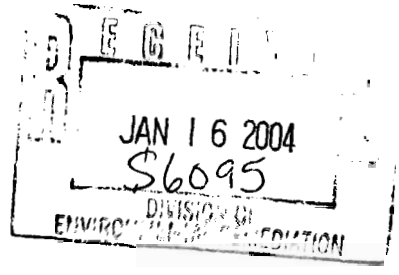
To: Salvatore Ervolina, Assistant Director



The attached is submitted for your approval by:

Ronnie Lee

This package includes:

- ☒ Redline/Strikeout version of the PRAP
- ☒ Your marked-up copy of the PRAP
- ☒ **Clean copy of the PRAP**
- PRAP Summary Sheet
- NYSDOH concurrence letter

NAME	INITIAL	DATE
Dave Smith		1/16/04
Robert Cozzy		1/16/04
Ronnie Lee	RL	1/16/04

1/16/04

Sal,

DOH has the concurrence letter prepared, but no one was in today to sign it. We should get it early next week. Could you progress this with Dale & let the concurrence letter catch up? Bob Cozzy would like to notice the PRAP by 1/23

Dave

New York State Department of Environmental Conservation
Division of Environmental Remediation, 12th Floor
625 Broadway, Albany, New York 12233-7011
Phone: (518) 402-9706 • **FAX:** (518) 402-9020
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

MEMORANDUM

TO: Dale A. Desnoyers, Director, Division of Environmental Remediation
FROM: Salvatore Ervolina, Assistant Director, Division of Environmental Remediation
SUBJECT: Proposed Remedial Action Plan - Tres Bon Cleaners Site,
Village of Franklin Square, Nassau County, ID No. 1-30-058

DATE: JAN 16 2004

Attached for your approval please find the Proposed Remedial Action Plan (PRAP) for the Tres Bon Cleaners Site, located in the Village of Franklin Square, Nassau County. This PRAP was prepared by staff from Remedial Bureau B. Included please find:

- A PRAP Summary Sheet;
- The NYSDOH concurrence letter; and
- A clean copy of the PRAP ready for release;

There are no unresolved or controversial issues associated with this site. Technical staff from Remedial Bureau B recommend this PRAP be released, and I concur.

If you have any questions regarding this matter, please do not hesitate to ask.

I approve this Proposed Remedial Action Plan for public release:

Attachments

cc: Ronnie Lee

Proposed Remedial Action Plan
Summary Sheet

Name of Site and No.: Tres Bon Cleaner Site, No. 1-30-058

Municipality & County: Village of Franklin Square, Nassau County

Prepared by: Ronnie Lee

Description of the Problem:

In January 1988, the Nassau County Department of Health (NCDH) conducted a site inspection at which time it was noted that water from the dry-cleaning fluid separator was being discharged to the soil and pavement in the rear of the building. This resulted in the contamination of on-site soils and groundwater with PCE. Shortly afterward, the PCE/water separator discharge was discontinued and an SVE system and groundwater pumping and treatment system were installed. On March 25, 1999, the Responsible Party signed a consent order to conduct a RI/FS and resume operation of the existing IRM (air stripper and SVE system).

Subsurface soils under the concrete floor slab were shown to be contaminated with PCE at concentrations ranging from 0.93 ppm to 61.4 ppm at depths of 2-3 feet below ground surface (BGS) directly below the dry-cleaning machines. Soil gas concentrations along the eastern and southern property boundaries exhibited PCE concentrations ranging from ND to 120,000 $\mu g/m^3$. After operation of the IRM, recent soil gas concentration along the eastern and southern property boundary ranged from ND to 9.7 $\mu g/m^3$. Groundwater has been impacted primarily by PCE, with concentrations as high as 2,000 ppb on-site in July 1998 (before the IRM was re-started) and 2,400 ppb off-site (downgradient) in December 2000. Recent PCE concentrations in groundwater range from 13 ppb on-site to 6 ppb off-site (downgradient). These trends show that operation of the air stripper and SVE system have significantly lowered PCE concentration levels in soil gas and groundwater. The farthest downgradient well is located approximately 900 feet from the site, in a southwest direction, and is screened at a depth of 46-56 feet BGS. The nearest public water supply wells are 1,000 feet to the northwest (upgradient) and 2,000 feet to the southwest (downgradient) of the site, and are screened at depths in excess of 400 feet BGS. To date, routine testing has shown no impact to these water supply wells. Indoor air in nearby residences was tested in February 2002 and December 2003, respectively, and the results were within background levels.

Description of the Remedy:

No Further Action with continued groundwater monitoring is the proposed remedy. Institutional controls are currently 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 NCDH, and will become part of the proposed remedy.

STATE OF NEW YORK
DEPARTMENT OF HEALTH

Flanigan Square, 547 River Street, Troy, New York 12180-2216

Antonia C. Novello, M.D., M.P.H., Dr.P.H.
Commissioner

Dennis P. Whalen
Executive Deputy Commissioner

January 21, 2004

Mr. Dale Desnoyers, Director
NYS Dept. of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, NY 12233-7011

RE: **Proposed Remedial Action Plan**
Tres Bon Cleaners
Site # 130058
Franklin Square, Nassau County

Dear Mr. Desnoyers:

Staff reviewed the February 2004 Proposed Remedial Action Plan for the Tres Bon Cleaners site in Franklin Square, Nassau County. Based on that review, I understand No Further Action is the selected remedy since soil contamination was remediated below TAGM levels, soil vapor contamination was significantly reduced with the implementation of a soil vapor extraction (SVE) system and the groundwater contamination has been reduced to levels slightly above groundwater standards. A long-term groundwater monitoring program will be implemented to ensure that groundwater contamination continues to decline and meets groundwater standards. Institutional controls, in the form of Nassau County regulations, would restrict the installation and use of groundwater wells at and downgradient of the property.

With this understanding, I believe the selected remedy will be protective of human health.

If you should have any questions concerning this issue, please contact Mr. Richard Fedigan at (518) 402-7870.

Sincerely,

Gary A. Litwin, Director
Bureau of Environmental Exposure Investigation

cc: G. A. Carlson, Ph. D.
Mr. S. Bates/Mr. R. Fedigan/File
Mr. R. Weitzman - NCDOH
Mr. C. Vasudevan/Mr. B. Cozzy - DEC
Mr. W. Parish – DEC Reg. 1

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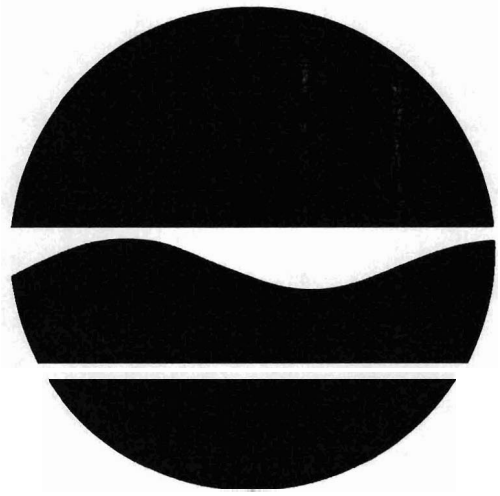
PROPOSED REMEDIAL ACTION PLAN

Tres Bon Cleaners

Franklin Square (V), Nassau County, New York
Site No. 1-30-058

January 2004



Prepared by:

Division of Environmental Remediation
New York State Department of Environmental Conservation

PROPOSED REMEDIAL ACTION PLAN

Tres Bon Cleaners

Franklin Square (V), Nassau, New York
Site No. 1-30-058
January 2004

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 Tres Bon Cleaners site, a Class 2 inactive hazardous waste disposal site. As more fully described in Sections 3 and 5 of this document, past dry-cleaning operations at the site resulted in the disposal of hazardous wastes, including volatile organic compounds (VOCs), primarily tetrachloroethylene (PCE). These wastes contaminated the soil and groundwater at the site, and resulted in:

- a significant threat to human health associated with potential exposure to contaminated soil and groundwater.
- a significant environmental threat associated with the impacts of contaminants (VOCs) to soil and groundwater.

During the course of the investigation certain actions, known as interim remedial measures (IRMs), were undertaken at the Tres Bon Cleaners 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 IRM undertaken at this site consisted of a groundwater treatment and soil vapor extraction (SVE) system.

Based on the implementation of the above IRM, 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 groundwater monitoring and institutional controls is proposed as the remedy for this site. The NYSDEC also proposes to reclassify the site to a Class 4 site on the New York State Registry of Inactive Hazardous Waste Disposal Sites.

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 September 2003 "Final 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
SUNY Campus, Loop Road, Bldg. 40
Stony Brook, New York 11790-2356
Attn: William Fonda
(631) 444-0249
Monday - Friday 9:00 am - 4:45 pm

NYSDEC Central Office
625 Broadway, 12th Floor
Albany, New York 12233-7016
Attn: Ronnie Lee
(518) 402-9768
Monday - Friday 8:00 am - 4:15 pm

Franklin Square Public Library
19 Lincoln Road
Franklin Square, New York 11010
Attn: Peggy Smith
(516) 488-3444
Monday - Friday 10:00 am - 6:00 pm
Saturday 10:00 am - 5:00 pm

The NYSDEC seeks input from the community on all PRAPs. A public comment period has been set from January 26, 2004 through February 26, 2004 to provide an opportunity for public participation in the remedy selection process. A public meeting is scheduled for Monday, February 9, 2004 at the Franklin Square Public Library beginning at 7:00 p.m.

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. Lee at the above address through February 26, 2004.

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 Tres Bon Cleaners site is located on approximately 0.25 acres at 197 Franklin Avenue in the Village of Franklin Square, Nassau County (see Figure 1). The surrounding area is suburban with commercial buildings as well as residential homes nearby.

The nearest water supply wells are located approximately 1,000 feet to the northwest and 2,000 feet to the southwest of the site, and are screened at depths in excess of 400 feet. The water that serves the community is tested routinely by the Franklin Square Water District (FSWD) and the Nassau County Department of Health (NCDH) to ensure compliance with all Federal and State drinking water standards. To date, no contamination has been found in these wells.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

According to property ownership records, the Tres Bon Cleaners property has operated as a dry cleaner since as early as 1982. The property changed ownership several times during its history. The present owner is Mr. George Nickson.

In January 1988, the (NCDH) conducted a site inspection at which time it was noted that water from the dry-cleaning fluid separator was being discharged to the soil and pavement in the rear of the building. Shortly afterward, the PCE/water separator discharge was discontinued. Recently, all dry-cleaning operations at this location were discontinued, and all of the dry-cleaning equipment was dismantled and removed from the site for proper disposal in October 2003 by the property owner.

3.2: Remedial History

In February 1988, NCDH collected a soil sample from the area of the above-mentioned discharge which showed a PCE concentration of 30 parts per million (ppm). Downgradient groundwater analysis revealed PCE contamination of 270 parts per billion (ppb) at a depth of 38 feet below grade.

In November 1991, the current owner of the property entered into an agreement with the NCDH to remediate the site through vacuum extraction of contaminated soil, and air stripping of contaminated groundwater. The agreement required the development of a work plan and the construction of an Interim Remedial Measure (IRM) consisting of a groundwater treatment system (air stripper), and a soil vapor extraction (SVE) system, with activated carbon treatment of the extracted soil vapor prior to discharge.

In March 1993, 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.

The air stripper and SVE system were in operation from October 1993 to December 1994, when operation of the system was discontinued based on the determination by NCDH that the system had reduced the contamination to the levels which were agreed upon in the 1991 work plan.

The NYSDEC required quarterly monitoring of the groundwater following system shutdown, and subsequently detected elevated levels of PCE. At the request of the NYSDEC, the system was re-started in May 1996, and the site was reclassified to a Class 4 ("site properly closed - requires continued monitoring"). The system was again shut down in April 1997.

At the direction of the United States Environmental Protection Agency, NCDH implemented an Underground Injection Well Closure Plan at the dry-cleaners in 1997. PCE was detected in a sediment sample collected from the floor drain in a rear boiler room at a concentration of 16 ppm. The contaminated sediments were satisfactorily removed from the floor drain by Tres Bon Cleaners in June 1998.

In March 1998, the site was reclassified to Class 2 based on recurring exceedances of groundwater standards detected in samples collected from on and off-site monitoring wells.

In June 1998, NCDH collected samples from the outdoor storm drain. PCE was detected at a concentration of 17 ppm. Due to structural constraints, only a partial remediation was performed on the storm drain sediments by Tres Bon Cleaners in January 1999.

On March 25, 1999, the New York State Department of Environmental Conservation (NYSDEC) and Tres Bon Cleaners entered into an Order of Consent to conduct a Remedial Investigation and Feasibility Study (RI/FS) at the Tres Bon Cleaners site, and to restart the operation of the existing remedial systems.

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 NYSDEC and Mr. Nickson entered into a Consent Order on March 25, 1999. The Order

obligates the responsible party to implement a full remedial program.

SECTION 5: SITE CONTAMINATION

A remedial investigation/feasibility study (RI/FS) has been conducted to evaluate the alternatives for addressing the significant threats to human health and the environment.

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 was conducted between June and September 1999, with continuing groundwater monitoring through June 2003. The field activities and findings of the investigation are described in the RI report.

The following activities were conducted during the RI:

- Research of historical information;
- Soil gas survey along the southern and eastern fence lines to locate VOC contaminated soils and possible vapor exposure pathways;
- Installation of two (2) interior soil borings through the concrete floor slab directly beneath the two dry-cleaning machines and collection of soil samples to determine whether leakage from the machines had occurred and impacted underlying soils and one (1) monitoring well to delineate the leading edge of the plume;
- Sampling of one (1) new and two (2) existing monitoring wells;
- Collection of two (2) discrete groundwater samples using a direct push technique.
- The NYSDOH collected outdoor air samples from four (4) locations to determine whether fugitive emissions from the dry cleaner were impacting surrounding residential yards.
- The NYSDOH collected indoor air samples from six (6) residential properties near the site.

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

- Groundwater, drinking water, and surface 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 Fact Sheet guidance document for PCE in air.

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

In general, fill material consisting of asphalt and road bedding material is present to approximately six inches below grade. Well-graded sand with traces of fine gravel is present from below the fill to approximately 56 feet below grade. This sand is part of the upper Pleistocene glacial deposits. A silty clay was encountered approximately 55 feet below grade. This clay appeared to extend to at least 59 feet. Based on regional stratigraphy, this clay may represent the top of the Magothy

Formation. Bedrock is present at a depth of approximately 900 feet below grade. The depth to groundwater at the site is 25 to 30 feet below land surface. The groundwater flow direction is predominantly to the southwest.

5.1.2: Nature of Contamination

As described in the RI report, several soil, groundwater and soil vapor samples were collected to characterize the nature and extent of contamination. As summarized in Table 1, the main categories of contaminants that exceed their SCGs are volatile organic compounds (VOCs).

The primary VOC of concern is tetrachloroethylene (PCE). Some studies show a slightly increased risk of some types of cancer and reproductive effects among workers, including dry-cleaning workers, exposed to tetrachloroethylene.

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 waste, soil, and sediment, 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 soil, groundwater, air, and soil vapor and compares the data with the SCGs for the site. The following are the media which were investigated and a summary of the findings of the investigation.

Surface Soil

As part of the RI, surface soil samples were collected along each of the southern and eastern property boundaries from a depth of 0 to 6 inches and composited for laboratory analysis. VOCs were detected at concentrations below SCGs in both samples.

Subsurface Soil

The RI Work Plan included the collection of soil samples beneath each of the two dry-cleaning machines (ISB-1 and ISB-2). Sample IBS-1 was collected from approximately two to three feet directly below the base of the concrete floor behind the northern dry-cleaning machine. Sample ISB-2 was collected from approximately three feet below the base of the southern dry-cleaning machine. The locations of these borings are shown on Figure 2.

The sample collected from beneath the northern dry-cleaning machine (ISB-1) contained PCE at a concentration of 61.4 ppm The TAGM 4046 soil cleanup objective for PCE is 1.4 ppm.

In September 2000, a follow-up soil sample was collected from the exterior storm drain that had been previously sampled by NCDH, and partially remediated by Tres Bon Cleaners in January 1999. The location of the exterior storm drain is shown on Figure 3. The results of the follow-up sampling revealed the presence of PCE at a concentration of 17 ppm.

Groundwater

One permanent monitoring well was constructed during the RI. The location of this well and the six previously existing wells are shown on Figure 4. The depth to groundwater is 25 to 30 feet below ground surface. Groundwater flow is generally to the southwest. Monitoring wells MW-1 and MW-2 were installed in the rear of the property in September 1989. In 1990, four additional wells were installed. One shallow upgradient well MW-3 was installed on the north side of Fenworth Boulevard directly across from the Tres Bon property. Two shallow wells (MW-4 and MW-5A) were installed downgradient from the Tres Bon property. The fourth groundwater monitoring well (MW-5B) was located adjacent to MW-5A. Each of these wells are screened at 20

to 35 feet below grade with the exception of MW-5B which is screened at 90 to 100 feet below grade. Based on water elevation data collected in June 1999, two geoprobe locations, GP-1 and GP-2 (see Figure 4) were selected to be downgradient of MW-5A/B. Based on the sampling results from these geoprobes, geoprobe location GP-1 was selected as the location for monitoring well MW-6. In June 1999, monitoring well MW-6, which is screened at 46 to 56 feet below grade, was installed 600 feet downgradient of MW-5A/B to define the leading edge of the plume.

Results from the quarterly sampling of these shallow monitoring wells have shown that PCE concentrations in the source area (MW-1) have declined from 2,000 ppb in July 1998 (prior to restarting the operation of the IRM) to 13 ppb in June 2003 (see Table 2). The Class GA groundwater standard for PCE is 5 ppb. These results suggest that the source area extraction and treatment system (air stripper) has effectively remediated the contaminated groundwater at the source area.

During the period from March 2000 to July 2001, PCE concentrations in the shallow downgradient well, MW-5A, ranged from 150 ppb to 2,400 ppb. However over the remaining period from December 2001 to June 2003, the trend has been significantly downward, with a PCE concentration of 12 ppb being reported in June 2003 which is slightly above the Class GA groundwater standard (5 ppb). This downward trend appears to be attributable to the effective operation of the IRM.

During the period from September 1999 to June 2003, PCE concentrations in the leading edge well MW-6 have been relatively low, with the exception of an anomalously high concentration of 170 ppb in July 2001. Initially, the results of the July 2001 sampling event raised some concern due to the fact that the nearest downgradient public water supply well N-3605 (FSWD Well No. 3) is located approximately 1,320 feet downgradient of MW-6. However, subsequent quarterly sampling over the period from December 2001 to June 2003 have shown that PCE concentrations in MW-6 have remained low, in the range of 3 ppb to 9 ppb. Furthermore, based on the distance from the site and the depth at which the public water supply wells are screened (greater than 400 feet below grade), it is highly unlikely that remnants of the PCE contamination from the Tres Bon Cleaners site would impact FSWD Well No. 3. As stated in Section 2, above, the FSWD public water supply wells are routinely tested and have not exhibited any contamination to date.

Soil Gas

During the RI, 8 soil gas samples were collected from a depth of 4 to 5 feet below grade along the eastern and southern fence lines as shown on Figure 2. Elevated soil gas concentrations were detected along the southern and eastern edges of the property. Specifically, PCE was detected at 120,000 $\mu g/m^3$, 330,000 $\mu g/m^3$, and 9,000 $\mu g/m^3$, in soil gas samples SG-3, SG-5 and SG-8 respectively. In July 2000 (after SVE system startup), PCE concentrations at the same sampling locations were 1,630 $\mu g/m^3$, 2,400 $\mu g/m^3$, and 880 $\mu g/m^3$, respectively. Post-shutdown samples collected in December 2003 from the same sampling locations mentioned above exhibited extremely low concentrations of PCE, ranging from non-detectable to 9.7 $\mu g/m^3$. An evaluation of these concentrations levels suggests that the site currently has little or no impact on surrounding residential properties.

Indoor Air

The NYSDOH collected indoor air samples from six (6) adjacent residential properties in February 2002. In December 2003, follow-up indoor air samples were also collected from the residential property immediately adjacent to the site on Fenworth Boulevard. All of the indoor air samples were consistent with background concentrations.

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.

In addition to the investigative tasks described in Section 5.1, Summary of the Remedial Investigation, the RI also called for the resumption of operation of the existing remedial systems (SVE system and air stripper) to address the cleanup of residual soil and groundwater contamination. The groundwater treatment system consisted of a groundwater recovery well installed in the southeast corner of the property and an air stripping tower constructed behind the dry-cleaning facility. The recovery well is 4 inches in diameter and screened from 25 feet to 45 feet below grade. A submersible pump capable of producing 50 gallons per minute was installed in the recovery well which was connected to the on-site low profile shallow tray air stripping tower. Contaminated groundwater was pumped through the air stripper which removed VOC contaminants from the groundwater. The treated water was then discharged to the public storm drain system. Groundwater sampling data has shown a marked decrease in the concentration of PCE in groundwater (see Table 2), and therefore, continued operation of the air stripper is not required. Operation of the air stripper was discontinued in June 2003, and the equipment dismantled and removed from the site in October 2003.

The SVE system consisted of slotted plastic pipes installed to a depth of approximately 20 feet below grade. A high vacuum regenerative blower connected to the piping system captured and extracted VOCs from the soil by inducing air flow through the soil.

As mentioned in Section 5.1.3 above, PCE at a concentration of 61.4 ppm was detected in the soil boring collected beneath the northern dry-cleaning machine. Based on this result, an additional soil vapor extraction point (SVE-3) was installed at this location in August 2000 (see Figure 5). Additionally, as stated above, the exterior storm drain was re-sampled in September 2000 and was found to contain 17 ppm of PCE. Based on this result, an additional soil vapor extraction point (SVE-4) was installed near the exterior dry well in May 2001. Operation of the SVE system was discontinued in June 2003. As mentioned in Section 5.1.3 above, post-shutdown samples collected in December 2003 have shown a marked decrease in PCE concentrations in soil vapor along the eastern and southern property boundaries, therefore, continued operation of the SVE system is not necessary.

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.

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.

There are no known completed exposure pathways at the site. However, potential exposure pathways exist. These are:

Ingestion of groundwater
- Dermal contact with on-site contaminated soil
Inhalation of vapors in indoor air

No one is currently using site groundwater for drinking purposes, but groundwater could be used in the future. Although the ingestion of contaminated groundwater is a potential exposure pathway, it is unlikely because the surrounding area is serviced by public water, which is routinely monitored and treated, if necessary, to ensure that it complies with federal and state drinking water standards.

Exposure to soil contamination does not pose a concern because contaminated soil was remediated to below NYSDEC Soil TAGM levels.

Inhalation of contaminated indoor air is possible because high concentrations of soil gas were detected along the southeastern and southwestern edges of the property, which could migrate into homes and businesses near the site. However, an SVE system was implemented that reduced soil gas concentrations. Indoor air samples collected from residential properties near the site by NYSDOH and NCDH showed that PCE concentrations were consistent with background concentrations.

5.4: Summary of Environmental Impacts

This section summarizes the existing and potential future environmental impacts presented by the site prior to the implementation of the IRM. 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.

The following environmental exposure pathways and/or ecological risks have been identified: impact to groundwater resource above standards.

Prior to the resumption of the operation of the IRM, the levels of groundwater contamination posed the significant threat to the environment. After the successful operation of the IRM, the levels of contamination remaining in the groundwater on -site and off-site are only slightly above groundwater standards. The FSWD Well No. 3 is located over 2,000 feet away from the site and would not likely be affected by the contamination at the Tres Bon Cleaners site.

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:

- the release of contaminants from soil into groundwater that may create exceedances of groundwater quality standards;
- off-site migration of groundwater that does not attain ambient groundwater quality standards; and
- the release of contaminants from subsurface soil into indoor and ambient air through soil vapor.

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

- ambient groundwater quality standards and

- SCGs for VOC-contaminated soils under the concrete floor beneath the northern dry-cleaning machine, and contaminated soils in the exterior storm drain.

The NYSDEC believes that the IRM has accomplished these remediation goals.

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 as the preferred alternative for the site. Once an operation, maintenance, and monitoring plan is in place, the NYSDEC would also reclassify the site from a Class 2 to a Class 4 on the New York Registry of Inactive Hazardous Waste Disposal Sites, which means the site is properly closed but requires continued management.

The basis for this proposal is the NYSDEC's conclusion that No Further Action 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 NYSDEC believes that implementation of the IRM, which is described in Section 5.2 above, has significantly reduced PCE concentration levels in groundwater (on-site and off-site) and in soil vapor along the eastern and southern property boundaries.

Overall, concentrations of PCE in groundwater have decreased significantly since operation of the IRM was restarted in August 1999. Elevated levels of PCE (170 ppb) were detected in the downgradient off-site observation well MW-6 in July 2001 (the Class GA groundwater standard for PCE is 5 ppb). However, PCE concentrations in MW-6 have decreased significantly since the July 2001 sampling event with the concentrations down to 6 ppb in June 2003. Furthermore, due to the distance between MW-6 and FSWD Well No. 3 (over 1,000 feet) and the depth at which the public water supply well is screened (over 400 feet) it is very unlikely that remnants of the PCE contamination from the Tres Bon Cleaners site would impact the FSWD public water supply well. Additionally, low-permeability barriers to downward groundwater flow (thick clay layers) extend throughout the area of concern which make it highly unlikely that the shallow PCE contamination could impact the much deeper FSWD Well No. 3. Nevertheless, PCE concentrations in some on-site and off-site groundwater monitoring wells remain slightly above groundwater standards (up to 13 ppb), and therefore, continued groundwater monitoring is required. The NYSDEC expects these low concentrations of PCE in groundwater to continue to drop to less than the groundwater standard of 5 ppb.

PCE concentrations in soil vapor along the eastern and southern property boundary have decreased dramatically since the IRM was restarted. The latest round of sampling conducted in December 2003 suggest that the Tres Bon Cleaners site poses little or no impact to the surrounding area. In addition, indoor air samples collected from residential properties near the site in February 2002 were less than NYSDOH guideline concentrations. Follow-up sampling in 2003 has shown that all indoor air concentrations were consistent with background levels.

Therefore, the NYSDEC concludes that the elements of the IRM (described in Section 5.2 above) already completed, have achieved the remediation goals for the site and that No Further Action is needed other than continued groundwater monitoring and the institutional and engineering controls listed below.

1. Institutional controls are currently in place in the form of existing use restrictions preventing the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the Nassau County Department of Health.

2. Continued groundwater monitoring consisting of sampling of groundwater twice a year from three monitoring wells. These wells would include MW-1, MW-5A and MW-6 (see Figure 4). The estimated annual cost for groundwater monitoring is $9,500. The estimated present worth cost to continue groundwater monitoring for a two-year program is $20,000. The groundwater monitoring program would be re-evaluaed periodically and may be modified if concentrations of PCE in groundwater either meet or asymptotically approach standards.

TABLE 1
Nature and Extent of Contamination
June 1999 to June 2003
pre-IRM

SURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Tetrachloroethylene	0.0039 to 0.029	1.4	0 of 2

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Tetrachloroethylene	0.93 to 61.4	1.4	1 of 2

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Tetrachloroethylene	ND to 2,400	5	58 of 90

SOIL GAS	Contaminants of Concern	Concentration Range Detected ($\mu g/m^3$)[a]	SCG[b] ($\mu g/m^3$)[a]	Number of Samples
Volatile Organic Compounds (VOCs)	Tetrachloroethylene	ND to 330,000	n/a	14

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)	Tetrachloroethylene	21 to 1,600	100[b]	8 of 22

December 2003
Post-IRM

SOIL GA	Contaminants of Concern	Concentration Range Detected ($\mu g/m^3$)[a]	SCG[b] ($\mu g/m^3$)[a]	Number of Samples
Volatile Organic Compounds (VOCs)	Tetrachloroethylene	ND to 9.7	n/a	3

TABLE 1, Cont'd
Nature and Extent of Contamination
December 2003
Post-IRM

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)	Tetrachloroethylene	ND to 15	100[b]	0 of 4

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

[b] SCG = standards, criteria, and guidance values; developed from NYSDEC Technical and Administrative Guidance Memorandum (TAGM) No. 4046, Determination of Soil Cleanup Objectives and Cleanup Levels (1994) for surface and subsurface soil; NYSDEC Technical and Operation Guidance Series (TOGS) (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (1998) for groundwater and surface discharge; and the NYSDOH guideline value for PERC in air of 100 $\mu g/m^3$. However, it is recommended that actions be taken to reduce perc levels in indoor air to as close to background as practical.

ND = Not detected
n/a = Not applicable

Table 3
Remedial Alternative Costs

Remedial Alternative	Capital Cost	Annual OM&M	Total Present Worth
No Further Action with Continued Groundwater Monitoring	$0	$9,500	$20,000

TABLE 2
DISSOLVED PCE CONCENTRATIONS IN GROUNDWATER
TRES BON CLEANERS
197 FRANKLIN AVENUE, FRANKLIN SQUARE, NEW YORK

Sample No. / Sample Date	MW-1 ug/l	MW-2 ug/l	MW-3 ug/l	MW-4 ug/l	MW-5A ug/l	MW-5B ug/l	MW-6 ug/l	Remediation Systems Status
6/2/03	13	NS	NS	NS	12	1	6	P&T on/SVE on
3/14/03	180	NS	ND	NS	11	ND	6	P&T off/SVE off
12/12/02	160	NS	NS	NS	13	ND	8	P&T off/SVE off
9/25/02	18	NS	NS	NS	16	3	4	P&T off/SVE off
6/19/02	39	NS	NS	NS	21	8	9	P&T off/SVE on
3/7/02	3	NS	NS	NS	55	5	3	P&T off/SVE on
12/17/01	5	NS	NS	NS	27	3	3	P&T off/SVE on
7/31/01	5	NS	NS	NS	190	NS	170	P&T off/SVE on
5/3/01	4	NS	NS	NS	150	NS	10	P&T off/SVE on
12/21/00	2 J	NS	NS	NS	2,400	NS	74	P&T off/SVE on
9/26/00	8	NS	NS	NS	760	NS	13	P&T off/SVE on
5/18/00	9	NS	NS	NS	960	NS	3	System on
3/29/00	5	NS	NS	NS	1,100	NS	6	System on
12/14/99	ND	NS	NS	NS	6	NS	69	System on
9/8/99	7 J	NS	NS	NS	33	NS	ND	System on
8/16/99	NS	NS	NS	NS	NS	NS	-	System reactivated
7/29/98	2,000 D	25	ND	ND	19	ND	-	System off
4/28/97	NS	NS	NS	NS	NS	NS	-	System shut down
1/27/97	190	NS	NS	NS	310 B	NS		System on
8/28/96	77	NS	NS	NS	56	NS	-	System on
5/30/96	660 B	NS	NS	NS	27 B	NS		System on
5/6/96	NS	NS	NS	NS	NS	NS		System reactivated

FPM

TABLE 2 (CONTINUED)
DISSOLVED PCE CONCENTRATIONS IN GROUNDWATER
TRES BON CLEANERS
197 FRANKLIN AVENUE, FRANKLIN SQUARE, NEW YORK

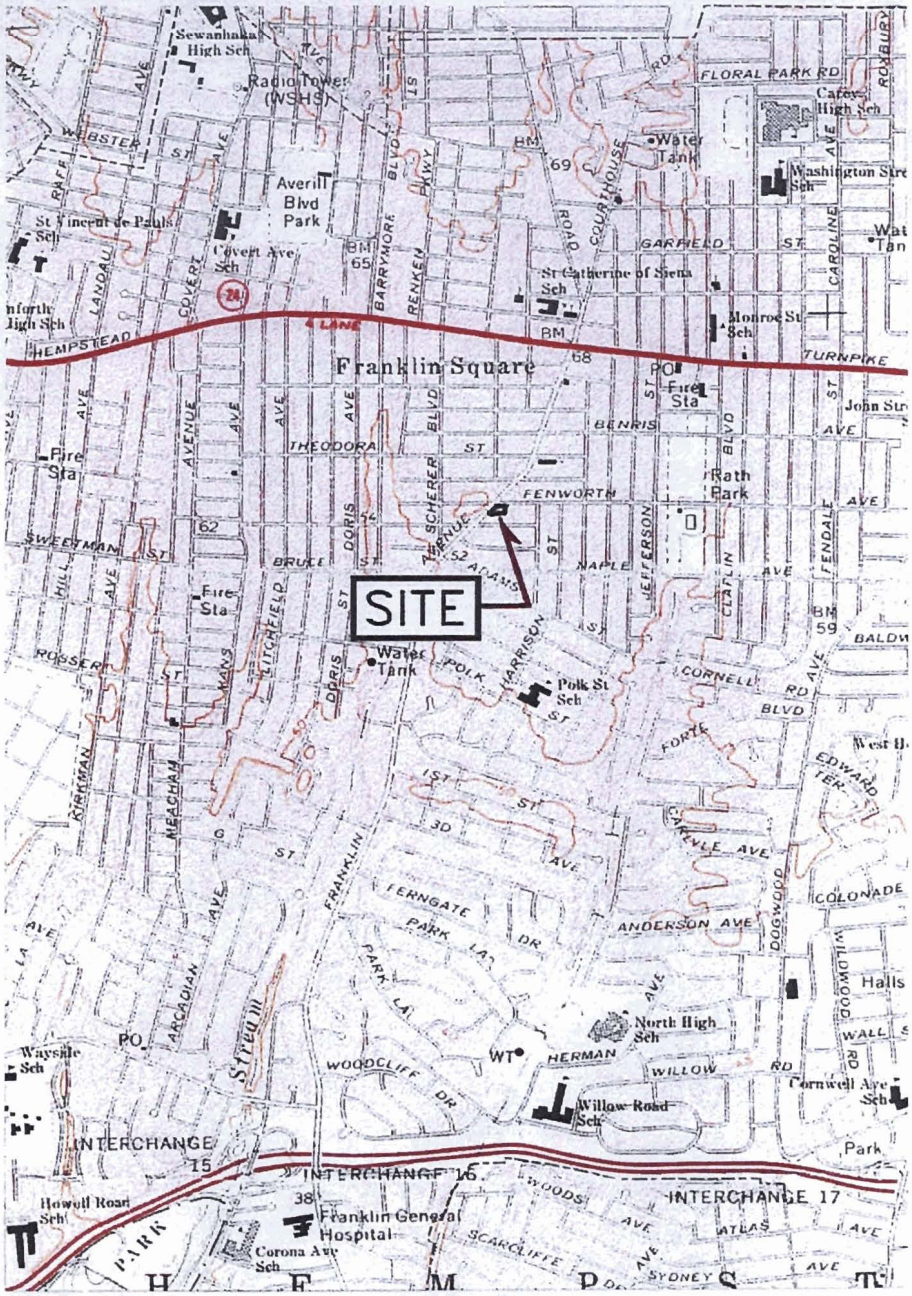
Sample No. / Sample Date	[redacted]V-1 ug/l	MW-2 ug/l	MW-3 ug/l	MW-4 ug/l	MW-5A ug/l	MW-5B ug/l	MW-6 ug/l	Remediation Systems Status
12/21/94	NS	NS	NS	NS	NS	NS	-	System shut down
9/14/94	8	NS	NS	NS	37	NS	-	System on
6/8/94	8	NS	NS	NS	57	NS	-	System on 5/6/94
1/3/94	7	NS	NS	NS	230	NS	-	System off 1/28/94
10/4/93	NS	NS	NS	NS	260	NS	-	System started
3/31/93	900	NS	NS	NS	280	NS	-	Not installed
1/3/91	270	17	3	5	330	4	-	Not installed
11/27/90	520	19	1	5	400	9	-	Not installed

Notes:

Data summarized from reports provided to FPM.
NYSDEC Class GA Ambient Water Quality Standard for PCE is 5 ug/l.
Bold values exceed NYSDEC Class GA Ambient Water Quality Standard.
ug/l = Micrograms per liter.
PCE = Tetrachloroethene.
NS = Not sampled.
ND = Not detected.
J = Estimated concentration.
D = Diluted sample.
- = Well not installed.
B = Analyte detected in blank sample.

Table 3
Remedial Alternative Costs

Remedial Alternative	Capital Cost	Annual OM&M	Total Present Worth
No Further Action with Continued Groundwater Monitoring	$0	$9,500	$20,000



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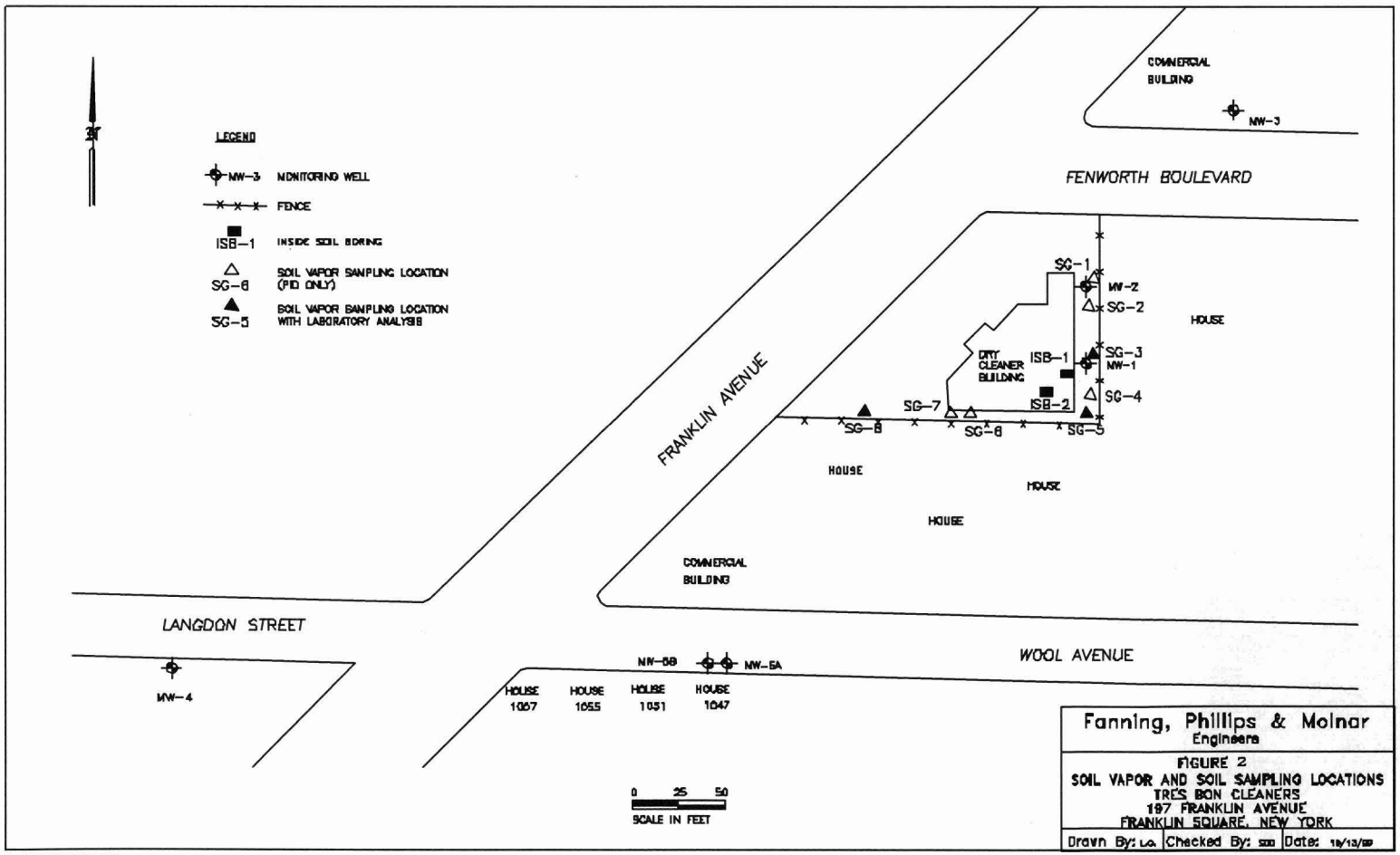
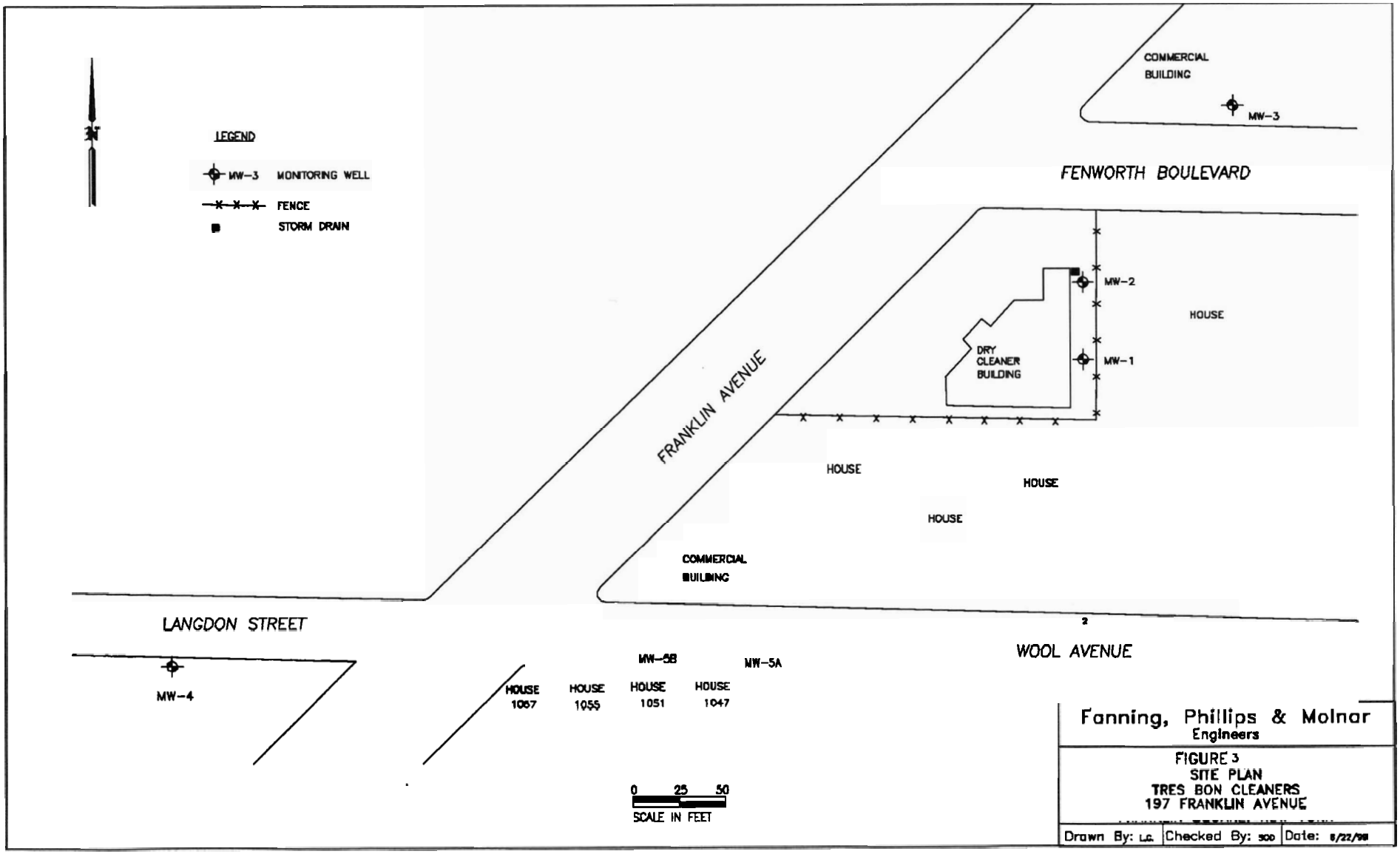
Engineers

FIGURE 1
SITE LOCATION
TRES BON CLEANERS
197 FRANKLIN AVENUE
FRANKLIN SQUARE, NEW YORK

Drawn By:JDS	Checked By:SOD	Date:10/14/99



E:\Lisa\NICKSON\FIG 3.1.1.dwg, 12/08/03 01:38:08 PM, 1:183.849



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Engineers

FIGURE 3
SITE PLAN
TRES BON CLEANERS
197 FRANKLIN AVENUE

Drawn By: LC.	Checked By: SCO	Date: 8/22/98

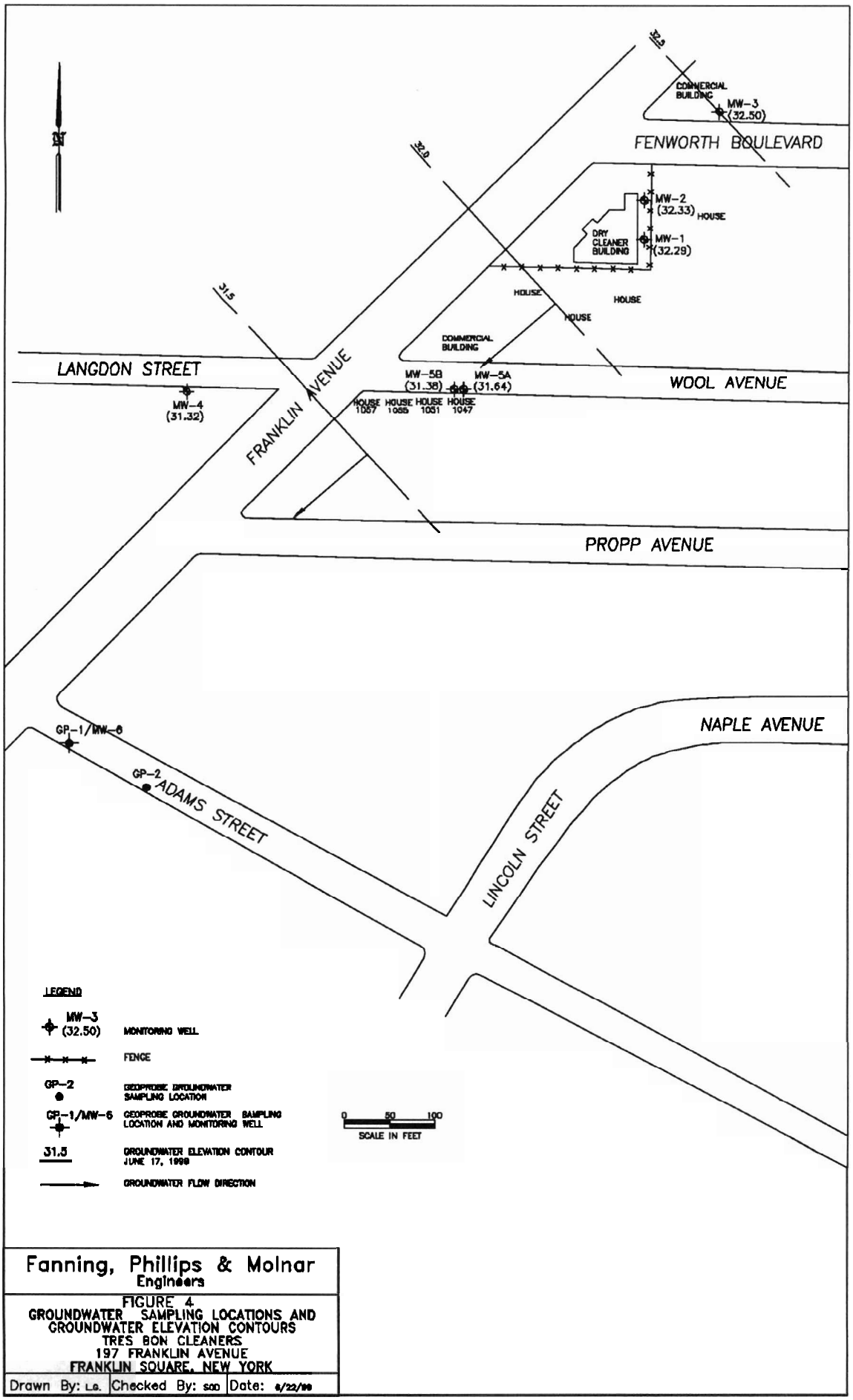

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FIGURE 4
GROUNDWATER SAMPLING LOCATIONS AND GROUNDWATER ELEVATION CONTOURS
TRES BON CLEANERS
197 FRANKLIN AVENUE
FRANKLIN SQUARE, NEW YORK

Drawn By: L.G.	Checked By: SGD	Date: 6/22/99

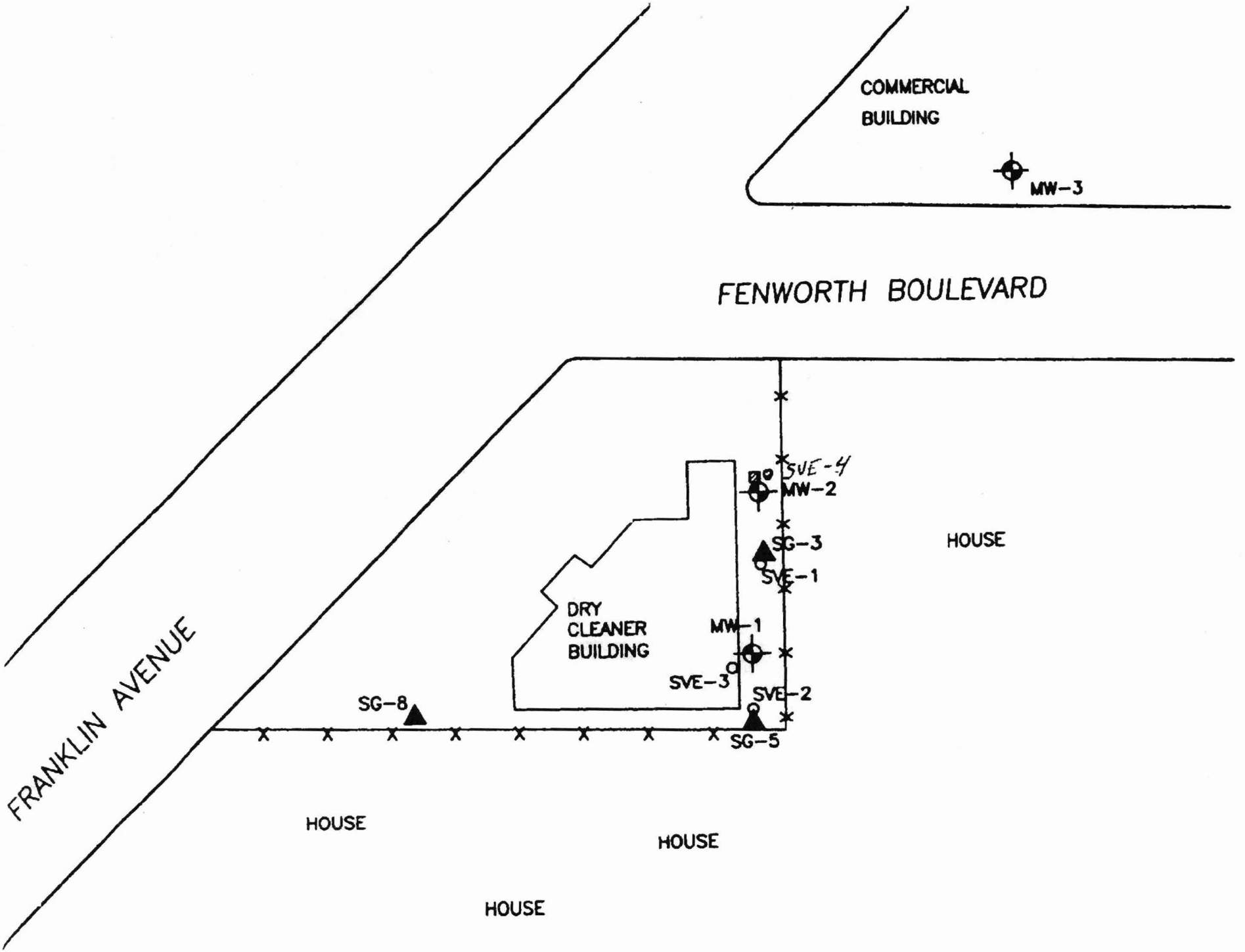
COMMERCIAL
BUILDING
MW-3
FENWORTH BOULEVARD
SVE-4
MW-2
HOUSE
SG-3
SVE-1
DRY
CLEANER
BUILDING
MW-1
SVE-3
SVE-2
SG-8
SG-5
FRANKLIN AVENUE
HOUSE
HOUSE
HOUSE
COMMERCIAL
BUILDING

FIGURE 5