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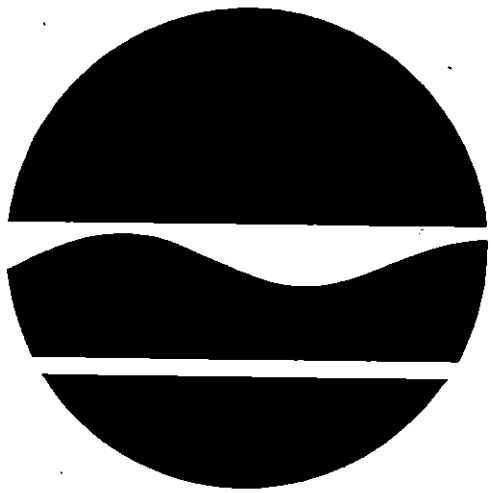
PROPOSED REMEDIAL ACTION PLAN
123 Post Avenue Site
Operable Unit No. 1

Westbury, Nassau County, New York
Site No. 1-30-088

February 2003



Prepared by:

Division of Environmental Remediation
New York State Department of Environmental Conservation

PROPOSED REMEDIAL ACTION PLAN

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Operable Unit No. 1
Westbury, Nassau County, New York
Site No. 130088
February 2003

SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the 123 Post Avenue Site, Operable Unit 1 (on-site soils and groundwater). As more fully described in Sections 3 and 5 of this document, illegal dumping and poor housekeeping resulted in the disposal of perchloroethene (PCE), a hazardous waste. This waste contaminated soils, groundwater and indoor air at the site, and resulted in:

- a significant threat to human health associated with a potential exposure to contaminants in indoor air and public and private water supplies. rubicon
- a significant environmental threat associated with the impacts of contaminants to the groundwater resource in the upper glacial aquifer.

During the course of the investigation, certain actions, known as interim remedial measures (IRMs), were undertaken at the 123 Post Avenue (OU-1) Site in response to the threats identified above. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation/feasibility study (RI/FS). The IRMs undertaken at this site included installation of a soil vapor extraction (SVE) system to remediate contaminated soils and installation of portable air purifiers to remediate contaminated indoor air.

Based on the implementation of the above IRMs, the findings of the investigation of this site indicate that the site no longer poses a significant threat to human health or the environment, therefore, No Further Action, with continued operation of the SVE system, is proposed as the remedy for this site.

The proposed remedy, discussed in detail in Section 6, is intended to attain the remediation goals identified for this site in Section 6. The remedy must conform with officially promulgated standards and criteria that are directly applicable, or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, criteria and guidance are hereafter called SCGs.

This Proposed Remedial Action Plan (PRAP) identifies the preferred remedy and discusses the reasons for this preference. The NYSDEC will select a final remedy for the site only after careful consideration of all comments received during the public comment period.

The NYSDEC has issued this PRAP as a component of the Citizen Participation Plan developed pursuant to the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375. This document is a summary of the

information that can be found in greater detail in the October 31, 2002 "Remedial Investigation Report" and other relevant documents. The public is encouraged to review the project documents, which are available at the following repositories:

NYSDEC Region 1 Office
Environmental Remediation Unit
SUNY, Building 40
Stony Brook, NY 11790-2356
Phone: (631) 444-0240
Hours: Mon. through Fri., 8:30 a.m. - 4:45 p.m.

Westbury Memorial Public Library
445 Jefferson Street
Westbury, NY
Reference Librarian
Phone: (516) 333-0176
Hours: M-F, 9:30 to 9:00, Sat., 9:30 to 5:30 and Sun., 1:00 to 5:00

NYSDEC - Central Office
Division of Environmental Remediation
625 Broadway, Albany, NY 12233-7015
Attn.: Thomas Gibbons, Project Manager
Phone: (518) 402-9622 or (800) 342-9296
Hours: Mon. through Fri., 7:30 a.m. - 4:15 p.m.

The NYSDEC seeks input from the community on all PRAPs. A public comment period has been set from February 21, 2003 until March 23, 2003 to provide an opportunity for public participation in the remedy selection process. A public meeting is scheduled for March 11, 2003 at the Westbury Community Center, 360 Post Avenue, Westbury, beginning at 7 pm.

At the meeting, the results of the RI/FS and IRM will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP. Written comments may also be sent to Mr. Thomas Gibbons at the above address through March 23, 2003.

The NYSDEC may modify the preferred alternative or select another based on new information or public comments. Therefore, the public is encouraged to review and comment on all of the alternatives identified here.

Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the NYSDEC's final selection of the remedy for this site.

SECTION 2: SITE LOCATION AND DESCRIPTION

The 123 Post Avenue site, located at 123 Post Avenue in the Village of Westbury, Nassau County (Figure 1), consists of a 50-foot by 189-foot lot (approximately 0.2 acres) located in a densely populated commercial/residential area (Figure 2). The site contains a one story, 3,500 square foot masonry building built in 1949. A strip mall consisting of three businesses (a delicatessen, a tailor and a chiropractor) at ground level and residences on the second floor, is located north of the site. In addition, a multi-story apartment complex is located northwest of the site. The dry cleaner is situated on the northern property boundary of the Long Island Rail Road, and is located 20 feet from the concrete wall which supports the raised track. The area is serviced by municipal water and sewer.

Operable Unit No. 1 (OU-1), which is the subject of this PRAP, consists of the 0.2 acre dry cleaner property. An operable unit represents a portion of the site remedy that for technical or administrative reasons can be addressed separately to eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination. The other operable unit for this site, OU-2, consists of off-site contaminated groundwater (Figure 1). The source of this off-site contamination originates from OU-1. OU-2 is the subject of a State-funded groundwater investigation which is ongoing. A remedy for OU-2 is expected to be proposed in early 2004.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

The 123 Post Avenue site has operated as a dry cleaning facility since the 1950s. The site was placed on the NYS Registry of Inactive Hazardous Waste Disposal Sites in December of 1998 after the Nassau County Department of Health (NCDOH) performed a facility inspection in July 1995 and subsequent investigations by the NCDOH and the potential responsible party (PRP) which showed elevated levels of site-related perchloroethene (PCE) contamination in soils and groundwater.

In response to a pending property transaction, additional environmental investigations were conducted in October 1997 at 117 Post Avenue, located directly south and downgradient of 123 Post Avenue (Figure 2). This groundwater investigation, which included the installation of 7 wells, revealed shallow groundwater contamination (principally PCE) on this property at elevated levels. The source of contamination was suspected to be the 123 Post Avenue site.

3.2: Remedial History

In 1998, the NYSDEC listed the site as a Class 2 site in the Registry of Inactive Hazardous Waste Disposal Sites in New York. A Class 2 site is a site where hazardous waste presents a significant threat to the public health or the environment and action is required.

In August 1998 (prior to the implementation of this RI/FS), excavation of contaminated soils beneath the 2 floor drains (FD#1 - boiler room and FD#2 - work room) was performed (Figure 3). Following excavation, FD#2 remained contaminated with levels of PCE up to 270 ppm.

SECTION 4: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The PRPs for the site, documented to date, include:

Choe Realty, LLC is a limited liability company organized under the laws of the State of New York and is the current owner of the site.

The NYSDEC and Choe Realty, LLC entered into a Consent Order on September 25, 2000. The Order obligates the responsible parties to implement a full remedial program for OU-1.

SECTION 5: SITE CONTAMINATION

A remedial investigation (RI) has been conducted to evaluate the environmental conditions at the site and to identify the significant threats to human health.

5.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The RI fieldwork was initiated in October 2000 and final installation of an IRM was completed in June 2001. See Section 5.2 below which describes IRM activities performed at this site. The field activities and findings of the investigation are described in greater detail in the RI report.

The following activities were conducted during the RI:

- Investigation of on-site soils to determine the vertical and horizontal extent of PCE contamination in the vicinity of the former sanitary system;
- Installation of 3 soil borings and collection of 9 discrete groundwater samples at three depths using direct push technology;
- Sampling of 3 existing monitoring wells.

In addition to the field activities above, which were conducted by the responsible party, the NYSDEC, in conjunction with the NYSDOH and

the NCDOH, conducted extensive indoor air sampling in adjacent residential and commercial structures. In all, up to 24 different locations were sampled during 10 sampling events between February 2001 and the present.

To determine whether the soil, groundwater and indoor air contain contamination at levels of concern, data from the investigation were compared to the following SCGs:

- Groundwater and drinking water SCGs are based on NYSDEC "Ambient Water Quality Standards and Guidance Values" and Part 5 of the New York State Sanitary Code.

- Soil SCGs are based on the NYSDEC "Technical and Administrative Guidance Memorandum (TAGM) 4046; Determination of Soil Cleanup Objectives and Cleanup Levels".

- Concentrations of PCE in air were compared to the NYSDOH's guideline for PCE in air (100 micrograms per cubic meter, $\mu g/m^3$).

Based on the RI results, in comparison to the SCGs and potential public health and environmental exposure routes, certain media and areas of the site require remediation. These are summarized below. More complete information can be found in the RI report.

5.1.1: Site Geology and Hydrogeology

Long Island is situated on bedrock overlain by sediment. Three major aquifers comprise most of Long Island's water supply. The Lloyd sand member is the deepest aquifer (resting directly on the bedrock). The Magothy formation is above the Lloyd and consists of layers of fine sands, clays, silts and some coarse beds of sand and gravel. Above the Magothy aquifer is the Upper Glacial aquifer, consisting of fine to coarse layers of sand and gravel, boulders, and clay. The Magothy is the principal water supply aquifer in this area. The Upper Glacial aquifer is not typically used for water supply in Nassau County due to the greater likelihood of contamination.

On-site groundwater is found at a depth of approximately 35 feet below ground surface in the vicinity of the site. Groundwater flow is towards the south-southwest

The public water supply wells in the vicinity of the site draw water from the Magothy aquifer. The nearest public water supply well downgradient of the site is the Westbury Water District # 11 well (N-5654) located 2000 feet south-southwest of the site (Figure 1). This well draws water from a depth of 474 feet to 535 feet and yields approximately 2,000,000 gallons per day. The nearest private well downgradient of the site is a shallow well operated by the Big M Car Wash. This well is located just west of Well # 11 (Figure 1) and yields approximately 37 gallons per minute from the Upper Glacial aquifer at a depth of 54 feet to 64 feet. The water from this well is used for car-washing only.

It is unknown whether a significant clay barrier exists in the vicinity of the 123 Post Avenue site which would prevent contaminants from migrating to the Magothy aquifer from the Upper Glacial aquifer. While the 123 Post Avenue Site may represent a source of contamination for downgradient water supply wells, there is no evidence to suggest that this is happening.

5.1.2: Nature of Contamination

As described in the RI report, many soil, groundwater and indoor air samples were collected to characterize the nature and extent of contamination. As summarized in Table 1, the only category of contaminants that exceed their SCGs are volatile organic compounds (VOCs).

The VOCs of concern are perchloroethene (PCE) trichloroethene (TCE) and cis 1,2 dichloroethene (DCE). The primary contaminant onsite is PCE, a dry-cleaning solvent. This solvent was disposed of onsite in floor drains and migrated downward into

the underlying soils and groundwater, resulting in significant on-site soil and groundwater impacts as well as extensive off-site impacts to the Upper Glacial aquifer (Figure 4). PCE has also migrated through soil in the form of vapors, impacting nearby residential and commercial structures (Figure 5).

5.1.3: Extent of Contamination

This section describes the findings of the investigation for all environmental media that were investigated.

Chemical concentrations are reported in parts per billion (ppb) for water, parts per million (ppm) for soil and micrograms per cubic meter ($\mu g/m^3$) for air samples. For comparison purposes, where applicable, SCGs are provided for each medium.

Table 1 summarizes the degree of contamination for the contaminants of concern in on-site soils, groundwater and indoor air and compares the data with the SCGs for the site. Table 2 presents all indoor air data collected during the Remedial Investigation for OU-1. The following are the media which were investigated and a summary of the findings of the investigation.

Subsurface Soil

In October 2000, 12 shallow subsurface soil samples were collected in the vicinity of a former on-site sanitary system located between the front of the dry cleaners and Post Avenue (Figure 3). Samples were collected at four locations (SS-1, SS-2, SS-3 and SS-4) at three depths (16 feet to 20 feet, 20 feet to 24 feet and 30 feet to 34 feet). Data from these samples indicate that no PCE or related VOCs were present in soil samples in the vicinity of the former sanitary system. This information, in conjunction with previous investigations (Section 3 of this PRAP) indicate that on-site soil contamination is limited to the soils beneath the two indoor floor drains (FD#1 and FD#2).

Groundwater

On-site groundwater data was collected during several sampling rounds from three water table monitoring wells (MW#1, MW#2 and MW#3) installed in March 1999, prior to the onset of this Remedial Investigation (Figure 3). MW#1 is located on the northeast corner of the dry cleaner, upgradient or side-gradient of the source area. MW#2 and MW#3 are located downgradient of the source area. In addition, groundwater data was collected from three direct push borings (GW#1, GW#2 and GW#3) installed in October 2000 during the Remedial Investigation (Figure 3). Samples were collected from three depths (36 feet-40 feet, 56 feet-60 feet and 76 feet-80 feet) located on the downgradient side of the dry cleaners and designed to delineate the vertical extent of the on-site groundwater plume.

Table 1 shows the results of 6 rounds of groundwater samples collected between March 1999 and September 2002 and one round of vertical profile samples collected on October 4, 2000. Several observations can be made from the data:

- PCE is the primary contaminant found in the groundwater;
- Levels of PCE up to 23,000 ppb have been detected in the on-site groundwater;
- MW#3, located directly downgradient of the most highly contaminated floor drain (FD#2), has consistently shown the highest levels of PCE;
- Data from the vertical profile sampling conducted on October 4, 2000 showed that, although 7 of 9 samples exceeded the groundwater standard (5 ppb), only one sample exceeded 100 ppb PCE - the shallow (36 feet to 40 feet) sample from boring GW#2 (adjacent to MW#3) had PCE levels of 3,700 ppb;
- Sampling rounds conducted between March 1999 and July 2001 showed very high levels of PCE. In particular, levels in

MW#3 ranged between 16,000 ppb and 23,000 ppb;

- Levels of PCE in all three monitoring wells never exceeded 100 ppb from samples collected subsequent to the July 18, 2001 sampling round.

Indoor Air

While no indoor air samples were conducted by the responsible party as part of this Remedial Investigation, several indoor air samples were collected by NYSDEC, in conjunction with the NYSDOH and NCDOH, based on concerns that contamination from this site may be impacting indoor air quality in adjacent structures. Table 2 presents a summary of indoor samples collected from 24 different locations during 10 sampling events between February 2001 and the present.

The data shows that samples collected between February 2001 and May 2001 from 10 of the 24 locations had levels of PCE exceeding the NYSDOH guideline for residential properties of 100µg/m^3.

In June 2001, in response to the elevated levels of PCE detected in adjacent structures, the NYSDEC, with the assistance of the NYSDOH and NCDOH, installed three air filtration units at the three indoor locations exhibiting the highest PCE levels (Figure 5). Further, in June 2001, the responsible party installed a soil vapor extraction (SVE) system at 123 Post Avenue (see Section 5.2) to address this indoor air problem as well as remediate on-site contaminated soils which are present beneath the dry cleaners. As a result of these interim remedial actions, no indoor air exceedances had been identified since the May 2001 sampling round, until December 2002. This recent exceedance was remedied by adjusting the SVE system. Samples collected in January 2003 again showed levels well below the NYSDOH guideline value.

5.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the RI/FS.

An IRM was conducted as part of the Remedial Investigation to address elevated levels of PCE in buildings to the north and northwest of 123 Post Avenue. The NYSDEC became aware of this indoor air problem when, in February 2001, the NYSDOH, with assistance from the NCDOH, conducted routine indoor air sampling in building structures which could potentially be impacted by soil and groundwater contamination identified at 123 Post Avenue. This sampling revealed indoor air impacts at levels exceeding the NYSDOH guideline for residential properties of 100 µg/m^3. Once the indoor air problem was identified, the NYSDEC asked the responsible party to install an SVE system to address contaminated soils beneath the dry cleaner. An SVE system is an effective means of remediating contaminated soils, as well as mitigating the uncontrolled migration of contaminated vapors away from a source area.

Because the NYSDEC considered 123 Post Avenue to be the source of the indoor air impacts, SVE was proposed as an IRM to address this immediate health threat (see Section 5.3). In June 2001, while the SVE system was being constructed, NYSDEC, with assistance from NYSDOH and NCDOH, installed three air filtration units at the three indoor locations exhibiting the highest PCE levels (Figure 5). These units are designed to capture contaminated vapors in an enclosed area by recirculating air through a carbon filter.

In June 2001, shortly following the installation of the air filtration units, the responsible party completed the installation and initiated operation of the SVE system (Figure 6). An SVE system includes the installation of one or more vapor extraction wells installed above the watertable with a screened interval within the zone of contamination. Piping connects the wells to a treatment building where a vacuum would be applied to the system to draw air contaminated by

VOCs, primarily PCE in this case, from the subsurface soils. The contaminated air is treated with a granular activated carbon system before release. The system at 123 Post Avenue included the installation of four soil vapor extraction wells (RW#1S, RW#2S, RW#3S and RW#4S). Two wells were installed upgradient of the dry cleaner and 2 wells downgradient. The locations were selected to optimize the recovery of VOCs in contaminated soil and mitigate the impacts to nearby structures. Several vapor monitoring points (P1, P2, P3, P4, P5 and P6) were installed to assist in the design of the SVE system by determining the radius of contaminant recovery of the SVE wells. The dashed circles presented on Figure 6 outline the predicted vapor recovery area.

Immediately following the startup of these systems, indoor levels of PCE dropped below NYSDOH guidelines. The SVE system is regularly being monitored and adjusted to maintain these low levels. By November 2001, the three air filtration units were shut down because they were no longer providing added benefit with the SVE system in operation.

Beginning in November 2002, due to low contaminant recovery, the SVE system was switched from a continuous operational mode to a pulsed mode. Pulsed pumping is a technique employed when contaminant removal rates reach such low levels that continuous operation is no longer an effective means of contaminant recovery. The SVE system at 123 Post Avenue began with a 1-month pulse cycle. Indoor air quality will be monitored at the end of each off-cycle to monitor any rebound effects and determine the duration of subsequent pulse cycles. Pulse pumping will continue until contaminant recovery has dropped to insignificant levels and post remediation sampling of soils indicates that PCE concentrations in soils are at or below Recommended Soil Cleanup Objectives (RSCO) as identified in TAGM 4046. If monitoring determines that cycling of the SVE system is causing adverse effects on indoor air quality, continuous pumping will be resumed.

At the end of the first 1-month shutdown cycle of the pulse-pumping phase (November 15, 2002 to December 18, 2002), air samples revealed a rebound in indoor contamination levels. Because levels increased to levels exceeding NYSDOH guidance values, continuous pumping resumed. Another round of samples collected on January 7, 2003 showed indoor air values dropping significantly to their previous low levels.

In addition to the SVE system, the responsible party was asked to design an air sparging (AS) system to remediate on-site groundwater. The RP completed the design of an AS system in August 2002, but the groundwater contaminant concentrations had dropped so significantly that implementation of AS was not needed. The AS design will be kept as a contingency if groundwater contaminant concentrations rebound.

5.3: Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the human exposure pathways can be found in Section 5.0 of the RI report.

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

The source of contamination is the location where contaminants were released to the environment (any waste disposal area or point of discharge). Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The

receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

The only complete exposure pathway identified at OU-1 of the 123 Post Avenue Site has been the inhalation of contaminated vapors in indoor air. Before the SVE system was installed, PCE-contaminated soil vapor from the site migrated into homes and businesses near the site, where people were exposed by breathing the contaminated air. PCE concentrations were above the NYSDOH guideline of 100 $\mu g/m^3$ in a number of locations; the highest detected concentration was 7,400 $\mu g/m^3$. With the SVE system operating, PCE concentrations in indoor air have been well below the guideline. The system is expected to remediate the source of the vapors, permanently eliminating this exposure pathway. Other potential exposure pathways include various routes of exposure to contaminated soil and groundwater at the site. These pathways are currently incomplete because there is no exposure point at which people may come in contact with the contamination.

Inadvertent exposure to soil contamination is not likely because the contaminated soil is below ground surface, beneath pavement and the on-site building. However, activities requiring excavation could result in exposures until the SVE system has remediated the soil contamination.

Currently, concentrations of PCE in on-site groundwater are near or slightly above groundwater standards. Historically, the concentrations were much higher, but it is unlikely that people were exposed to contaminated groundwater within OU-1 because there are no on-site supply wells and the water table is about 35 feet below the ground surface. The Westbury Water District supplies drinking water for the site and surrounding area. The public water supply is routinely monitored and treated, if necessary, to ensure that it complies with federal and state drinking water standards.

5.4: Summary of Environmental Impacts

This section summarizes the existing and potential future environmental impacts presented by the site. Environmental impacts include existing and potential future exposure pathways to fish and wildlife receptors, as well as damage to natural resources such as aquifers and wetlands.

Site contamination has impacted the groundwater resource in the Upper Glacial aquifer. There is no evidence to suggest that the underlying Magothy aquifer, a sole source or principal/primary aquifer on Long Island and a source of drinking water in the site area, has been impacted by contamination from 123 Post Avenue.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS AND PROPOSED REMEDY

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

Prior to the completion of the IRM described in Section 5.2, the remediation goals for this site were to eliminate or reduce to the extent practicable:

- exposures of persons to PCE which has impacted indoor air through volatilization from on-site subsurface soil and groundwater contamination; and
- the release of contaminants from on-site soils into on-site and off-site groundwater

that may create exceedances of groundwater quality standards.

Further, the remediation goals for the site include attaining to the extent practicable:

- ambient groundwater quality standards for impacted on-site groundwater; and
- Recommended Soil Cleanup Objectives for contaminated on-site soils.

The NYSDEC believes that the IRM has accomplished these remediation goals provided that it continues to be operated and maintained in a manner consistent with the design.

Based on the results of the investigations at the site, the IRM that has been performed, and the evaluation discussed below, the NYSDEC is proposing No Further Action with continued operation of the SVE system as the preferred alternative for the site.

The basis for this proposal is the NYSDEC's conclusion that No Further Action with continued operation of the SVE system would be protective of human health and the environment and would meet all SCGs. Overall protectiveness is achieved through meeting the remediation goals listed above.

The IRM has achieved these goals through reduction of PCE levels in on-site subsurface soils. Reduced levels in soils has mitigated the off-site movement of contaminated soil vapors which previously impacted nearby residential and commercial structures at levels exceeding NYSDOH guidelines. Further, levels of PCE in on-site groundwater dropped to levels near or below drinking water standards. As a result, the site is no longer considered a source for off-site impacts.

The main SCGs applicable to this project are as follows:

- Groundwater and drinking water SCGs are based on NYSDEC "Ambient Water Quality Standards and Guidance Values" and Part 5 of the New York State Sanitary Code. These SCGs have almost been achieved onsite. As a contingency, the approved AS design would be implemented if groundwater contaminant concentrations rebound.
- Soil SCGs are based on the NYSDEC "Technical and Administrative Guidance Memorandum (TAGM) 4046; Determination of Soil Cleanup Objectives and Cleanup Levels". Site-specific cleanup levels, using TAGM 4046, were established to define shut-off criteria for the soil vapor extraction (SVE) system which currently operates to remediate on-site soil contamination. Soils samples in the source area would be taken before complete shutdown of the SVE system to confirm that soil SCGs have been met.
- Indoor air SCGs are represented by typical background levels for PCE in residential structures. The SVE system would continue to operate until these SCGs are met.

Therefore, the NYSDEC concludes that the following elements of the IRM already completed have achieved the remediation goals for the site and that No Further Action is needed other than OM&M and the institutional and engineering controls listed below:

1. Continued operation of the SVE system to reduce PCE contaminant levels in on-site subsurface soils, eliminating the source for further groundwater impacts and controlling the migration of PCE vapors to nearby residential and commercial structures.
2. Institutional controls would be imposed in the form of existing use and development restrictions, preventing the use of

groundwater as a source of potable or process water without necessary water quality treatment as determined by the NCDOH.

3. The operation of the components of the remedy would continue until the remedial objectives have been achieved, or until the NYSDEC determines that continued operation is technically impracticable or not feasible.

4. As a contingency, the approved AS design would be implemented if groundwater contaminant concentrations rebound.

5. The property owner would complete and submit to the NYSDEC an annual certification until the NYSDEC notifies the property owner in writing that this certification is no longer needed. This submittal would contain certification that the institutional controls put in place, pursuant to the Record of Decision, are still in place, have not been altered, and are still effective.

TABLE 1

Nature and Extent of Contamination

Soil samples of floor drains collected in July 1995 prior to excavation

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	perchloroethene	up to 5,800	1.4	unknown
	trichloroethene	ND	0.7	0
	cis-1,2-dichloroethene	ND	0.3	0

Soil samples of floor drains collected in August 1998 following soil excavation*

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	perchloroethene	< 1 to 270	1.4	1 of 4
	trichloroethene	ND	0.7	0 of 4
	cis-1,2-dichloroethene	ND	0.3	0 of 4

* Samples collected at 4 depths (10'-11', 20'-22', 30'-32' and 36'-40'). Only samples to exceed 1 ppm PCE were collected at shallowest sampling depth, 10'-11'.

Soil samples of sanitary system collected in October 2000*

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	SUBSURFACE SOIL
Volatile Organic Compounds (VOCs)	perchloroethene	ND	1.4	0 of 12
	trichloroethene	ND	0.7	0 of 12
	cis-1,2-dichloroethene	ND	0.3	0 of 12

*Samples collected at 3 depths (16'-20', 20'-24' and 30'-34') from 4 locations.

Direct Push samples collected from GW-1, GW-2 and GW-3 on October 4, 2000*

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	perchloroethene	4 to 3,700	5	7 of 9
	trichloroethene	ND to 4	5	0 of 9
	cis-1,2-dichloroethene	ND to 8	5	1 of 9

Groundwater samples collected from MW-1, MW-2 and MW-3 on March 31, 1999

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	perchloroethene	95 to 20,000	5	3 of 3
	trichloroethene	<1 to 11	5	1 of 3
	cis-1,2-dichloroethene	2 to 98	5	2 of 3

Groundwater samples collected from MW-1, MW-2 and MW-3 on October 3, 2000

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	perchloroethene	1,200 to 16,000	5	3 of 3
	trichloroethene	ND	5	0 of 3
	cis-1,2-dichloroethene	ND	5	0 of 3

Groundwater samples collected from MW-1, MW-2 and MW-3 on July 18, 2001

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	perchloroethene	90 to 23,000	5	3 of 3
	trichloroethene	3 to 11	5	1 of 3
	cis-1,2-dichloroethene	ND to 65	5	1 of 3

Groundwater samples collected from MW-1, MW-2 and MW-3 on October 31, 2001

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	perchloroethene	24 to 86	5	3 of 3
	trichloroethene	ND	5	0 of 3
	cis-1,2-dichloroethene	ND	5	0 fo 3

Groundwater samples collected from MW-1, MW-2 and MW-3 on June 27, 2002

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	perchloroethene	4 to 8	5	2 of 3
	trichloroethene	ND	5	0 of 3
	cis-1,2-dichloroethene	ND	5	0 of 3

Groundwater samples collected from MW-1, MW-2 and MW-3 on September 27, 2002

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	perchloroethene	10 to 38	5	3 of 3
	trichloroethene	ND	5	0 of 3
	cis-1,2-dichloroethene	ND to 1	5	0 of 3

Indoor air samples collected between February 2001 and September 2002

AIR	Contaminants of Concern	Concentration Range Detected ($\mu g/m^3$)[a]	SCG[b] ($\mu g/m^3$)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	perchloroethene	ND to 7,400	100	18 of 81

*Groundwater samples using the direct push method were collected from 3 depths (36'-40', 56'-60' and 76'-80') at three locations (GW-1, GW-2 and GW-3).

[a] ppb = parts per billion, which is equivalent to micrograms per liter, µg/L, in water;
ppm = parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
$\mu g/m^3$ = micrograms per cubic meter

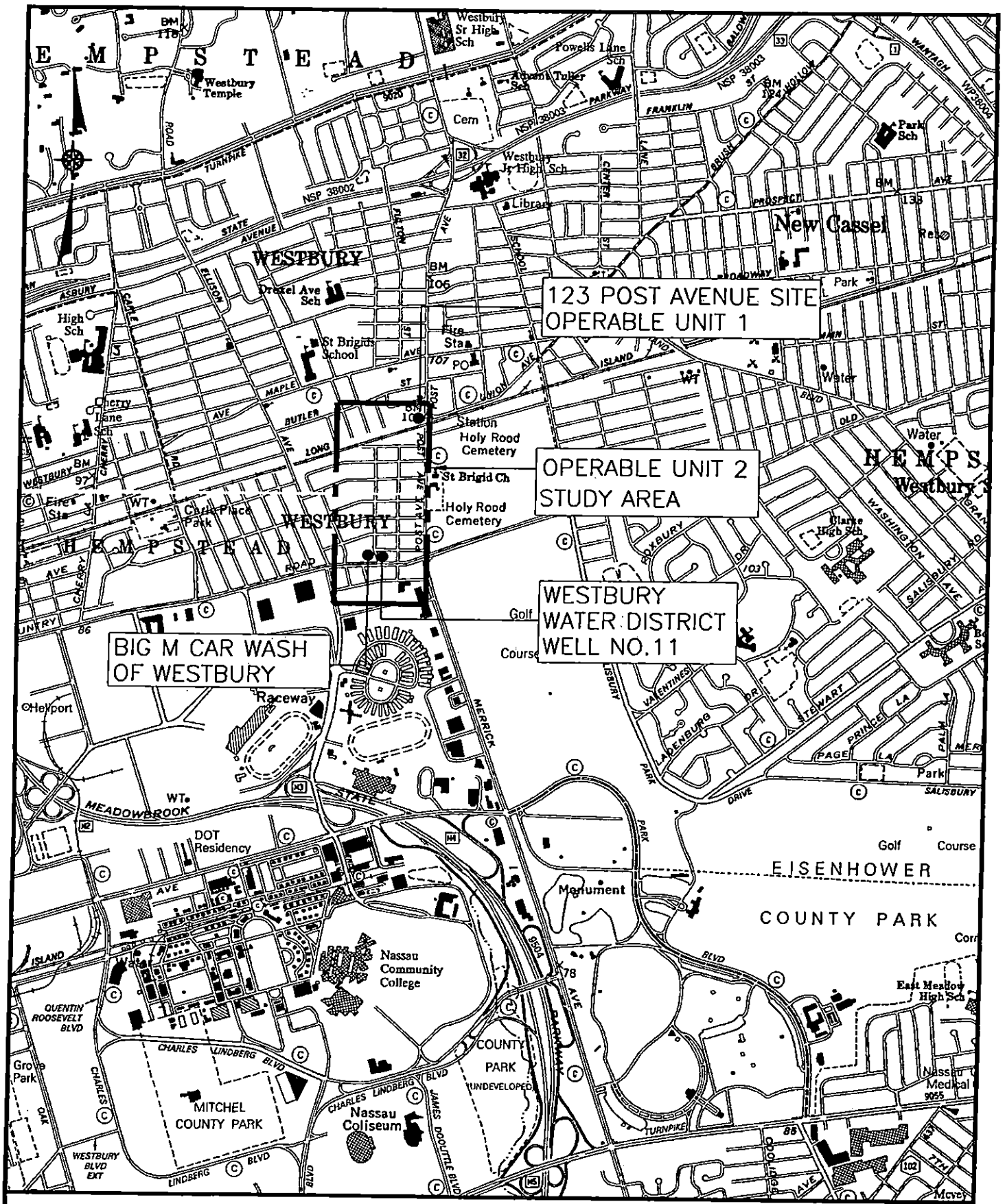
[b] SCG = standards, criteria, and guidance values;
ND = non detect

TABLE 2

SUMMARY OF TETRACHLOROETHENE CONCENTRATIONS IN AIR SAMPLES
123 POST AVENUE SITE (NO. 1-30-088)

Sampling location	02/20-21/2001	3/27-28/2001	4/18-19/2001	5/16-17/2001	6/27-28/2001	9/10-11/2001	11/29-30/2001	3/19-20/2002	6/12-14/2002	9/17-18/2002	12/17-18/2002	01/07-08-2003
Chiropractic Center 125 Post Ave.												
1st Floor Waiting Room	1,520 and 1,580	NS	NS	192	44	NS	NS	5 and 5	14 and 14*	22 and 23 *	6.6 and 6.2 *	NS
1st Floor Rear Office	1,770	NS	NS	192	50	NS	NS	5	NS	NS	NS	NS
Convenience Store 129 Post Ave.												
1st Floor Counter Area	400	NS	NS	NS	14	NS	7	5 [PL]	7	13	<0.7	NS
Rear of Store	NS	NS	NS	45.3	NS	NS	NS	NS	NS	NS	NS	NS
Common Basement	1,900 and 1,930	NS	NS	831 and 1,020	66 and 96	NS	15 and 16	5 and 8 [SU]	20	41	6.9	NS
Tailor 127 Post Ave.												
1st Floor Work Room	NS	1540	NS	203	NS	NS	NS	NS	NS	NS	NS	NS
1st Floor Near Counter	NS	NS	NS	NS	51	NS	10	7	20	23	32	NS
Condominiums 135 Post Ave.												
1st Floor - Manager's Office	NS	500	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1st Floor Workshop	NS	NS	29.3	3.2	NS	NS	NS	NS	NS	NS	NS	NS
1st Floor - Hall Outside Supt's Ap	NS	NS	664	NS	NS	NS	8	NS	NS	NS	NS	NS
Boiler Room, South Wing	NS	< 5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1st Floor Lobby	NS	95	NS	61.6	5 [PL]	NS	16	8	2	3.6	18	NS
6th Floor Stairwell Landing	NS	NS	NS	93.6	5 [PL]	NS	9	5 [PL]	NS	NS	NS	NS
Hallway outside Apt. 3R	NS	NS	NS	66.4	5 [PL]	NS	5	5 [PL]	NS	NS	NS	NS
Apt. 2R - Living Room	NS	NS	NS	5.1	NS	NS	NS	NS	NS	NS	NS	NS
1st Floor Meter Room	NS	NS	NS	6.3 and 5.4	NS	NS	NS	NS	NS	NS	NS	NS
Residence 135 Post Ave.												
1st Floor - Supt's Living Room	NS	7,300	7,400	464	12	10	NS	9 and 10	5 and 6*	25 and 22*	349 and 356*	5
1st Floor - Daughter's Bedroom	NS	NS	NS	233	NS	12	NS	NS	NS	NS	NS	NS
1st Floor - Supt's Master Bedroo	NS	NS	4,800	NS	17	12	NS	12	7	24	441	7
1st Floor - 3rd (Far) Bedroom	NS	NS	NS	NS	11	NS	NS	9	7	20	210	5
Residence 125A Post Ave.												
2nd Floor Kitchen	NS	750	NS	98.8	7	NS	NS	NS	NS	NS	NS	NS
Residence 125B Post Ave.												
2nd Floor Bedroom	NS	700	NS	NS	18	NS	NS	NS	14	NS	NS	NS
Residence 125A Post Ave.												
2nd Floor Living Room	NS	NS	NS	NS	NS	NS	NS	NS	NS	7.7	6.6	NS
Outdoor sample	15	15 and 16	NS	1.4	5 [PL]	NS	5 [PL]	5 [PL]	3	4.5	<0.7	5 [PL]

Notes: The symbol "<" means "less than." A concentration preceded by this symbol means that the compound was not detected in the sample.
The [PL] notation indicates that the compound was present in the sample, but at a concentration less than the detection limit.
The [SU] notation indicates that the reported concentration is suspect.
* Duplicate Sample.
Concentrations in micrograms per cubic meter ($\mu g/m^3$)

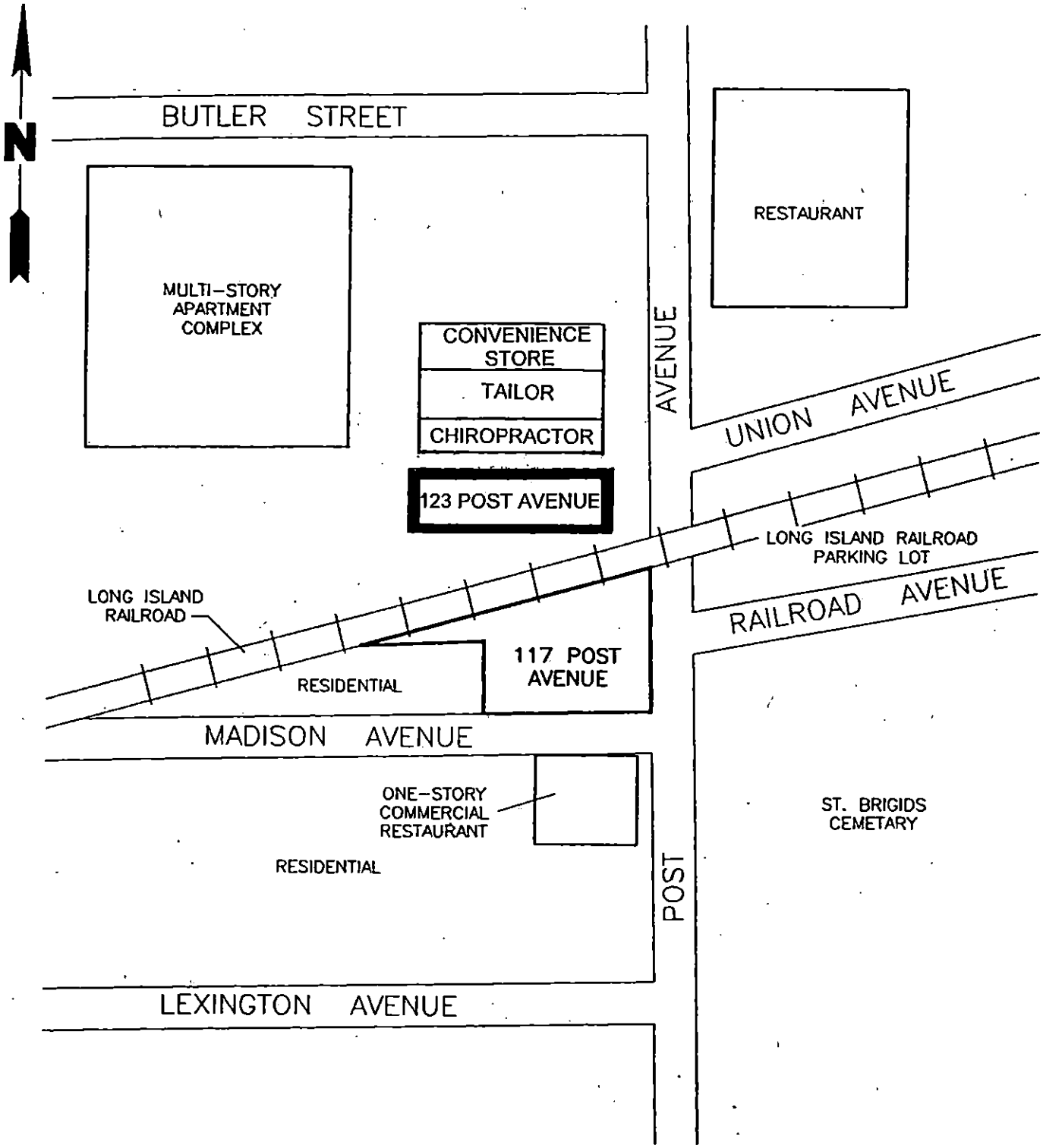


123 POST AVENUE REMEDIAL INVESTIGATION–OPERABLE UNIT 1
WESTBURY, NEW YORK

SITE LOCATION MAP

Dvirka and Bartilucci
CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

FIGURE 1



LEGEND

INFORMATION OBTAINED DURING SITE WALK COMPLETED ON AUGUST 31, 1998

Title:

SITE AND SURROUNDING AREA LAND-USE MAP

123 POST AVENUE
WESTBURY, NEW YORK

Prepared For:
DL ROTHBERG & ASSOCIATES, P.C.

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: J.M.	Date: 9/98	FIGURE
Prepared by: R.K.	Scale: NTS	2
Project Mgr: J.M.	Office: NY	
File No: P0310103	Project: 50303Y	

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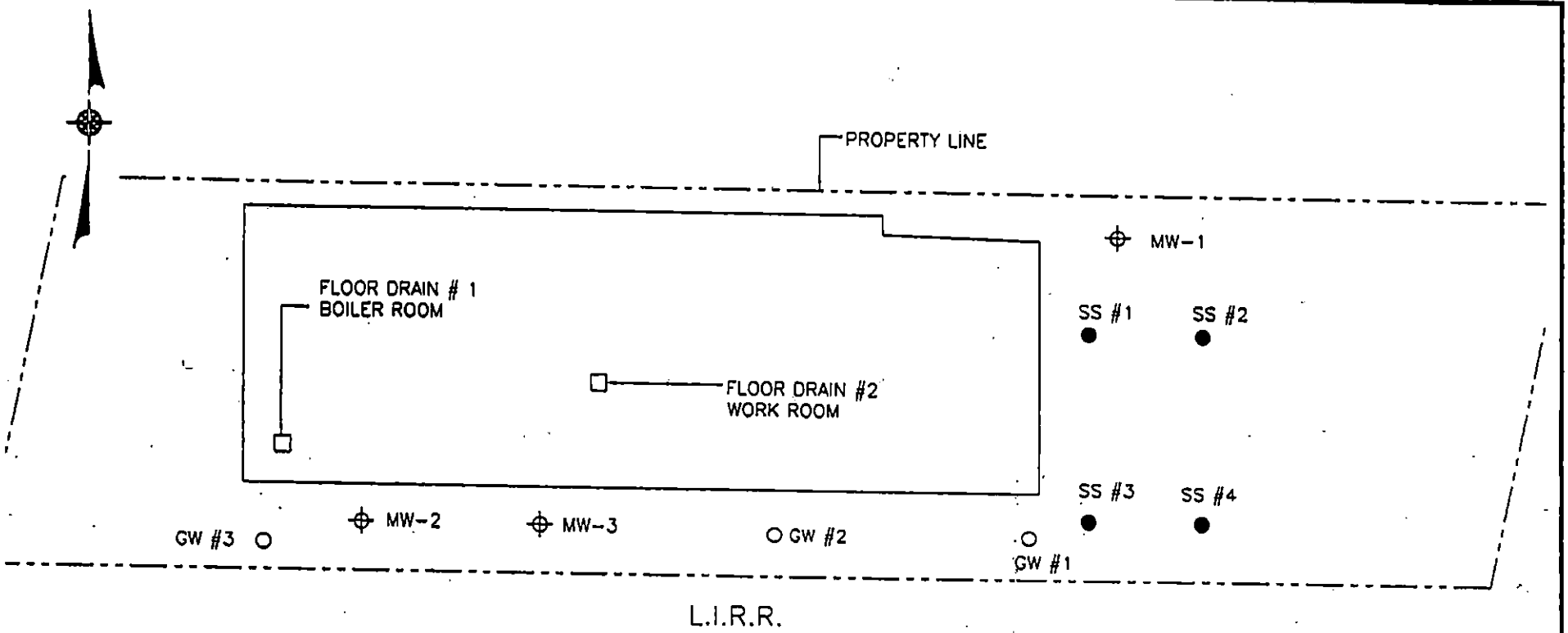


LEGEND

- ⊕ PERMANENT MONITORING WELL
- ○ GROUNDWATER VERTICAL PROFILE BORING (OCTOBER 2000)
- ● SOIL BORING (OCTOBER 2000)

SOURCE: DECEMBER 2000 REMEDIAL INVESTIGATION REPORT PREPARED BY ANSON ENVIRONMENTAL LTD.

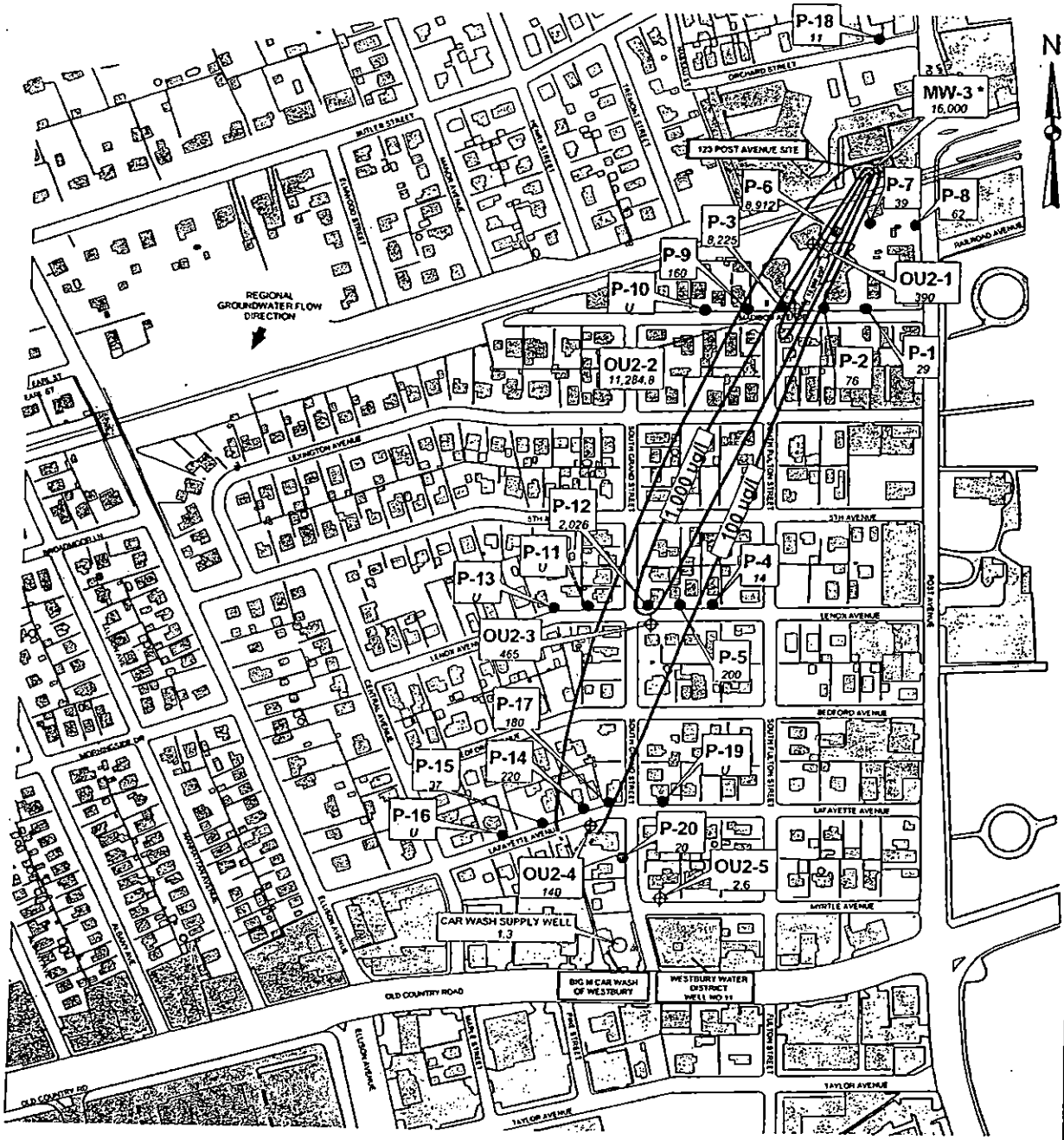
SCALE: 1"=20'

123 POST AVENUE REMEDIAL INVESTIGATION-OPERABLE UNIT 1
WESTBURY, NEW YORK

ON-SITE SAMPLE LOCATIONS

Dvirka and Bartilucci
CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

FIGURE 3



LEGEND

- ● GROUNDWATER PROBE HOLE LOCATION
- OU2-1 ◈ PERMANENT MONITORING WELL LOCATION AND DESIGNATION
- P-4 — PROBE HOLE DESIGNATION
- 14 — MAXIMUM TOTAL PCE, TCE AND 1,2 -DCE CONCENTRATION (ug/l)
- U — UNDETECTED
- * — ON-SITE WELL SAMPLED BY OTHERS ON OCTOBER 3, 2000

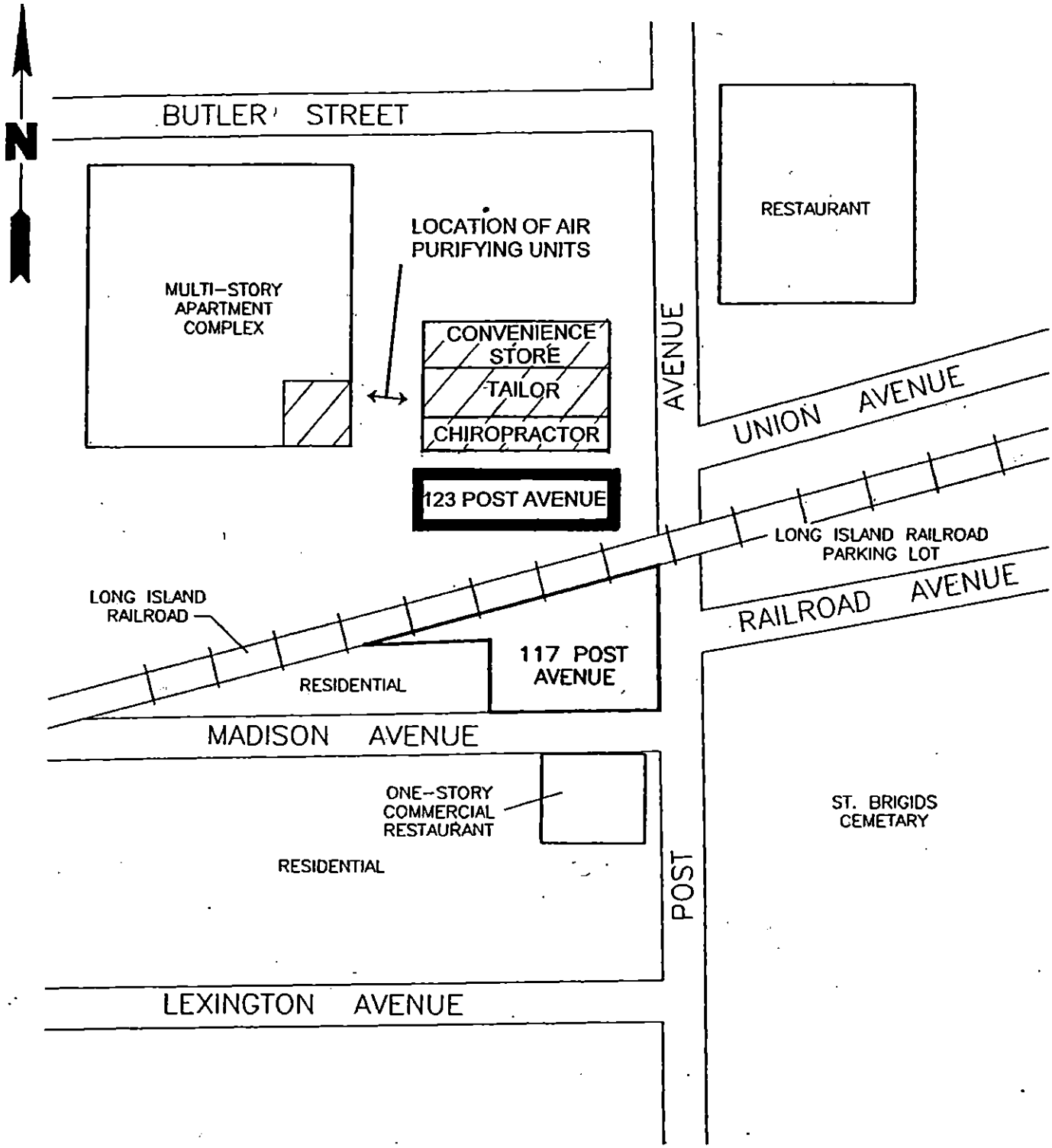
200 0 200 Feet

123 POST AVENUE REMEDIAL INVESTIGATION - OPERABLE UNIT 2
WESTBURY, NEW YORK

HORIZONTAL EXTENT OF PCE, TCE AND 1,2-DCE IN GROUNDWATER

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.E.

FIGURE 4



LEGEND

INFORMATION OBTAINED DURING SITE WALK COMPLETED ON AUGUST 31, 1998

INDOOR AREAS IMPACTED BY PCE CONTAMINATION

Title:

SITE AND SURROUNDING AREA LAND-USE MAP

123 POST AVENUE
WESTBURY, NEW YORK

Prepared For:
DL ROTHBERG & ASSOCIATES, P.C.

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: J.M.	Date: 9/98	FIGURE
Prepared by: R.K.	Scale: NTS	5
Project Mgr: J.M.	Office: NY	
File No: P0310103	Project: 50303Y	

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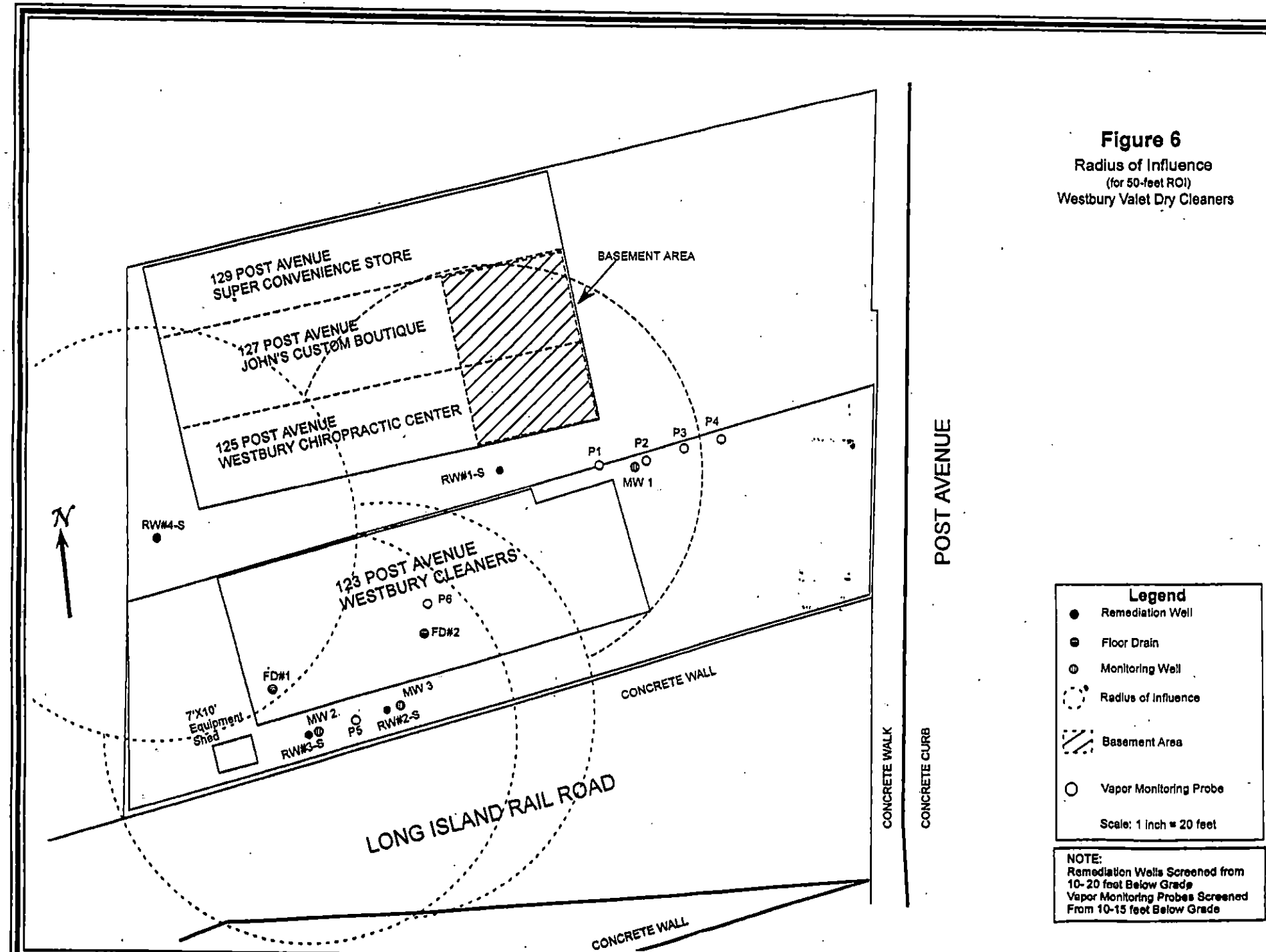

Figure 6

Radius of Influence
(for 50-feet ROI)
Westbury Valet Dry Cleaners