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1.0 Introduction

1.1 Purpose

This Soil Management Plan (SMP) has been developed at the request of the City of Rochester and pertains to 180-182 Exchange Boulevard in the City of Rochester, New York (Drawing EN1). It has been developed to assist the City, potential developers and designers in planning for development, monitoring, management and characterization of impacted fill materials and water that may be encountered during subsurface activities that may occur at the subject property. In particular, it is understood that the 18-inch diameter cast-iron cooling water discharge line, which is maintained by the Monroe County Civic Center and transects an area of documented subsurface contamination, may be replaced in the next few years.

New York State Department of Environmental Conservation (NYSDEC) regulations require management of hazardous and non-hazardous solid waste as contained in 6 NYCRR Parts 371-376 and 6 NYCRR Part 360, respectively. Proper management will require that care be taken in planning, monitoring and characterizing the soil/fill materials and water to confirm their non-hazardous status and allow for proper off-site disposal or relocation on-site. This SMP provides guidance for planning and performing such monitoring, testing and management of excavated soil/fill materials or groundwater that may be encountered at the 180-182 Exchange Boulevard property (hereto referred to as the Site).

1.2 Background

The Site is comprised of two parcels totaling 1.67 acres and located at 180-182 Exchange Boulevard, in the City of Rochester, in the County of Monroe, New York (Drawing EN2). The western portion of the Site is currently a commercially operated parking lot, while the eastern portion of the Site was redeveloped as a pedestrian/bicycle trail in August 2000. Historic Sanborn maps available for the Site and dating back to the late nineteenth century indicate that it was the previous location of the Monroe County Jail and Monroe County Garage. The Sanborn maps further indicate the historic presence of a millrace, within the eastern portion of the Site, which discharged to the abutting Genesee River. Based upon review of these maps, it is evident that the millrace was filled in and a metal quonset hut erected for use as the Monroe County Sheriff's Garage between 1950 and 1971. The quonset hut was demolished in July 2000 by others as part of the development of the pedestrian/bicycle trail and to facilitate remedial activities designed to address subsurface petroleum contamination identified beneath and adjacent to the metal quonset hut. Although the exact operations conducted in conjunction with the former garage have not been determined, the Sanborn maps and other historical records [e.g., City of Rochester Building Information System

(BIS) permits and Fire Department records] indicate the historical presence of underground storage tanks at the Site.

A Phase I Environmental Site Assessment (ESA) was conducted by Day Environmental, Inc. (Day) in September 1998 and is documented in the "Phase I Environmental Site Assessment Report" dated September 9, 1998.

In October 1998, Sear-Brown performed a Phase II ESA to address the environmental concerns documented in the Day Phase I ESA Report. A Supplemental Phase II Investigation was conducted in November 1998 to assess contamination near the northeastern corner of the quonset hut. The results of both investigations were documented in the "Phase II Environmental Investigation Report" dated February 23, 1999. This report indicates that concentrations of petroleum-related compounds were present in soils at the Site above NYSDEC soil guidance values. The affected soils were located adjacent to the northern footprint of the quonset hut.

Additional Phase II Environmental Investigation activities were conducted by Sear-Brown in 1999 to further delineate the extent of the petroleum impacts to the soil and groundwater at the Site, as well as investigate a series of magnetic anomalies found during an EM-61 geophysical survey of the Site performed as part of the Phase II ESA conducted in 1998. Based on the findings of these additional investigation activities, the limits of the petroleum contamination in both soil and groundwater were estimated and indicated petroleum-related impacts extending beneath the northern portion of the metal quonset hut. These results, as well as a summary of the previous Phase II investigations performed by Sear-Brown, were used to develop a Corrective Action Plan (CAP) for the Site. The Phase II activities and CAP are discussed in the Sear-Brown report entitled "Additional Phase II Environmental Investigation/Corrective Action Plan Report" dated July 2000.

The findings of the Sear-Brown subsurface investigations were forwarded to the NYSDEC for review. The former property owner (Monroe County) forwarded a letter to the NYSDEC on March 31, 1999 along with a copy of the Sear-Brown "Phase II Environmental Investigation Report" (February 23, 1999). A NYSDEC Spill Report File was opened on April 19, 2000, and assigned Spill Number 0070040. The spill was attributed to tank failure and an unknown quantity of gasoline was reported to have affected the Site. On July 6, 2000, a copy of the "Additional Phase II Environmental Investigation/Corrective Action Plan Report" (July 2000) was forwarded to the NYSDEC for review and approval. Verbal approval of the CAP was given by Mr. Peter Miller of the NYSDEC.

The remedial program described in the CAP was begun by Sear-Brown in July 2000. The methods and results of these remedial activities are presented in the Sear-Brown "Subsurface Remediation Report" dated April 2001. The remediation activities included:

- Groundwater Monitoring Well Abandonment;
- Soil Excavation, Removal and Off-Site Disposal;
- UST Removal and Disposal;
- Confirmatory Soil Sample Collection and Analysis;
- Application of Oxygen Releasing Compound® (ORC®) to treat residual contamination;
- Backfill, Compaction and Site Restoration;
- Test Pits;
- ORC® Slurry Injections;
- Installation of Replacement Bedrock Monitoring Wells;
- Monitoring Well Sample Collection and Analysis;
- Staged Drum Disposal, and
- Petroleum Spill Site Inactivation Evaluation.

Excavation was conducted within and adjacent to the northern portion of the former quonset hut at the northeastern extent of the Site. A total of approximately 1,207 cubic yards of material were excavated to bedrock as a result of the remedial activities, approximately 410 cubic yards (616 tons) of which were petroleum-contaminated soil and were transported off-site for disposal at the Monroe County Mill Seat Landfill located in Riga, New York. The excavated area is labeled "excavation limits" on Drawing EN2. Due to the excavation activities, the soil in the areas of MW-1, MW-2, B-4, GP-101, GP-102, GP-104 and GP-105 was removed.

Excavation was limited in three of the four directions by utility and property boundary constraints. An 18-inch diameter cast-iron cooling water discharge line, maintained by the Monroe County Civic Center, transects the impacted area to the north. As a result, a sloped excavation was conducted south of the pipe and no excavation was initiated north of, or directly under the pipe. Results of test pitting and previous soil borings to the north of the pipe indicated that the volume of accessible impacted soil within that area was approximately ten percent (44 cubic yards) of the total volume of impacted soil removed as part of the remedial activities. Concentrations of total benzene, toluene, ethylbenzene and xylenes (BTEX) in accessible soils remaining north of the pipe were generally one to three orders of magnitude less than those from soils removed south of the discharge line. To address the affected area north of the pipe, supplemental ORC® slurry injections were conducted following the excavation program. In addition, ORC® injection points were placed along the western and northeastern excavation boundaries in areas where excavation was limited by the location of utility lines and the Genesee River retaining wall.

In October 2000 and January 2001, Sear-Brown conducted post-remedial groundwater sampling events at the Site. Subsequent to receipt of the analytical results, a Petroleum Spill Site Inactivation (PSSI) Evaluation was performed to determine if the Site is protective of human health and the environment. Since the

depth to contamination is greater than 3 feet below ground surface, public users were precluded as potential receptors in the evaluation as inhalation of vapors and particulates, dermal contact and ingestion of contaminants located in, or originating from subsurface soils is not likely. In addition, the construction worker exposure pathway is more conservative than public use. The results of the PSSI Evaluation indicate that maximum detected concentrations of the contaminants of concern are below the calculated contaminant concentration limits set forth by the NYSDEC for the complete groundwater exposure pathway. Similarly, area-weighted concentrations of the contaminants of concern are below the calculated Contaminant Concentration Limits set forth by the NYSDEC for the complete soil exposure pathway. Given the completion of the remedial program executed under the NYSDEC-approved CAP as well as the conclusions of the PSSI Evaluation, a "No Further Action" status for the site and inactivation of the spill file was requested. The results of the PSSI Evaluation are included in the Sear-Brown "Subsurface Remediation Report" (April 2001).

On May 14, 2001, Sear-Brown collected samples from groundwater monitoring wells MW-3 through MW-7 located at the Site. The analytical results indicate that petroleum-related volatile organic compounds (VOCs) were present within the groundwater samples collected from each of the five wells, with the highest concentrations of total VOCs detected in the groundwater samples from MW-6 and MW-7.

In order to address the residual VOCs detected in groundwater, Sear-Brown completed the following activities:

- Collection and analysis of two additional rounds of groundwater samples and five additional rounds of groundwater level measurements;
- A geophysical survey in the vicinity of MW-7;
- Test pits in the locations of geophysical anomalies; and
- Soil borings around MW-7.

These activities are summarized in the Sear-Brown January 24, 2002 "Geophysical and Test Pit Report" and in the Sear-Brown July 2002 "Progress Report #2." The subsurface explorations are depicted on the attached Drawings EN2 and EN3.

Based on these previous investigation and remediation activities, the following site-specific issues have been identified:

- In general, soil conditions at the Site include a five to ten foot thick fill layer, which consists primarily of moist, brown silty sand and gravel, with trace to some amounts of brick, asphalt, concrete and ash. A moist light to dark gray silty sand underlies the fill. At a depth of approximately 14 feet below ground surface, bedrock is encountered. Groundwater at the Site has historically been encountered in the bedrock.

- Fill materials consisting primarily of ash, brick, and concrete are present throughout the Site, particularly within the former county jail building footprint. Polycyclic aromatic hydrocarbons, typically found in ash, cinders and soot, and coal tar pitch, are present within the fill materials at the Site and exceed NYSDEC recommended soil cleanup objectives. The attached tables summarize these analytical results. (See Section 2.1 – Existing Information.)

- RCRA metals are present in fill material and soils at the Site at concentrations below the NYSDEC recommended soil cleanup objectives (TAGM 4046) and Eastern USA Background Range, with the exception of mercury in one boring. Mercury was found very slightly above the upper limits of the Eastern USA Background Range in fill materials sampled from depths of 5-9 feet below ground surface within the former county jail building footprint. The attached tables summarize these analytical results. (See Section 2.1 – Existing Information.)

- Concentrations of petroleum-related compounds are present in soils and groundwater at the Site above NYSDEC guidance values. Fill materials and residual petroleum-impacted soils on various portions of the Site exceed NYSDEC recommended soil cleanup objectives for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). The latest round of groundwater data (April 2002) indicates that the groundwater concentrations exceed the NYSDEC groundwater standards and guidance values. The attached tables summarize the impacted soil and groundwater encountered at the Site. (See Section 2.1 – Existing Information.)

- Affected soils that were left in place are north of, under and south of the 18-inch diameter cast-iron cooling water discharge line maintained by the Monroe County Civic Center and near the eastern property line. Additional residual petroleum-impacted soils are located at the west wall of the excavation at depths of 11-14.5 feet below ground surface.

- Petroleum-impacted soil and groundwater have also been identified in the area of MW-7 (Drawing EN3). Based on the findings from a March 2002 soil boring program, a small volume of soil with gasoline-derived VOC impacts has been confirmed around monitoring well MW-7. Based on this soil exploration program, Sear-Brown estimates that approximately 20 cubic yards of petroleum-contaminated soil may be present in this area.

- Reinforced concrete slabs and/or demolition debris associated with the former county jail and county garage buildings may be present beneath the Site, as suggested by geophysical surveys performed at the Site. Concrete encountered during remedial excavation in the area of the former metal quonset hut was placed at the bottom of the excavation (i.e., on top of bedrock) prior to backfilling.

2.0 Development and Pre-Excavation Planning

2.1 Existing Information

Site development and excavation planning will need to incorporate information from the previous investigations, documented subsurface contamination, and the intended location of proposed construction/development. Site development and excavation planning activities will require environmental review prior to issuance of any City permit. The property is flagged for review by the City's Division of Environmental Quality in the City of Rochester Building Information System (BIS) in order to protect potential developers and establish proper management of construction activities prior to their commencement. This flagging provides an institutional control mechanism. Further information regarding the BIS flagging system is provided in Section 7.0 of this report.

A list of documents prepared for the City of Rochester and containing Site subsurface soil and groundwater information is provided in Appendix A. Copies of select summary tables of field screening and analytical results from previous Sear-Brown Site Investigations are attached to this SMP and are organized according to the respective reports within which they can be found. Copies of the previous soil boring and test pit logs for the Site are presented in Appendix B.

General Subsurface Conditions

In general, soil conditions at 180-182 Exchange Boulevard consist of a five to ten foot thick fill layer. The fill layer consists primarily of moist, brown silty sand and gravel, with trace to some amounts of brick, asphalt, concrete and ash. A moist, light to dark gray silty sand underlies the fill. At a depth of approximately 14 feet below ground surface, bedrock is encountered. Subsurface conditions are described on the soil boring and test pit logs included in Appendix B.

Moist conditions were generally encountered in the subsurface explorations at the Site. The water table was not observed during subsurface explorations or remedial activities conducted by Sear-Brown. It is anticipated that groundwater will most likely be present within the bedrock.

Field Screening of Soils

Extensive, documented PID headspace readings are available for this Site. This information is summarized in the attached Sear-Brown tables:

Table Title	*Table Location*
▪ Summary of Maximum Soil Boring PID Headspace Readings	(Table 1 from February 1999 Report)
▪ Summary of PID Headspace Readings (ppm)	(Table 1 from July 2000 Report)
▪ Summary of Headspace Readings	(Table 4 from July 2002 Report)

PID headspace readings are also presented on the attached boring and test pit logs.

Soil Analytical Data

The soil analytical results are summarized in the following tables:

Table Title	*Table Location*
▪ Summary of Detected Compounds - Soil Sampling	(Table 3 from February 1999 Report)
▪ Summary of Detected Volatile Organic Compounds in Soil	(Table 8 from July 2000 Report)
▪ Confirmatory Soil Sampling Analytical Results	(Table 1 from April 2001 Report)
▪ Soil Boring Analytical Results	(Table 2 from April 2001 Report)
▪ Summary of Detected STARS List Volatile Organic Compounds in Soil	(Table 6 from July 2002 Report)

Review of the soil analytical data revealed the presence of various VOCs, SVOCs, and metals present in the Site subsurface samples. The detected VOCs are commonly associated with gasoline. Numerous VOCs (including: ethylbenzene, toluene, m,p & o-xylenes) exceeded soil guidance values established in the NYSDEC STARS Memo #1 for the samples.

The detected SVOCs are polycyclic aromatic hydrocarbons (PAHs) which commonly result from the incomplete combustion of organic matter, including fossil fuels, such as coal or fuel oil, and are often found in ash, cinders and soot,

and coal tar pitch. Small quantities of such materials were observed in some of the boreholes located in the former county jail building footprint. Five of the detected SVOCs (benzo (a) anthracene, chrysene, benzo (b) fluoranthane, benzo (k) fluoranthane and benzo (a) pyrene) exceeded their respective NYSDEC recommended soil cleanup objectives listed in TAGM 4046. Based on the history of the property and the fill material present throughout the Site, it is not unusual to find these PAHs.

Review of the RCRA metals analyses revealed that RCRA metals were found below the NYSDEC recommended soil cleanup objectives (TAGM 4046) and the Eastern USA Background Range, with the exception of mercury in one boring (0.201 ppm). This mercury concentration was slightly above the upper limit of the Eastern USA Background Range of 0.2 ppm, at a depth of 5-9 feet below ground surface.

Groundwater Analytical Data

The groundwater analytical results are summarized in the following tables:

Table Title	*Table Location*
▪ Summary of Detected Concentrations in Groundwater	(Table 9 from July 2000 Report)
▪ Summary of Detected Concentrations in Groundwater	(Table 6 from April 2001 Report)
▪ Summary of Detected Concentrations in Groundwater	(Table 1 from July 2002 Report)

The groundwater at the Site has historically been encountered in bedrock or at the overburden/bedrock interface. The latest round of groundwater data (April 2002) indicates that the groundwater concentrations exceed the NYSDEC groundwater standards and guidance values (TOGS No. 1.1.1.) The groundwater concentrations exceed NYSDEC groundwater standards or guidance values for petroleum-related compounds at all five wells at the Site.

2.2 *Construction/Design Considerations*

Past investigations and laboratory analyses at the 180-182 Exchange Boulevard Site have shown that the fill materials present at the Site consist of non-hazardous solid waste. More specifically, the Site contains soil impacted by VOCs, SVOCs and mercury, groundwater impacted by VOCs and soil vapor impacted by VOCs. However, the possibility that hazardous materials exist on Site cannot be ruled out. Any waste material that is excavated during construction or Site development must therefore be properly managed. The development process can be simplified by pre-planning how the fill will be handled during necessary excavation and construction.

If hazardous waste is encountered as part of the excavation program, it cannot be replaced on the Site and must be properly characterized, managed and disposed of off-site at a permitted facility. Management of impacted materials is discussed in Section 6.0 of this SMP.

As the project progresses, developers and design engineers for the planned development will need to consider that the following construction elements may be affected by soil/fill management and waste characterization:

- Schedules: Scheduling of construction will need to allow for management of waste fill material that is excavated during the course of construction. Should unanticipated materials or conditions be observed during excavation work, sampling may be required. Sampling will entail laboratory analysis, which typically takes from several days to several weeks to be completed. Therefore, construction schedules and design plans should allow for adequate flexibility for sampling, segregation, and temporary stockpiling of unanticipated materials on-site.

- Fill and Subsurface Variability: Construction schedules should also provide both contingency time and measures to address variability in fill conditions and the presence of groundwater. For example if hazardous conditions are encountered, additional safety measures and use of personal protection gear may be required. Excavation dewatering and work stoppage could also affect construction schedules and costs.

Measures designed to address these situations are described in further detail in Sections 3.0, 4.0 and 5.0 of this SMP.

3.0 Soil-Fill Characterization

3.1 Pre-Construction Sampling

Sufficient data is available at this time such that it does not appear necessary to perform additional soil/fill sampling prior to construction activities. In general, test pits, soil borings and monitoring well installations have been performed throughout the Site and appear to provide sufficient coverage in anticipation of development. However, if there are areas of excavation that are not near the previous investigation locations (Drawings EN2 and EN3), pre-construction sampling is recommended. In such cases, pre-construction sampling frequency and analyses would vary based upon the location of proposed work in relation to characterized areas, quantities of material to be encountered, and anticipated use/disposal of removed materials.

3.2 Construction Sampling

Sampling of excavated fill or subsurface materials during construction efforts should be considered if either of the following conditions are encountered:

- If conditions during construction are significantly different than those observed during pre-construction exploration, including unusual odors or visual observations such as stained soils, drums, containers, etc.; or

- If concerns such as sheens or free-product are identified within soil or groundwater.

In these situations, sampling frequency and analyses would vary based on the types and quantities of material encountered and anticipated use/disposal of removed materials. Analysis must adequately characterize materials in light of current NYSDEC TAGM 4046 guidance value and/or permitted disposal facility requirements, depending on intended destination of materials.

Typical waste disposal analyses are:

- Full Toxicity Characteristic Leaching Procedure (TCLP) VOCs,
- Full TCLP SVOCs,
- Full TCLP Metals,
- PCBs, Pesticides and Herbicides,
- Ignitability,
- Reactivity,
- Modified Paint Filter Test, and
- pH.

4.0 Groundwater Characterization

4.1 Pre-Construction Sampling

Sufficient data is available at this time such that it does not appear necessary to perform additional groundwater sampling prior to construction activities. Monitoring wells have been installed on the northeast side of the property and appear to provide sufficient coverage for this portion of the Site. If excavation activities are proposed on the west side of the Site and are expected to encounter groundwater at or near the top of bedrock, pre-construction sampling is recommended. In such cases, pre-construction sampling frequency and analyses would vary based on the location of proposed work in relation to the characterized areas and on the anticipated quantity and handling of groundwater (see also Appendix C, Sewer Use Permit Information).

4.2 Construction Sampling

Sampling of groundwater during construction efforts should be considered if either of the following conditions are encountered:

- If conditions during construction are significantly different than those observed during pre-construction exploration, including unusual odors or visual observations such as stained soils, drums, containers, etc.; or

- If concerns such as sheens or free-product are identified within soil or groundwater.

In these situations, sampling frequency and analyses would vary based on the condition and quantity of groundwater encountered and handling options. In order to obtain approval to discharge potentially impacted groundwater to the Monroe County sewer system, the typical analyses that may be required are identified in Appendix C (Sewer Use Permit Information).

5.0 Monitoring During Excavation

Monitoring of materials encountered during construction is generally needed for three purposes:

- To protect the health and safety of Site workers during construction;
- To determine that soil/fill materials and groundwater are consistent with pre-construction characterization; or
- If no pre-construction characterization was performed.

5.1 Health and Safety Monitoring

Past investigations have shown that fill materials will be encountered during construction activities. Based on the historical uses of the Site, hazardous materials may potentially be encountered. These include materials that could be associated with the fill as well as materials that may be present in groundwater.

General groups of chemicals that are associated with the fill and are considered as potentially hazardous materials subject to health and safety planning include:

- Volatile organic compounds (VOCs) – gasoline related;
- Semi-volatile organic compounds (SVOCs)- these include polycyclic aromatic hydrocarbons (PAHs) which commonly result from the incomplete combustion of organic matter including fossil fuels, such as coal or fuel oil, and are often found in ash, cinders and soot, and coal tar pitch; and
- Metals - Review of the RCRA metals analysis revealed that RCRA metals were found below NYSDEC recommended soil cleanup objectives and the Eastern USA Background Range, with the exception of mercury in one boring (0.201 ppm). This mercury concentration was found above the upper limit of the Eastern USA Background Range of 0.2 ppm at a depth of 5-9 feet below ground surface.

VOCs are also associated with the groundwater and are considered potentially hazardous materials subject to health and safety planning.

Health and safety planning should also give consideration to other construction-related issues, such as use of heavy equipment, weather conditions, confined space entry, excavation safety and other construction-related OSHA regulations.

Health and safety planning should be performed prior to construction activities. This should include the preparation of a written Health and Safety Plan (HASP) for construction activities. The HASP would be based on the results of the previous chemical analyses, information specific to the proposed development,

specific construction tasks to be completed and the potential for exposure of Site workers to the Site contaminants.

The use of OSHA-trained hazardous waste site workers during earthwork activities should be considered. Previous investigations show that overall, the potential for worker exposure exists, but is relatively low. However, all contractors and developers involved in earth moving and excavation activities should consider the need for health and safety planning relative to their specific tasks and planned activities.

5.2 *Soil/Fill/Groundwater Monitoring*

Monitoring of soil and fill materials that are excavated and groundwater that is pumped during construction should be performed for two reasons:

- To determine that the material encountered during construction is consistent with the material encountered during previous investigations; and

- To allow characterization of the non-hazardous or hazardous nature of material encountered in the event that no previous investigation results are available for a specific area.

Monitoring should generally consist of documentation of visible characteristics of the soil, fill and groundwater encountered, including obvious staining, sheens, odors, or other indicators of contamination such as oils, tars or containers. It is recommended that construction monitoring by a trained individual such as an environmental engineer, scientist, or geologist be performed during all earth moving, excavation and groundwater work.

Several portable monitoring instruments are available to assist in field monitoring of materials. Such instruments are primarily used for detection of volatile organic compounds. Since volatile organics have been detected in the past at the Site, this instrumentation is appropriate for construction excavation monitoring. Types of instruments available for this purpose include:

- Photoionization detector instruments (PID) - these instruments operate by pumping a sample of ambient air into a chamber where the air is ionized using a light source of specific energy (either 10.2, 10.6, or 11.7 eV). Such instruments are manufactured by HNu and Microtip.

- Flame ionization detector instruments (FID) - these instruments operate on a similar principle as the PIDs; however, ionization is caused by a flame produced by combusting hydrogen. The OVA manufactured by Foxboro is such an instrument.

- Colorimetric tubes - these are small glass tubes which contain chemical salts formulated to react with specific volatile and some non-volatile compounds. A sample of air is drawn through a tube with the use of a hand pump. The presence of the target chemical causes a reaction and a color change to the chemical salts in the tube. The Draeger Tube system is such an instrument.

- Combustible gas meters/gas monitors – these instruments are capable of measuring combustible gases such as methane and hydrogen sulfide and would be used during construction activities if large amounts of organic materials such as railroad timbers or peat are encountered.

These types of instruments are readily available in the Rochester area and can be rented or purchased from several sources. However, these instruments should be operated by individuals trained and experienced in their use, limitations and capability for data generation. Readings generated from monitoring instruments should be recorded in the field along with visual observations. As long as excavation monitoring shows soil, fill, and groundwater material to be consistent with previous investigations, then the material should be manageable as determined prior to construction. If conditions are different from those anticipated, then sampling and additional characterization may be necessary.

6.0 Management of Impacted Material

At this time, there is no preferred method for the management of soil/fill excavated during construction activities. In general, it is recommended that non-hazardous soil/fill excavated during foundation work, utility trenching work and other earth moving activities either be hauled off-site for disposal or, if permitted and in accordance with regulations, be returned to the excavation and covered with either clean soil or an impervious surface. However, if hazardous wastes are encountered, they cannot be reused on-site and will need to be disposed properly at an approved, off-site facility.

If groundwater is pumped at the Site, a temporary sewer use permit is required for sewer disposal from the Monroe County Department of Environmental Services (MCDES) – Division of Pure Waters (DPW). The required information to be supplied to the MCDES-DPW is included in Appendix C.

6.1 On-Site Re-Use of Excavated Materials

Impacted materials that will be re-used on site will need to be segregated based upon field screening, previous investigation findings, and/or additional pre-construction and/or construction sampling and analyses. On-site re-use of materials must meet NYSDEC TAGM 4046 recommended soil clean up objectives. Impacted materials that are determined acceptable for re-use on-site excavations should be covered with clean soil or an impervious surface. Staging and stockpiling management of materials should be conducted as described in the sections below.

6.2 Off-Site Disposal of Excavated Materials

Management of materials that will be disposed off-site will need to include characterization (sampling and laboratory analysis as required by the chosen landfill), management, and off-site transportation and disposal at an approved landfill. Appropriate measures for management of excavated materials will need to include temporarily stockpiling excavated soils and solids, as well as measures to prevent them from contaminating other materials or migrating off-site. Measures that should be incorporated into such plans include:

- Stockpile locations away from storm sewers, downwind property boundaries, and drainage courses;
- Dust suppression techniques, as necessary;
- Placement of stockpiles of petroleum contaminated soils or hazardous materials (e.g. drums, containers, odiferous fill) on 6-mil polyethylene (poly) with perimeter berms; and

- Covering stockpiles of petroleum contaminated soils or hazardous materials (e.g. drums, containers, odiferous fill) with weighted down poly at the end of each day of placement to prevent migration by wind-blown dust or stormwater runoff until final placement and final cover is established.

6.3 Off-Site Disposal of Impacted Water

Management of water will include characterization (sampling and laboratory analysis as required by the MCDES-DPW), management, and pumping to the Monroe County sewer system. Appropriate measures for management of water will need to include temporary containerization and measures to prevent water from contaminating other materials or migrating off-site. Measures that should be incorporated into such plans include:

- Containerize water prior to pumping off-site;
- Stage containers away from downwind property boundaries and drainage sources;
- Pump water directly into containers;
- Perform necessary sampling prior to disposal; and
- Coordinate with MCDES-DPW to receive permission for disposal.

The sewer use permit information is included in Appendix C.

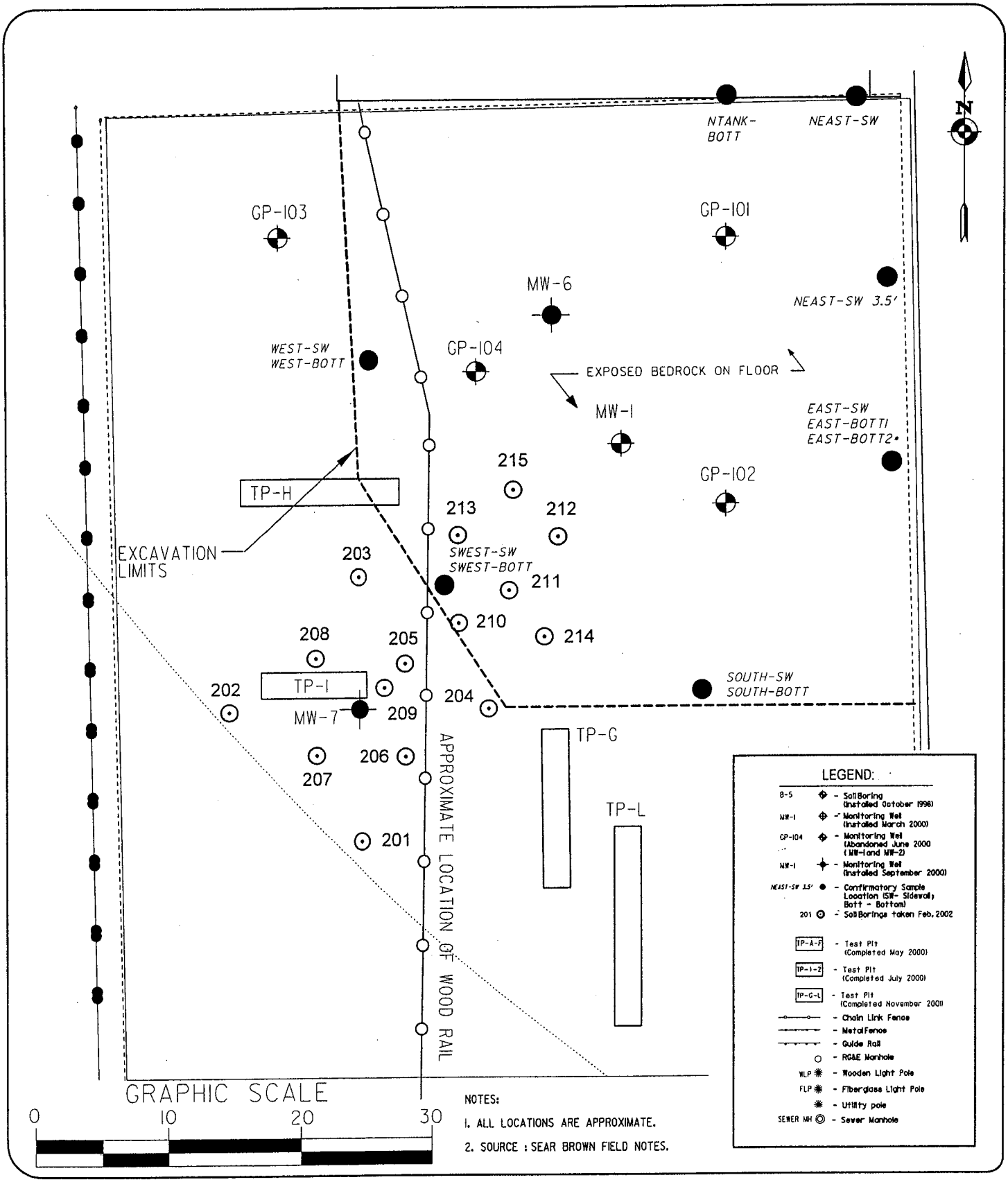
7.0 Flagging System

The City of Rochester has established a procedure for "flagging" the tax account numbers of properties that require special environmental reviews as a result of hazardous waste or hazardous substance contamination. The reviews are conducted as referrals to the City's Division of Environmental Quality (DEQ) for any permit applications for properties where soil management plans or environmental contingency plans need to be established and followed during construction activities.

The City will "flag" the parcels that comprise the 180-182 Exchange Boulevard Site and they will be subject to a special environmental review prior to issuance of a permit. A special notation will be added to the City's mainframe computer database of property information for the following tax account numbers:

121.390-0001-004.000/000
121.390-0001-003.000/000

The notation will appear as a "flag" to City staff that receive various building and site preparation permit applications. The flag will require a referral to the City's DEQ before the application can be processed for approval. DEQ staff will review the permit application for consistency with the Soil Management Plan, limited-use areas and land-use restrictions. If DEQ wishes, a notification to the DEC can be included at the time the permit is reviewed.



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PROJECT
SOIL MANAGEMENT PLAN
180 - 182 EXCHANGE BOULEVARD
ROCHESTER, NEW YORK

TITLE OF DRAWING
SOIL BORINGS IN THE VICINITY OF MW-7

PROJECT NO.
15155.07
DRAWING NO.
EN 3

Selected Tables from Previous Sear-Brown Reports

From the Phase II Environmental Investigation Report, February 23, 1999

Table 1 - Summary of Maximum Soil Boring PID Headspace Readings
Table 3 - Summary of Detected Compounds – Soil Sampling

From the Additional Phase II Environmental Investigation/Corrective Action Plan Report, July 2000

Table 1 - Summary of PID Headspace Readings (ppm)
Table 8 - Summary of Detected Volatile Organic Compounds in Soil
Table 9 - Summary of Detected Concentrations in Groundwater

From the Subsurface Remediation Report, April 2001

Table 1 - Confirmatory Soil Sampling Analytical Results
Table 2 - Soil Boring Analytical Results
Table 6 - Summary of Detected Concentrations in Groundwater

From Progress Report #2, July 2002

Table 1 - Summary of Detected Concentrations in Groundwater
Table 4 - Summary of Headspace Readings
Table 6 - Summary of Detected STARS List Volatile Organic Compounds in Soil

SELECTED TABLES

From the

Phase II Environmental Investigation Report

February 23, 1999

TABLE 1
SUMMARY OF MAXIMUM SOIL BORING PID HEADSPACE READINGS
180-182 Exchange Street
Rochester, NY

Boring	Sample	Depth (ft BGS)	PID Headspace		
			Peak (ppm)	Background (ppm)	Net (ppm)
B-1	3	5-7	3.6	2.8	0.8
	4	7-9	3.8	2.8	1.0
	5	10-12	3.9	2.8	1.1
	6	12-14.5	4.5	2.8	1.7
B-2	1	1-3	3.6	3.6	0.0
	5	9-11	3.6	3.6	0.0
	6	11-13	3.6	3.6	0.0
	7	13-15	3.6	3.6	0.0
B-3	1	1-1.5	3.4	2.9	0.5
	2	5-7	3.5	2.9	0.6
	3	7-9	4.2	2.9	1.3
	4	9-11	3.5	2.9	0.6
	5	11-13	4.1	2.9	1.2
B-4	1	3-5	18.6	2.6	16.0
	2	5-7	424	2.6	421.4
	3	7-9	1311	2.6	1308.4
	4	9-11	1851	2.6	1848.4
	5	11-13	>2000	NA	>2000
	6	13-14	>2000	NA	>2000
B-5	1	1-3	4.6	4.6	0.0
	2	3-5	8.6	4.6	4.0
	3	5-7	4.6	4.6	0.0
	4	7-9	10.1	4.6	5.5
	5	9-11	154.0	4.6	149.4
	7	13'-14'	>2000	NA	>2000
B-6	1	1-1.5	3.6	2.8	0.8
	2	5-7	3.4	2.8	0.6
	3	7-9	9.0	2.8	6.2
	4	9-11	11.2	2.8	8.4
	5	11-13	5.0	2.8	2.2
	6	13-13.5	3.8	2.8	1.0
B-7	1	3-5	4.1	3.0	1.1
	2	5-7	3.8	3.0	0.8
	3	7-8.3	4.2	3.0	1.2

TABLE 1
SUMMARY OF MAXIMUM SOIL BORING PID HEADSPACE READINGS
180-182 Exchange Street
Rochester, NY

Boring	Sample	Depth (ft BGS)	PID Headspace		
			Peak (ppm)	Background (ppm)	Net (ppm)
B-8	1	1-3	5.4	4.0	1.4
	2	3-5	9.9	4.0	5.9
	3	5-7	5.2	4.0	1.2
	4	7-9	NA	NA	NA
B-9	1	1 - 2.5	10.6	5.8	4.8
	2	8-10	9.3	5.8	3.5
	3	10-12	6.1	5.8	0.3
B-10	1	1-3	6.2	5.0	1.2
	2	3-5	NA	NA	NA
	3	5-7	13.2	5.0	8.2
	4	7-9	5.0	5.0	0.0
	5	9-11	7.6	5.0	2.6
	6	11-13	5.0	5.0	0.0
	7	13-15	5.1	5.0	0.1
B-11	1	1-3	4.2	3.8	0.4
	2	5-7	4.6	3.8	0.8
	3	7-9	4.2	3.8	0.4
	4	9-11	4.2	3.8	0.4
	5	11-13	3.8	3.8	0.0
B-12	1	5-7	3.9	4.4	0.0
	2	7-9	4.1	4.4	0.0
B-13	1	5-7	3.9	3.6	0.3
	2	7-9	4.1	3.6	0.5
B-14	1	1-3	2.5	2.2	0.3
	2	5-7	2.8	2.2	0.6
	3	7-9	2.4	2.2	0.2
	4	9-11	2.4	2.2	0.2
	5	11-13	NA	NA	NA
	6	13-15	2.2	2.2	0.0
	7	15-17	NA	NA	NA
B-15	1	1-3	4.2	3.6	0.6

Notes:

1. All readings expressed in ppm (parts per million) using a 10.2 eV lamp.
2. NA = Not available.

TABLE 3
SUMMARY OF DETECTED COMPOUNDS
SOIL SAMPLING
180-182 Exchange Street
Rochester, New York

	Units	Guidance Value*	Eastern USA Background Range*	B-1	B-4	B-5	B-6	B-8	B-9	B-10
Sample Depth	ft.			12-14.5	13-14	13-14	9-11	3-5	1-2.5	5-7
EPA Method 8260B										
TCL - Volatiles										
Ethylbenzene	ug/kg	100	NA		**201655**	**1581**				
Toluene	ug/kg	100	NA		**199525**	**1156**				
m,p-Xylene	ug/kg	100	NA		**818979**	**7335**				
0-Xylene	ug/kg	100	NA		**351006**	**2494**				
NYDOH Method 310.13										
Petroleum Hydrocarbon										
TPH	mg/kg	NA	NA		1,789					
EPA Method 8021										
Stars LIST - Volatiles										
Toluene	ug/kg	100	NA					7.7		
Ethylbenzene	ug/kg	100	NA				6.9			
m,p-Xylene	ug/kg	100	NA				68.5	17.8		
0-Xylene	ug/kg	100	NA				8.9			
1,2,4-Trimethylbenzene	ug/kg	100	NA					11.6		
EPA Method 8270										
TCL - Semi-Volatile BN										
Fluoranthene	ug/kg	50000	NA						2623	
Anthracene	ug/kg	50000	NA						461	
Phenanthrene	ug/kg	50000	NA						1758	340
Benzo (a) anthracene	ug/kg	301	NA						**1259**	
Chrysene	ug/kg	301	NA						**1102**	
Pyrene	ug/kg	50000	NA						2836	348
Benzo (b) fluoranthane	ug/kg	1100	NA						**1363**	
Benzo (k) fluoranthane	ug/kg	1100	NA						**1151**	
Benzo (g,h,I) perylene	ug/kg	50000	NA						442	
Benzo (a) pyrene	ug/kg	301	NA						**901**	
Indeno (1,2,3-cd) pyrene	ug/kg	3200	NA						495	
RCRA Metals Various Methods										
Total Concentrations										
Arsenic	mg/kg	7.5 or SB	3-12	5.36					5.4	2.99
Barium	mg/kg	300 or SB	15-600	23.8					42.7	82.3
Cadmium	mg/kg	1 / 10***	0.1-1	2.01					2.03	1.66
Chromium	mg/kg	10 / 50***	1.5-40****	7.36					8.49	7.11
Lead**	mg/kg	SB	**	31.8					69.2	211
Mercury	mg/kg	0.1	0.001-0.2	0.142					0.187	**0.201**
Selenium	mg/kg	2 or SB	0.1-3.9	<0.429					<0.442	<0.423
Silver	mg/kg	SB	NA	<0.875					<0.885	<0.826

Notes:

1. ug/kg = micrograms per kilogram (equivalent to parts per billion).
2. Sample results which exceed guidance values are presented in **Bold.**
3. Blank space= below method detection limit
4. SB = site background
5. * Guidance values and Eastern USA Background ranges from NYSDEC guidance document TAGM HWR, 94-4046, Jan 24, 1994. and STARS Memo #1, Petroleum Contaminated Soil Guidance Policy, August 1992
6. ** Background levels for lead vary widely. Average background levels in metropolitan or suburban areas typically range from 200-500 ppm.
7. *** Existing and proposed guidance values.
8. **** New York State Background
9. NA = Not applicable

SELECTED TABLES

From the

Additional Phase II Environmental Investigation/Corrective Action Plan Report

July 2000

TABLE 1
Summary of PID Headspace Readings (ppm)
180-182 Exchange Boulevard
Rochester, NY

LOCATION	DEPTH (ft BGS)	PID READINGS		
		PEAK (ppm)	SUSTAINED (ppm)	BACKGROUND (ppm)
GP-101	0-4	0.4	0.4	0.3
	4-8	3.8	2.3	0.4
	8-12	210	209	0.4
	12-13.5	51.3	43.3	0.9
	Refusal @ 13.5			
GP-102	0-4	0.4	0.4	0.4
	4-8	0.5	0.5	0.4
	8-12	9.9	9.9	0.4
	12-14	0.7	0.7	0.6
	Refusal @ 14			
GP-103	0-4	0.8	0.8	0.8
	4-8	1.0	1.0	0.9
	8-12	1.1	1.1	0.6
	12-13.5	0.7	0.7	0.4
	Refusal @ 13.5			
GP-104	0-4	0.5	0.5	0.4
	4-8	4.3	4.0	0.4
	8-12	3.5	2.2	0.4
	Refusal @ 13.5			
GP-105	0-4	1.1	0.7	0.4
	4-8	3.6	2.0	0.5
	8-12	3.4	2.5	0.3
	12-13.5	1.9	1.3	0.4
	Refusal @ 13.5			
GP-106	0-4	0.4	0.4	0.4
	4-8	0.5	0.4	0.4
	8-12	0.6	0.5	0.4
	12-13	199	150	0.4
	Refusal @ 13			
GP-107	0-4	0.6	0.6	0.6
	4-8	7.8	4.4	0.5
	8-12	19.9	15.6	0.4
	12-13.5	106	94.5	0.3
	Refusal @ 13.5			

TABLE 1
Summary of PID Headspace Readings (ppm)
180-182 Exchange Boulevard
Rochester, NY

LOCATION	DEPTH (ft BGS)	PID READINGS		
		PEAK (ppm)	SUSTAINED (ppm)	BACKGROUND (ppm)
GP-108	0-4	0.5	0.5	0.4
	4-8	0.5	0.5	0.4
	8-12	0.6	0.5	0.4
	12-13.5	1.8	1.8	0.4
	Refusal @ 13.5			
GP-109	0-4	0.4	0.4	0.4
	4-8	0.4	0.4	0.4
	8-12	0.4	0.4	0.4
	12-13	0.4	0.4	0.4
	Refusal @ 13			
GP-110	0-4	0.4	0.4	0.4
	4-8	0.5	0.4	0.4
	8-12	1.8	1.8	0.4
	12-13.5	24.5	13.0	0.4
	Refusal @ 13.5			
MW-2	4-6	0.8	0.8	0.7
	6-8	1.5	1.4	0.8
	8-10	341	196	0.8
	10-12	566	549	1.7
	12-13.5	510	399	2.5
	Refusal @ 13.5			
MW-3	4-6	0.8	0.8	0.7
	6-8	0.9	0.8	0.7
	8-10	0.8	0.8	0.7
	10-12	0.8	0.8	0.7
	12-13.4	1.0	1.0	0.7
	Refusal @ 13.4			
MW-4	6-8	0.8	0.8	0.7
	8-10	0.8	0.8	0.7
	10-12	0.9	0.8	0.7
	12-13.5	1.5	1.0	0.7
	Refusal @ 13.5			

Note: Due to the location of MW-1 within the Quonset Hut, split spoon activities were not possible

TABLE 8
Summary of Detected Volatile Organic Compounds in Soil
180-182 Exchange Boulevard
Rochester, New York

Volatile Organic Compounds (ug/kg)														
Compound	B-4 (13'-14')	B-5 (13'-14')	GP-101 (8'-10')	GP-102 (8'-12')	GP-103 (12'-13.5')	GP-104 (4'-8')	GP-105 (8'-12')	GP-106 (12'-13')	GP-107 (12'-13.5')	GP-108 (12'-13.5')	GP-109 (12'-13')	GP-110 (12'-13.5')	MW-3 (12'-13.4')	Guidance Value*
Benzene						123.9				126.8				14
Ethyl benzene	201655	1581	21500	226.1		215.6		3120	2177.0	56.3				100
Toluene	199525	1156	15900	41.9										100
m,p-Xylene	818979	7335	87200	812.2	11.0	251.9		13300	7716.2	107.1				100
o-Xylene	351006	2494	36400	280.1				4350	2351.6	38.0				100
Isopropylbenzene	NA	NA	2510				44.7		662.8	309.6		65.1		100
n-Propylbenzene	NA	NA	8980	44.6			80.0	1790	2505.2	705.6		539.3		100
1,3,5-Trimethylbenzene	NA	NA	19800	70.5		19.1		4830	3158.0	29.4				100
1,2,4-Trimethylbenzene	NA	NA	66000	225.9		50.0		11900	12791.0E	319.1		1657.2		100
sec-Butylbenzene	NA	NA	1070				24.9		313.8			254.9		100
p-Isopropyltoluene	NA	NA	2540											100
Naphthalene	NA	NA	19700						2580.5	615.3	15.3			200
4-Isopropyltoluene	NA	NA							703.4			129.3		100
n-Butylbenzene												629.6		100

Notes:
1. * = NYSDEC. December 1992. Petroleum Contaminated Soil Guidance Policy: STARS Memo #1. Bureau of Spill Prevention and Response.
2. **BOLD** = reported concentration is above Guidance Value
3. Blank space = concentration below detection limits
4. NA = Not Analyzed
5. ug/kg = micrograms per kilogram which is equivalent to parts per billion (ppb)

TABLE 9
Summary of Detected Concentrations in Groundwater
180-182 Exchange Boulevard
Rochester, New York

Detected Concentrations in Groundwater					
Compound	**MW-1**	**MW-2**	**MW-3**	**MW-4**	**Groundwater Standard***
Volatile Organic Compounds (ug/l)					
Benzene	**339**	**303**		**1.30**	1
Ethyl benzene		**1370**			5
Toluene	**46.5**	**5750**			5
m,p-Xylene	**70.9**	**4900**		**5.31**	5
o-Xylene	**356**	**2310**		**7.74**	5
1,3;5-Trimethylbenzene	**193**	**451**		**22.4**	5
1,2,4-Trimethylbezene	**199**	**1800**		**158**	5
p-Isopropyltoluene	**43.0**	**42.2**			5
Isopropylbenzene		**99.0**			5
n-Propylbenzene		**194**		3.30	5
Naphthalene		**302**			10 (G)
TPH (ug/l)					
Gasoline	752	5480	NA	NA	NGV

Notes:
1. * = NYSDEC. June 1998. Ambient Water Quality Standards and Guidance Values, Division of Water, Technical and Operational Guidance Series (1.1.1).
2. NA = Not Analyze
3. **BOLD** = reported concentration is above Guidance Value or Standard
4. Blank space = concentration below detection limits
5. ug/l = micrograms per liter which is equivolent to parts per billion (ppb)
6. NGV = No guidance value has been established by New York State
7. (G) = Guidance Value

SELECTED TABLES

From the

Subsurface Remediation Report

April 2001

TABLE 1

Confirmatory Soil Sampling Analytical Results
180-182 Exchange Street
Rochester, New York

Sample ID	TCLP AGV[1]	TAGM RSCO [2]	NTESTPIT - SW	NTESTPIT - BOTT	NEAST - SW 3.5	NEAST - SW	NTANK - SW	NTANK - BOTT	NORTH - SW	NORTH - BOTT	NWEST - SW	NWEST - BOTT
Depth (below grade)			6' - 8'	9'	3.5'	6' - 8'	8'	11' - 14.5'	6' - 10'	11' - 14.5'	6' - 10'	11' - 14.5'
Date Sampled			7/21/00	7/21/00	7/21/00	7/20/00	7/20/00	7/20/00	7/21/00	7/21/00	7/21/00	7/21/00
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Benzene	14	60	ND	**15.4**	13.7	ND	ND	**31.6**	ND	ND	8.73	**35.8**
Ethylbenzene	100	5500	ND	ND	ND	ND	**14200**	**507**	ND	**1800**	ND	ND
Toluene	100	1500	ND	ND	ND	ND	ND	**345**	ND	ND	ND	10.7
o-Xylene	100	1200	ND	ND	ND	21.9	**29800**	**787**	ND	**148**	ND	ND
m,p-Xylene	100	1200	ND	ND	ND	76	**107000**	**1600**	ND	**1520**	ND	76
Isopropylbenzene	100	5000	ND	ND	ND	20.6	ND	**140**	ND	ND	ND	ND
n-Propylbenzene	100	14000	ND	ND	ND	19.8	**19900**	**520**	ND	**339**	ND	9.57
p-Isopropyltoluene	100	11000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	100	13000	ND	ND	ND	**150**	**305000**	**1500**	ND	**2430**	ND	**240**
1,3,5-Trimethylbenzene	100	3300	ND	ND	ND	59.8	**63600**	**390**	ND	**507**	ND	38.6
n-Butylbenzene	100	18000	ND	ND	ND	ND	ND	**143**	ND	ND	ND	ND
sec-Butylbenzene	100	25000	ND	ND	ND	ND	ND	33.9	ND	ND	ND	ND
Naphthalene	200	13000	ND	ND	ND	ND	**102000**	**193**	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	1,000	120	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sample ID	TCLP AGV[1]	TAGM RSCO [2]	EAST - SW	EAST - BOTT 1	EAST - BOTT 2	SOUTH - SW	SOUTH - BOTT	SWEST - SW	SWEST - BOTT	WEST - SW	WEST - BOTT
Depth (below grade)			6' - 10'	11' - 14.5'	11' - 14.5'	6' - 10'	11' - 14.5'	6' - 10'	11' - 14.5'	6' - 10'	11' - 14.5'
Date Sampled			7/20/00	7/20/00	7/20/00	7/19/00	7/19/00	7/19/00	7/19/00	7/19/00	7/19/00
Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Benzene	14	60	**23.1**	**30**	**25**	ND	ND	ND	**178**	ND	**114**
Ethylbenzene	100	5500	ND	ND	ND	20.4	ND	ND	19.6	ND	16
Toluene	100	1500	10.3	17.4	18	ND	ND	ND	ND	ND	ND
o-Xylene	100	1200	ND	ND	ND	24.1	ND	34.6	30.4	19.5	28.1
m,p-Xylene	100	1200	ND	ND	ND	69.8	18.3	ND	**185**	ND	66
Isopropylbenzene	100	5000	ND	ND	ND	ND	ND	ND	ND	ND	26.8
n-Propylbenzene	100	14000	ND	ND	ND	ND	ND	ND	ND	ND	28.6
p-Isopropyltoluene	100	11000	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	100	13000	ND	ND	ND	26.2	9.27	ND	24.7	ND	37.2
1,3,5-Trimethylbenzene	100	3300	ND	ND	ND	ND	ND	14.9	8.85	20.5	12
n-Butylbenzene	100	18000	ND	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	100	25000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	200	13000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	1,000	120	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1) TCLP Alternative Guidance Values (AGVs) from the New York State Department of Environmental Conservation (NYSDEC) Spill Technology and Remediation Series (STARS) Memo #1 Petroleum-Contaminated Soil Guidance Policy, dated August 1992.
2) NYSDEC. January 24, 1994. Determination of Soil Cleanup Objectives and Cleanup Levels, Division of Hazardous Waste Remediation, Technical and Administrative Guidance Memorandum (TAGM) HWR 94-4046 (Revised) revised December 20, 2000, Recommended Soil Cleanup Objective (RSCO).
3) **Bolded** values are samples that have been detected and exceed the TCLP Alternative Guidance Values.
   Underlined values are samples that have been detected and exceed the TAGM standards.
4) ND = Not Detected at or above the laboratory detection limit. Minimum laboratory detection limits listed in the Paradigm Environmental Services, Inc. Report No. 00-1545.
5) Soil sample nomenclature: SW = Sidewall; BOTT = Bottom

TABLE 2

Soil Boring Analytical Results
180-182 Exchange Street
Rochester, New York

Sample ID *Depth (below grade)* *Date Sampled* *Units*	TCLP AGV[1] µg/kg	TAGM RSCO [2] µg/kg	**MW-7** 10' - 12' 9/18/00 µg/kg
Benzene	14	60	ND
Ethylbenzene	100	5500	**2820**
Toluene	100	1500	**3690**
o-Xylene	100	1200	**5160**
m,p-Xylene	100	1200	**11700**
Isopropylbenzene	100	5000	**171**
n-Propylbenzene	100	14000	**774**
p-Isopropyltoluene	100	11000	ND
1,2,4-Trimethylbenzene	100	13000	**6070**
1,3,5-Trimethylbenzene	100	3300	**1720**
n-Butylbenzene	100	18000	ND
sec-Butylbenzene	100	25000	ND
Naphthalene	200	13000	**665**
Methyl tert-butyl ether (MTBE)	1,000	120	ND

Notes:

1) TCLP Alternative Guidance Values (AGVs) from the New York State Department of Environmental Conservation (NYSDEC) Spill Technology and Remediation Series (STARS) Memo #1 Petroleum-Contaminated Soil Guidance Policy, dated August 1992.

2) NYSDEC. January 24, 1994. Determination of Soil Cleanup Objectives and Cleanup Levels, Division of Hazardous Waste Remediation, Technical and Administrative Guidance Memorandum (TAGM) HWR 94-4046 (Revised), revised December 20, 2000, Recommended Soil Cleanup Objective (RSCO).

3) **Bolded** values are samples that have been detected and exceed the TCLP Alternative Guidance Values. Underlined values are samples that have been detected and exceed the TAGM standards.

4) ND = Not Detected at or above the laboratory detection limit. Minimum laboratory

TABLE 6

Summary of Detected Concentrations in Groundwater
180-182 Exchange Street
Rochester, New York

Monitoring Well/Sample ID	MW-1	MW-2	MW-3			MW-4			MW-5		MW-6		MW-7		Groundwater
Sampling Date	4/6/00	4/6/00	4/6/00	10/5/00	10/16/00	4/6/00	10/5/00	10/16/00	10/5/00	10/16/00	10/5/00	10/16/00	10/5/00	10/16/00	Standard*
Detected Volatile Organic Compounds (ug/l) STARS List															
Benzene	**339**	**303**	<0.7	**6.7**		**1.30**	**18**		**140**		**51**	**59**	**97**		1
Ethyl benzene	<20	**1370**	<2	<2		<2	**40.1**		**30.9**		**7.97**	<2	<40		5
Toluene	**46.5**	**5750**	<2	<2		<2	<2		3.91		**70.9**	**25.2**	**1010**		5
m,p-Xylene	**70.9**	**4900**	<2	<2		**5.31**	**19.7**		**152**		**1110E**	**1300E**	**2120**		5
o-Xylene	**356**	**2310**	<2	<2		**7.74**	3.43		**56.7**		**747E**	**999E**	**1300**		5
1,3,5-Trimethylbenzene	**193**	**451**	<2	<2		**22.4**	<2		**19.6**		**134**	**155**	**164**		5
1,2,4-Trimethylbenzene	**199**	**1800**	<2	<2		**158**	**18.1**		**77.3**		**363E**	**363E**	**485**		5
p-Isopropyltoluene	**43**	**42.2**	<2	<2		3.30	<2		<2		<2	<2	<40		5
Isopropylbenzene	<20	**99**	<2	<2		<2	**15**		**14.9**		**6.72**	2.03	<40		5
n-Propylbenzene	<20	**194**	<2	<2		<2	**21.5**		**24.5**		<2	<2	<40		5
Naphthalene	<50	**302**	<5	<5		<5	**25.6**		**24.9**		**82.4**	**67.3**	<100		10 (G)
Total Petroleum Hydrocarbons (ug/l) by NYDOH Method 310-13	752	5480			<250			351		<250		1070		4770	NGV

Notes:

1) * = New York State Department of Environmental Conservation (NYSDEC). June 1998. Ambient Water Quality Standards and Guidance Values, Division of Water, Technical and Operational Guidance Series (TOGS) 1.1.1. GA Class standards or guidance values (G) listed.
2) STARS = New York State Department of Environmental Conservation (NYSDEC) Spill Technology and Remediation Series (STARS) Memo #1 Petroleum-Contaminated Soil Guidance Policy, dated August 1992.
3) BOLD = Reported concentration is above NYSDEC TOGS Guidance Value or Standard
4) ug/l = Micrograms per liter which is equivalent to parts per billion (ppb)
5) E = Estimated concentration reported by laboratory; concentration exceeds calibration range.
6) NGV = No guidance value has been established by New York State
7) Groundwater samples taken on 4/6/00 were analyzed for Target Compound List Volatile Organic Compounds by USEPA Method 8260.
8) Groundwater samples taken on 10/5/00 and 10/16/00 were analyzed for STARS List Volatile Organic Compounds by USEPA Method 8021.