELAP certified laboratory for analysis by EPA Method 8260. Laboratory results would be reported with ASP Category B deliverables.

5.0 OFFSITE, DOWNGRADIENT SOIL-VAPOR INVESTIGATION

As the downgradient offsite properties are residential, a soil-vapor survey was required. In conjunction with the offsite ground-water investigation described above, soil-vapor samples would be collected adjacent to (5-10 feet from) each ground-water monitor well. A total of 6 temporary soil-vapor sampling probes would be driven to a depth comparable to the depth of foundation footings of nearby buildings or at least 1 foot above the water table. The probes will be backfilled with inert material to create a 1-2 foot sampling zone and fitted with inert tubing extending to the surface. A tracer gas (e.g. helium) would be used to ensure the integrity of the soil vapor probe seal. The tracer gas would be used to enrich the atmosphere where the probe intersects the ground surface. A portable monitoring device would be used to analyze a sample of soil vapor prior to collecting a laboratory sample. Site conditions will determine the exact method of tracer gas usage.

Prior to sampling, each probe will be purged of 1-3 volumes (of sample probe and tubing) at a rate of less than 0.2 l/m. Subsequently, a soil-vapor sample will be collected using a 6-liter Summa canister fitted with a flow regulator set at a rate of less than 0.2 l/m (approximately a 30-60 minute collection period). During the sampling, the field personnel will include the following conditions in field notes: headspace and purge volume from each soil vapor sampling point, weather conditions (precipitation, outdoor temperature, barometric pressure, wind speeds and direction), any odor in the area and any obvious use of VOCs in the adjacent buildings.

The sampling will be conducted by experienced technicians in accordance with the NYSDOH October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York and the soil vapor samples will be collected and maintained under chain-of-custody procedures. All necessary sampling information will be included on the chain-of-custody form. The sampling and laboratory analysis will

be performed according to the QA/QC Plan included in Appendix II. The vapor samples will be submitted to a NYSDOH ELAP certified laboratory for analysis by EPA Method TO-15. Laboratory results will be reported with ASP Category B deliverables.

6.0 GROUND-WATER REMEDIATION PILOT TEST

In the June 2007 Remedial Action Selection Report, the selected ground-water remedial alternatives were a combination of institutional controls, physical containment and in-situ treatment. Ground water is approximately 5 feet below the Site ground surface which is covered by existing physical barriers including asphalt, concrete and buildings, thus providing a physical barrier to human exposure.

Current practice has moved away from traditional extraction and treatment techniques such as pump and treat (except in the presence of NAPL) due to high cost, protracted operational lifetimes and rapidly decreasing contaminant recovery rates. Air sparging with soil vapor extraction is not appropriate for use at the Site due to the shallow water table, potential for vapor intrusion and a previous test which indicated that soil vapor extraction was not conducive with shallow Site geology.

Many in-situ chlorinated aliphatic hydrocarbon (CAH) remedial strategies are designed to create and promote reductive dechlorination (RD). By this process, hydrogen atoms replace chlorine atoms in the CAH, resulting in a CAH with fewer chlorine atoms, thus, PCE degrades to TCE, DCE, VC and finally ethane. The RD is commonly promoted through biological means where naturally occurring anaerobic microorganisms substitute hydrogen atoms for chlorine atoms as part of their metabolic processes.

The in-situ treatment proposed for remediation of dissolved phase and sorbed phase phreatic contamination is the direct application of a commercial proprietary compound consisting of a polylactate ester (a time-release form of lactic acid). The specific compound is called HRCA® manufactured by Regenesis of San Clemente, California. Regenesis has been in business since 1994 and manufactures a variety of chemical compounds designed to remediate aquifers and soil through both direct chemical degradation and enhancement or augmentation of biodegradation. Please refer to the Regenesis homepage (http://www.regenesis.com/) and the HRCA® page (http://www.regenesis.com/products/enhana/3DME/) for more information.

HRCA®, a polylactate ester (food-grade), is injected into the subsurface. Once hydrated, it slowly releases lactic acid which drives the aquifer to an anaerobic condition and promotes the growth of anaerobic micro-organisms. Included in Appendix III are selected pages from the Regenesis website

describing HRCA®, an MSDS sheet for HRCA® and selected technical bulletins which describe the principles upon which HRCA®) performance is based.

The pilot test, consisting of 2 phases, would be conducted along the road between Michaels and FYE, upgradient of the MW-6 well cluster (figure 7). This area has exhibited the greatest impact to ground water. Phase I of the pilot test would determine if the direct push drilling method is capable of reaching the target depth and what backpressure(s) the formation will exert during fluid injection. The proposed application method is high-pressure pumping directly into a temporary direct-push soil boring. A series of borings (3-6) would be drilled in the area between Michaels and FYE to a depth of 50 ft bg. Water would be injected with a high pressure pump as the injection point is withdrawn. The formation backpressure and injection rate would be monitored. Anticipated injected fluid volumes would be 100-200 gallons per point which is a small percentage of the total pore volume of the injection zone. This, combined with the fact that the geology consists mainly of a fine to coarse sand below ~20 feet would minimize any plume displacement or water-table mounding. This injection simulation would prove the methodology prior to incurring high capital costs for materials.

Additional data to be gathered during Phase I of the pilot test is a series of permeability slug tests performed at all members of the MW-5, MW-6, MW-7 and MW-9 well clusters. Construction details for these wells are included in Appendix IV. The test wells are distributed across the main plume and include all depth intervals (A, B, C and D wells). The hydrologic data would be useful in future remedial strategies and ground-water modeling.

The slug tests will be of the rising-head variety. The static water level will be measured with an electronic tape. A recording pressure transducer will be lowered down the well to below the anticipated lowest water level. A slug will be inserted below the static level and the water will be monitored until it returns to static conditions. The slug will be quickly removed. The transducer will record water heights (later to be converted to water depth) before and after the slug is removed. The test will be complete when 60-80 percent of the initial head is recovered.

Data will be analyzed using the Hvorslev Method (Time Lag and Soil Permeability in Ground-Water Observations, 1951) which is appropriate for partially penetrated unconfined aquifers.

Assuming the application methodology is appropriate, Phase II of the pilot test would consist of the drilling of 6 borings to a depth of 50 ft bg in the area upgradient of the MW-6 well cluster (figure 7). The HRCA® emulsion will be injected into each boring continuously as the injection point is withdrawn, from 50 ft bg to the water table. This corresponds to the zone of greatest ground-water impact, based on ground-water analysis. The HRCA® dosing was calculated in conjunction with

Regenesis and is a conservative estimate based on contaminant mass (dissolved and sorbed phase), aquifer pore volume, competing electron acceptors, etc. The Regenesis spreadsheet is attached in Appendix III. Stoichiometry was used to calculate the following dosage rates:

	HRCA® Concentrate		HRCA® 10:1 v/v Emulsion	
	Pounds	Gallons	Pounds	Gallons
Total for Phase 2 pilot test	2,190	271	24,791	2,981
Total per injection point	365	45	4,132	497
Total per foot of injection point	9.1	1.1	103.3	12.4

The HRCA® emulsion will disperse laterally through the saturated zone via advection (ground-water flow) and chemical diffusion. Performance of the HRCA® will primarily be evaluated by regular sampling and laboratory analysis. Wells to be sampled as part of the pilot test will include all members of the MW-6, MW-7, MW-11 and MW-12 well clusters (12 wells total). Wells farther downgradient of the injection points will be sampled for VOCs as part of the quarterly schedule. Parameters and sampling schedule would be as follows:

Ground-Water Analyte	Method	Schedule
VOCs	EPA 8260	Quarterly
TOC	EPA 415.1 or 9060	Quarterly
Organic acids (lactic, pyruvic, acetic, propionic, butyric)	Lab determined	Quarterly
Nitrate	EPA 353.1 or 905.6	Quarterly
Sulfate	EPA 375.3 or 9056	Quarterly
Methane, ethane, ethene	ASTM D1945	Quarterly
Total and dissolved iron and manganese	EPA 6000	Quarterly

To measure initial conditions, a complete round of these parameters will be collected from the 12 pilot-study wells prior to HRCA® injection. In addition to the laboratory-analyzed parameters above, the following field parameters will be recorded during each sampling event: pH, conductivity, temperature, dissolved oxygen and oxidation-reduction potential (ORP).

In the weeks and months following injection the following changes are expected and will support a successful pilot test: ORP will decrease and become slightly negative indicating a shift to reductive conditions, DO will decrease and approach zero, pH will decrease as lactic acid is metabolized to pyruvic and acetic acids, nitrate and sulfate will be reduced. The first post-injection sampling round will bi in 4-8weeks by which time reductive dechlorination should be evident with measurable reductions in dissolved PCE and TCE.

In some cases increases in cis-1,2-DCE and VC concentrations have been observed as the result of PCE and TCE breakdown but this is most commonly followed by a reduction of the daughter products as well. The generation of VC is an unavoidable consequence of the RD process. However, the specific characteristics of HRCA® permit a low rate, long-term generation of hydrogen. This helps to balance the generation of VC with its degradation to ethene. VC as well as methane, ethane and ethene will be monitored in ground-water samples (quarterly) and indoor and sub-slab vapor samples from FYE and Michaels (quarterly) in order to identify any "spike" in VC concentration. Contingency actions applied in the event of a significant concentration spike which is interpreted as an indoor air or offsite migration threat would include:

- the application of a microbial product to boost the population of natural degraders;
- the application of a chemical oxidation product to aid in the breakdown of VC; and/or,
- modification of an HVAC system to prevent vapor infiltration.

Gaseous byproducts of the degradation process (methane, ethane and ethene) will be included in the list of chemicals analyzed for in indoor air and sub-slab vapor samples from FYE and Michaels.

7.0 PROJECT SCHEDULE

- Conduct upgradient ground-water investigation.. June-July 2008
- Conduct sub-slab vapor sampling at Michael's store ..... July 2008
- Conduct second quarter ground-water sampling of all monitoring wells..... Late July 2008
- Conduct offsite downgradient ground-water and soil vapor delineation ..... July-August 2008

• Begin ground-water remediation pilot test (compound injection)	August 2008
• Complete Draft Supplemental Remedial Investigation Report	September-October 2008
• Preparation of Supplemental Human Health Exposure Investigation	October 2008
• Complete Final Supplemental Remedial Investigation Report (following NYSDEC and NYSDOH review)	November 2008
• Preparation of Remedial Action Work Plan (RAWP)	November-December 2008
• NYSDEC preparation of Proposed Remedial Action Plan (PRAP) Followed by a 45-day public comment period	January 2009
• NYSDEC preparation of the Record of Decision (ROD)	March 2009
• Implementation of the RAWP	April 2009
• Preparation of the Site Management Plan (SMP)	June 2009

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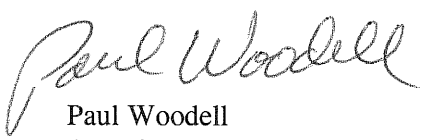
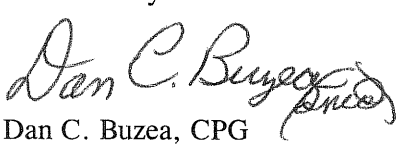


Paul Woodell
Associate

Reviewed By:



Dan C. Buzea, CPG
Vice President

dmd
March 26, 2008
Revised: May 6, 2008
Revised: July 9, 2008
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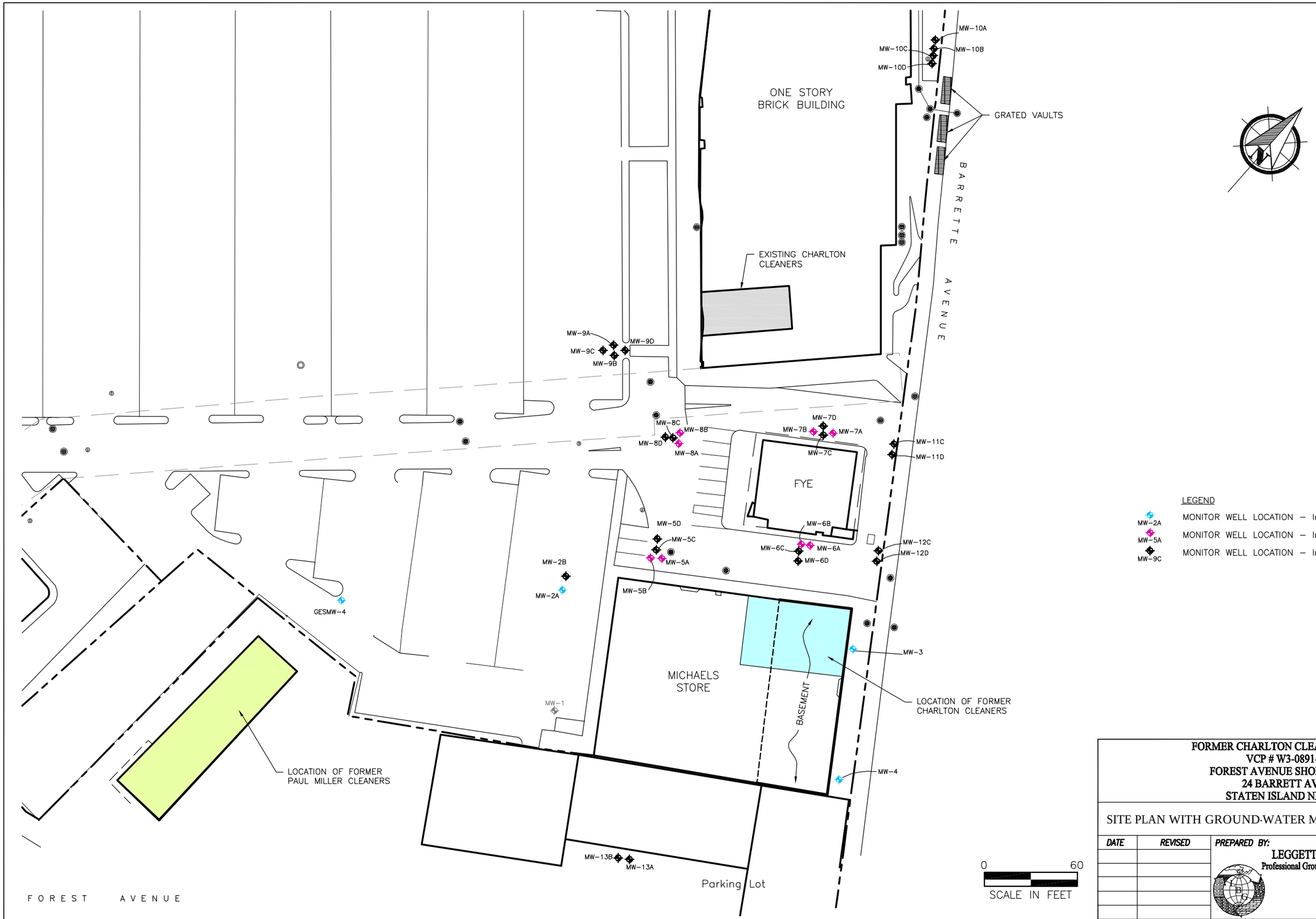
FIGURES



LEGEND

MW-2A MONITOR WELL LOCATION – Installed Prior to 2000

MW-5A MONITOR WELL LOCATION – Installed by LBG in 2000

MW-9C MONITOR WELL LOCATION – Installed by LBG in 2005

FORMER CHARLTON CLEANERS FACILITY
VCP # W3-0891-01-06
FOREST AVENUE SHOPPERS TOWN
24 BARRETT AVENUE
STATEN ISLAND NEW YORK

SITE PLAN WITH GROUND-WATER MONITOR WELL LOCATIONS

DATE	REVISED

PREPARED BY:
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DRAWN:	FCS	CHECKED:	PW	DATE:	3/14/08	FIGURE:	1

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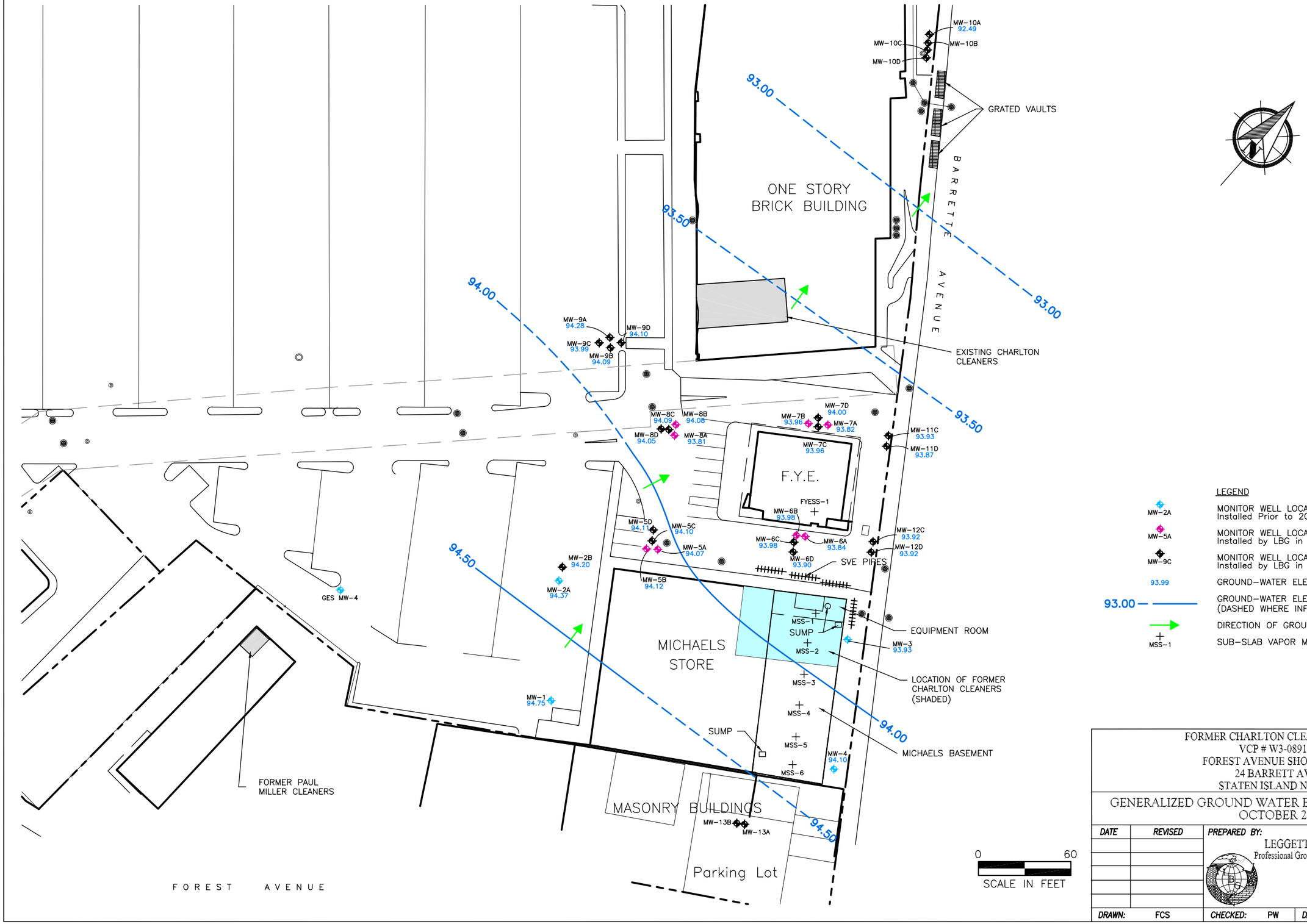

FORMER CHARLTON CLEANERS FACILITY
VCP # W3-0891-01-06
FOREST AVENUE SHOPPERS TOWN
24 BARRETT AVENUE
STATEN ISLAND NEW YORK

GENERALIZED GROUND WATER ELEVATION CONTOUR MAP
OCTOBER 2, 2007

DATE	REVISED

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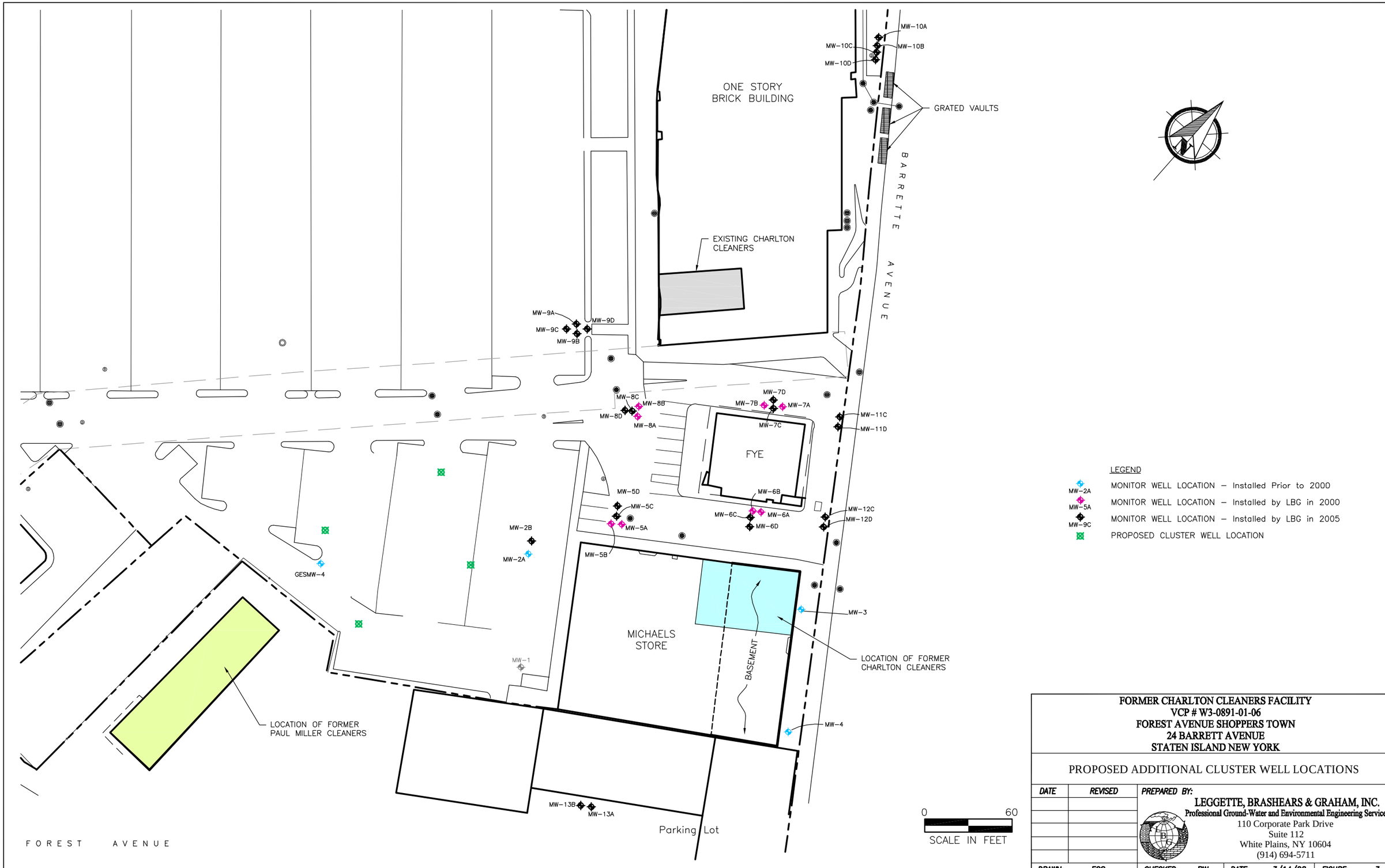

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MW-2A MONITOR WELL LOCATION – Installed Prior to 2000

MW-5A MONITOR WELL LOCATION – Installed by LBG in 2000

MW-9C MONITOR WELL LOCATION – Installed by LBG in 2005

PROPOSED CLUSTER WELL LOCATION

FORMER CHARLTON CLEANERS FACILITY
VCP # W3-0891-01-06
FOREST AVENUE SHOPPERS TOWN
24 BARRETT AVENUE
STATEN ISLAND NEW YORK

PROPOSED ADDITIONAL CLUSTER WELL LOCATIONS

DATE	REVISED

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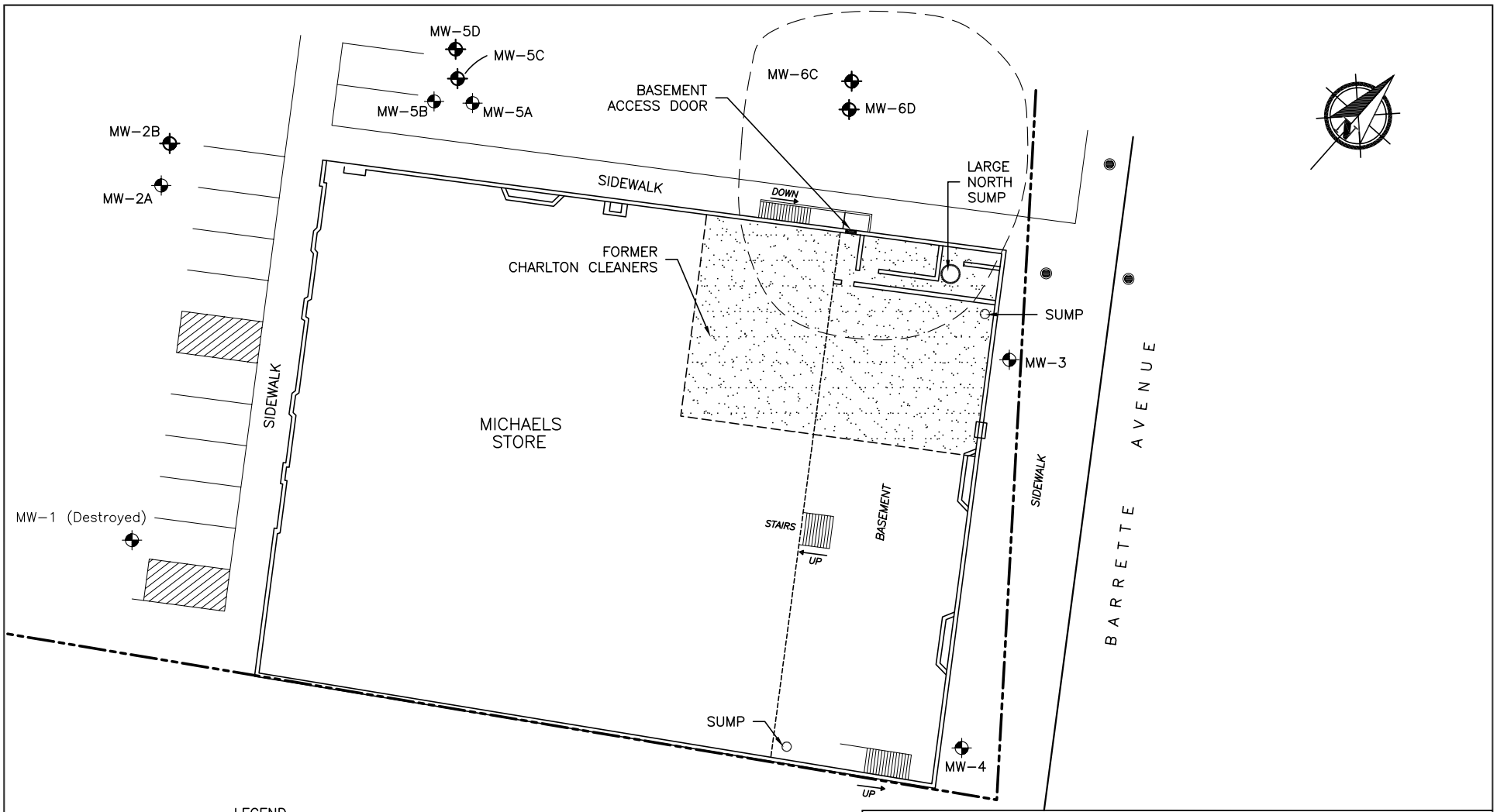

LEGEND

- MANHOLE
- MW-2A — MONITORING WELL
- APPROXIMATE LOCATION OF FORMER CHARLTON CLEANERS
- PROPERTY LINE
- SUSPECTED AREA WITHIN WHICH RELEASE TO THE ENVIRONMENT OCCURRED (BASED ON CONTAINMENT DISTRIBUTION)

0 30

SCALE IN FEET

FORMER CHARLTON CLEANERS FACILITY
VCP # W3-0891-01-06
FOREST AVENUE SHOPPERS TOWN
24 BARRETT AVENUE
STATEN ISLAND NEW YORK

MICHAELS FLOORPLAN

DATE	REVISED

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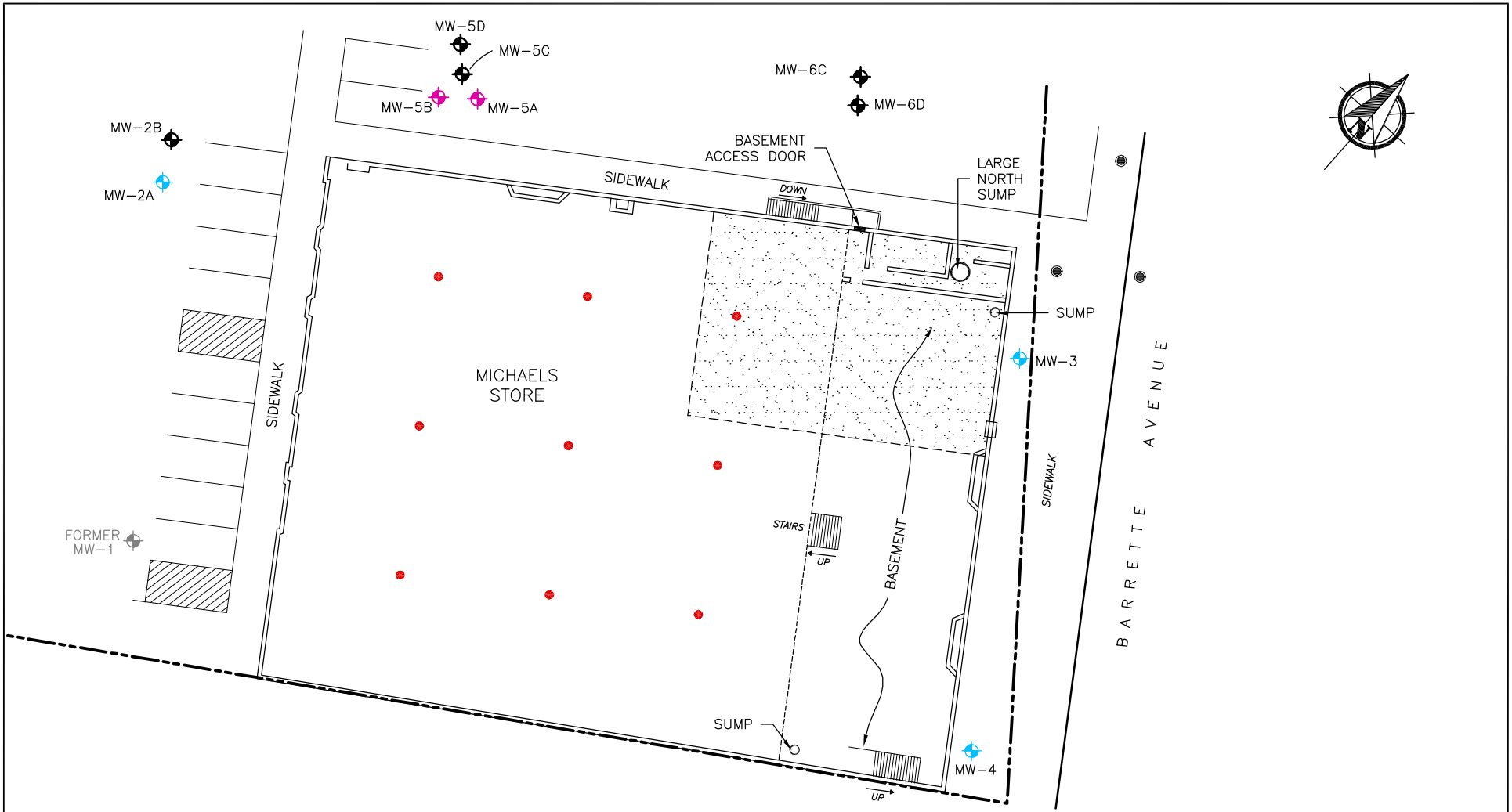

LEGEND

- MANHOLE
- MW-2A — MONITORING WELL
- APPROXIMATE LOCATION OF FORMER CHARLTON CLEANERS
- PROPERTY LINE
- PROPOSED SUB-SLAB VAPOR SAMPLE LOCATIONS

0 30

SCALE IN FEET

FORMER CHARLTON CLEANERS FACILITY
VCP # W3-0891-01-06
FOREST AVENUE SHOPPERS TOWN
24 BARRETT AVENUE
STATEN ISLAND NEW YORK

PROPOSED SUB-SLAB VAPOR SAMPLE LOCATIONS

DATE	REVISED

PREPARED BY:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water and Environmental Engineering Services
110 Corporate Park Drive
Suite 112
White Plains, NY 10604
(914) 694-5711

DRAWN:	FCS	CHECKED:	PW	DATE:	3/14/08	FIGURE:	5

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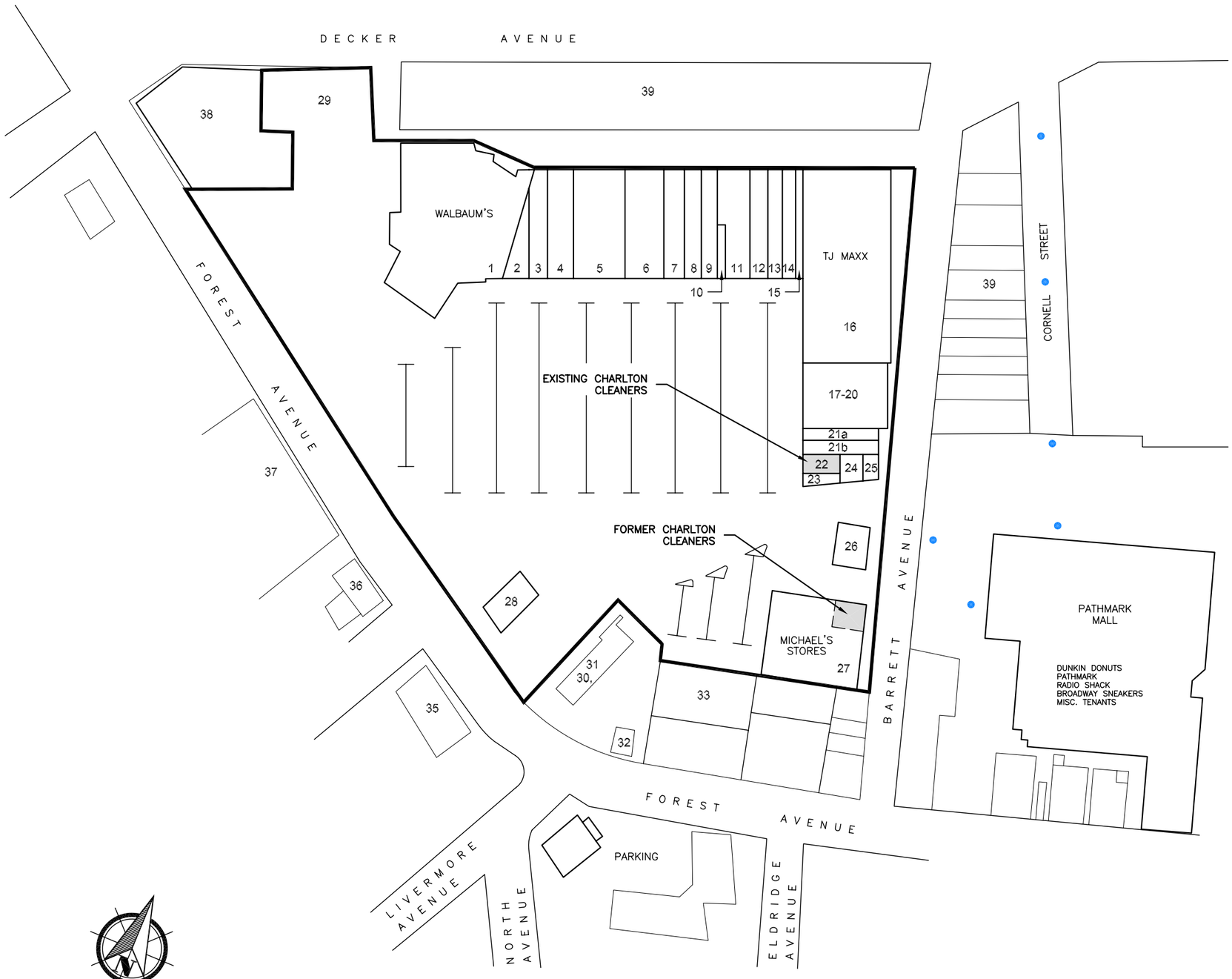

NOT TO SCALE

LEGEND

1	WALBAUM'S	24	G.J.'S UNISEX
2	RAINBOW SHOPS	25	PLAZA DELI
3	MODERN WOMAN	26	RECORD TOWN
4	LECHTERS	27	MICHAEL'S STORES
5	PARTY CITY	28	NORTHFIELD BANK
6	CVS	29	POTENTIAL DEVELOPMENT SITE
7	JORDAN'S CARDS	30	FORMER PAUL MILLER DRY CLEANING FACILITY
8	DRESS BARN	31	BOSTON MARKET
9	EMPIRE SZECHUAN	32	KFC
10	NAIL SALON	33	COLOR TILE
11	BUY RITE LIQUORS	34	MISCELLANEOUS
12	DANICE $10 STORES	35	WEST COAST VIDEO
13	ONE PRICE CLOTHING	36	BANK
14	PAYLESS SHOES	37	RICKELS HOME CENTER
15	VICTORY CAMERA	38	DRUG STORE, FORMER HESS GASOLINE STATION
16	TJ MAXX	39	RESIDENTIAL
17-20	HOME TOWN BUFFET		SITE BOUNDARY
21a	PIZZA STORE		PROPOSED MULTILEVEL GROUNDWATER MONITORING WELL LOCATION, SOIL VAPOR SAMPLE LOCATION WITHIN 10 FT
21b	PETLAND DISCOUNTS		
22	CHARLTON CLEANERS		
23	SPECS FOR LESS		

FORMER CHARLTON CLEANERS FACILITY
VCP # W3-0891-01-06
FOREST AVENUE SHOPPERS TOWN
24 BARRETT AVENUE
STATEN ISLAND NEW YORK

PROPOSED OFFSITE MONITORING WELL AND SOIL VAPOR SAMPLING LOCATIONS

DATE	REVISED

PREPARED BY:
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DRAWN:	FCS	CHECKED:	PW	DATE:	3/13/08	FIGURE:	6

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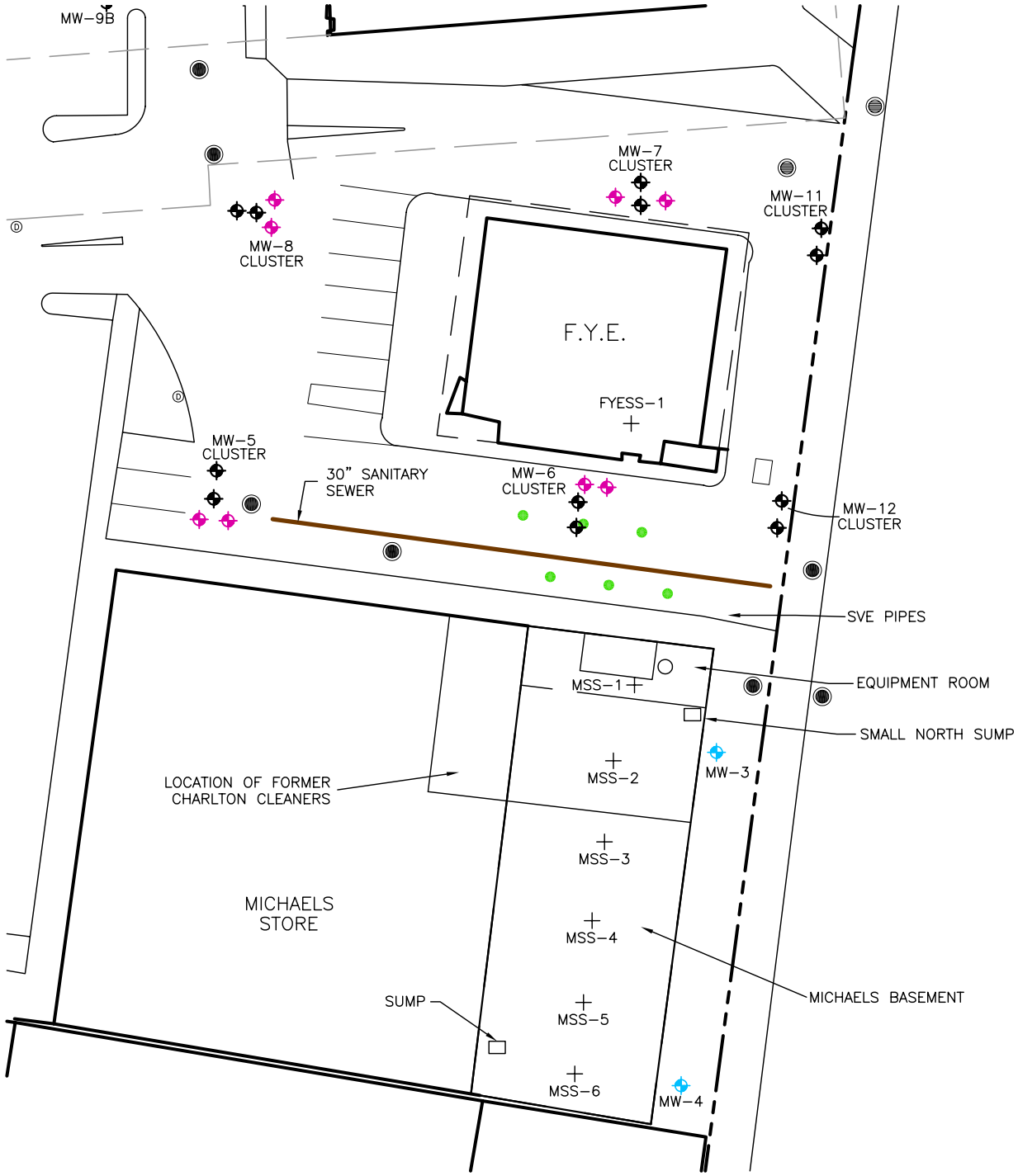

LEGEND

MW-3	MONITOR WELL LOCATION– Installed Prior to 2000
MW-6B	MONITOR WELL LOCATION– Installed by LBG in 2000
1/16	MONITOR WELL LOCATION– Installed by LBG in 2005
MSS-1	SUB–SLAB VAPOR MONITORING POINT
	PROPOSED PILOT TEST BORING LOCATIONS

0 40

SCALE IN FEET

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FORMER CHARLTON CLEANERS FACILITY
VCP # W3-0891-01-06
FOREST AVENUE SHOPPERS TOWN
24 BARRETT AVENUE
STATEN ISLAND NEW YORK

PROPOSED PILOT TEST BORING LOCATIONS

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