DECLARATION STATEMENT - RECORD OF DECISION

"Tishcon Corporation Site at 30 - 36 New York Avenue and 31 - 33 Brooklyn Avenue"

Inactive Hazardous Waste Disposal Site
Westbury (V), North Hempstead (T),
New Cassel Industrial Area, Nassau County, New York
Site No. 1-30-043E
Operable Unit 01 - Source Removal

Statement of Purpose and Basis

This Record of Decision (ROD) presents the selected remedial action for the identified sources of volatile organic contamination to the underlying aquifer at the Tishcon Corporation Inactive Hazardous Waste Disposal Site at 30 - 36 New York Avenue and 31 - 33 Brooklyn Avenue. This ROD was chosen in accordance with the New York State Environmental Conservation Law (ECL). The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Tishcon E Inactive Hazardous Waste Site and upon public input to the November 1997 Proposed Remedial Action Plan (PRAP) presented to the public by the NYSDEC on December 4, 1997. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, presents a current threat to public health and the environment.

Description of Selected Remedy

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for the site and the criteria identified for evaluation of alternatives, the NYSDEC has determined the site should be remediated with an air sparging and soil vapor extraction system. The components of the remedy are as follows:

- The installation of soil vapor extraction wells capable of recovering the contaminants in the on site soils, and those volatized out of the underlying contaminated groundwater.

- The installation of air sparging wells to inject air into the contaminated on site shallow groundwater to prevent the additional migration of contaminants into the aquifer, and enhance the bioremediation of the on site soils.

- Implementation of institutional controls and recordation of deed restrictions to restrict the future use of groundwater at the site.

- The extent of the groundwater contamination associated with this site will be investigated further through a Focused Remedial Investigation and Feasibility Study for Operable Unit 02, the groundwater contamination.

- The inclusion of additional remedial measures for the soils beneath the outdoor floor and the abandoned storm drains if the final analytical data indicates that these soils contain volatile organic compounds above the goals identified in TAGM 4046.

- The soil vapor extraction and air sparge system will operate until the on-site soil and shallow groundwater meets SCGs, or the NYSDEC concludes that further operation of the system is not effective. If the system achieves an asymptotic condition and is no longer removing significant volumes of contaminants, it will be considered ineffective. An asymptotic condition is a quarterly decrease of ten percent or less of total volatile organic compounds during three consecutive quarterly sampling events.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health with respect to the identified on site source contamination.

Declaration

The selected remedy is protective of human health and the environment with respect to the identified on site source contamination, is designed to comply with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable, and satisfies the preference for remedies that reduce the toxicity, mobility, or volume of the wastes.

2/1/98
Date

Michael J. O'Toole, Jr., Director
Division of Environmental Remediation

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RECORD OF DECISION

"Tishcon Corporation Site at 30 - 36 New York and 31-33 Brooklyn Avenue" Site No. 1-30-043E Operable Unit 01 - Source Removal

Westbury (V), North Hempstead (T)
New Cassel Industrial Area, Nassau County, New York

January 1998

SECTION 1: SITE LOCATION AND DESCRIPTION

The site is located at 30 to 36 New York Avenue and 31 to 33 Brooklyn Avenue in the New Cassel Industrial Area (NCIA), in the town of North Hempstead, Nassau County. When the site was first designated on the New York State Inactive Hazardous Waste Disposal Site Registry, the site included the property located at 29 New York Avenue as well. However, this portion of the site has since been designated as a separate site. Please refer to Figures 1, 1A, and 2 for the location of the site.

This site is approximately 1.5 acres, and is almost entirely occupied by a single structure that is owned and operated by the Tishcon Corporation for the purposes of manufacturing vitamins, dietary supplements and soft gelatin capsules. Please refer to Figure 3. Tishcon owns and has operated their manufacturing operations at this facility from 1982 to the present.

The on site source contamination that would be treated by this remedial action plan has been designated as Operable Unit 01, and the groundwater contamination associated with this site has been designated as Operable Unit 02. This subdivision of the site contamination was done to expedite the remediation of the identified on site volatile organic compound contamination.

An operable unit represents a discrete portion of the remedy for a site which for technical or administrative reasons can be addressed separately to eliminate or mitigate a release, threat of release or exposure pathway resulting from the contamination present at the site. By remediating the on site soils and associated source contamination at this site as a separate unit, the source of the groundwater contamination can be remediated and the overall time it would take to remediate the site in its entirety can be shortened.

SECTION 2: SITE HISTORY

2.1 Operational/Disposal History

Tishcon has operated their manufacturing operations at this site from 1982 to the present. As part of their gelatin capsule manufacturing process at this facility, the Tishcon Corporation used 1,1,1

trichloroethane as a rinse to remove mineral oil from the gelatin capsules. This process was performed in a vented room with vapor emissions of 1,1,1 trichloroethane discharged through permitted stacks. The quantities of bulk 1,1,1 trichloroethane purchased for calendar years 1995, 1994, 1993, and 1992 as reported by the Tishcon Corporation were 22,016 gallons, 17,143 gallons, 16,755 gallons, and 16,665 gallons, respectively.

The buildings at the site were originally constructed in 1960. Plans on file at the Town of North Hempstead Building Department indicate that the original design included two on site cesspools for waste water disposal on the New York Avenue side of the facility. Please refer to Figure 3. These structures are presumed to be two of the six subsurface structures located on the New York Avenue side of the facility. This building was connected to the municipal sewer line below New York Avenue and these cesspools were abandoned in 1980, prior to Tishcon's occupancy of the building.

However, an additional cesspool was used below the parking lot on the Brooklyn Avenue side of the facility. This cesspool is identified as the out of service cesspool on Figure 3. This cesspool was reported to have been connected to an interior floor drain that was used for the washing of equipment. This cesspool was removed from service in November 1995, and the interior floor drain was connected to the sewer line beneath Brooklyn Avenue.

Sampling of the sediments of this cesspool in July 1995, detected high levels of 1,1 dichloroethene (DCE), 1,1 dichloroethane (DCA), and 1,1,1 trichloroethane (1,1,1 TCA). The results of this sampling are summarized in Table 1.

There also are two outdoor drains located at the facility, an outdoor floor drain and a sealed storm drain. Both are located on the Brooklyn Avenue side of the facility; the outdoor floor drain is in the alleyway intruding into the building and the sealed storm drain is in the parking lot. Please refer to Figure 3. According to historical records, both of these structures are documented to have received waste materials. The results of samples collected and analyzed from the storm drain sediments are also summarized in Table 1.

In the late spring of 1997, the Tishcon Corporation switched their gelatin capsule wash process to one that employs a petroleum based process which does not utilize 1,1,1 TCA. This process reuses the wash solvent in a closed system, and therefore has no vapor discharge to the atmosphere.

2.2 Remedial History

In 1988, the entire New Cassel Industrial Area, including this site, was listed in the New York State Inactive Hazardous Waste Disposal Site Registry (the Registry) as a Class 2 site due to the presence of high levels of volatile organic compounds (VOCs) in the groundwater. The Class 2 classification indicates that the site poses a significant threat to the public health or the environment and action to remediate the site is required.

In February, 1995, a Site Investigation Report for the New Cassel Industrial Area was completed by Lawler, Matusky, and Skelly Engineers under the New York State Superfund program. Based on this report, in March 1995, the majority of the New Cassel Industrial Area was removed from the registry. Concurrently, the Tishcon Site was one of several properties listed on the registry as an individual Class 2 site. This

Site Investigation Report is available for review at the document repositories.

When the site was listed as Class 2, it also included the property located at 29 New York Avenue. This portion of the site is in the process of being designated as a separate site in the Registry.

SECTION 3: CURRENT STATUS

The purpose of the Focused Remedial Investigation was to identify and delineate any soil contamination resulting from previous activities at the site, and to evaluate the condition of the groundwater underlying the site. The remedial investigation fieldwork was completed in August 1996. A report entitled Final Focused Remedial Investigation Report, Tishcon Corporation, 30 - 36 New York Avenue and 31 - 33 Brooklyn Avenue, and dated May 1997, was prepared by the PRP's engineering consultant describing these field activities and the findings of the remedial investigation in detail.

3.1 Summary of the Remedial Investigation

The remedial investigation activities included the following:

- a search of local agency and state files for information on past activities and construction at the site to identify and locate cesspools and other potential areas of contamination.
- The performance of a ground penetrating radar survey to locate known and unknown drainage structures at the facility.
- The collection and screening of soil gas from 10 separate points on the Brooklyn Avenue side of the facility.
- The collection of 32 soil samples from eleven geoprobe boreholes
- The sampling of the sediments from two on site drains.
- The sampling of an existing, on site monitoring well.
- The collection of six groundwater samples to assess groundwater quality underneath the site.
- The analysis of on site soil, sediment and groundwater samples for volatile organic compounds.
- The analysis of the on site monitoring well sample for volatile organics, semivolatile organics, and the reporting of any tentatively identified compounds.

Please refer to Figures 4, 5, and 6 for the locations of the soil gas, sediment, soil boring and groundwater samples collected during this remedial investigation. This work was performed by the PRP's consultant under the supervision of the NYSDEC.

To determine which media (soil, groundwater, etc.) contain contamination at levels of concern, the focused remedial investigation analytical data was compared to Standards, Criteria, and Guidelines (SCGs). Groundwater, drinking water and surface water SCGs identified for the Tishcon Site were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of the NYS Sanitary Code. NYSDEC TAGM 4046 soil cleanup guidelines for the protection of groundwater, background

conditions, and risk-based remediation criteria were used as SCGs for soil.

The results of the soil samples and sediment samples are summarized in Tables 2 and 3. The results of the groundwater sampling are summarized in Table 4. These tables also include the NYSDEC TAGM 4046 soil cleanup levels for comparison purposes.

3.1.1 Nature of Contamination:

The investigation found that on site soils, sediments and groundwater at this site were contaminated with volatile organic compounds, primarily 1,1,1 TCA. This is consistent with historical usage and past sampling at the site.

3.1.1.1 Nature of Soil and Sediment Contamination:

Three specific areas of the site have been identified with volatile organic soil contamination as follows:

- **Out of Service Cesspool Adjoining Brooklyn Avenue** - The soil below this structure has high levels of volatile organics extending from the bottom of the pool to at least 32 feet below grade (up to 220 parts per million (ppm) of 1,1,1 TCA).

- **Sealed Storm Drain Adjoining Brooklyn Avenue** - The soil beneath this structure contains moderate levels of volatile organics (up to 1.4 ppm of 1,1,1 TCA). The depth of this contamination is estimated to be 5 feet below the bottom of this drain.

- **Exterior Floor Drain Between 31 and 33 Brooklyn Avenue** - The soil beneath this structure contains elevated levels of TCA and its degradation products (up to 0.37 ppm of 1,1, dichloroethane and 0.49 ppm of 1,1,1 TCA). The depth of this contamination is estimated to be 5 feet below the bottom of this drain.

The full extent of the soil contamination, as determined by the FRI soil and sediment sampling, can be reviewed on Tables 2 and 3. Boring B-10 was advanced adjacent to the out of service cesspool to assess the soils below this structure. Boring SD-01 was advanced through the sealed storm drain to assess the sediments in this structure and the soils directly underneath the drain. Sample location FD-01 was collected from the sediments of the outdoor floor drain. Essentially, these samples found the soils under the identified drainage structures are contaminated to various depths with low to very high levels of 1,1,1 TCA; 1,1, DCE; and 1,1 DCA.

Additionally borings and samples were completed at other areas of concern on the site during the FRI fieldwork. These areas of concern included several undocumented drainage structures located by the ground penetrating radar survey. The two cesspools for waste water disposal on the New York Avenue side are presumed to be two of the seven structures found during the field work, in addition to the three known structures. All of the borings and structures are shown on Figure 4. All of the boring sample data is summarized in Tables 2 and 3.

The contamination associated with the out of service cesspool is of the greatest concern as this contamination is the greatest in magnitude and increases with depth until a silt lens is reached forty feet below this structure. The full extent of this lens, and its influence on contaminant migration will be determined as part of the remedial design for the source removal remedy. However, it

appears that this contamination extends down to the water table.

Due to the high levels of soil contamination, the Tishcon Corporation has submitted an abbreviated Feasibility Study and has proposed a remedial design for the implementation of a presumptive remedy for this site. A presumptive remedy is a remedial program that has been proven to work for specific contaminants and site conditions, and is clearly preferable to other possible alternatives. All of the soil contamination will be further delineated during the remedial design, prior to the operation of the treatment system.

3.1.1.2 Nature of On Site Groundwater Contamination

The Focused Remedial Investigation also collected information to assess the condition of the groundwater underlying the site. This work determined that the shallow groundwater beneath the site contained extremely high levels of volatile organics. Notably, 500 to 74,000 ppb of TCA, 58 to 1,500 ppb of 1,1 DCE, and 29 to 7,500 ppb of 1,1 DCA. This highly contaminated shallow groundwater is acting as a source of volatile organic contamination to the underlying aquifer.

As this investigation was intended to only assess the condition of the underlying groundwater, and not to define the complete nature and extent of the groundwater contamination, the data collected is insufficient to fully assess the extent of the groundwater contamination.

However, it is clear from the data collected that the on site soils are heavily contaminating the underlying shallow groundwater. The shallow groundwater contamination immediately down gradient of the abandoned cesspool is 5,000 ppb higher than any of the samples collected from the up gradient property line. This point, GW-4, contained 22,000 ppb of 1,1,1 TCA; 1,100 ppb of 1,1 DCA; and 620 ppb of 1,1 DCE.

Additionally, several tentatively identified compounds were detected in the semivolatile organic sample from the on site monitoring well, such as, caffeine, sulfur and various plant and animal oils and derivatives.

The results of the groundwater sampling conducted during the Focused Remedial Investigation is summarized on Table 4.

The extent and nature of this contamination will be determined through a Focused Remedial Investigation and Feasibility Study of the site groundwater, Operable Unit 02.

3.2 Interim Remedial Measures:

Based on the results of the Focused Remedial Investigation for the on site soils, the Tishcon Corporation conducted an Interim Remedial Measure (IRM) at the facility. An IRM is essentially an activity performed to eliminate, stabilize or control a specific aspect of a site. This IRM involved the removal of the sediments in the out of service cesspool, the exterior floor drain, and the sealed storm drain. Past sampling of the sediments in the out of service cesspool has found them to contain 170,000 ppm of 1,1,1 TCA; 4,100 ppm of 1,1, dichloroethylene, and 130 ppm 1,1 dichloroethane (1,1 DCA). Levels detected in the sediments of the sealed storm drain and the outdoor floor drain during the Focused Remedial Investigation included 1.4 ppm of TCA and 0.37 ppm of 1,1 DCA respectively.

Approximately four feet of soil was removed from the out of service cesspool. The depth of the excavation was determined in the field

visually with the intent to remove all of the more heavily contaminated sediments. A confirmatory sample was then collected at the excavation end point. The results of the sample are still pending, however, remedial measures, in addition to the completed IRM removal, will be needed for the soils beneath the out of service cesspool based on the Focused Remedial Investigation.

Seven feet and five feet of sediments have also been removed from the outdoor floor drain and the sealed storm drain respectively. Confirmatory samples for these structures were also collected, and the laboratory results are pending. The effectiveness of the removal for these source areas will be assessed once the results for these samples are returned by the laboratory. Preliminary data results indicate that the IRM completely addressed the contamination associated with the sealed storm drain, and the exterior floor drain. However, the complete analytical results for the IRM is not expected until February 1998. If the final analytical results show that the IRM did not completely remediate the contamination in these source areas to levels below the cleanup goals identified in TAGM 4046, additional remedial measures will be implemented.

The performance of the IRM was completed in November, 1997 under the supervision of NYSDEC. The IRM performed for this site eliminated the contamination associated with the sediments at the site by excavating this material and shipping it to a permitted off site treatment and disposal facility.

3.3 Summary of Human Exposure Pathways

The primary pathway for human exposure for site related contaminants is through the ingestion of contaminated groundwater. However, this pathway is currently controlled by the presence of a public water supply with treatment for the surrounding communities.

All of the soil contamination is below the ground surface, as such, there are no current exposure pathways for the public to this contamination.

3.4 Summary of Environmental Exposure Pathways

The primary pathway for environmental exposure is through the migration of the contaminants in the on site sources into the underlying aquifer, and then through the aquifer. This groundwater contamination will be the focus of the future remedial investigation for Operable Unit 02.

SECTION 4: ENFORCEMENT STATUS

The Potential Responsible Party (PRP) for the site is:

Tishcon Corporation
30 New York Avenue
Westbury, New York 11590

The New York State Department of Environmental Conservation (NYSDEC) approached the potentially responsible party (PRP) and requested that they undertake a Focused Remedial Investigation and Feasibility Study (FRI/FS) for this site. The Tishcon Corporation agreed to undertake this work for a portion of the site, 30 to 36 New York Avenue and 31 to 33 Brooklyn Avenue. At that time, the site also included the 29 New York Avenue address.

The NYSDEC and the Tishcon Corporation Inc., (the site owner and operator), entered

into a Consent Order for this work on June 5, 1996, Index # W1-0758-95-05. The Order obligates the responsible party to implement a Focused Remedial Investigation and Feasibility Study, and any appropriate Interim Remedial Measures for the on site soils.

The Potentially Responsible Party implemented the Focused Remedial Investigation and Feasibility Study and Interim Remedial Measures at the site when requested by the NYSDEC.

SECTION 5: SUMMARY OF THE REMEDIAL GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6NYCRR 375-1.10. These goals are established under the guideline of meeting all standards, criteria, and guidelines (SCGs) and protecting human health and the environment.

The proposed remedy for any site should, at a minimum, eliminate or mitigate all significant threats to the public health or the environment presented by the hazardous waste present at the site through the proper application of scientific and engineering principles.

The remedial goals selected for this site are:

- Reduce, control, or eliminate the volatile organic contamination present within the identified soils on site.
- Provide for attainment of SCGs for on site soils.
- Eliminate the potential for direct human or animal contact with the contaminated soils on site.
- Eliminate, or control the threat to the aquifer by addressing contaminate source migration from the site.

SECTION 6: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy should be protective of human health and the environment, be cost effective, comply with statutory laws and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable.

A summary of the detailed analysis follows. As used in the following text, the time to implement reflects only the time required to implement the remedy, and does not include the time required to design the remedy, procure contracts for design and construction, or to negotiate with responsible parties for implementation of the remedy.

6.1 Description of Alternatives

The potential remedies are intended to achieve the established remedial goals for the identified volatile organic contaminate source, Operable Unit 01.

The remedies considered are summarized below. A fourth alternative, a soil vapor extraction system was considered, but not evaluated in detail. This system by itself would not be capable of achieving the remedial goal to eliminate, or control the ongoing migration of contaminants into the underlying aquifer.

All of the cost estimates for these alternatives were made by the NYSDEC based on site information and Department experience. These estimates are only intended for comparative purposes.

Alternative 1- No Action with Long-Term Monitoring

Present Worth	$209,850
Capital Cost	$10,000
Annual O&M	$13,000
Time to Implement	30 Years

Under the No Action Alternative, the existing conditions of the site would remain unchanged. Long-term monitoring would consist of periodic site inspection and sampling of on site soils and groundwater for volatile organic compounds (VOCs).

The no action alternative is evaluated as a procedural requirement and as a basis for comparison. It requires continued monitoring only, allowing the site to remain in an unremediated state. The capital cost of $10,000 is for the development of a site inspection and monitoring plan.

Alternative 2: Soil Vapor Extraction and Air Sparging

Present Worth:	$ 109,000
Capital Cost:	$ 60,000
Annual O&M:	$ 18,000
Time to Implement	12 - 24 months

As envisioned, the soil vapor extraction and air sparging (SVE/AS) system would consist of three air sparge points and four soil vapor extraction points. The exact number of points and their locations would be finalized during the remedial design, if this alternative was selected as the remedy. Please refer to Figure 7 for the conceptual design of this alternative.

The SVE system would remediate the volatile organic contamination in the on site unsaturated soils. The contamination in these soils would volatize into the increased air flow through the soil and then be captured by the SVE system.

The extracted air and VOCs collected by the SVE system would then be passed through a treatment system to remove the volatile organic compounds to permitted levels before discharge to the atmosphere. This discharge would be monitored periodically to assure the system is operating properly.

Each sparge point would inject air into the groundwater to volatilize the contaminants of concern out of the shallow groundwater beneath the abandoned cesspool and to introduce a source of oxygen to enhance bioremediation of the contaminants. These points would prevent the migration of additional contaminants from the on site contaminate source into the underlying aquifer. The volatized contaminants would then be captured by the soil vapor extraction (SVE) system. Additionally, monitoring wells would be sampled on a quarterly basis for VOCs.

The system will operate until the on-site soil and shallow groundwater meets SCGs, or the NYSDEC concludes that further operation of the system is not effective. If the system achieves an asymptotic condition and is no longer removing significant volumes of contaminants, it will be considered ineffective. An asymptotic condition is a quarterly decrease of ten percent or less of total volatile organic compounds during three consecutive quarterly sampling events.

Once the operation of the remedy is considered complete, the site would continue to be monitored for at least four quarters to confirm the effectiveness of the remedy in preventing additional contamination from entering the underlying aquifer.

Alternative 3: Soil Vapor Extraction, with a Limited Pump and Treatment System

Present Worth:	$ 266,550
Capital Cost:	$ 128,000
Annual O&M:	$ 32,000
Time to Implement	3 to 5 years

A soil vapor extraction system would be installed to remediate the on site soils contaminated with volatile organic compounds. This system would be similar to the one described in Alternative 2. As noted there, the exact number of points and their locations would be determined during the remedial design, if this alternative was selected as the remedy. Please refer to Figure 8 for the conceptual design of this alternative.

The limited pump and treat system would consist of 3 pumping wells installed in a line parallel to the groundwater flow direction within the contaminated shallow groundwater at the site. The exact number and locations of these wells would be determined during the remedial design, if this alternative was selected as the remedy. These points would prevent the migration of additional contaminants from the on site contaminate source into the underlying aquifer.

These wells would be used to extract the on site groundwater, and this groundwater would then pass through an on site treatment system. This system would likely be an air stripper or activated carbon filter. The treatment system would remove the contaminants out of the groundwater. The treated groundwater would then be returned by an injection well or an infiltration gallery. The recovered contaminants would then either be destroyed or recycled at an off site location. The system would be inspected weekly to assure the system was operating properly.

The system will operate until the on-site soil and shallow groundwater meets SCGs, or the NYSDEC concludes that further operation of the system is not effective. If the system achieves an asymptotic condition and is no longer removing significant volumes of contaminants, it will be considered ineffective. An asymptotic condition is a quarterly decrease of ten percent or less of total volatile organic compounds during three consecutive quarterly sampling events.

Once the operation of the remedy is considered complete, the site would continue to be monitored for at least four quarters to confirm the effectiveness of the remedy in preventing additional contamination from entering the underlying aquifer.

6.2 Evaluation of Remedial Alternatives

The criteria used to compare the remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste disposal sites in New York State (6NYCRR Part 375). For each of the criteria, a brief description is provided followed by an evaluation of the alternatives against that criterion.

The first two evaluation criteria are termed threshold criteria and must be satisfied in order for an alternative to be considered for selection.

1. Compliance with New York State Standards, Criteria, and Guidelines (SCGs). Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidelines.

The no action alternative is unacceptable as the on-site contaminate source would continue to exceed New York State SCGs. This source would also continue to impact

the underlying aquifer and greatly hamper the achievement of SCGs for the aquifer.

Alternatives 2 and 3 should achieve compliance with all SCGs for the on site contaminate source and eliminate or control any additional impacts to the quality of the underlying aquifer.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of the health and environmental impacts to assess whether each alternative is protective.

The no action alternative would not be protective of the environment and human health as the potential to be exposed to on site soils with volatile organic contamination would remain, and the continued migration of the contaminants in these soils and the on site shallow groundwater into the underlying aquifer would continue unmitigated.

Alternatives 2 and 3 would be protective of human health and the environment with respect to the on site contamination source, and would eliminate or control the current migration of these contaminants into the underlying aquifer.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the local community, the on site workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

The no action alternative would create no additional adverse impacts upon the community, the workers, and the environment during its construction and/or implementation.

The construction of Alternatives 2 and 3 would not create any adverse impacts upon the on-site workers, the environment or the local community. Additionally, health and safety procedures would be implemented to mitigate any situations that may potentially arise and pose a risk to the public health. It is anticipated that Alternative 2, the SVE/AS system, would remediate the site in 12 to 24 months. The limited pump and treat system would take longer, an estimated 3 to 5 years, due to this system's lower contaminant removal efficiency.

The difference in this efficiency is primarily due to the location of the contaminate source in the on site soils and the underlying shallow groundwater. Since the contaminate source in the shallow groundwater is being added to by the overlying contaminated soils, the pump and treat system would need to not only remove the currently contaminated shallow groundwater, but additional groundwater that becomes contaminated over the course of the remedial program.

These extra volumes of groundwater that will need to be withdrawn greatly decrease this system's efficiency. Especially as the levels of contaminates in these extra volumes of groundwater would decrease, necessitating the withdrawal of ever increasing volumes to remove the same mass of contaminates.

An air sparging system would remove the contamination from an air volume passed through this zone of contamination. Due to the properties of the contaminants, they would be drawn into and concentrated in this air volume. Thus less volumes would need to be treated. The concentrated air volume would also be physically easier to process and treat.

Additionally, since this contamination source is in the shallow groundwater, the rate of

water and contaminate withdrawal of a pump and treat system would have to be limited in order to prevent the lowering of the water table. Such a lowering of the water table would result in the system drawing in less contaminated water for treatment. As such, the system could only treat a small volume of contamination at a time, in comparison to an air sparge system which would have no such volume limitation.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the controls intended to limit the risk, and 3) the reliability of these controls.

The no action alternative would not be effective in the long term. The on site contamination would be expected to remain above standards for several years. This alternative would not reduce the present risks from the site, nor would it reduce the future risks in a reasonable time. Additionally, there would be no control or reliability associated with this approach's reduction of the future risks.

Alternatives 2 and 3 represent permanent remedies for the on site soils and associated source contamination as they would permanently remove the contamination from the on site source. As such, they both would be effective in the long term for the site.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

The no action alternative would not reduce the toxicity, mobility or volume of the wastes.

Alternatives 2 and 3 would permanently reduce the mobility, toxicity and volume of the wastes by recovering and actively treating the contaminants.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy, and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc.

All of the alternatives are implementable. The material and personnel necessary for each alternative should be readily available at reasonable costs in this region. The only technical difficulty would be in the siting of the reinjection wells or infiltration gallery that would be necessary for the groundwater removed and treated by Alternative 3.

7. Cost. Capital, and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. The present worth for these alternatives was determined using a five percent discount rate. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision.

The no action alternative would be the costliest alternative due to the 30 year length of time for sampling that would need to be performed as part of the monitoring program.

Alternative 3 is similar in cost to the no action alternative due to much higher capital and operational costs, even though it is scheduled to operate for only 5 years.

Alternative 2 is less than half the cost of either the no action alternative and Alternative 3 due to lower capital and maintenance costs, and a shorter time of operation and maintenance.

This final criterion is considered a modifying criterion and is taken into account after evaluating those above. It is focused upon after public comments on the Proposed Remedial Action Plan have been received.

8. Community Assessment Concerns of the public regarding the PRAP were evaluated. These concerns include those expressed during the December 1997 public meeting and those received during the related public comment period. A "Responsiveness Summary" describing these concerns and detailing how the Department has or will address these concerns is attached as Appendix A. The selected remedy is identical to the one specified in the PRAP and presented to the public at the December 1997 public meeting. In general, the public comments received were supportive of the selected remedy.

SECTION 7: SUMMARY OF THE SELECTED REMEDY

Based upon the results of the Focused Remedial Investigation/Feasibility Study and the additional investigations that have been performed at the site, the Potentially Responsible Party has proposed that a soil vapor extraction system in conjunction with an air sparging system be used to remediate the on site contaminate source of volatile organic compounds. The NYSDEC concurs with this remedy, and has selected Remedial Alternative 2, the SVE/AS system alternative, as the remedial action for the identified contaminate source of volatile organic compounds at this site.

Alternative 2 will remediate the contaminate source faster and more effectively in comparison to the other alternatives considered. This alternative will also achieve the other goals selected for this site, particularly the elimination, or control of the impact from this contaminate source to the aquifer beneath the site.

Alternative 1 was rejected since this alternative would not be protective of human health and the environment, and would not meet SCGs. Both the selected remedy and Alternative 3 satisfied these threshold criteria. They would also be equally effective in the long term, have no significant short term impacts, and would equally reduce the toxicity, mobility, and volume of the waste at the site. However, the selected remedy, Alternative 2, will be more easily implemented than Alterative 3 and will result in a faster remediation of the contaminate source.

The soil vapor extraction component of Alternatives 2 and 3, is a presumptive remedy and a proven technology that will eliminate or considerably reduce the level of contamination in the on site soils.

Treating the shallow groundwater beneath the contaminated soils will remove large additional amounts of contaminants and stop the continued migration of the contaminants into the underlying aquifer.

However, the selected air sparging remedy for the shallow groundwater contaminate source contained in Alternative 2 is currently

the most effective and practical technology available for remediation of a contaminated aquifer under these circumstances.

This is primarily due to the location of the contamination in the on site soils and the underlying shallow groundwater. Since the contaminate source in the shallow groundwater is being added to by the overlying contaminated soils, the pump and treat system alternative would need to not only remove the current contaminated groundwater, but additional groundwater that becomes contaminated over the course of the remedial program.

These extra volumes of groundwater that would need to be withdrawn greatly decrease this system's efficiency. Especially as the levels of contaminates in these extra volumes of groundwater would decrease, necessitating the withdrawal of ever increasing volumes to remove the same mass of contaminates.

An air sparging system will remove the contamination from an air volume passed through this zone of contamination. Due to the properties of the contaminants, they are drawn into and concentrated in this air volume. Thus less volumes will need to be treated. The concentrated air volume will also be physically and financially easier to process and treat.

This air sparging system will also have the added benefit of introducing a source of oxygen to enhance bioremediation of the contaminants in the overlying soils and in the shallow groundwater.

Since Alternative 2 will also satisfy the other criteria, including the threshold criteria and remedial goals, it is the selected alternative.

Preliminary estimates indicate that the remediation goals could be reached within two years by a soil vapor extraction and air sparging (SVE/AS) system. Although this is a reasonable estimate, the need for additional or continued remedial action will be re-evaluated annually.

The elements of the selected remedy (Alternative 2) are as follows:

1. The installation of soil vapor extraction wells capable of recovering the contaminants in the on site soils, and those volatized out of the underlying contaminated groundwater (see Figure 7).

2. The installation of air sparging wells to inject air into the contaminated on site shallow groundwater to prevent the additional migration of contaminants into the aquifer, and enhance the bioremediation of the on site soils and the shallow aquifer (see Figure 7).

3. Implementation of institutional controls and recordation of deed restrictions to restrict the future use of groundwater at the site.

4. The extent of the groundwater contamination associated with this site will be investigated further through a Focused Remedial Investigation and Feasibility Study for Operable Unit 02, the groundwater contamination.

5. The inclusion of additional remedial measures for the soils beneath the outdoor floor and the abandoned storm drain if the final analytical data indicates that these soils contain

volatile organic compounds above the goals identified in TAGM 4046.

6. The SVE/AS system will operate until the on-site soil and shallow groundwater meets SCGs, or the NYSDEC concludes that further operation of the system is not effective. If the system achieves an asymptotic condition and is no longer removing significant volumes of contaminants, it will be considered ineffective. An asymptotic condition is a quarterly decrease of ten percent or less of total volatile organic compounds during three consecutive quarterly sampling events.

SECTION 8: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the remediation process, a number of Citizen Participation (CP) activities were undertaken in an effort to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

- The following repositories for documents pertaining to the site were established:

  NYSDEC Central Office
  50 Wolf Rd. - Rm. 242
  Albany, NY 12233-7010
  Phone: (518) 457-1708
  Mon. To Fri.: 8:30 am to 4:45 pm

  NYSDEC Region 1
  SUNY Campus
  Loop Road, Building 40
  Stony Brook, NY 11790-2356
  Phone: (516) 444-0241
  Mon. To Fri.: 8:30 am to 4:45 pm

  New Cassel Environmental Justice Project
  847 Prospect Avenue
  New Cassel, N.Y. 11590
  Phone (516) 876-9526
  Mon. To Fri.: 10:30 am to 1:00 pm

  New Cassel/Westbury Youth Services Project
  817 Prospect Avenue
  New Cassel, NY 11590
  Phone (516) 333-9224
  Mon. To Fri.: 10:30 am to 10:00 pm

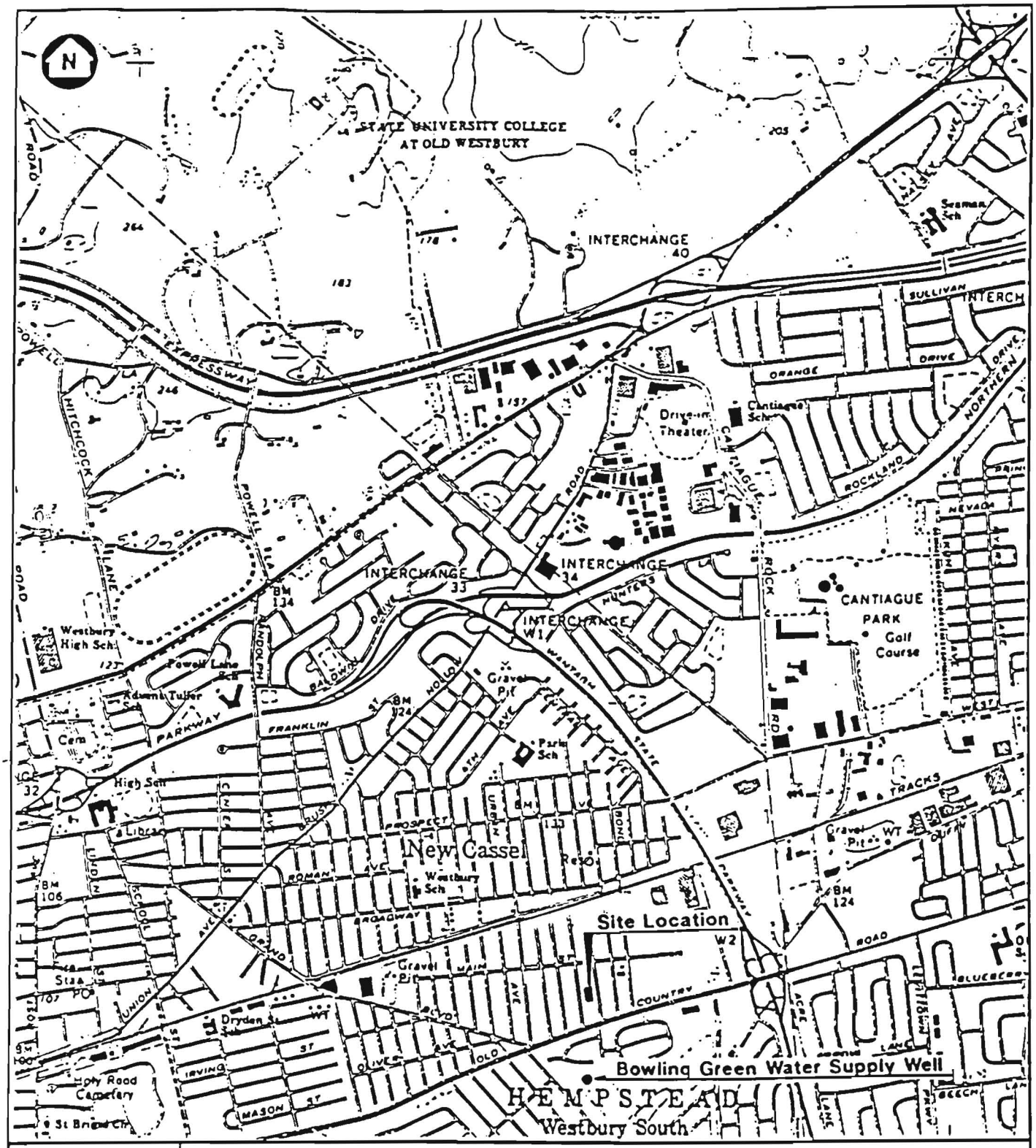
  Westbury Memorial Public Library
  445 Jefferson Street
  Westbury, NY 11590
  Phone (516) 333-0176
  Mon. to Fri.: 9:30 am to 9:00 pm
  Sat.: 9:30 am to 5:30 pm
  Sun.: 1:00 pm to 5:00 pm

- A site mailing list was established which included nearby property owners, local political officials, local media and other interested parties.

- Fact sheets describing all aspects of the remediation of inactive hazardous waste disposal sites in the New Cassel Industrial Area, including the Tishcon site at New York and Brooklyn Avenues, were distributed to the public in August 1995, November 1995, May 1996, September 1996, April 1997 and November 1997.

- Public information meetings were held in January 1996, May 1996, October 1996, May 1997 and December 1997. DEC personnel were available to discuss all New Cassel Industrial Area sites, including the Tishcon site at New York and Brooklyn Avenues, at each meeting.

- In January of 1998 a Responsiveness Summary, included in this Record of Decision as Appendix A, was written to address questions raised by the public at the December 1997 public meeting and received by mail or telephone during the comment period for the Proposed Remedial Action Plan. In general, the public comments received were supportive of the selected remedy.



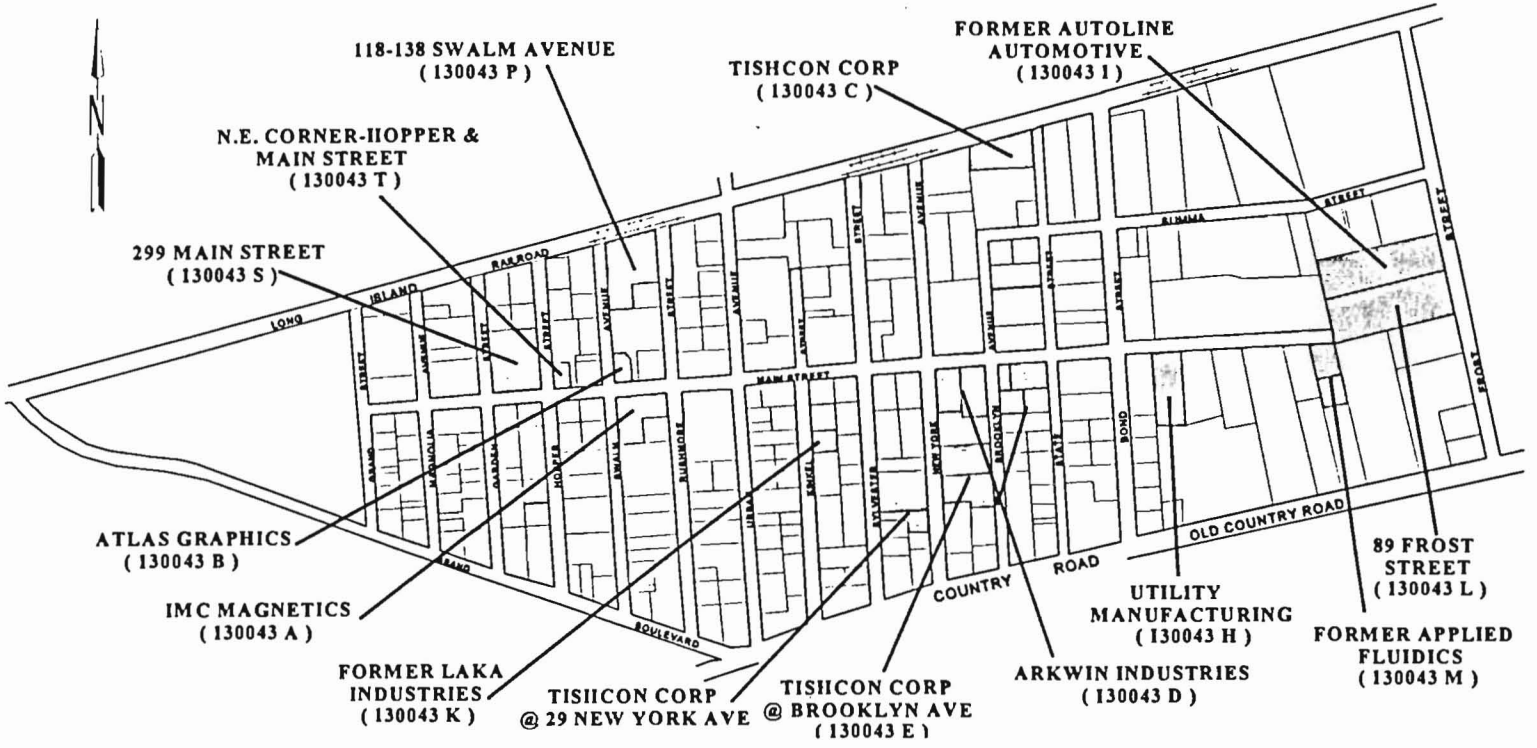
SOURCE: USGS 7.5 MINUTE SERIES QUADRANGLE; HICKSVILLE, NEW YORK, DATED 1967.

SITE NO.: 1-30-043F
LOCATION: TOWN OF NORTH HEMPSTEAD

FIGURE 1
SITE LOCATION MAP

SCALE IN FEET
0 2000 4000

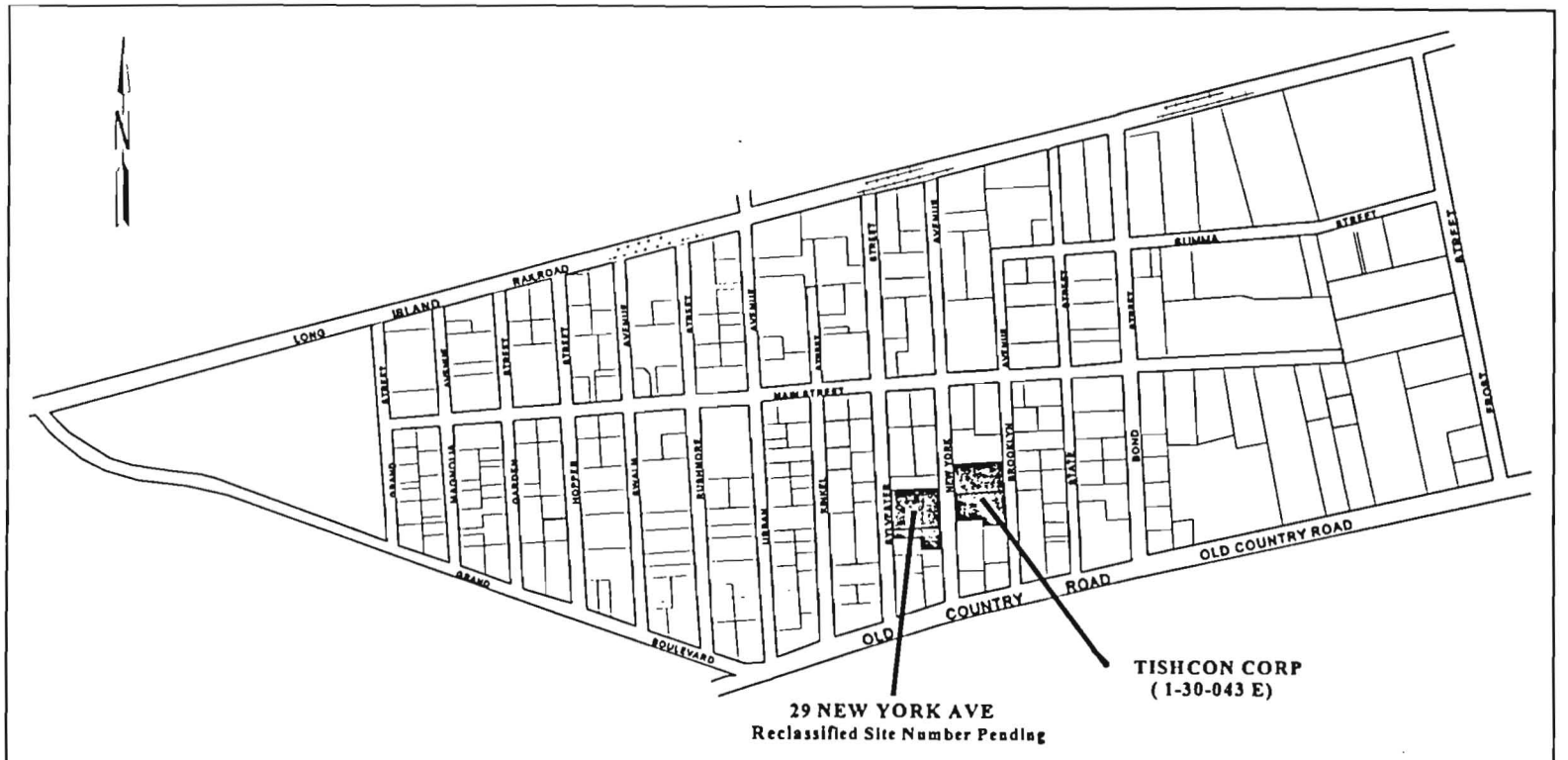
NYSDEC



NEW CASSEL INDUSTRIAL AREA

Class 2 Registry Sites
as of November 1997

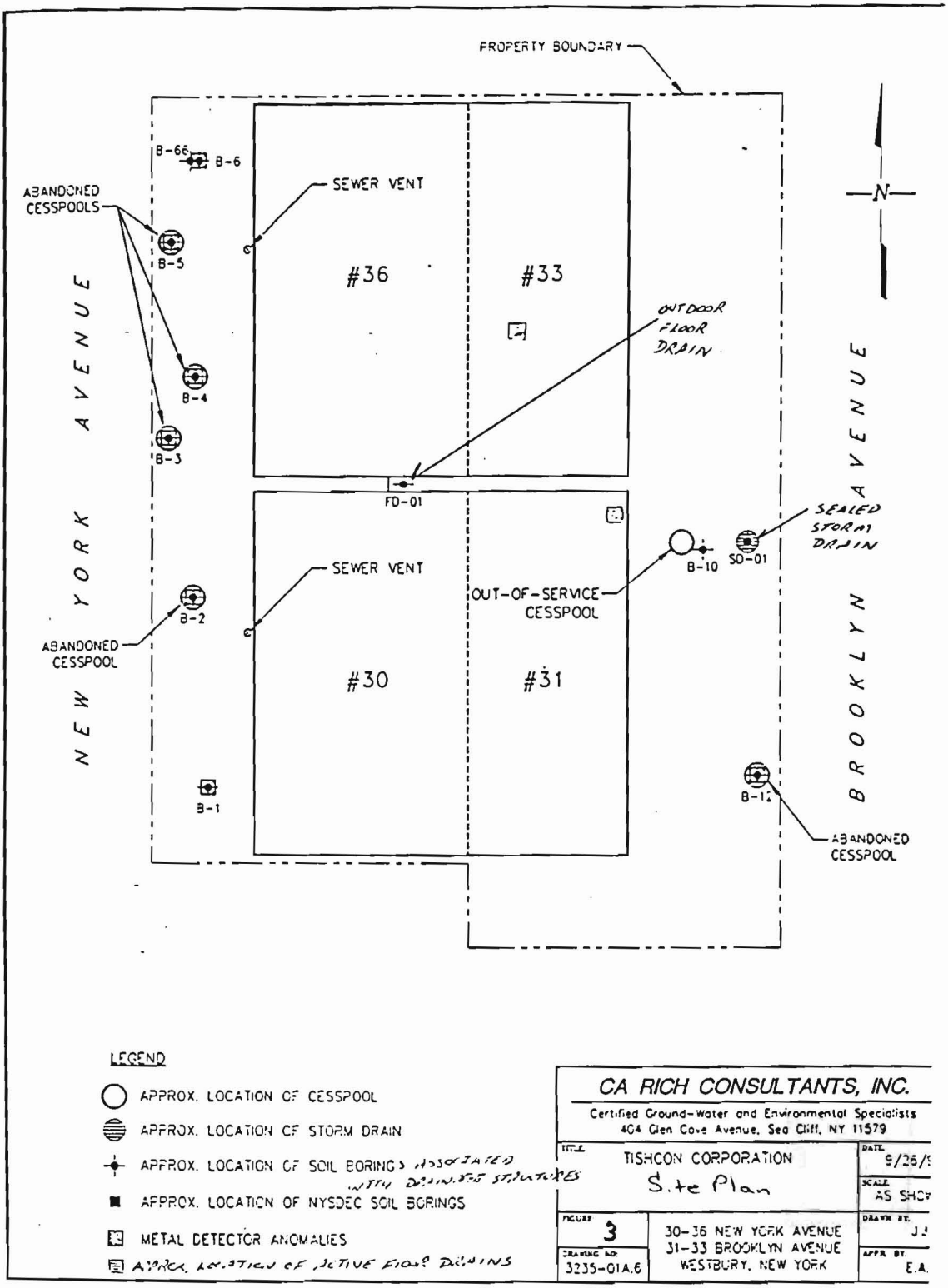
Figure 1A

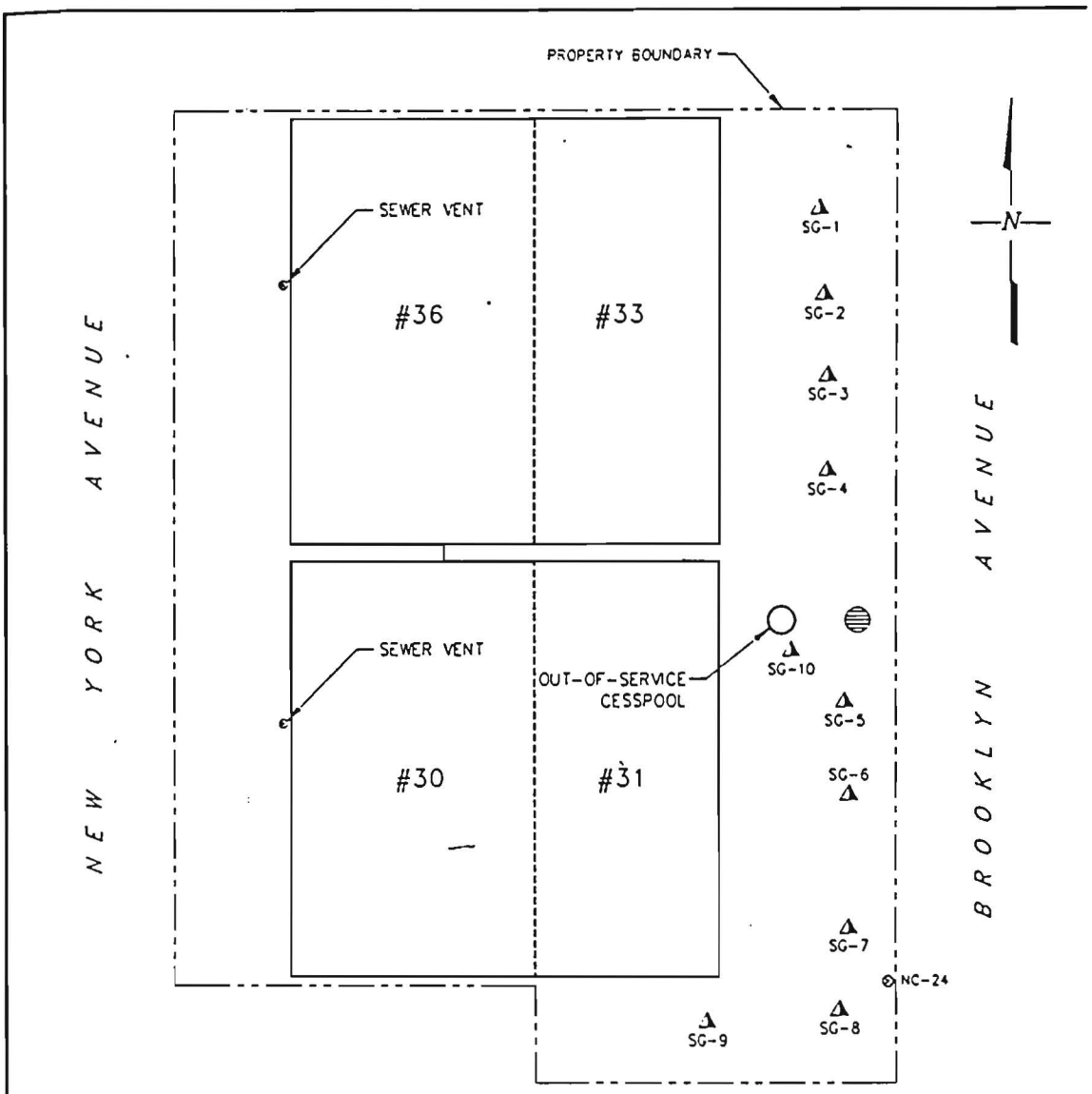


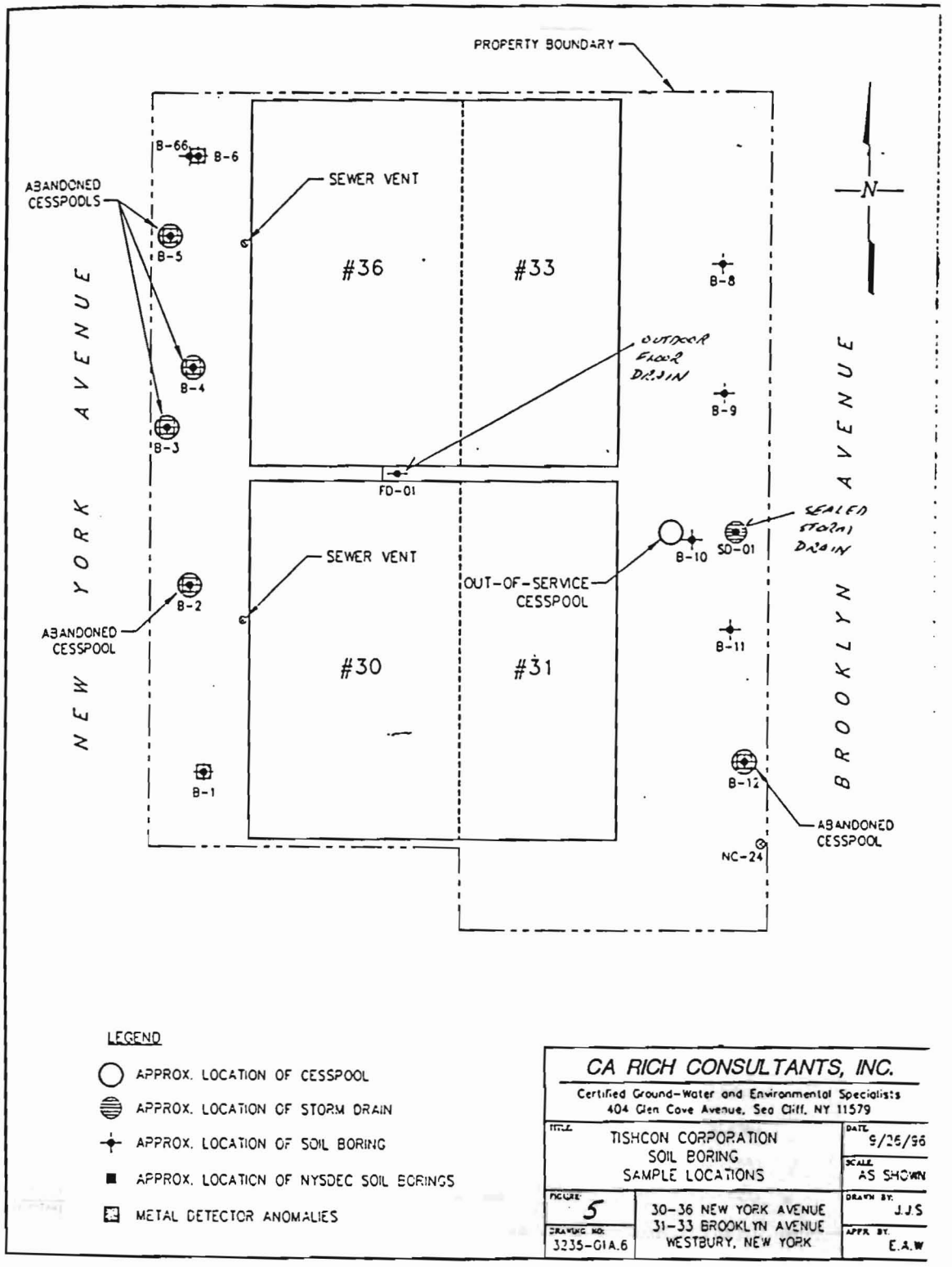
NEW CASSEL INDUSTRIAL AREA

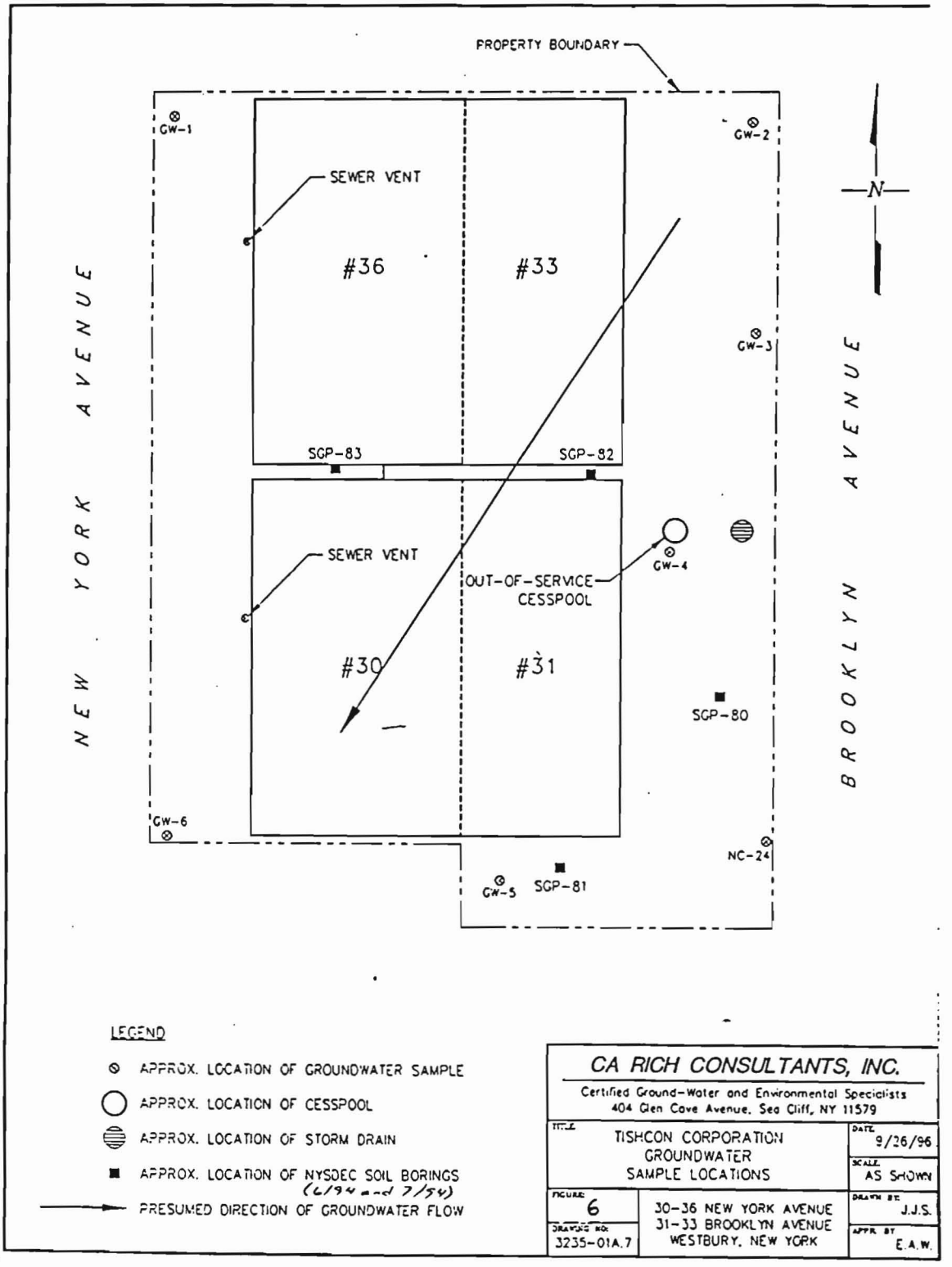
TISHCON CORP
INACTIVE HAZARDOUS WASTE SITE
30-36 NEW YORK AVE. 31-33 BROOKLYN AVE.

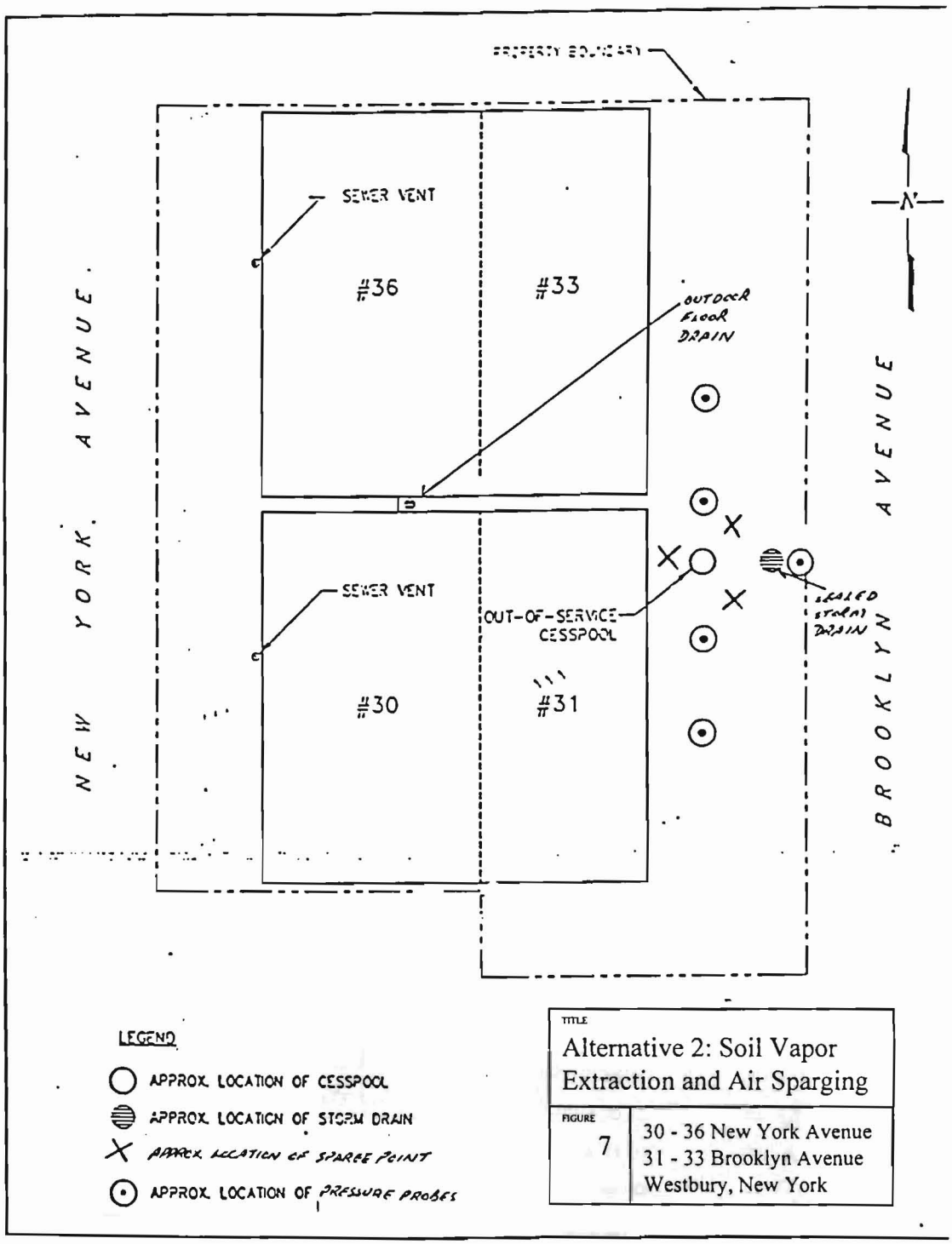
Figure 2


PROPERTY BOUNDARY
N
B-66
B-6
ABANDONED CESSPOOLS
B-5
B-4
B-3
SEWER VENT
#36
#33
OUTDOOR FLOOR DRAIN
FD-01
NEW YORK AVENUE
BROOKLYN AVENUE
SEALED STORM DRAIN
SD-01
B-10
SEWER VENT
OUT-OF-SERVICE CESSPOOL
B-2
ABANDONED CESSPOOL
#30
#31
B-1
B-12
ABANDONED CESSPOOL
LEGEND
APPROX. LOCATION OF CESSPOOL
APPROX. LOCATION OF STORM DRAIN
APPROX. LOCATION OF SOIL BORINGS ASSOCIATED WITH DRAINAGE STRUCTURES
APPROX. LOCATION OF NYSDEC SOIL BORINGS
METAL DETECTOR ANOMALIES
APPROX. LOCATION OF ACTIVE FLOOR DRAINS
CA RICH CONSULTANTS, INC.
Certified Ground-Water and Environmental Specialists
404 Glen Cove Avenue, Sea Cliff, NY 11579
TITLE
TISHCON CORPORATION
Site Plan
DATE
9/26/9
SCALE
AS SHO
FIGURE
3
DRAWING NO.
3235-01A.6
30-36 NEW YORK AVENUE
31-33 BROOKLYN AVENUE
WESTBURY, NEW YORK
DRAWN BY
J.J
APPR. BY
E.A.


PROPERTY BOUNDARY
SEWER VENT
#36
#33
SG-1
SG-2
SG-3
SG-4
N
NEW YORK AVENUE
BROOKLYN AVENUE
SEWER VENT
OUT-OF-SERVICE CESSPOOL
SG-10
SG-5
#30
#31
SG-6
SG-7
NC-24
SG-9
SG-8
LEGEND
APPROX. LOCATION OF CESSPOOL
APPROX. LOCATION OF STORM DRAIN
APPROX. LOCATION OF SOIL GAS BORING
APPROX. LOCATION OF NYSDEC SOIL BORINGS
CA RICH CONSULTANTS, INC.
Certified Ground-Water and Environmental Specialists
404 Glen Cove Avenue, Sea Cliff, NY 11579
TITLE: TISHCON CORPORATION SOIL GAS SAMPLE LOCATIONS
DATE: 9/26/96
SCALE: AS SHOWN
FIGURE: 4
30-36 NEW YORK AVENUE
31-33 BROOKLYN AVENUE
WESTBURY, NEW YORK
DRAWN BY: J.J.S.
DRAWING NO: 3235-01A.5
APPR. BY: E.A.W.


PROPERTY BOUNDARY
B-66
B-6
ABANDONED CESSPOOLS
SEWER VENT
B-5
#36
#33
B-8
N
NEW YORK AVENUE
B-4
OUTDOOR FLOOR DRAIN
B-9
B-3
FD-01
SEALED STORM DRAIN
SD-01
B-10
SEWER VENT
OUT-OF-SERVICE CESSPOOL
B-2
ABANDONED CESSPOOL
B-11
#30
#31
BROOKLYN AVENUE
B-1
B-12
ABANDONED CESSPOOL
NC-24
LEGEND
APPROX. LOCATION OF CESSPOOL
APPROX. LOCATION OF STORM DRAIN
APPROX. LOCATION OF SOIL BORING
APPROX. LOCATION OF NYSDEC SOIL BORINGS
METAL DETECTOR ANOMALIES
CA RICH CONSULTANTS, INC.
Certified Ground-Water and Environmental Specialists
404 Glen Cove Avenue, Sea Cliff, NY 11579
TITLE: TISHCON CORPORATION SOIL BORING SAMPLE LOCATIONS
DATE: 9/26/96
SCALE: AS SHOWN
FIGURE: 5
DRAWING NO: 3235-01A.6
30-36 NEW YORK AVENUE
31-33 BROOKLYN AVENUE
WESTBURY, NEW YORK
DRAWN BY: J.J.S
APPR. BY: E.A.W


PROPERTY BOUNDARY
GW-1
GW-2
GW-3
GW-4
GW-5
GW-6
NC-24
SEWER VENT
SEWER VENT
#36
#33
#30
#31
SGP-83
SGP-82
SGP-80
SGP-81
OUT-OF-SERVICE CESSPOOL
NEW YORK AVENUE
BROOKLYN AVENUE
N
LEGEND
APPROX. LOCATION OF GROUNDWATER SAMPLE
APPROX. LOCATION OF CESSPOOL
APPROX. LOCATION OF STORM DRAIN
APPROX. LOCATION OF NYSDEC SOIL BORINGS (6/94 and 7/54)
PRESUMED DIRECTION OF GROUNDWATER FLOW
CA RICH CONSULTANTS, INC.
Certified Ground-Water and Environmental Specialists
404 Glen Cove Avenue, Sea Cliff, NY 11579
TITLE: TISHCON CORPORATION GROUNDWATER SAMPLE LOCATIONS
DATE: 9/26/96
SCALE: AS SHOWN
FIGURE: 6
DRAWING NO: 3235-01A.7
30-36 NEW YORK AVENUE
31-33 BROOKLYN AVENUE
WESTBURY, NEW YORK
DRAWN BY: J.J.S.
APPR. BY: E.A.W.


PROPERTY BOUNDARY
SEWER VENT
#36
#33
OUTDOOR FLOOR DRAIN
SEWER VENT
#30
#31
OUT-OF-SERVICE CESSPOOL
SEALED STORM DRAIN
NEW YORK AVENUE
BROOKLYN AVENUE
N
LEGEND
APPROX. LOCATION OF CESSPOOL
APPROX. LOCATION OF STORM DRAIN
APPROX. LOCATION OF SPARGE POINT
APPROX. LOCATION OF PRESSURE PROBES
TITLE
Alternative 2: Soil Vapor Extraction and Air Sparging
FIGURE 7
30 - 36 New York Avenue
31 - 33 Brooklyn Avenue
Westbury, New York

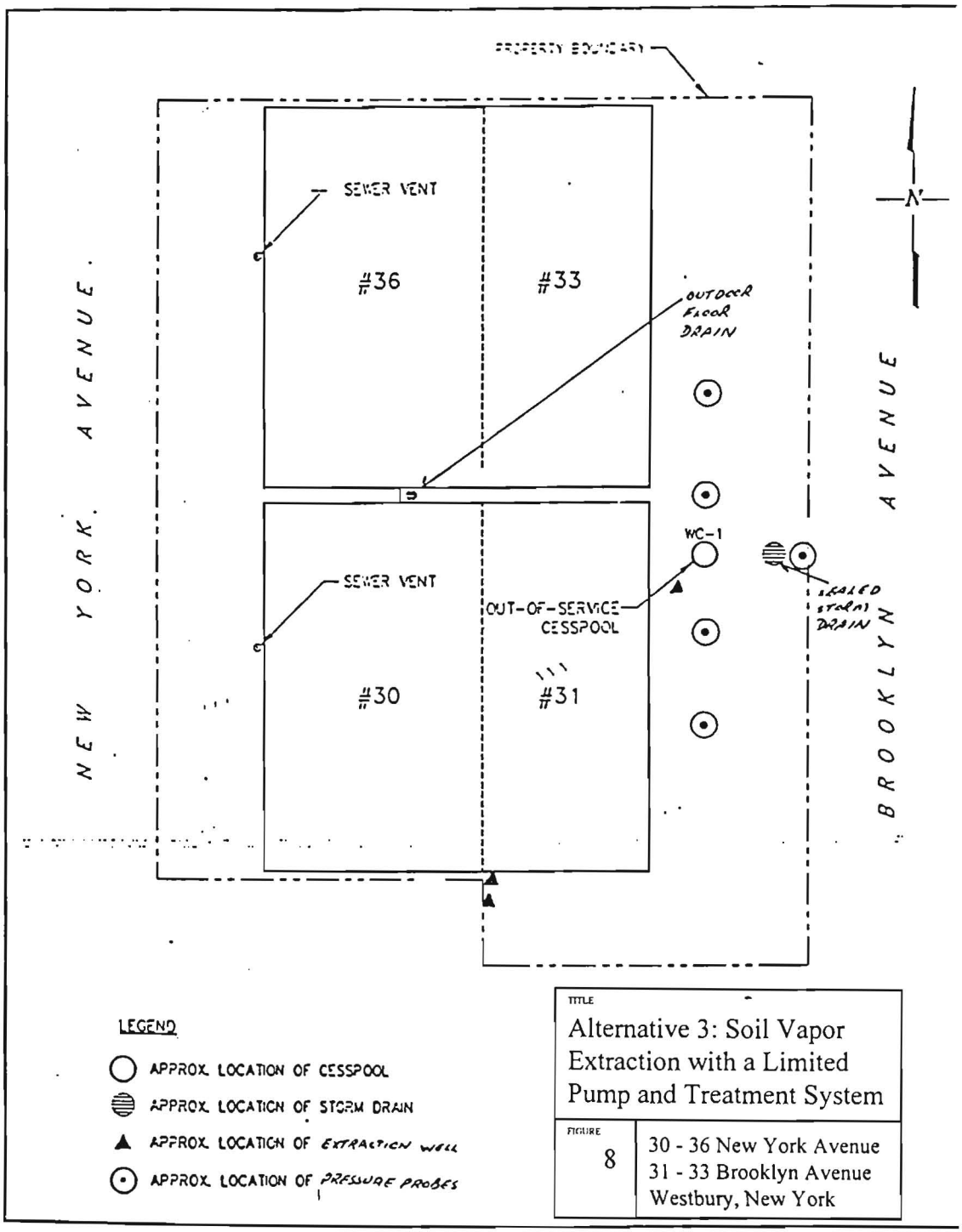

PROPERTY BOUNDARY
SEWER VENT
#36
#33
OUTDOOR FLOOR DRAIN
WC-1
SEALED STORM DRAIN
SEWER VENT
OUT-OF-SERVICE CESSPOOL
#30
#31
NEW YORK AVENUE
BROOKLYN AVENUE
N
LEGEND
APPROX. LOCATION OF CESSPOOL
APPROX. LOCATION OF STORM DRAIN
APPROX. LOCATION OF EXTRACTION WELL
APPROX. LOCATION OF PRESSURE PROBES
TITLE
Alternative 3: Soil Vapor Extraction with a Limited Pump and Treatment System
FIGURE
8
30 - 36 New York Avenue
31 - 33 Brooklyn Avenue
Westbury, New York

Table 1

Tishcon Corporation
Summary of Sample Analyses
30 - 36 New York Ave. and 31 - 33 Brooklyn Ave.
Westbury, New York

Location:	Dry Well in front of 33 Brooklyn Ave.	Dry Well in front of 33 Brooklyn Ave.	Cesspool in front of 33 Brooklyn Ave.	Cesspool in front of 33 Brooklyn Ave.	NYSDEC Soil Clean Up Objective
Media:	Soil	Liquid	Liquid	Soil	
Date:	05/30/91	06/04/91	08/06/94	07/19/95	
Sampled by:	NCDH	Tishcon	NCDPW	Tishcon	
Parameters					
Units (ppb)					
Halogenated Volatile Organics					
1,1, Dichloroethylene	280	ND	430	4,100,000	400
1,1 Dichloroethane	73	ND	ND	130,000	200
1,1,1 Trichloroethane	21,000	ND	1,484	170,000,000	800
Methylene Chloride	60	ND	NA	ND	100
Perchloroethene	ND	ND	664	ND	1,400
1,1,1,2 Tetrachloroethane	ND	ND	397	ND	None
1,1,2,2 Tetrachloroethane	ND	ND	184	ND	600

ND = Not Detected
NA = Not Analyzed

Table 2

Summary of Analytical Detections In Soil Samples
After Data Validation
Tishcon Corporation, 30-36 New York Avenue & 31-33 Brooklyn Avenue, Westbury, New York

Sample ID Depth (bls) Date Sampled	SD-01 (Bottom) 8/23/96	SD-01 (20-22) 8/23/96	SD-01 (30-32) 8/23/96	FD-01 Bottom 8/23/96	NYSDEC TAGM*
Volatile Organics (µg/Kg)					
(NYSDOH Method 91-1)					
Chloroethane	1300 U	10 U	10 U	62 U	1900
Methylene Chloride	1,300 U	10 U	10 U	62 U	100
Acetone	1300 U	10 U	10 U	210 J	200
1,1-Dichloroethene	1300 U	10 U	10 U	62 U	400
1,1-Dichloroethane	1300 U	10 U	10 U	370	200
1,2-Dichloroethene (total)	1300 U	10 U	10 U	62 U	NA
Chloroform	1300 U	10 U	10 U	62 U	300
1,2-Dichloroethane	1300 U	10 U	10 U	62 U	100
2-Butanone	1300 U	10 U	10 U	41 J	300
1,1,1-Trichloroethane	1400	10 U	10 U	490	800
Trichloroethene	1300 U	10 U	10 U	62 U	700
1,1,2-Trichloroethane	1300 U	10 U	10 U	62 U	NA
Tetrachloroethene	1300 U	10 U	10 U	62 U	1400
Toluene	1300 U	10 U	10 U	62 U	1500
Ethylbenzene	1300 U	10 U	10 U	62 U	5500
Xylene (total)	160 J	10 U	10 U	62 U	1200

U: compound not detected at or above detection limit. Number represents compound detection limit.
J: number represents estimated concentration (below reportable limits).
E: number represents concentration measured above highest calibration standard in undiluted sample. Sample reanalyzed at greater dilution.
D: number represents concentration as measured in diluted sample.
ug/Kg: micrograms per kilogram.
NA: no guideline is reported.
Concentration exceeds NYSDEC TAGM recommended soil cleanup objectives.

* *NYSDEC Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives an Cleanup Levels; 1-24-94.*

** *Compound detected above highest calibration standard in undiluted sample, not detected at or above detection limit in diluted sample.*

Prepared by CA RICH CONSULTANTS, INC.

Users\Nancy\Projects\Active\Tishcon\TishconTables/NYAve\TishconSoilP.4A.D.V.

Table 3

Summary of Analytical Detections In Soil Samples
After Data Validation
Tishcon Corporation, 30-36 New York Avenue & 31-33 Brooklyn Avenue, Westbury, New York

Sample ID	B-1	B-1	B-2	B-2	B-3	B-3	B-4	B-4	B-5	B-5	NYSDEC
Depth (bls)	(15-17)	(25-27)	(15-17)	(25-27)	(15-17)	(25-27)	(15-17)	(25-27)	(15-17)	(25-27)	TAGM*
Date Sampled	8/21/96	8/21/96	8/21/96	8/21/96	8/21/96	8/21/96	8/22/96	8/22/96	8/22/96	8/22/96	
Volatile Organics (µg/Kg) (NYSDOH Method 91-1)											
Chloroethane	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1900
Methylene Chloride	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	100
Acetone	12	9 J	12	12	6 J	7 J	11	15	7 J	10 U	200
1,1-Dichloroethene	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	400
1,1-Dichloroethane	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	200
1,2-Dichloroethene (total)	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA
Chloroform	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	300
1,2-Dichloroethane	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	100
2-Butanone	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	300
1,1,1-Trichloroethane	10 U	10 U	110	10 U	10 U	10 U	27	10 U	10 U	10 U	800
Trichloroethene	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	700
1,1,2-Trichloroethane	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA
Tetrachloroethene	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1400
Toluene	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1500
Ethylbenzene	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5500
Xylene (total)	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1200

U: compound not detected at or above detection limit. Number represents compound detection limit

J: number represents estimated concentration (below reportable limits).

E: number represents concentration measured above highest calibration standard in undiluted sample. Sample reanalyzed at greater dilution.

D: number represents concentration as measured in diluted sample.

ug/Kg: micrograms per kilogram.

NA: no guideline is reported.

Concentration exceeds NYSDEC TAGM recommended soil cleanup objectives.

* *NYSDEC Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives an Cleanup Levels; 1-24-94.*

** *Compound detected above highest calibration standard in undiluted sample, not detected at or above detection limit in diluted sample.*

Prepared by CA RICH CONSULTANTS, INC.

Users\Nancy\Projects\Active\Tishcon\TishconTables\NYAve\TischconSoilA.D.V.

Table 3

Summary of Analytical Detections in Soil Samples
After Data Validation
Tishcon Corporation, 30-36 New York Avenue & 31-33 Brooklyn Avenue, Westbury, New York

Sample ID Depth (bls) Date Sampled	B-6 (15-17) 8/22/96	B-6 Dup (15-17) 8/22/96	B-6B (25-27) 8/22/96	B-8 (15-17) 8/22/96	B-8 (30-32) 8/22/96	B-9 (15-17) 8/22/96	B-9 (30-32) 8/22/96	TB-8/21	NYSDEC TAGM*
Volatile Organics (µg/Kg)									
(NYSDOH Method 91-1)									
Chloroethane	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	1900
Methylene Chloride	14 U	10 U	13 U	11 U	12 U	10 U	10 U	9 JB	100
Acetone	9 J	9 J	10 U	11 U	10 U	10 U	10 U	10 U	200
1,1-Dichloroethene	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	400
1,1-Dichloroethane	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	200
1,2-Dichloroethene (total)	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	NA
Chloroform	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	300
1,2-Dichloroethane	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	100
2-Butanone	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	300
1,1,1-Trichloroethane	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	800
Trichloroethene	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	700
1,1,2-Trichloroethane	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	NA
Tetrachloroethene	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	1400
Toluene	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	1500
Ethylbenzene	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	5500
Xylene (total)	10 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	1200

U: compound not detected at or above detection limit. Number represents compound detection limit.
J: number represents estimated concentration (below reportable limits).
E: number represents concentration measured above highest calibration standard in undiluted sample. Sample reanalyzed at greater dilution.
D: number represents concentration as measured in diluted sample.
ug/Kg: micrograms per kilogram.
NA: no guideline is reported.
Concentration exceeds NYSDEC TAGM recommended soil cleanup objectives.

* *NYSDEC Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives an Cleanup Levels; 1-24-94.*

** *Compound detected above highest calibration standard in undiluted sample, not detected at or above detection limit in diluted sample.*

Sample B-6 Dup (15-17) was analyzed by lab as B-7 (15-17).

Prepared by CA RICH CONSULTANTS, INC.

Users\Nancy\Projects\Active\Tischcon\TishconTables\NYAve\TishconSoilp 2A.D.V.

Table 3

Summary of Analytical Detections in Soil Samples
After Data Validation
Tishcon Corporation, 30-36 New York Avenue & 31-33 Brooklyn Avenue, Westbury, New

Sample ID	B-10	B-10 Dup	B-10	B-10	B-10	B-10	B-10	B-11	B-11	B-11	NYSDEC
Depth (bls)	(12.5-14.5)	(12.5-14.5)	(15-17)	(20-22)	(25-27)	(30-32)	(40-42)	(10-12)	(20-22)	(30-32)	TAGM*
Date Sampled	8/23/96	8/23/96	8/22/96	8/22/96	8/23/96	8/22/96	8/23/96	8/22/96	8/22/96	8/22/96	
Volatile Organics (µg/Kg) (NYSDOH Method 91-1)											
Chloroethane	11 U	11 U	10 U	10 U	10 U	10 J	58 U	10 U	10 U	11 U	1900
Methylene Chloride	30 U	11 U	10 U	10 U	10 U	10 UJ	58 U	10 U	10 U	11 U	100
Acetone	13 J	11 U	10 U	10 J	12 J	94 J	360 J	16 J	10 U	9 J	200
1,1-Dichloroethene	11 U	11 U	10 U	130	10 U	2000 JD	58 U	10 U	10 U	11 U	400
1,1-Dichloroethane	5 J	11 U	10 U	28	10 U	190 J	58 U	10 U	10 U	11 U	200
1,2-Dichloroethene (total)	11 U	11 U	10 U	10 U	10 U	10 J	58 U	10 U	10 U	11 U	NA
Chloroform	11 U	11 U	10 U	10 U	10 U	10 J	58 U	10 U	10 U	11 U	300
1,2-Dichloroethane	4 J	11 U	10 U	13	10 U	69 J	58 U	10 U	10 U	11 U	100
2-Butanone	11 U	11 U	10 U	10 U	10 U	180 J	510	10 U	10 U	11 U	300
1,1,1-Trichloroethane	1800 D	9 J	5 J	39000 D	16	220000 D	58 U	10 U	10 U	11 U	800
Trichloroethene	11 U	11 U	10 U	6 J	10 U	170 J	58 U	10 U	10 U	11 U	700
1,1,2-Trichloroethane	11 U	11 U	10 U	10 U	10 U	10 UJ	58 U	10 U	10 U	11 U	NA
Tetrachloroethene	11 U	11 U	10 U	10 U	10 U	24 J	58 U	10 U	10 U	11 U	1400
Toluene	11 U	11 U	10 U	3 J	10 U	98 J	58 U	10 U	10 U	11 U	1500
Ethylbenzene	11 U	11 U	10 U	4 J	10 U	220 EJ**	58 U	10 U	10 U	11 U	5500
Xylene (total)	11 U	11 U	10 U	11	10 U	1200 EJ**	58 U	10 U	10 U	11 U	1200

U: compound not detected at or above detection limit. Number represents compound detection limit.
J: number represents estimated concentration (below reportable limits).
E: number represents concentration measured above highest calibration standard in undiluted sample. Sample reanalyzed at greater dilution.
D: number represents concentration as measured in diluted sample.
ug/Kg: micrograms per kilogram.
NA: no guideline is reported.
Concentration exceeds NYSDEC TAGM recommended soil cleanup objectives.

** NYSDEC Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives an Cleanup Levels; 1-24-94.*

*** Compound detected above highest calibration standard in undiluted sample, not detected at or above detection limit in diluted sample.*

Sample B-10 Dup (12.5-14.5) was analyzed by lab as B-15 (12.5-14.5).

Prepared by CA RICH CONSULTANTS, INC.

Users\Nancy\Projects\Active\Tishcon\TishconTables/NYAve\TishconSoilp3A.D.V.

Table 3

Summary of Analytical Detections In Soil Samples
After Data Validation
Tishcon Corporation, 30-36 New York Avenue & 31-33 Brooklyn Avenue, Westbury, New York

Sample ID Depth (bls) Date Sampled	B-12 (10-13) 8/23/96	B-12 (20-22) 8/23/96	B-12 (30-32) 8/23/96	NYSDEC TAGM*
Volatile Organics (µg/Kg) **(NYSDOH Method 91-1)**				
Chloroethane	10 U	10 U	10 U	1900
Methylene Chloride	10 U	10 U	10 U	100
Acetone	12 J	10 U	18 J	200
1,1-Dichloroethene	10 U	10 U	10 U	400
1,1-Dichloroethane	10 U	10 U	10 U	200
1,2-Dichloroethene (total)	10 U	10 U	10 U	NA
Chloroform	10 U	10 U	10 U	300
1,2-Dichloroethane	10 U	10 U	10 U	100
2-Butanone	10 U	10 U	10 U	300
1,1,1-Trichloroethane	10 U	10 U	10 U	800
Trichloroethene	10 U	10 U	10 U	700
1,1,2-Trichloroethane	10 U	10 U	10 U	NA
Tetrachloroethene	10 U	10 U	10 U	1400
Toluene	10 U	10 U	10 U	1500
Ethylbenzene	10 U	10 U	10 U	5500
Xylene (total)	10 U	10 U	10 U	1200

U: compound not detected at or above detection limit. Number represents compound detection limit.
J: number represents estimated concentration (below reportable limits).
E: number represents concentration measured above highest calibration standard in undiluted sample. Sample reanalyzed at greater dilution.
D: number represents concentration as measured in diluted sample.
ug/Kg: micrograms per kilogram.
NA: no guideline is reported.
Concentration exceeds NYSDEC TAGM recommended soil cleanup objectives.

* *NYSDEC Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives an Cleanup Levels; 1-24-94.*

** *Compound detected above highest calibration standard in undiluted sample, not detected at or above detection limit in diluted sample.*

Prepared by CA RICH CONSULTANTS, INC.

Users\Nancy\Projects\Active\Tishcon\TishconTables\NYAve\TishconSoilP.4A.D.V.

Table 4

Summary of Analytical Detections in Groundwater Samples
After Data Validation
Tishcon Corporation, 30-36 New York Avenue & 31-33 Brooklyn Avenue
Westbury, New York

Sample ID	GW-1	GW-2	GW-3	GW-4	GW-4Dup	GW-5	GW-6	NC-24	FB-8/21	TB-8/20	NYSDEC
Date Sampled	8/20/96	8/20/96	8/20/96	8/20/96	8/20/96	8/20/96	8/20/96	8/20/96	8/20/96	8/20/96	TOGS*
Volatile Organics (µg/Kg) (NYSDOH Method 91-1)											
Chloroethane	10 U	10 U	27	78	73	16	10 U	370 E**	10 U	10 U	5
Methylene Chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	14 U	2 J	2 J	5
Acetone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50
Carbon Disulfide	10 U	10 U	10 U	10 U	10 U	10 U	10 U	4 J	10 U	10 U	NA
1,1-Dichloroethene	520 D	58	360 JD	520 JD	620 JD	510 D	100	1500 JD	10 U	10 U	5
1,1-Dichloroethane	510 D	29	550 JD	1100 JD	1100 JD	550 D	44	7500 D	10 U	10 U	5
1,2-Dichloroethene (total)	36	26	2 J	3 J	3 J	4 J	17	10 U	10 U	10 U	cis & trans 5 ea.
Chloroform	3 J	10 U	10 U	10 U	10 U	10 U	10 U	2 J	10 U	10 U	7
1,2-Dichloroethane	7 J	10 U	10 U	10 U	10 U	10 U	10 U	30	10 U	10 U	5
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA
1,1,1-Trichloroethane	2600 D	470 D	17000 D	22000 D	23000 D	4000 D	870 D	74000 D	10 U	10 U	5
Trichloroethene	200	32	7 J	5 J	4 J	20	37	10 U	10 U	10 U	5
1,1,2-Trichloroethane	9 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5
Tetrachloroethene	86	130	13	18	18	38	120	5 J	10 U	10 U	5
Toluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5
Xylene (total)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5 ea. isomer indiv.

U: compound not detected at or above detection limit. Number represents compound detection limit.
J: number represents estimated concentration (below reportable limits).
E: number represents concentration measured above highest calibratior standard in undiluted sample. Sample reanalyzed at greater dilution.
D: standard in undiluted sample. Sample reanalyzed at greater dilution.
ug/L: micrograms per liter.
NA: no guideline is reported.
Sample GW-4 Dup was analyzed by lab as GW-7.
: concentration exceeds NYSDEC TOGS levels.

* *NYSDEC Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values; 10-22-93*

** *Compound detected above highest calibration standard in undiluted sample, not detected at or above detection limit in diluted sample.*

Prepared by CA RICH CONSULTANTS, INC.

Users\Nancy\Projects\Active\Tishcon\TishconTables\WYAve\TishconGW-VOCsA.D.V.

APPENDIX A

Responsiveness Summary
Tishcon at New York And Brooklyn Avenue, Operable Unit 01
ID: (1-30-043E)
January 1998

This document summarizes the comments and questions received by the New York State Department of Environmental Conservation (NYSDEC) regarding the November 1997 Proposed Remedial Action Plan (PRAP) for Operable Unit 01 of the Tishcon Corporation Inactive Hazardous Waste Disposal Site, located at 30 to 36 New York Avenue and 31 to 33 Brooklyn Avenues in the New Cassel Industrial Area, the Town of Westbury, New York. A comment period from November 20 to December 22, 1997 was provided to receive comments from the public on this PRAP. A public meeting was also held on December 4, 1997 at the Dryden Street Elementary School to present the results of the Focused Remedial Investigation/Feasibility Study of the site and to discuss the PRAP.

The status of the site was also discussed during two previous public meetings in May 1997 and October 1996.

This responsiveness summary is comprised of verbal comments and questions voiced during the December 4, 1997 public meeting that were relevant to the investigation and remedy presented in the PRAP for this site. Several written comments were also received during the associated thirty day comment period from the Tishcon Corporation's engineering consultant in a letter dated December 16, 1997. A copy of this letter has been placed in the document repositories for the benefit of the interested public.

1. C: What will be involved in the groundwater investigation?

   R: The groundwater investigation will be focused on identifying the groundwater quality beneath and adjacent to the site. This will be determined by collecting analytical samples and quantifying physical qualities of the upper glacial aquifer. This data will be collected by geoprobe and the installation of monitoring wells. A work plan detailing this investigation will be prepared and placed in the public document repository.

2. C: What is the status of 29 New York Avenue?

   R: To simplify the investigation and remediation of the site, this portion of the site will be designated as a separate site. This process is underway and will be completed in the near future. The NYSDEC has been working for several months to reach an agreement with the potentially responsible parties for 29 New York Avenue. If no potentially responsible party is willing to undertake the work needed at the 29 New York Avenue address, it will be performed by the NYSDEC using monies from the state superfund.

4. C: We question the NYSDEC's association of caffeine, sulfur, and various plant and animal oils and derivatives found in the groundwater with Tishcon's operations. Tishcon does not use caffeine or sulfur in their operations and the terms various plant and animal oils are very general. We request copies of any supporting documentation linking these substances with the operations at Tishcon.

   R: The text in the PRAP (page 6), has been revised in the ROD to only indicate that these compounds were detected in the groundwater. Any connection with Tishcon's operations will be determined during the future groundwater investigation.

5. C: The section discussing the IRM should be in past tense, not future tense, as this work has been completed.

   R: As the work is now completed, the Record of Decision has been revised to indicate the work has now been completed. At the time of the issuance of the Proposed Remedial Action Plan, November 18, 1997, the work was still being performed.

6. C: What criteria will be used to turn off the remedial system?

   R:The text in the ROD has been modified to indicate that the SVE/AS system will operate until the on-site soil and shallow groundwater meets SCGs, or the NYSDEC concludes that further operation of the system is not effective. If the system achieves an asymptotic condition and is no longer removing significant volumes of contaminants, it will be considered ineffective. An asymptotic condition is a quarterly decrease of ten percent or less of total volatile organic compounds during three consecutive quarterly sampling events.

7. C: This (the text on pages 8 and 9) should be revised to state "The system will remain in operation until closure criteria developed in the Remedial Design Plans and approved by the NYSDEC are achieved."

   R: It is preferable to the NYSDEC to have the closure criteria defined in the Record of Decision for the benefit of the public. Please see the response to comment number six above.

8. C: One of the elements of the proposed remedy is a deed restriction. What is a deed restriction?

   R: A deed restriction, also called "covenant" or "restrictive covenant", is a land use control restricting the use of property and is included in the chain of title of the property and other land records to alert the public and subsequent purchasers about the restricted

use. The deed restriction is often recorded in a document entitled "Declaration of Covenants and Restrictions" and is filed with the governmental agency responsible for keeping land records.

A Declaration of Covenants and Restrictions will be filed with the Office of the County Clerk in Nassau County on the Tishcon property indicating that the use of the groundwater at the site will be restricted due to groundwater contamination.

9. C: The PRAP states that a deed restriction is needed as part of the final remediation. There are no details of what the deed restriction covers. Please provide additional information regarding details of the restriction. Perhaps a "notification" to the deed would be sufficient to achieve the Department's goals.

R: The deed restriction is necessary to alert the public and subsequent purchasers that the groundwater is contaminated at the site and that its use is restricted because of the contamination.

Appendix B

Tishcon at New York And Brooklyn Avenue, Operable Unit 01
ID: (1-30-043E)
January 1998

ADMINISTRATIVE RECORD

1. New York State Superfund Contract, Site Investigation Report, New Cassel Industrial Area Site, Work Assignment No. D002676-2.2, Lawler Matusky & Skelly Engineers, February 1995.

2. Comprehensive Citizen Participation Plan, New Cassel Industrial Area Site, Site ID: 1-30-043 A-K, New York State Department of Environmental Conservation, November 1995.

3. Focused Remedial Investigation Work Plan, Sampling and Analysis Plan and Health and Safety Plan, Tishcon Corporation, 30-36 New York Avenue and 31-33 Brooklyn Avenue, CA Rich Consultants, November 1995.

4. New York State Superfund Contract, PSA Report, New Cassel Industrial Area Site, Work Assignment No. D002676-2.2, Lawler Matusky & Skelly Engineers, March 1996.

5. New York State Superfund Contract, Multisite PSA Task 4 Report, New Cassel Industrial Area Site, Work Assignment D002676-12B-1, Lawler Matusky & Skelly Engineers, March 1997.

6. Final Focused Remedial Investigation Report, Tishcon Corporation, 30-36 New York Avenue and 31-33 Brooklyn Avenue, CA Rich Consultants, May 1997.

7. Interim Remedial Measures Letter Report (Work Plan), Tishcon Corporation, 30 New York Avenue, CA Rich Consultants, September 1997.

8. Feasibility Study Letter Report, Tishcon Corporation, 30-36 New York Avenue and 31-33 Brooklyn Avenue, CA Rich Consultants, November 1997.

9. Proposed Remedial Action Plan, Tishcon Corporation Site at 30-36 New York Avenue and 31- 33 Brooklyn Avenue (1-30-043E), Operable Unit 01 - Source Removal, New York State Department of Environmental Conservation, November 1997.

APPENDIX C

Record of Decision Glossary
for the
Tishcon Corporation Inactive Hazardous Waste Disposal Site
at 30 - 36 New York Avenue and 31 - 33 Brooklyn Avenue

Operable Unit 01 - Source Removal

Ambient Water Quality Standards and Guidance Values -- These are the NYS standards and guidance values for the protection of water bodies.

Cesspools -- These are underground drainage structures, similar in construction to storm drains. They are often used to dispose of rainwater and/or sewage in areas where there is no public sewer system.

Citizen Participation -- A program of planning and activities to encourage communication among people affected by or interested in hazardous waste sites and the government agencies responsible for investigating and remediating them.

Citizen Participation Plan -- A document which must be developed at a site's Remedial Investigation stage. A CP Plan describes the citizen participation activities that will be conducted during a site's remedial process.

Class 2 site -- The NYSDEC assigns inactive hazardous waste sites to classifications established by state law, as follows:

Classification 1 -- a site causing or presenting an imminent danger of causing irreversible or irreparable damage to the public health or the environment, immediate action is required.

Classification 2 -- a site posing a significant threat to the public health or environment , action is required.

Classification 2a -- a temporary classification for a site known or suspected to contain hazardous waste. Most likely the site will require additional investigation and based on the results, the site would then be reclassified.

Classification 3 -- a site at which hazardous waste is confirmed but does not pose a significant threat to the public health or the environment, action may be deferred.

Classification 4 -- a site which has been properly closed, but will require continued management.

Classification 5 -- a site which has been properly closed with no evidence of present or potential adverse impact , no further action is required.

Consent Order -- A legal and enforceable agreement negotiated between NYSDEC and a responsible party. The order sets forth agreed upon terms by which a responsible party will undertake site investigation and/or cleanup, or pay for the costs of those activities. The order includes a description of the remedial actions to be taken by the responsible party with NYSDEC oversight, and a schedule for implementation.

Delist -- This is the action by which the NYSDEC removes a hazardous waste site from the Registry. This is done based on the determination that: the site contains inconsequential amounts of hazardous waste; or that a remediated site no longer requires operation and maintenance; or that a remediated site does not require operation and maintenance.

Down Gradient -- See up gradient.

Environmental Notice Bulletin -- This a trade paper that carries information on the environmental field, including legally required notices to the public for the reclassification of a hazardous waste site and other environmental related items.

Exposure Pathway -- This is the term for the pathway that a contaminant could use to migrate from a source to an existing or potential point of contact with the public. For example, the oil slick from a spill could be an exposure pathway to swimmers in a lake.

Feasibility Study (FS) -- This is a study undertaken to develop and evaluate options for the the site to eliminate or reduce the threat to public health and the environment. This study often includes data analysis and may be conducted during or after the RI.

Focused Remedial Investigation (FRI) -- A focused remedial investigation is an investigation that is primarily directed at known, or likely, source areas of contamination.

Geoprobe points/borings -- A geoprobe is a piece of equipment that can collect soil and water samples from below the ground. The place on the ground where the sample is obtained from, is referred to as a point or boring.

Interim Remedial Measure (IRM) -- This is an activity that is conducted to quickly provide relief to reduce the risk to public health or the environment from a well defined hazardous waste problem. These activities include removing contaminated soil and drums, providing alternative water supplies or securing a site to prevent access.

Monitoring Wells -- These are groundwater wells that are installed for the sole purpose of obtaining groundwater samples. Essentially, they are pipes that extend down to the groundwater.

NCIA -- New Cassel Industrial Area. This is an industrial area that is located in the Village of Westbury, Town of North Hempstead. The industrial area is bordered on the south by Old Country Road, on the east by Frost Street, on the west by Grand Boulevard, and the north by the Long Island Railroad.

NYS -- New York State

NYSDEC -- New York State Department of Environmental Conservation.

NYSDOH -- New York State Department of Health.

PAHs -- Petroleum Aromatic Hydrocarbons. A group of petroleum related compounds. These compounds are often found in industrial areas and places where petroleum products (gasoline, hydraulic fluid, etc.) are used.

Part V of the NYS Sanitary Code -- These are the New York State regulations that apply to drinking water supplies and sources.

Parts per Million (PPM) -- This is a way of measuring concentrations of contaminants in soil, water and air. It is the equivalent of one unit of material mixed in with one million units of another material. For example, one ounce of salt mixed in with one million ounces of soil. One ppm is the same as one thousand (1,000) ppb.

Parts per Billion (PPB) -- This is a way of measuring low concentrations of contaminants in soil, water and air. It is the equivalent of one unit of material mixed in with one billion units of another material. For example, one ounce of salt mixed in with one billion ounces of soil. One ppb is one-thousandth ($^{1}/_{1000}$) of one ppm.

Petroleum Hydrocarbons -- A group of petroleum related compounds. These compounds are often found in industrial areas and places where petroleum products (gasoline, hydraulic fluid, etc.) are used.

PRPs -- Potentially Responsible Parties. These are the parties that may be legally liable for the site. PRP's include: those who owned the site during the time wastes were placed, current owners, past and present operators of the site, and those who generated the wastes placed at the site.

Proposed Remedial Action Plan (PRAP) -- This is a document that identifies and discusses the proposed remedial action plan that the NYSDEC believes is the most appropriate for an inactive hazardous waste site. This document also summarizes the site history, results of

investigations, and any remedial work performed at the site. This proposed remedy is reviewed by the public and other state agencies.

Registry -- The New York State Inactive Hazardous Waste Site Registry. This is a document that the NYSDEC is directed by law to maintain and which lists and provides information about every site in New York State which meets the criteria established through the definition of hazardous waste and the classification system.

Remedial Investigation (RI) -- A remedial investigation is an investigative process to fully determine the nature and extent of contamination at a site by collecting and analyzing data. This investigation also delineates the area of contamination that the contamination has migrated to.

Responsiveness Summary -- A summary of responses by the NYSDEC to all significant public questions and comments. A written responsiveness summary is included in a Record of Decision to the questions and comments on the Proposed Remedial Action Plan for a site.

Record of Decision (ROD) -- This is a document that identifies the selected remedy for an Inactive Hazardous Waste Disposal Site. This document is the result of the public input received on the PRAP.

Route of Exposure -- See Exposure Pathway.

SCGs -- Standards, Criteria And Guidelines. These are regulatory values specified for several environmental media such as air, groundwater, surface water, soil and sediment.

Significant Threat -- The determination based on available evidence and relevant factors, that the hazardous waste disposed at the site has or may result in an adverse impact upon public health or the environment.

Soil Gas -- Soil is composed of smaller pieces of rock and earth. In between these pieces, are smaller spaces that are empty except for air and some components of the soil, such as vapors or chemical contaminants.

State Super Fund (SSF) -- This is a program that was established to fund the investigation and cleanup of hazardous wastes for which no responsible party could be identified or for which the responsible party is unable to fund the work.

TAGM 4046 -- Technical And Guidance Memorandum. These are guidance documents issued by the NYSDEC for the investigation and remediation of hazardous waste sites. The number 4046, refers to the TAGM entitled Determination of Soil Cleanup Objectives and Clean Up Levels.

TCL/TAL -- Target Compound List/Target Analyte List. This is a list of compounds that are

analyzed for at hazardous waste sites. This list includes volatile organic compounds, semi volatile organic compounds, pesticides, polychlorinated biphenols, and metals.

Up Gradient -- A location or area that is higher. With respect to groundwater, this is an area or place that groundwater is flowing from. This is the opposite of down gradient, which is an area or place that groundwater is flowing to.

VOCs -- Volatile Organic Compounds. This a group of chemicals such as benzene, vinyl chloride, 1,1, 1 trichloroethane, trichloroethene, dichloroethane, dichloroethene, and tetrachloroethane.