New York State Department of Environmental Conservation

Decision Document

Interim Remedial Measure
Fulton Avenue Site
Village of Garden City, Nassau County
Site Number 1-30-073

File on eDOCs? ✓ Yes ____ No
Site Name 150 Fulton Ave
Site # 1-30-073
County NASSAU
Town North Hempstead
Foilable ✓ Yes ____ No
Please Write The eDOC File
Name Description IRM-ROD

June 1997

Division of Environmental Remediation
Bureau of Hazardous Site Control

INTERIM REMEDIAL MEASURE
Dry Well Area

Decision Document Summary
Fulton Avenue Site, ID No. 1-30-073
Garden City Park, New York

Statement of Purpose and Basis

One aspect of the interim remedial measure (IRM) to be implemented consists of a "removal" as identified in the National Contingency Plan at 40 CFR §300.415(d) in that it includes the excavation of the most contaminated sediments/soil at the source which will mitigate the spread of contamination to off-site locations. Subsequent to the removal, soil vapor extraction and air sparging systems will be utilized. The attached Decision Document summarizes the proposed action to be carried out as an IRM at the Fulton Avenue Site ("Site"). The proposed action qualifies as an IRM in accordance with the Division of Environmental Remediation's Technical and Administrative Guidance Memorandum HWR-92-4042, "Interim Remedial Measures" because: 1) it can be undertaken quickly based on current information; 2) it will prevent, mitigate, or remedy environmental damage or the consequences of environmental damage attributable to the site; and 3) it will lessen obvious hazardous waste risks to the environment.

Description of the Interim Remedial Measure:

This action will address soil/sediments contamination and is one of two IRM's planned for the site. The other will focus on groundwater contamination. These actions together will be a partial remedy for the entire site and the associated contamination in the Garden City Park Industrial Area. The full remedy, to be selected after completion of Remedial Investigation/Feasibility Study (RI/FS), will address threats posed by groundwater, contaminated with chlorinated organic compounds, that has migrated well beyond the immediate vicinity of the site.

The major elements of this IRM include:

- Removal of highly contaminated sediment and soil (up to 5.3×10^6 ppb) in the dry well (20-25 feet below ground surface), and its disposal off-site according to applicable regulations, and proper abandonment of the dry well.

- Installation and operation of an on-site soil vapor extraction (SVE) system. This technology will separate and concentrate the volatile substances in the soil. A vacuum, applied through extraction wells, will enhance the vaporization process and cause rapid and effective volatization. The resulting vapors will be collected

via a piping system and, if necessary, treated with carbon. The spent carbon may be returned to the manufacturer for reuse.

- Use of an air sparging system in conjunction with the SVE system. Air injected into the aquifer will percolate up and strip VOCs from the aqueous phase to the vapor phase. The air sparging system may also extend the utility of the SVE system to the water-saturated soils.

Approved

6/4/97

Earl H. Barcomb, P.E.
Director
Bureau of Hazardous Site Control
Division of Environmental Remediation

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A. **Interim Remedial Measure {Soil} Engineering Report, Fulton Avenue Site, November 1996 (Distributed Previously; Available in Public Repositories).**

INTERIM REMEDIAL MEASURE DECISION DOCUMENT

Fulton Avenue - Dry Well Area
Garden City Park, Nassau County, New York
Site No. 1-30-073
June 1997

1.0: INTRODUCTION

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), is approving an Interim Remedial Measure (IRM) to address soil and sediment contamination in the dry well area at the Fulton Avenue Site. This IRM will also address shallow groundwater contamination in the immediate area of the dry well. The IRM includes:

- The excavation and off-site disposal of approximately 5 cubic yards (yd^3) of contaminated sediment/soil from the dry well area.
- The proper abandonment of the dry well via backfilling with clean soil.
- Installation and operation of a soil vapor extraction system in the area of the former dry well.
- Installation and operation of an air sparging system in conjunction with Soil Vapor Extraction (SVE) for interim remediation of saturated soils *and* shallow groundwater in the immediate vicinity of the source area.

The air sparging system mentioned above involves the injection of air below the water table. This will cause the formation of bubbles that will travel up through the saturated zone, thereby transferring volatiles from the groundwater and soil phase into the vapor phase. A potential positive side effect is that the aeration will encourage biodegradation (i.e. breakdown by means of bacteria feeding on the product) of the volatiles when they have reached lower concentrations. A carbon adsorption system, consisting of four vessels, will be used to treat the extracted vapor. Air monitoring will also be done to insure proper functioning of this carbon removal system.

The equipment to be utilized at

the site (vacuum/blower units, carbon canisters and water/vapor separator etc.) will be weather resistant, but will still be placed in an enclosure to provide noise abatement benefits and to protect from temperature extremes and precipitation that can cause the equipment to fail prematurely. There will also be silencers on the inlet and discharge of the blowers to control noise output.

This Decision Document identifies an IRM that will be a partial remedy for the overall site. A groundwater IRM, which will focus on the most contaminated groundwater in the vicinity of the site, is planned and will be addressed separately. Both IRMs will serve to remove the continuing source(s) of contamination to the downgradient water supply wells. A final remedy for the site, to deal with the less contaminated groundwater, as well as the deeper, wider, and further downgradient portions of the plume, or the boundaries of the groundwater contamination, will be selected after completion of the Remedial Investigation and Feasibility Study (RI/FS), which is scheduled to begin in 1997. The selection of a final remedy will be preceded by the issuance of a Proposed Remedial Action Plan (PRAP) and a public comment period and public meeting to be held in the vicinity of the site. After consideration of all comments received, the Department will document its selection of the final remedy in a Record of Decision (ROD).

2.0: SITE DESCRIPTION AND BACKGROUND

The Fulton Avenue property is an approximately 0.93 acre former industrial {fabric cutting mill that utilized a dry-cleaning process} facility, located at 150 Fulton Avenue, in Garden City Park, New York (see Figure 1). In August 1994, based primarily on the *Garden City Park Industrial Area Preliminary Site Assessment*, this site was listed as a class 2 site on the New York State Registry of Inactive Hazardous Waste Disposal Sites. This classification indicates that the hazardous wastes disposed at the site present a significant threat to the public health or the environment and action is required. It currently maintains that status.

A portion of the site houses a 20,000-square foot one-story building, which currently has no tenants. The remainder is paved and is used for parking, and for loading when occupied. The roof drains situated along the north and south interior walls of the building discharge to these parking areas.

The source area (dry well), which was apparently the former discharge point of the northern roof drains (pipes), is located near the northeastern corner of the building. This dry well was only discovered in December 1995, after extensive field investigations coupled with a thorough records search. When the piping was rerouted to the exterior of the building, the interior piping was

severed and patched with concrete in all but one location. That particular pipe, which was only capped with a removable threaded plug, was the most probable dumping area for the waste tetrachloroethene (PCE), which subsequently discharged to the dry well. The depth to the top of the sediment in this well is approximately 24 feet below ground surface. Upon sampling and analysis, this area provided the first definitive evidence (i.e., soil/sediment contamination) of on-site hazardous waste disposal.

3.0: SUMMARY OF SITE CHARACTERISTICS

3.1: Nature and Extent of Contamination

The recently completed Focused Remedial Investigation, which was designed to pinpoint the source of chlorinated solvent contamination and identify appropriate IRM(s) for removal or control of this source, details the extent of tetrachloroethene in the dry well and nearby surrounding areas. There is some contamination beginning at as little as 5 feet below ground surface. However, based on the results of the PCE screening and analysis, the estimated limits of significantly elevated sediment /soil concentrations are from the base of the dry well to the water table (about 50 feet below ground surface). It also extends in all directions from the dry well to an area of 1,200 square feet and a volume of about 1,500 cubic yards.

4.0: SUMMARY AND EVALUATION OF THE IRM

4.1: Leaching Pool / Dry Well Cleanout

Although there is a significant amount of contaminated soil, as described above, only a very small portion of this, within the dry well, will be physically removed. Measures will be taken to prevent the release of vapors, odor and dust originating during excavation of overburden and the dry well dome, and removal of sediment and soil from the dry well. The waste removed from the dry well will be loaded directly into sealed 55-gallon or other approved containers to prevent release of any vapors.

The excavation and off-site disposal of all the contaminated subsurface soil was considered as a potential remedial alternative, however, this will not be implemented for the following reasons:

- The close proximity of the dry well and other subsurface soil contamination to the on-site building. Shoring or bracing of the 150 Fulton Avenue building may have been required.
- The need for dewatering and treatment of any soil removed from beneath the water table.
- The need for a temporary structure with emissions controls to curtail excessive volatization of

the contamination, making deep excavation difficult.

- A comparatively high cost {approximately $1million vs. about $375,000 for SVE} because it is likely that most of the soil would require incineration due to the very elevated levels of PCE detected.

Another possible alternative that was reviewed is "low temperature thermal desorption." This method utilizes heat exchange to volatize contaminants and water from soil into a separate gas stream, of either air or an inert gas, for further treatment. However, due to space constraints, and because excavation of soil is also required, this technology was also deemed inappropriate.

It is proposed that only the most highly contaminated sediment, a column of about five feet, be removed and disposed appropriately off-site. Based on the six to eight foot diameter of the dry well rings, the estimated total volume of impacted material for this portion of the IRM is five cubic yards.

4.2: Soil Vapor Extraction

This system requires no soil excavation and the space requirements are minimal. However, prior to its installation, the contaminated sediments in the dry well should be removed and backfilled with soils similar to the surrounding soils and the area should be repaved.

A vacuum will be applied through three vapor extraction wells to draw air through the soil. The induced vapors will be collected by a system of wells and piping and treated by a carbon adsorption system consisting of four vessels. This carbon system will only be necessary if air permit compliance levels are exceeded. There is a possibility of lowering the water table through groundwater extraction wells, and implementing the SVE system in that zone. This treatment, however, would require the removal of an enormous amount of water. Since removing such a large volume of water is infeasible for this site, SVE will only be effective for the unsaturated subsurface soil contamination. Some remediation of the groundwater should occur, however, with an SVE/Air Sparging combination.

4.3: Air Sparging

An air sparging system will be combined with the SVE to address the dissolved groundwater contamination in the immediate vicinity of the source area. This system may also reduce the volume of residual non-aqueous contamination just below the water table. Clean air injected, via one air injection well, into the contaminated aquifer will percolate upwards and strip volatile organic compounds into the vapor phase. The injected air and volatized contaminants will be captured by the soil vapor extraction system. The increased air flow rate should also increase the dissolving process for the

pure phase residual PCE and other contaminants.

4.4: Sediment/Soil Off-site Disposal

All sediment / soil removed from the source area will be properly disposed of off-site.

5.0 IRM REMEDIAL GOALS

This IRM is being implemented to address the extremely high levels of soil and sediment contamination(see Table 1 and Figure 4), and to reduce the potential of it affecting the underlying and downgradient groundwater. Contaminated groundwater has migrated downgradient and has impacted seventeen public water supply wells. These wells had previously been shut down or required treatment systems due to volatile organic contamination. Five water supply companies, serving a population of 215,000, rely on wells located downgradient of the site. These companies have treated billions of gallons of contaminated groundwater withdrawn from the plume to make it potable. Additional wells used by these companies stand at risk of becoming contaminated as the plume migrates. Immediate action must be taken to prevent the continuing and expanding contamination of drinking water.

6.0: ENFORCEMENT STATUS

The NYSDEC has had meetings with Gordon-Atlantic Corporation (the property owner) and Genesco, Inc., who leased the property for several years, including years in which dry cleaning was done on premises. At this juncture, an Order on Consent has not been signed, but Genesco has been tentatively identified as being responsible for developing and implementing the RI/FS.

7.0 HIGHLIGHTS OF COMMUNITY PARTICIPATION

Public meetings regarding sites in the entire *Garden City Park Industrial Area* were held in the vicinity of the sites in August 1994 and May 1996. *Fact Sheets* giving a summary of the status of investigations in the area were also distributed. There was also participation from either this agency or the New York State Department of Health at a number of smaller meetings with interested community organizations and local officials, and contributions to a related educational series on pollution prevention, developed by an independent citizens group for the local residents.

This decision document will be sent to the document repositories that were established for the site so that citizens can view its contents.

Table 1

FULTON AVENUE (GARDEN CITY INDUSTRIAL AREA)
FOCUSED REMEDIAL INVESTIGATION

SOIL AND GROUNDWATER SAMPLING RESULTS
IN THE VICINITY OF THE DRY WELL

Sample Location	Depth (feet)	Headspace		PCE Analytical Results	Comments
		PID	FID		
SB-1/GP-103	5-7	2000	--	300 ug/kg	No odor.
	10-14	>9999	--	--	Strong solvent odor.
	14-20	>9999	--	--	Strong solvent odor.
	25-27	>9999	--	2,000,000 ug/kg	Strong solvent odor. Greasy look to soil.
	30-32	>9999	--	--	Strong solvent odor.
	35-37	5500	--	--	Strong solvent odor.
	40-42	4500	--	--	Strong solvent odor.
	45-47	4700	--	--	Strong solvent odor.
	50-52	790	--	21,000 ug/kg	Strong solvent odor.
	55-57	160	--	--	Sample wet.
	GW	2.8	--	1,000 ug/l	No odor.
SB-2/GP-104	10-12	16.9	0.4	ND	Moderate solvent odor.
	20-22	1020	100	--	Greasy look to soil. Strong solvent odor.
	30-32	9640	800	430,000 ug/kg	Greasy look to soil. Very strong solvent odor.
	40-42	240	30	--	Strong solvent odor.
	50-52	>9999	>1000	120,000 ug/kg	Very strong solvent odor.
	GW	0	--	150 ug/l	Solvent odor.

Table 1 (continued)

FULTON AVENUE (GARDEN CITY INDUSTRIAL AREA)
FOCUSED REMEDIAL INVESTIGATION

SOIL AND GROUNDWATER SAMPLING RESULTS
IN THE VICINITY OF THE DRY WELL

Sample Location	Depth (feet)	Headspace		PCE Analytical Results	Comments
		PID	FID		
SB-3/GP-105	10-12	0	0	--	No odor.
	20-22	155	1.7	--	Very slight solvent odor.
	30-32	12.4	1.8	0.90 ug/kg	Very slight solvent odor.
	40-42	65	0	--	No odor.
	50-52	19.4	0.5	330 ug/kg	No odor.
	GW	0	--	--	No odor.
SB-4/GP-106	10-12	19.9	--	--	No odor.
	20-22	1650	--	--	Solvent odor.
	30-32	>2500	--	2,000,000 ug/kg	Solvent odor.
	40-42	>2500	--	--	Solvent odor.
	50-52	1610	--	1,000,000 ug/kg	Solvent odor.
	GW	0	--	--	Slight oil film (spots).
SB-5/GP-107	10-12	9.7	--	--	No odor.
	20-22	1350	--	590,000 ug/kg	Slight solvent odor.
	30-32	>2500	--	--	Slight solvent odor.
	40-42	>2500	--	--	Slight solvent odor.
	50-52	>2500	--	4,000,000 ug/kg	Slight solvent odor.
	GW	0	--	190 ug/l	Oil film on surface.
SB-6/GP-108	10-12	14.2	--	--	No odor.
	20-22	16.1	--	--	No odor.
	30-32	14.7	--	--	No odor.
	40-42	34.4	--	1.7 ug/kg	No odor.
	50-52	28.1	--	--	No odor.
	GW	0	--	--	Slight oil film.

Table 1 (continued)

FULTON AVENUE (GARDEN CITY INDUSTRIAL AREA)
FOCUSED REMEDIAL INVESTIGATION

SOIL AND GROUNDWATER SAMPLING RESULTS
IN THE VICINITY OF THE DRY WELL

Sample Location	Depth (feet)	Headspace		PCE Analytical Results	Comments
		PID	FID		
SB-7/GP-109	10-12	10.2	--	--	No odor.
	20-22	2100	--	--	No odor.
	30-32	>2500	--	--	Slight solvent odor.
	40-42	>2500	--	--	No odor.
	50-52	>2500	--	--	No odor.
	GW	0	--	1300 ug/l	Slight oil film.
SB-8/GP-110	20-22	30.2	--	--	No odor.
	30-32	65	--	--	No odor.
	40-42	>2500	--	ND	Slight solvent odor.
	50-52	>2500	--	--	Slight solvent odor.
	GW	150	--	1600 ug/l	No odor.
SB-9/GP-111	10-12	16	--	--	No odor.
	20-22	38	--	--	No odor.
	30-32	1410	--	--	Slight solvent odor.
	40-42	240	130	--	No odor.
	50-52	14	2	ND	No odor.
	GW	12	2	350 ug/l(180 ug/l)*	No odor.
SB-10/GP-116	30-32	15	--	--	No odor.
	40-42	17	--	--	No odor.
	50-52	56	--	0.77	No odor.
SB-11/GP-117	30-32	15	--	--	No odor.
	40-42	15	--	1.6	No odor.

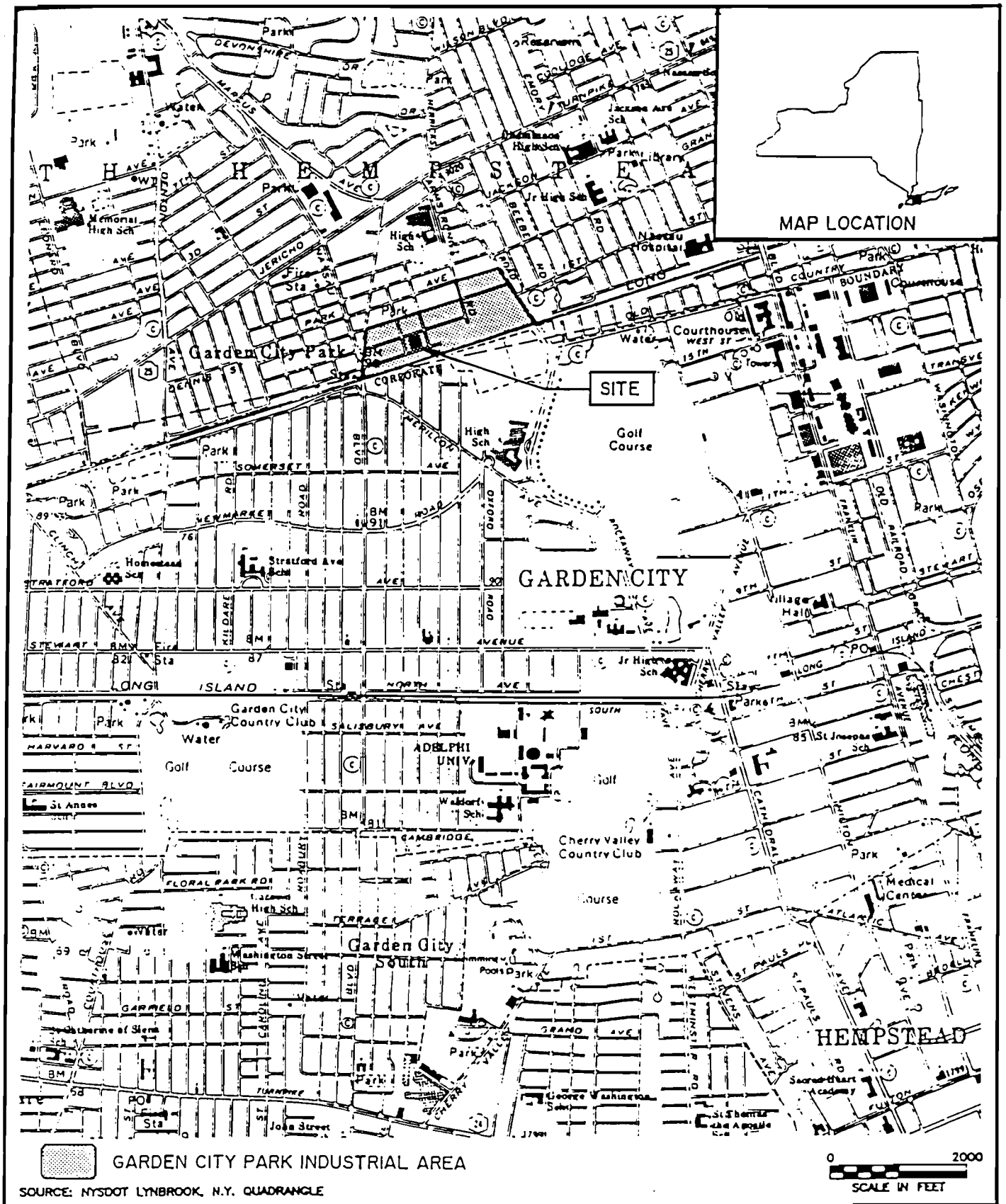
Table 1 (continued)

FULTON AVENUE (GARDEN CITY INDUSTRIAL AREA)
FOCUSED REMEDIAL INVESTIGATION

SOIL AND GROUNDWATER SAMPLING RESULTS
IN THE VICINITY OF THE DRY WELL

Sample Location	Depth (feet)	Headspace		PCE Analytical Results	Comments
		PID	FID		
SB-12/GP-118	30-32	44	--	--	Very slight solvent odor.
	40-42	5080	--	20,000	Sweet solvent odor.
	50-52	4020	--	--	No odor.
SB-13/GP-119	30-32	10.5	--	--	No odor.
	40-42	12.7	--	--	Slight solvent odor.
	48-50	35.2	--	2.9	Slight solvent odor.
SB-14/GP-120	30-32	5.4	--	--	No odor.
	40-42	146	--	1,100	Slight solvent odor.
	50-52	26	--	--	No odor.
SB-15/GP-121	30-32	20	--	--	No odor.
	40-42	80	--	1.7	Moderate solvent odor.
	50-52	22	--	--	No odor.
Dry well Sample (DW-SD-1)	20-25	250 (1050)**	30 (500)**	5,300,000 ug/kg (2,600,000 ug/kg)*	No odor.

--: Not analyzed.
ND: Not detected.
*Analyzed by USEPA Method 601/8010 and NYSDEC ASP Method 91-1, respectively.
**Two headspace jars collected. Second headspace much higher.

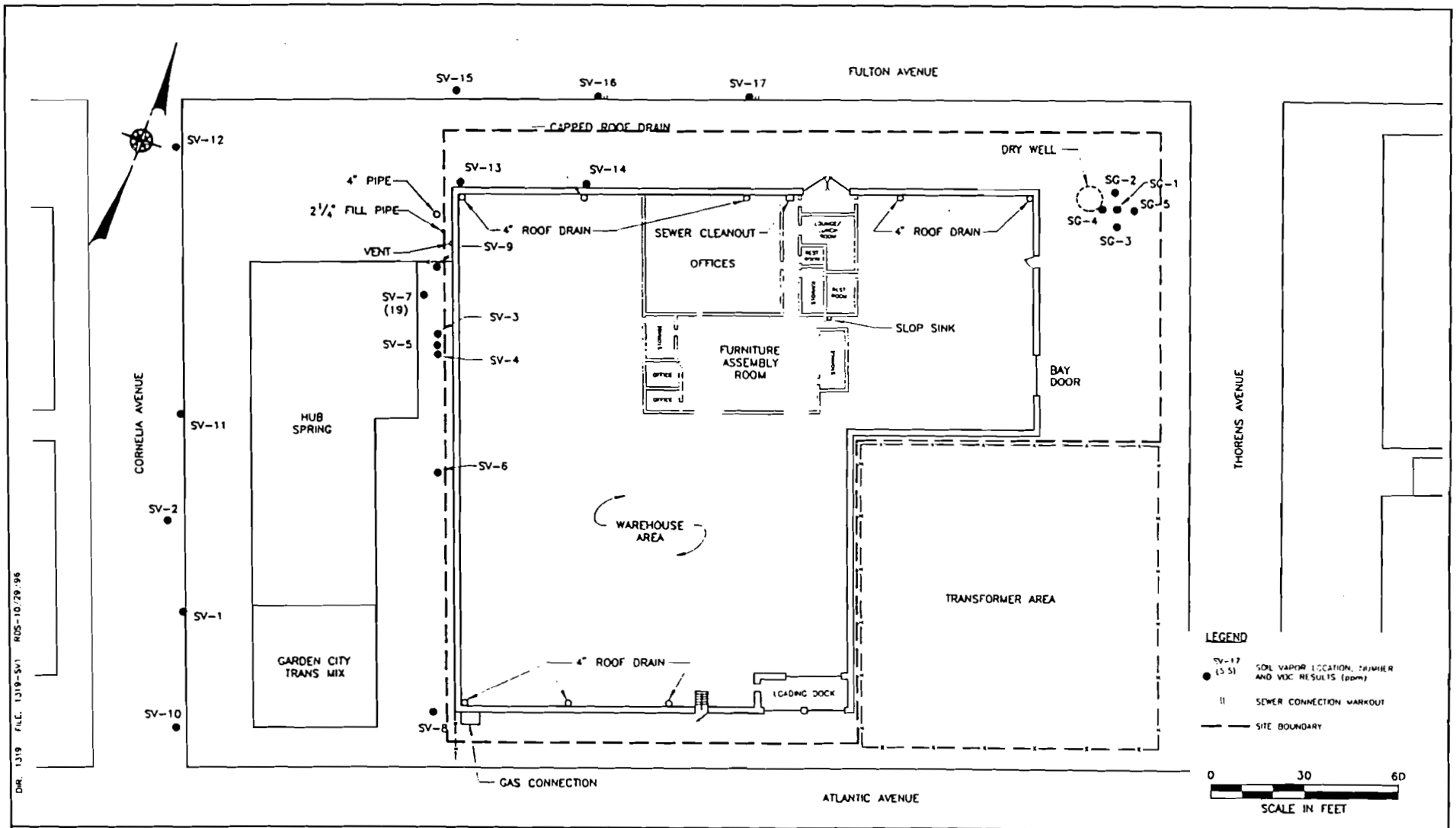


FULTON AVENUE
(GARDEN CITY PARK INDUSTRIAL AREA) SITE
TOWN OF NORTH HEMPSTEAD, NEW YORK

SITE LOCATION MAP

Dvirka and Bartilucci
Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

FIGURE 1

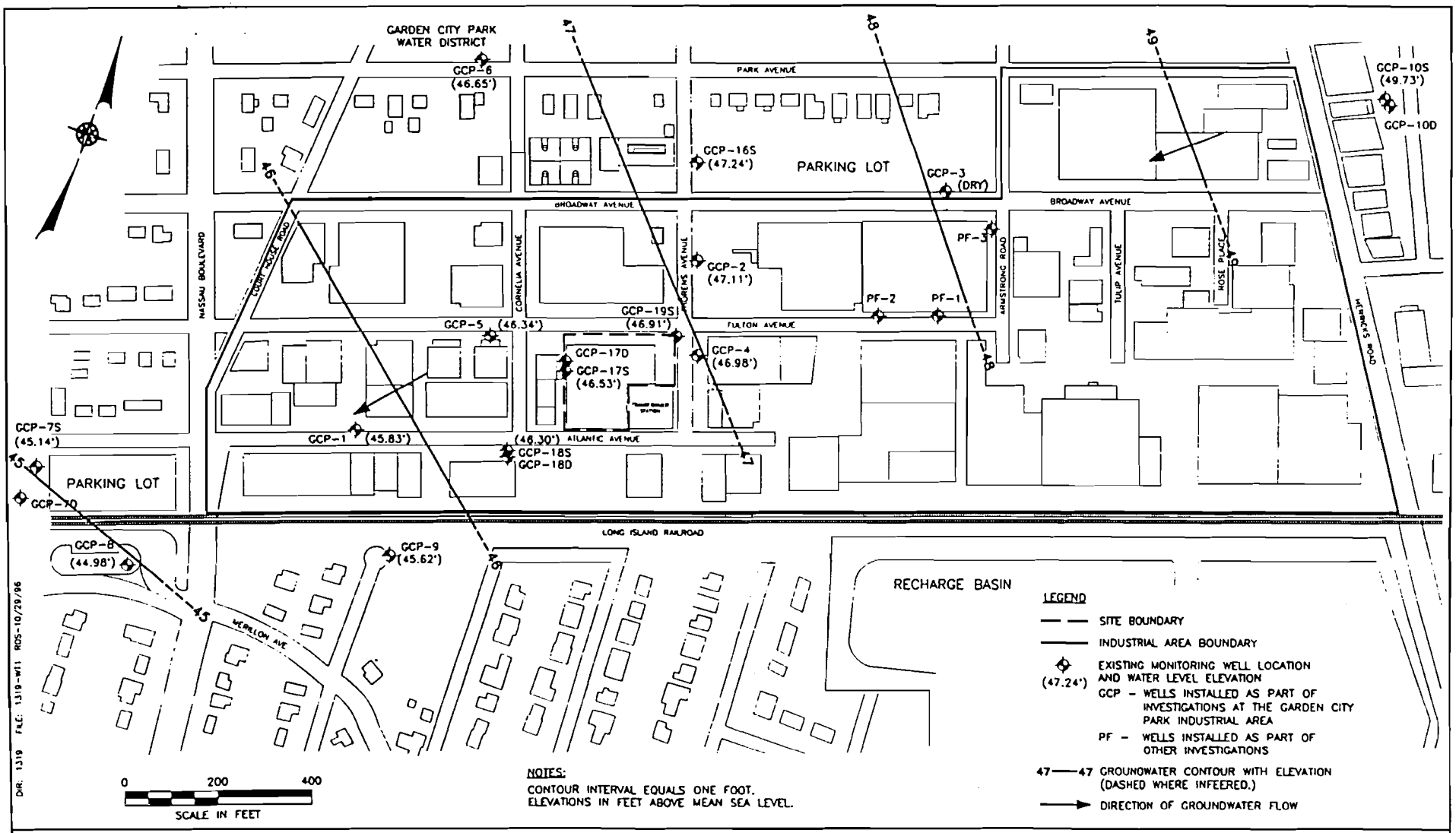


FULTON AVENUE SITE
(GARDEN CITY PARK INDUSTRIAL AREA) SITE
TOWN OF NORTH HEMPSTEAD, NEW YORK

SOIL VAPOR SURVEY LOCATIONS

Dvirka and Bartilucci
Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

FIGURE 2

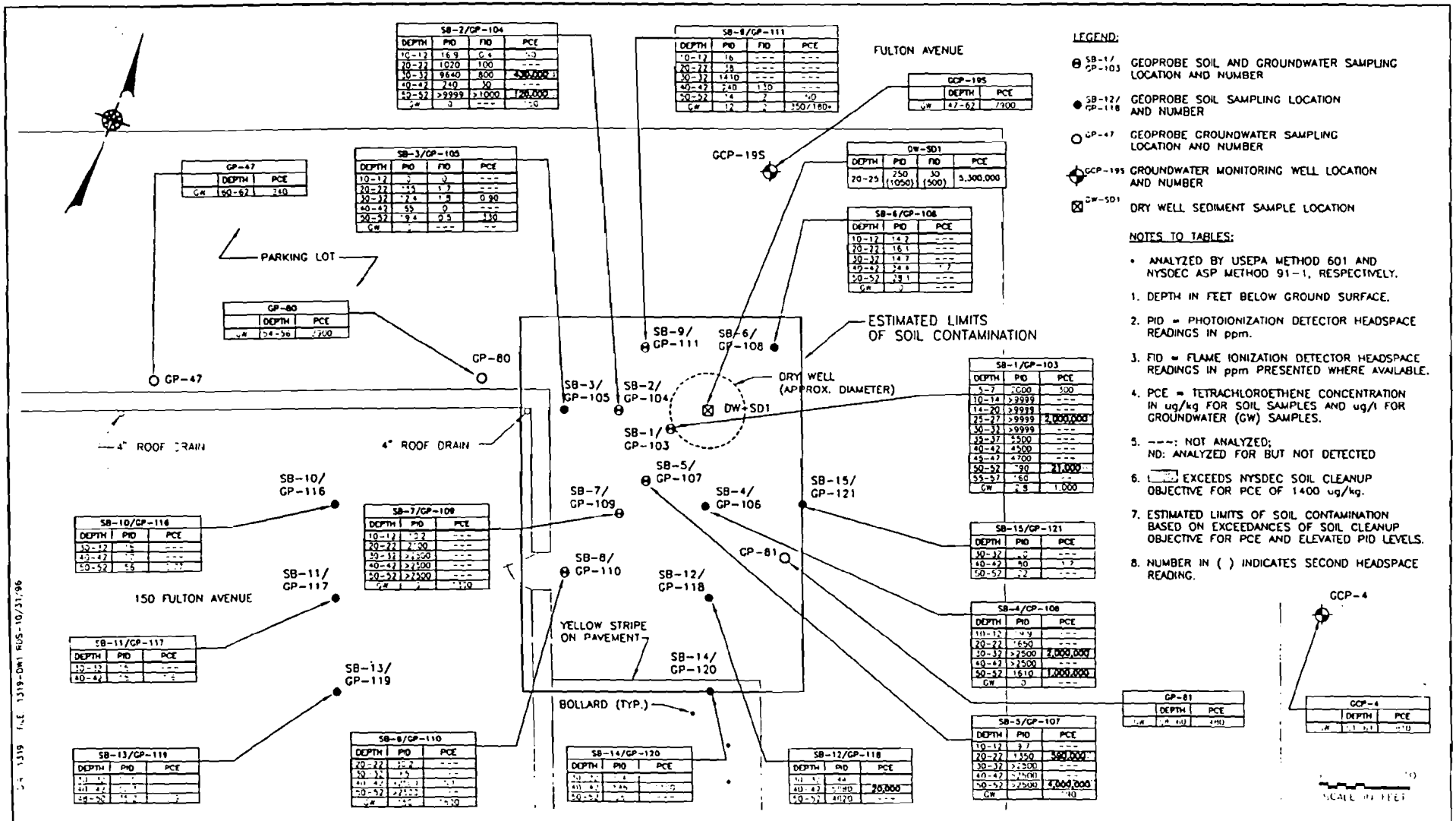


FULTON AVENUE
(GARDEN CITY PARK INDUSTRIAL AREA) SITE
TOWN OF NORTH HEMPSTEAD, NEW YORK

WATER TABLE CONTOUR MAP
SEPTEMBER 22, 1995

FIGURE 3

Dvirka and Bartilucci
Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

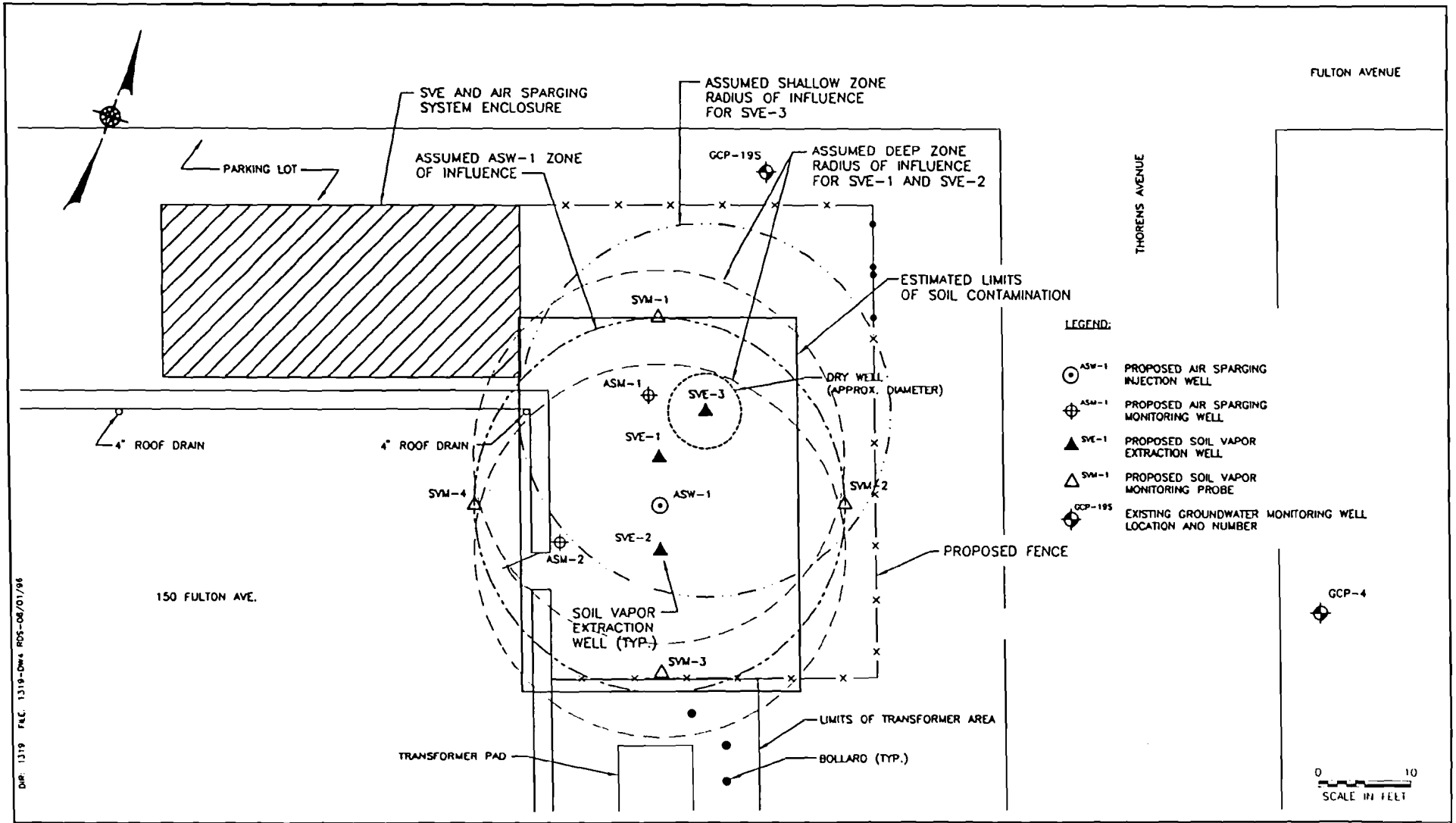


FULTON AVENUE
(GARDEN CITY PARK INDUSTRIAL AREA) SITE
TOWN OF NORTH HEMPSTEAD, NEW YORK

RESULTS OF GEOPROBE SOIL AND SHALLOW GROUNDWATER SAMPLING IN THE VICINITY OF THE DRY WELL

Dvirka and Bartilucci Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

FIGURE 4



FULTON AVENUE
(GARDEN CITY PARK INDUSTRIAL AREA) SITE
TOWN OF NORTH HEMPSTEAD, NEW YORK

SVE AND AIR SPARGING WELLS
AND MONITORING POINTS LOCATION MAP

FIGURE 5

Dvirka and Bartilucci
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