# SOIL REMOVAL WORK PLAN

# Interim Remedial Measure (IRM)

# for

# Carlson Park - Rochester, New York

***Submitted To:***

**New York State Department of Environmental Conservation**
**Division of Environmental Remediation – Region 8**
**6274 East Avon-Lima Road**
**Avon, New York 14414**

***Prepared By:***

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**100 Carlson Road**
**Rochester, New York**

**April 16, 2008**

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# 1. Introduction/Background

This Work plan was prepared by Carlson Road, LLC for the excavation and off-site disposal of impacted soil from two small areas at the Carlson Park Site (the Site) in Rochester, New York. The removal of such impacted soil will be conducted as a non-emergency Interim Remedial Measure (IRM), as agreed upon in concept with the New York State Department of Environmental Conservation (NYSDEC). Due to the limited volume of material targeted for removal, and with prior NYSDEC concurrence, no evaluation of remedial alternatives was considered necessary for this IRM.

The implementation of this IRM is being proposed in order to remove shallow impacted soils from two distinct areas that were identified during an ongoing Remedial Investigation (RI) being conducted at the Site. The locations of these two areas are depicted on Figure 1, and have been designated as "Area A" and "Area B" for the purpose of this IRM. Area A is situated just east of a loading dock area in the southeastern portion of the property, while Area B is situated beneath a parking area in the southwestern portion of the property. The impacted soils at Area A consist of a thin veneer of stained black soil referred to as a "sludge layer". Such sludge layer is suspected of being a remnant of historical waste disposal practices, and is not believed to be functioning as an ongoing source of continued environmental quality degradation. The impacted soils at Area B are believed to be associated with past waste disposal/filling activities in that area. These soils are suspected of functioning as an ongoing source of a dissolved trichloroethylene (TCE) plume found to be present in shallow groundwater at that location.

The subject soil removal program will consist of the excavation of impacted soils from both Areas A and B, the off-site disposal of such soils, and the replacement of removed soil with clean fill. The remainder of this work plan presents a description of the Site, a summary of relevant remedial investigation information, a statement of the IRM goals and objectives, a description of pre-excavation delineation sampling, excavation and filling procedures, health and safety requirements, a projected schedule and the references relied upon while preparing this Work Plan.

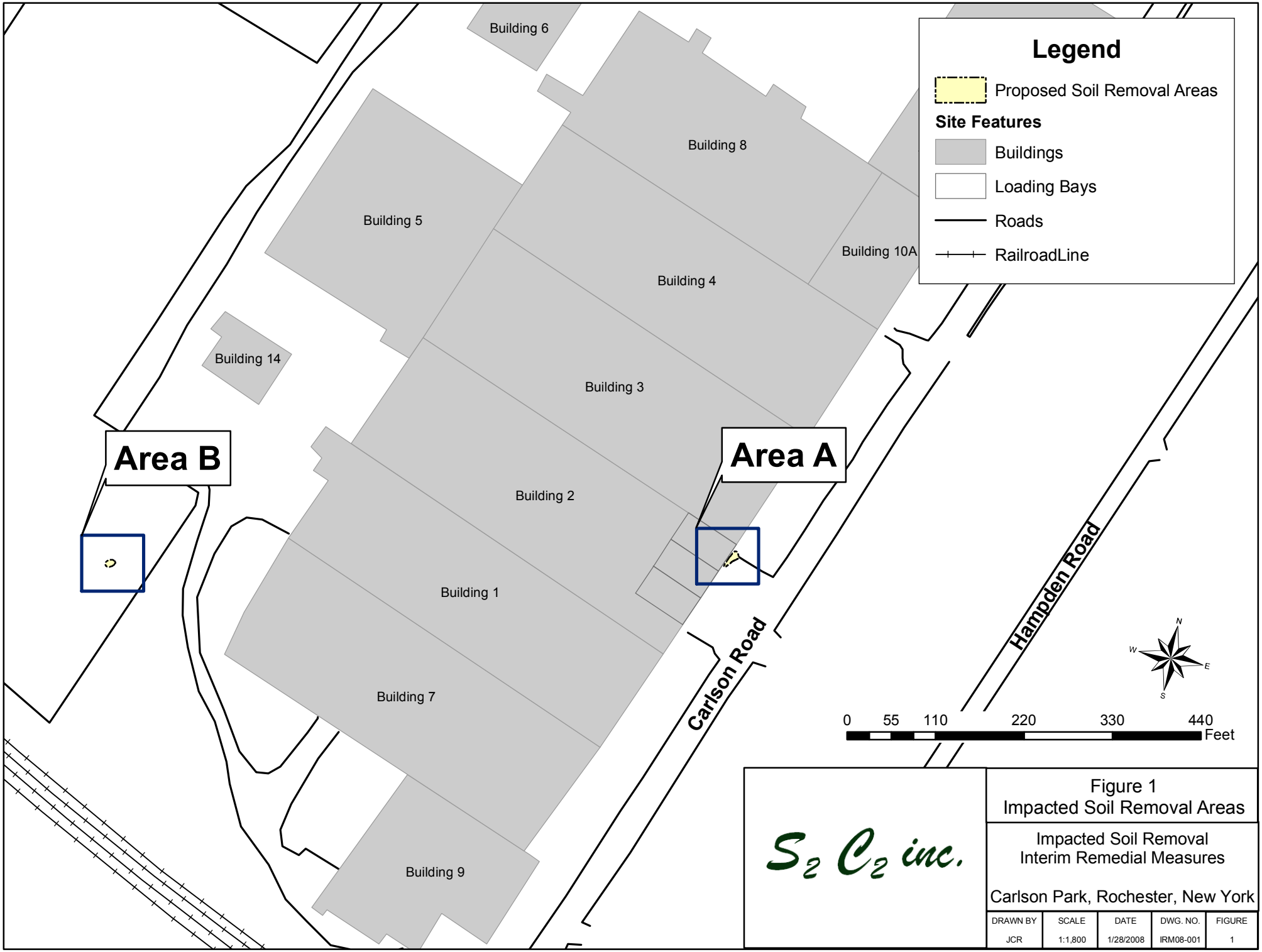
Legend
Proposed Soil Removal Areas
Site Features
Buildings
Loading Bays
Roads
RailroadLine
Building 6
Building 8
Building 5
Building 10A
Building 4
Building 14
Building 3
Area B
Area A
Building 2
Building 1
Building 7
Building 9
Carlson Road
Hampden Road
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Figure 1
Impacted Soil Removal Areas
Impacted Soil Removal
Interim Remedial Measures
Carlson Park, Rochester, New York
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## 2. Site Description

The Site is located along Carlson Road in Rochester, New York. A map indicating the location of the Site is included as part of Figure 1. The site consists of approximately 39 acres, of which about 35 acres are improved with the former manufacturing buildings (Site buildings), access roads, and parking areas. The "footprint" of the Site buildings occupies a total area of approximately 600,000 square feet. The Site is currently being utilized by several tenants whose operations include office space, commercial distribution, warehousing, and light industrial uses. A majority of the areas adjacent to the Site buildings are paved parking lots, with the remainder of the property being landscaped or covered with grass. The Site is bounded by a residential area along Hampden Road to the east (i.e., east of Carlson Road and a parking lot), railroad tracks to the south, commercial/industrial facilities to the west, and the Channel 8 WROC News Office and Humboldt Street to the north.

## 3. Summary of Remedial Investigation Work

An ongoing RI is currently being conducted at the Site as part of the NYSDEC Voluntary Cleanup Program, for which the Site was assigned NYSDEC VCP Number V00514-8. The following section of this work plan presents a summary of those portions of the previously completed RI work (conducted in accordance with a RI work plan dated October 2004), that resulted in the identification of the two small areas of impacted soil to be addressed by this IRM. Although a formal RI Report has not yet been prepared, a summary of all other work completed as part of the RI to date is available in monthly progress reports prepared for the period starting June 2005, and submitted to the NYSDEC. A summary of the RI activities conducted to identify the two small areas being addressed by this work plan is presented below.

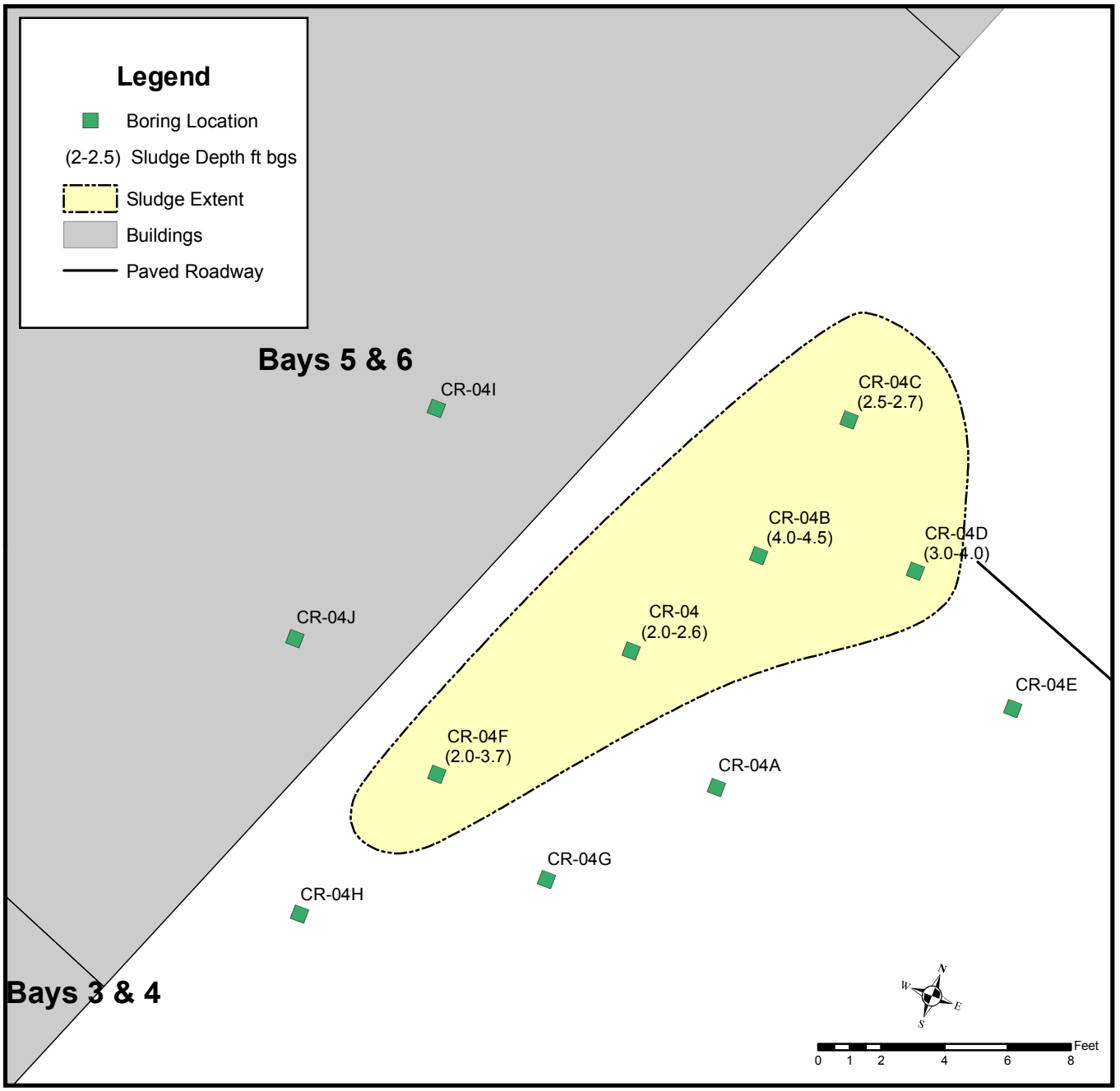
### 3.1 Area A – Limited "Sludge" Layer

A thin layer of black soil (referred to as a "sludge" layer) was first identified at location CR-04 as part of a site-wide soil evaluation program. Based upon this initial identification, and the results of analytical testing performed on a sample of this sludge, a total of ten (10) subsequent soil borings (i.e., CR-04A through CR-04J) were advanced to define the lateral and vertical extent of the sludge layer. The location of each of the 11 previously advanced soil borings used to estimate the lateral extent of this sludge layer, along with an indication of the thickness of the sludge at each boring location, is presented on Figure 2.

Based upon visual observations made from the 11 soil borings advanced in this area, it appears that the lateral extent of the sludge layer is contained within an area of approximately 10 by 20 feet. A plan view of the estimated configuration of this layer is depicted on Figure 2. The vertical placement of the surface of the sludge layer was found to range from 2 to 4 feet below ground surface. The maximum thickness of the sludge layer was observed to be 1.7 feet at sampling location CR-04F. The deepest the sludge was found to be present was 4.5 feet below ground surface (b.g.s.) at sampling location CR-04B.

Analytical results obtained from a sample of the sludge itself indicated the presence of polyaromatic hydrocarbons (PAHs) at concentrations greater than, or equal to, NYSDEC Brownfield Cleanup Program (BCP) Part 375-3 Restricted Industrial Soil Cleanup Objectives. A listing of these PAHs, with associated concentrations indicated in milligram per kilogram (mg/kg), is presented below. The "J" indicates an estimated concentration below reporting limits.

| | | | |
|---|---|---|---|
| Naphthalene | (1,000 mg/kg) | Benzo(k)flouranthene | (140J mg/kg) |
| Phenanthrene | (2,100 mg/kg) | Benzo(a)Pyrene | (380 mg/kg) |
| Flouranthene | (1,500 mg/kg) | Indeno(1,2,3-cd)Pyrene | (230 mg/kg) |
| Benzo(a)Anthracene | (460 mg/kg) | dibenz(a,h)anthracene | (52J mg/kg) |
| Chrysene | (400 mg/kg) | Benzo(g,h,i)Perylene | (180 mg/kg) |
| Benzo(b)flouranthene | (380 mg/kg) | | |



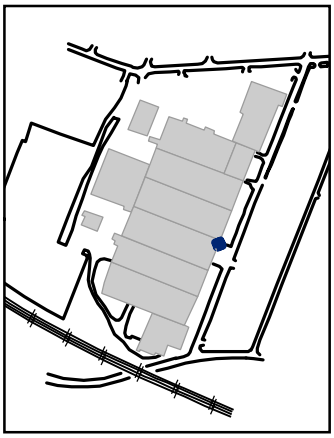



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**Figure 2**
**Area A - Sludge Delineation**
**Boring Locations**

Impacted Soil Removal
Interim Remedial Measures

Carlson Park, Rochester, New York

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Neither metals nor Volatile Organic Compounds (VOCs) were found to be present in the sludge at concentrations above applicable BCP Restricted Industrial Soil Cleanup Objectives. However, the following VOCs were found to be present in the sludge, with associated concentrations indicated in mg/kg. The "J" indicates an estimated concentration below reporting limits.

| | | | |
|---|---|---|---|
| Trichloroethylene | (92 mg/kg) | m&p-Xylene | (4.7 mg/kg) |
| cis-1,2-Dichloroethene | (75 mg/kg) | o-Xylene | (3.6 mg/kg) |
| Benzene | (0.3J mg/kg) | Isopropylbenzene | (0.64J mg/kg) |
| Toluene | (1.7J mg/kg) | | |

A single soil sample was also collected from directly beneath the sludge layer in Area A. Analytical results from this sample indicated no PAHs present at a depth of 4.5 feet beneath the sludge. TCE and cis-1,2-Dichloroethene (cis-1,2-DCE) were found to be present in soil at concentrations of 4.7 and 0.043 mg/kg, respectively, at a depth of 15 feet below the sludge.

### 3.2 Area B – TCE Impacted Soil.

A small area of TCE-impacted soil, suspected to be functioning as a potential long-term on-going source of shallow groundwater quality impacts, was identified in the southwestern portion of the Site as a result of an extensive shallow groundwater quality evaluation task conducted in that area. As part of that task, a total of 97 groundwater grab samples collected from 92 depth-discrete intervals at 66 sampling locations were analyzed for the presence of VOCs. Results from that task revealed the presence of a shallow dissolved VOC plume that is believed to originate from a very small localized area (i.e., Area B). The plume was generally observed to be migrating in a northeasterly direction within shallow groundwater towards the facility in the vicinity of Buildings 1, 2, 3, 5, and 7. Analytical results from a single soil sample (i.e. GP-57 SS) collected from unsaturated soil situated directly above the location displaying the highest observed dissolved TCE concentrations in shallow groundwater (i.e., GP-57), further suggests that such shallow soil may represent a potential source of TCE-impacted soil.

Figure 3 presents the locations and a summary of the dissolved TCE concentrations measured in shallow groundwater (i.e., at five depth-discrete groundwater grab sampling locations) and the TCE concentration measured in the soil sample previously collected at a single location in

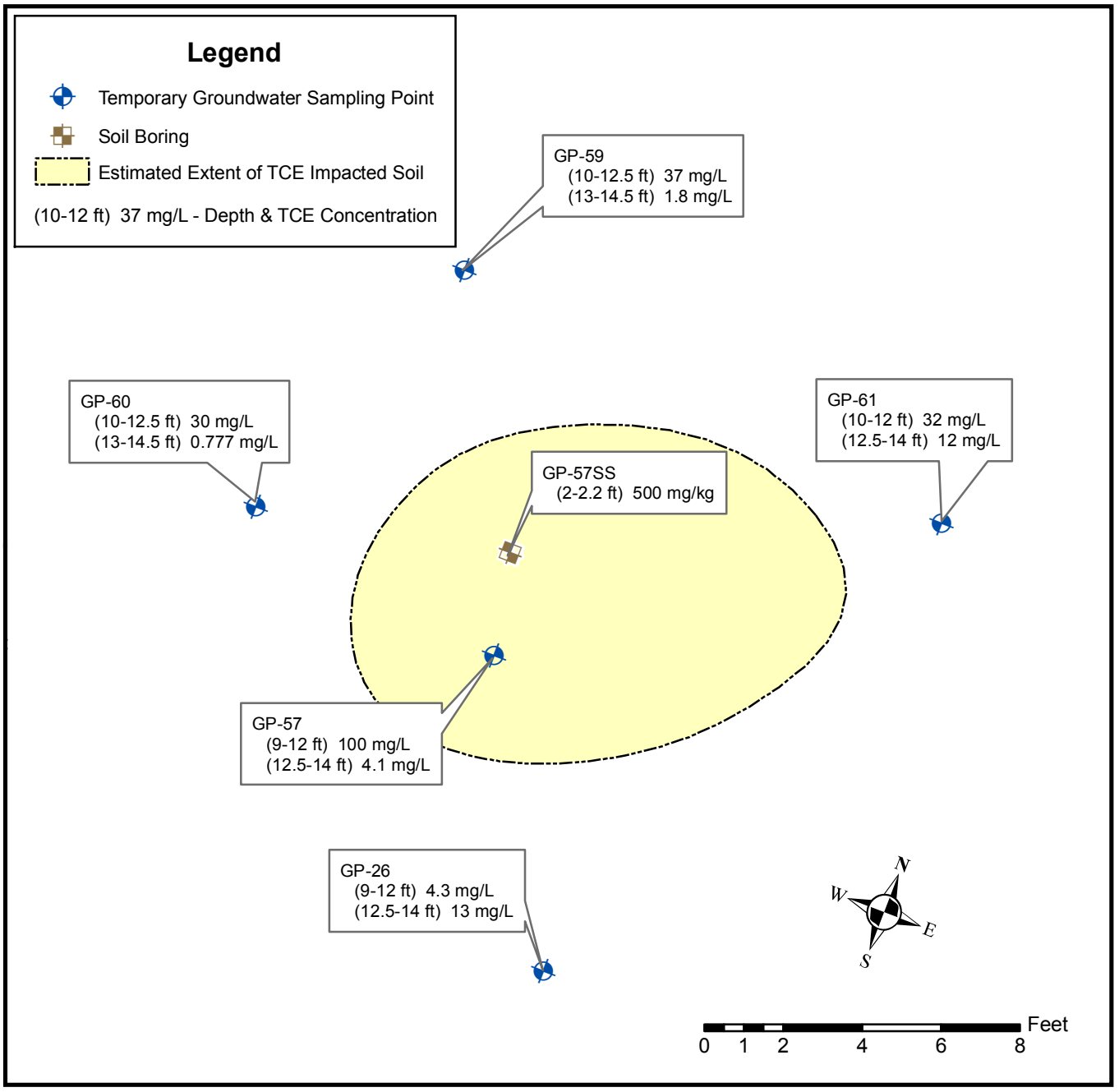
the immediate vicinity of the suspected TCE soil source area (i.e., Area B). Table 1 provides a summary of all the positive analytical results for VOC analysis conducted at the sampling locations depicted on Figure 3. [As previously indicated, a complete summary of all groundwater quality data and specific sampling locations associated with this area have previously been provided with monthly progress reports to NYSDEC.]

In general, the water table in this area was encountered at a depth of approximately 9 to 10 feet below grade, while groundwater sampling refusal was encountered at a depth of approximately 12 to 14.5 feet below grade. Consequently, depth-discrete groundwater grab sampling was limited to a maximum saturated thickness zone of only five (5) feet. Given this relatively thin saturated thickness, an attempt was made to collect two depth-discrete groundwater grab samples at each of these locations.

As indicated on Figure 3, the highest dissolved TCE concentration observed in groundwater at this area was 100 milligrams per liter (mg/L), as measured at the water table at sampling location GP-57. The dissolved TCE concentration was observed to decrease rapidly with minimal depth at this location, measuring only 4.1 mg/L in a groundwater grab sample collected just 3 to 4 feet below the water table. Likewise, dissolved TCE concentrations measured at the water table also decreased rapidly (i.e., ranging from 4.3 to 37 mg/L) at sampling locations situated within approximately 10 feet laterally away from location GP-57. Measured dissolved TCE concentrations several feet below the water, and within about 10 feet laterally away from GP-57, ranged from 0.77 to 13 mg/L. Additionally, the presence of elevated concentrations (i.e., 4.2 to 50 mg/L) of the TCE-degradation product cis-1,2-DCE, also suggests that the dissolved TCE plume is degrading in the shallow groundwater environment.

Given the rapid decline in dissolved TCE concentration measured in shallow groundwater both vertically and laterally away from location GP-57, this location was suspected to be functioning as a very localized and shallow TCE source area in overlying unsaturated soils. In order to help confirm this suspicion, a single soil boring was subsequently advanced in that area (i.e., location GP-57 SS). Analytical results from that soil boring indicated a TCE concentration in soil of 500 mg/kg at a depth of 2 to 2.2 feet below grade. This TCE concentration is greater than the NYSDEC BCP 375-3 Restricted Industrial Soil Cleanup Objective for TCE, and is

believed to be representative of a shallow localized unsaturated soil zone that is potentially functioning as an ongoing source of dissolved VOC plume generation in that area.



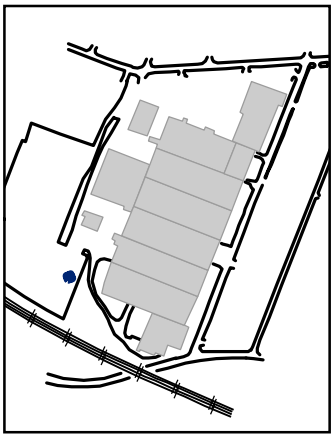



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**Figure 3**
**Area B - Groundwater/Soil Delineation Borings**

Impacted Soil Removal
Interim Remedial Measures

Carlson Park, Rochester, New York

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# Table 1
## Summary of Positive VOC Findings in Groundwater and Soil
## Area B
## Carlson Park, Rochester, NY

| Sample Location | GP-26 | GP-26 | GP-57 | GP-57 | GP-57 | GP-59 | GP-59 | GP-60 | GP-60 | GP-61 | GP-61 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Depth | 9 - 12' | 12.5 - 14' | 2 - 2.5' | 9 - 12' | 12.5 - 14' | 10 - 12.5' | 13 - 14.5' | 10 - 12.5' | 13 - 14.5' | 10 - 12' | 12.5 - 14' |
| Matrix | Groundwater | Groundwater | soil | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| Units | ug/L | ug/L | ug/kg | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| **Volatile Organic Compounds (VOCs)** | | | | | | | | | | | |
| Vinyl Chloride | 140 | 420 | 16,000 U | 520 | 900 | 630 | 170 | 760 | 750 | 2,500 U | 510 |
| 1,1-Dichloroethene | 75 | 670 | 16,000 U | 570 | 120 J | 380 J | 75 J | 280 J | 500 U | 1,000 J | 130 J |
| trans-1,2-Dichloroethene | 32 | 170 J | 16,000 U | 250 | 56 J | 74 J | 100 U | 550 | 250 U | 2,500 U | 64 J |
| 1,1-Dichloroethane | 84 J | 230 J | 1,100 J | 630 | 120 J | 720 | 53 J | 390 J | 94 J | 640 J | 320 |
| cis-1,2-Dichloroethene | 4,100 | 15,000 | 21,000 | 34,000 | 5,600 | 14,000 | 1,700 | 50,000 | 4,200 | 9,700 | 6,600 |
| 1,1,1-Trichloroethane | 480 | 1,200 | 12,000 J | 23,000 | 580 | 7,600 | 230 | 13,000 | 410 | 2,000 J | 650 |
| Cyclohexane | 25 U | 250 U | 640 J | 50 U | 250 U | 250 U | 100 U | 500 U | 250 U | 2,500 U | 250 U |
| Trichloroethene | 4,300 | 13,000 | 500,000 | 100,000 | 4,100 | 37,000 | 1,800 | 30,000 | 770 | 32,000 | 12,000 |
| Methylcyclohexane | NA | NA | 1,500 J | NA | NA | NA | NA | NA | NA | NA | NA |
| Toluene | 25 U | 250 U | 1,200 J | 1,300 | 250 U | 430 | 100 U | 290 J | 250 U | 2,500 U | 74 J |
| Tetrachloroethene | 25 U | 250 U | 2,600 J | 29 J | 250 U | 250 U | 100 U | 500 U | 250 U | 2,500 U | 250 U |
| Ethylbenzene | 25 U | 250 U | 16,000 U | 53 | 250 U | 250 U | 100 U | 500 U | 250 U | 2,500 U | 250 U |
| m&p-Xylenes | 50 U | 500 U | 16,000 U | 240 | 500 U | 500 U | 200 U | 120 J | 500 U | 5,000 U | 500 U |
| o-Xylene | 25 U | 250 U | 16,000 U | 51 | 250 U | 250 U | 100 U | 500 U | 250 U | 2,500 U | 250 U |
| Naphthalene | 120 U | 1,200 U | NA | 37 J | 500 U | 500 U | 200 U | 1,000 U | 500 U | 5,000 U | 500 U |

*B: Analyte detected in method blank,*
*J: Estimated value below referenced reporting limit (RL),*
*U: Analyte not detected above RL*

## 4. IRM Goals and Objectives

The goal of this non-emergency IRM is to remove two small areas of impacted soil identified to be present at the Site, and to replace such impacted soils with "clean" backfill material. The objectives for this proposed action is slightly unique to each of the two areas to be addressed. At Area A, the primary objective of the IRM is to simply remove a very shallow, thin, localized layer of soil (sludge) impacted with PAHs at concentrations above the NYSDEC BCP 375-3 Restricted Commercial Soil Cleanup Objectives for such compounds, if feasible.

At Area B, the primary objective of the IRM is to remove unsaturated soil suspected to be functioning as a long-term on-going source of shallow groundwater quality impacts in that area. It is currently believed that a very shallow, localized pocket of soil potentially impacted by TCE in the form of a residual Dense Non-Aqueous Phase Liquid (DNAPL) may be present. Accordingly, the removal of such TCE-impacted soil is intended to remove a potential source area, and thereby help improve future groundwater quality conditions in that area.

## 5. Pre-Excavation Delineation Sampling

Prior to the initiation of any impacted soil removal activities, a variety of limited pre-excavation sampling will be conducted in both Areas A and B. Such sampling will benefit the project in at least two ways. The first benefit to conducting pre-excavation sampling is to obtain waste classification characteristics needed by the off-site disposal facility to identify appropriate disposal requirements. Such testing will be performed on a representative sample of the sludge from Area A, and on a representative composite soil sample to be collected at Area B. At a minimum, the analytical parameters to be utilized for waste classification will include the performance of Toxicity Characteristic Leaching Procedure (TCLP) testing for benzene and lead, as well as ignitability testing. Required VOC and SVOC data is already available [Any additional information that may subsequently be required by the selected waste disposal facility will also be obtained prior to off-site disposal.]

The second benefit to conducting pre-excavation sampling is to define the actual required limits of excavation prior to the initiation of excavation activities. This will allow a fairly accurate

calculation to be made of the estimated volume of soil to be removed, thereby assisting with the contracting and planning for both the excavation and off-site disposal of impacted soils. In addition, by eliminating the need to wait for post-excavation sampling results, the excavation area can be filled and the area restored immediately after soil removal is completed, thereby reducing potential disruption to tenants. Consequently, analytical information obtained from this component of the pre-excavation sampling activities is intended to satisfy all post-excavation sampling requirements for the impacted soil removal activities being addressed by this IRM. Accordingly, it is intended that the number of samples, their precise placement, and the analytical data quality associated with sample analysis will be sufficient to accomplish all post-excavation sampling objectives. In the event that selected required post excavation sampling locations at Area A can not be accessed in advance of soil removal activities, then any such locations will be sampled immediately upon the conclusion of excavation activities.

All pre-excavation sampling will be conducted with the use of direct-push sampling techniques, consistent with the same procedures utilized to perform previous RI soil sampling activities. All chemical analysis (other than waste characterization) to be conducted on pre-excavation samples will be performed in accordance with New York State Analytical Services Protocols (ASP), as appropriate. The VOC analysis will be conducted in accordance with U.S. EPA SW-846 Method 8260B, while the PAH analysis will be conducted in accordance with U.S. EPA SW-846 Method 8270C.

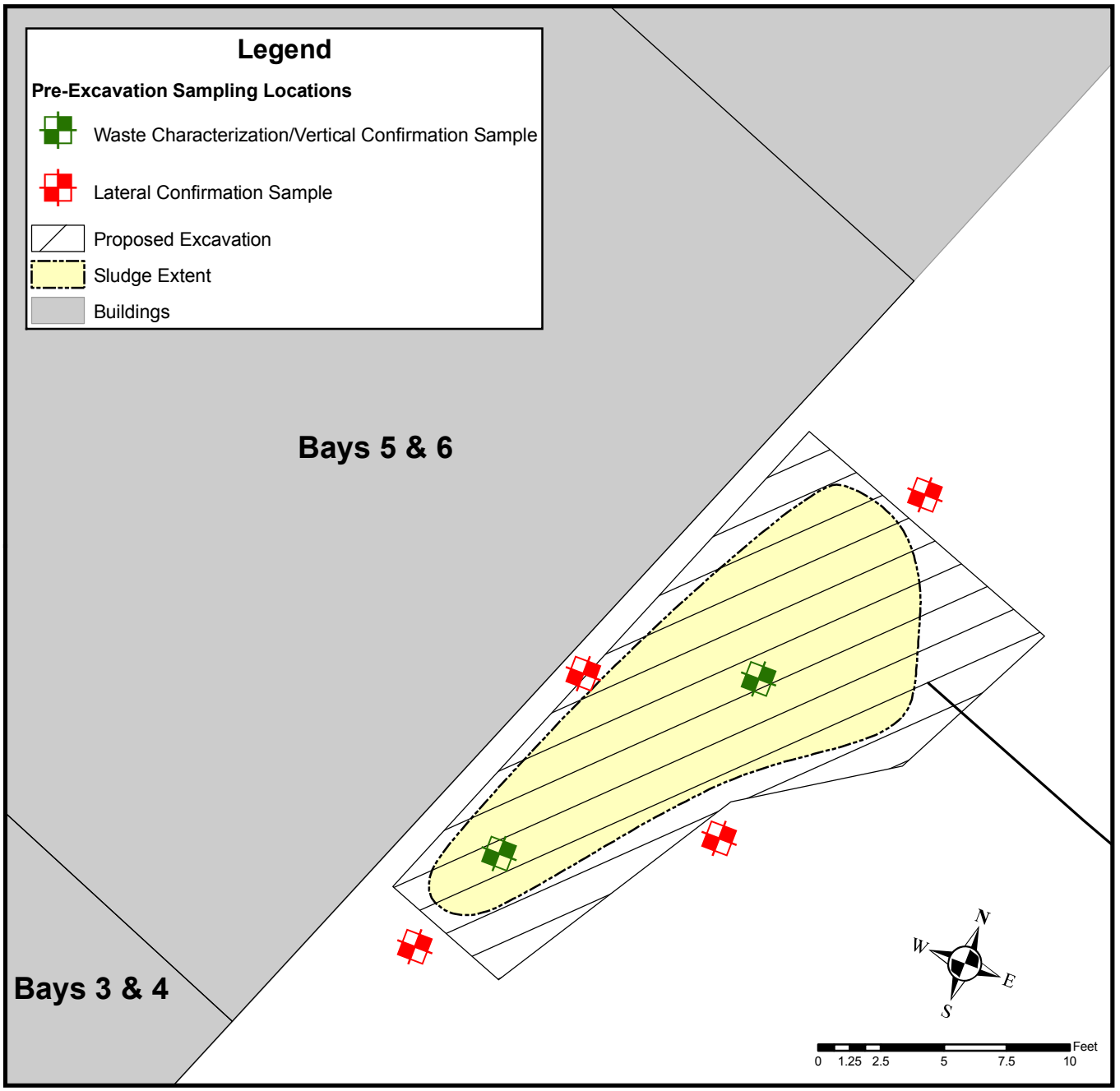
## 5.1 Area A – Sludge Delineation and Characterization

Previous RI work conducted in this area has suggested that the sludge layer is identifiable based upon visual observation. Analytical results previously obtained suggest that soil quality impacts in excess of NYSDEC BCP Part 375 Restricted Industrial Soil Cleanup Objectives are limited to PAHs in the sludge itself. The primary objective of this sampling effort is to verify that a viable correlation exists between visual observations and analytical impacts with regard to the sludge. If such a correlation is confirmed, then visual identification of the sludge will function as an adequate method for establishing the required extent of soil removal. If such verification is not confirmed, then information obtained from this program will be used to establish the required extent of soil excavation based upon analytical criteria (in lieu of visual observation).

Figure 4 presents the approximate locations of pre-excavation sampling locations being proposed for this area. Actual sampling locations may be modified in the field based upon access considerations and the presence of underground utilities. One of the two sampling locations proposed within the extent of sludge area will be utilized for the collection of sludge to undergo waste characterization analysis as described above.

It is anticipated that a total of up to eight (8) depth-discrete soil samples to be collected from six (6) locations will be analyzed for PAHs in order to establish the correlation described above, and/or to establish limits of excavation based on analytical results alone. Accordingly, both proposed sampling locations situated within the lateral extent of sludge, will each have a total of two (2) depth-discrete soil samples collected from below the base of the sludge. The first sampling interval will be from approximately one (1) foot below the base of the sludge, while the second interval will be from approximately three (3) feet below the base of the sludge. The actual depths below grade will be based upon visual observation of the placement of the dark stained soil/sludge. Initially, only the two samples collected from the shallow-most intervals beneath the sludge extent area will be analyzed. The two deeper soil samples collected below the sludge will be held by the lab and only analyzed for PAHs if the overlying sampling intervals exhibit PAH concentrations in excess of NYSDEC BCP Part 375 Restricted Commercial Soil Cleanup Objectives. If there is a possibility that the holding time for sample extraction may be exceeded for the two deeper samples, those samples will be extracted and the extracts held for possible subsequent analysis.

In addition to the above-mentioned locations, it is also proposed that four additional sampling locations be placed just outside the lateral sludge extent (i.e., on each side of the proposed excavation area). At these locations, an attempt will be made to collect depth-discrete soil samples from the same depth interval that the adjacent sludge layer is found to be present, and at an approximate distance of 1 to 2 feet outside of the sludge zone. Each of these soil samples will also be analyzed for PAHs. Based upon previous observations made in this area, it is currently uncertain if the presence of subsurface utilities or other obstructions will prevent the collection of proposed samples situated north and west of the anticipated excavation area prior to excavation activities. If this occurs, then any such missing pre-excavation lateral sampling locations will be addressed at the conclusion of soil removal activities.



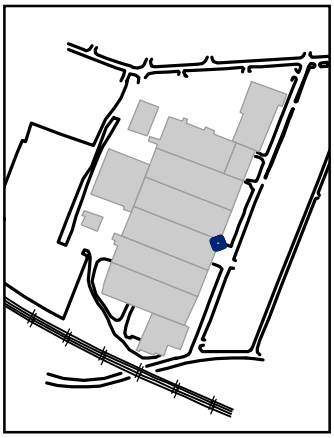



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**Figure 4**
**Area A - Pre-Excavation Sampling Locations and Proposed Excavation Extent**

Impacted Soil Removal
Interim Remedial Measures

Carlson Park, Rochester, New York

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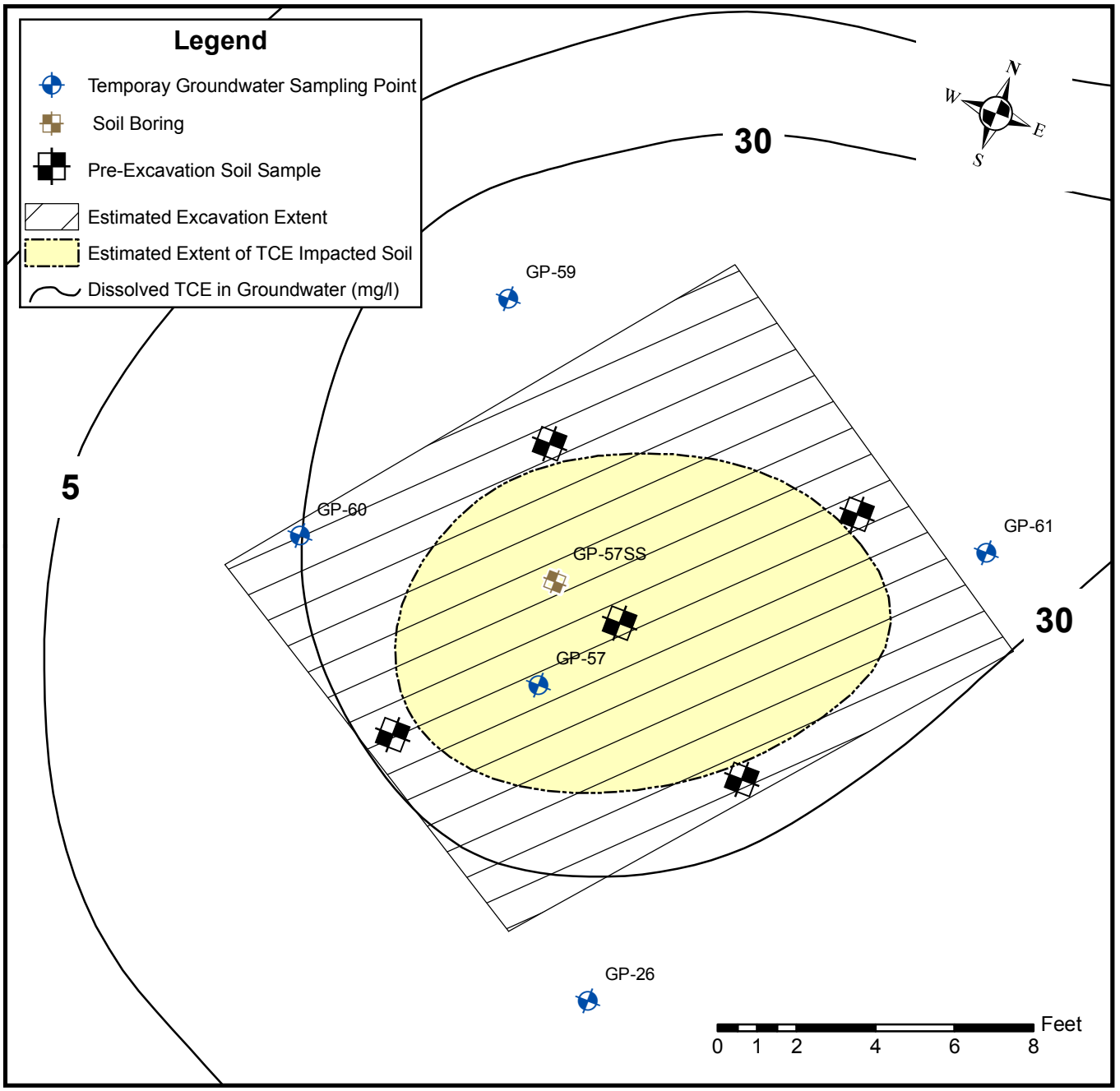
## 5.2 Area B: TCE-Impacted Soil Delineation & Characterization

Analytical results from an extensive and intensive shallow groundwater grab sampling program indicated a very small area displaying elevated dissolved TCE concentrations in the vicinity of sampling location GP-57. The observed pattern of dissolved TCE concentrations in shallow groundwater, suggests the potential presence of a very limited TCE source area in overlying shallow soil. To date, a single unsaturated soil sample has been collected and analyzed for VOCs. Analytical results for that sample have indicated the presence of TCE in unsaturated soil situated at an approximate depth of two feet below ground surface at a concentration of 500 mg/kg. The primary objective for conducting pre-excavation sampling at this area (Area B) is to obtain a more complete understanding of the lateral and vertical extent of unsaturated TCE-impacted soil to be removed as part of this IRM. At a minimum, it is the intent of this program to remove all unsaturated soils in the vicinity of Area B which display TCE concentrations in excess of 200 mg/kg. However, it should be noted that additional soil may also be removed at the time the excavation pit is open and accessible, if elevated TCE concentrations less than 200 mg/kg are observed to be present in the immediate vicinity of the excavation area, or based upon other visual and/or PID observations made at the time of excavation.

A minimum of five (5) locations have been targeted for pre-excavation sampling in this area. Figure 5 presents the approximate location and configuration of these five (5) proposed sampling locations. Actual sampling locations may be modified slightly in the field. Of the five proposed sampling locations, a single soil boring is proposed to be advanced in the center of the suspected source area adjacent to former location GP-57. A composite of soil believed to be representative of the material to be sent off-site for disposal will be collected from the nine-foot interval between the ground surface and the water table at this location, and will be submitted to undergo waste characterization analysis as described above. In addition, depth-discrete soil samples will also be collected from just above the water table (i.e., about 9 feet b.g.s.) and at a depth equivalent to the mid-point between the original GP-57 shallow sampling interval and the water table (i.e., approximately 5 to 6 feet b.g.s.). These soil samples will be analyzed for VOCs. Analytical data from these two sampling intervals, together with the existing analytical data, will be used to help establish the vertical extent of unsaturated TCE-impacted soil to be excavated at this area.

In addition to the single soil boring to be advanced in the center of the suspected TCE-impacted soil area, a total of four (4) additional pre-excavation soil borings will also be advanced at Area B. Each of these 4 borings will be situated approximately 5 to 6 feet away from the original GP-57 location. A total of three (3) depth-discrete soil samples will be collected from each of these four borings to undergo VOC analysis. The specific intervals to be selected to undergo VOC analysis will be determined based on field screening results with a Photoionization Detector (PID), and with the use of visual observations. In the event there are no elevated PID readings or visible impacts, then the three depth-discrete soil sampling intervals from any such soil boring will be spread evenly over the total boring depth. This would result in soil sampling intervals of approximately 1-2, 4-5, and 7-8 feet below grade.

As stated above, all 15 depth-discrete unsaturated soil samples to be collected from the five (5) proposed pre-excavation sampling locations at Area B, will be analyzed for VOCs in accordance with U.S. EPA SW-846 Method 8260B. In the event unsaturated soils from any of the four outlying boring locations indicate PID readings greater than those measured near location GP-57, then additional borings will be advanced in the direction of such elevated readings. The same criteria described above will be utilized to select the specific sampling intervals to undergo chemical analysis in any such additional borings.



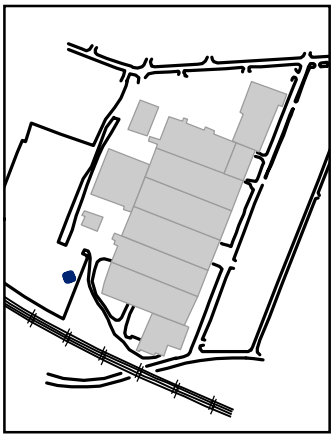



**Figure 5**
**Area B Pre-Excavation Sampling Locations and Proposed Excavation Extent**

Impacted Soil Removal
Interim Remedial Measures

Carlson Park, Rochester, New York

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| DATE: 1/28/2008 | DRAWN BY: JCR | SHEET: Figure 5 | |

# 6. IRM Activities

This section presents the specific activities to be conducted as part of this IRM in order to remove targeted soils from Areas A and B. Such activities will include: site preparation; the excavation and off-site disposal of impacted soils; and site restoration. A detailed description of each of these activities is presented below.

Prior to the initiation of any impacted soil removal activities, the final specific limits of required excavation, and an appropriate disposal facility will be identified. Both of these issues will be addressed once the analytical results from all pre-excavation sampling activities have been obtained and evaluated. Once such an evaluation has been completed, a letter addendum to this Work Plan will be prepared and submitted to NYSDEC for review and approval. This letter addendum will identify the final specific proposed lateral and vertical limits of excavation at both Area A and Area B, will identify the recommended waste disposal facility, and will address any other proposed modifications to this plan that may be warranted. In the meantime, a plan view of the preliminary estimated limits of impacted soil removal for Area A and Area B are depicted on Figures 4 and 5, respectively. The maximum estimated excavation depth at Area A is currently anticipated to be the base of the sludge layer (i.e., 4.5 feet b.g.s.), while the maximum depth of excavation at Area B will be the water table (i.e., about 9 feet b.g.s.). The final actual excavation depth at Area A may increase, while the final actual excavation depth at Area B may decrease.

## 6.1 Site Preparation

Prior to initiating soil excavation, several site preparation activities will be performed. These include provisions for site control and access, obtaining appropriate permits and approvals, identification and protection of utilities, implementation of erosion control measures, construction of temporary areas for loading excavated soil and staging backfill, and delineating the extent of the area to be excavated.

### 6.1.1 Site Control and Access

An attempt will be made to complete as much of the proposed IRM activities to be conducted in both Areas A and B during non-business hours. Performing the work at that time will minimize potential disruption to tenants, and also limit the number of individuals expected to be on the premises when IRM activities are being conducted. Site access will be controlled through the use of warning tape and/or safety fencing, especially at open excavations. Although Carlson Road is privately owned, a traffic management plan may be utilized to control any minimal vehicle traffic that may be present in the vicinity of Area A during the implementation of IRM activities. Traffic control is not anticipated to be an issue in Area B (a parking lot) during the weekend. All keys will be removed from heavy equipment when not in use, and overnight security is present at the Site on a routine basis.

### 6.1.2 Permits and Approvals

Due to the very limited area of proposed soil excavation, neither a Construction Storm Water Permit nor an Erosion Control Plan will be required for this program. Such permits or plans are typically required for disturbance of one acre or greater during construction. Although such permits or plans will not be required, an effort will be made to prevent negative impacts to storm water. Erosion control measures will be utilized to minimize excavated and backfill material from negatively impacting storm water quality.

If the material to be excavated is found to be “hazardous”, a hazardous waste generator identification number will be secured for use during transportation of the excavated material. In addition, Hazardous Waste Manifest Forms will be completed and used, consistent with state and federal requirements, during transportation of the excavated soil for off-site disposal.

### 6.1.3 Utility Protection

Prior to the initiation of any excavation activities at the Site, the location of buried utilities in the vicinity of the excavation area will be identified and marked. This will be done by contacting the “Digg Safe New York” hotline and referring to related facility construction

drawings. Care will be taken when excavating around utilities and hand excavation will be employed if deemed necessary to protect the utilities and/or underground structures.

### 6.1.4 Erosion Control

Erosion control measures will be implemented at the Site to protect storm water quality. Such measures may include the use of polyethylene sheeting to cover staged "clean" backfill material, and the placement of downgradient berms consisting of polyethylene and sand bags. [As noted below, an attempt will be made to avoid staging excavated soils on site.] The excavation area will be covered with polyethylene sheeting during periods of unexpected precipitation, and the upgradient edge of the cover will be appropriately bermed to prevent overland flow from seeping under the cover and entering into the excavation area. A storm drain situated in the vicinity of Area A will be surrounded with hay bales to prevent the entry of solids into the storm drain during IRM activities.

### 6.1.5 Staging Areas

As noted previously, it is currently anticipated that staging at the Site will be limited to clean backfill material. This material may be staged in the southwest portion of the rear parking lot area at a location considered to be least disruptive to normal parking activity. The selected staging area will be lined with polyethylene sheeting and the clean backfill material will be covered with polyethylene to minimize the potential for erosion from wind or rain and to help prevent any adverse effects to storm water quality. Alternatively, clean backfill material may be staged in waiting trucks in order to minimize double handling of the material. At both excavation areas A and B, provisions will be made to suppress dust, if necessary. This will be accomplished with the use of a hose attached to an existing water supply line and of sufficient length to reach the furthest limit of the excavation. If an existing water supply is unavailable, a water truck will be mobilized and be available for use.

### 6.1.6 Excavation Area Delineation

Prior to initiating excavation activities, the proposed excavation area will be demarcated using orange-colored spray paint or equivalent. This will be done utilizing the data to be collected

during the pre-excavation delineation activities. During soil excavation, removal depths will be periodically checked to confirm that the target depths have been achieved. As previously discussed, additional excavation may be performed as appropriate. Adequate precautions, including the possible use of bracing, will be taken to assure that the stability of excavation walls is maintained.

## *6.*2 Soil Removal and Disposal

Prior to removing soil, existing pavement at both excavation areas will be removed and temporarily staged for possible reuse as bedding material for the new replacement pavement. Soil will then be removed from within the demarcated areas to depths to be specified. Soil removal will be accomplished with the use of conventional soil excavating equipment such as backhoes and/or excavators.

Based upon a current understanding of site conditions, it is anticipated that the volume of soil to be excavated may be sufficiently small to potentially eliminate the need to temporarily stage excavated materials on site. Under this scenario, excavated soil will be loaded directly into waiting trucks and sent off-site for disposal. However, if the results from pre-excavation delineation activities suggest that a larger volume of soil will be removed, then temporary on-site staging of excavated material may be required. If this occurs, specific staging details will be outlined in the Work Plan Addendum.

Each truck used to transport excavated material will be lined with polyethylene sheeting that will drape over the side of the truck from which it is being loaded, and will extend out a minimum of 15 feet from the truck. This extended portion of liner will catch any excavated soil that may fall to the ground while being loaded onto the truck. After the truck is loaded, the liner will be carefully lifted up the sides of the truck so that any fallen soil is placed back into the truck and is secured within the liner. Other approaches may be used that are capable of meeting the objective of capturing any excavated soil that may spill during loading for on-site staging and/or off-site disposal. The excavated soil will be transported to a disposal facility that is appropriately licensed to accept the soil for treatment/disposal.

Soil removal will be deemed complete once the pre-determined target depths and lateral extent of required soil excavation has been achieved, and/or all discolored material is removed (Area A). However, as previously discussed, additional soil removal may be performed if warranted by observations made in the field.

## 6.3 Site Restoration

Following soil removal activities, the excavation will be backfilled, the pavement will be replaced, the staging areas will be dismantled and temporary facilities will be removed, and all equipment utilized for these activities will be demobilized from the Site.

### 6.3.1 Backfilling

The excavations at both Areas A and B will be backfilled with materials that are less permeable than the existing surrounding soils. The backfill will be placed in lifts and compacted as appropriate. The backfill material will be free of anthropogenic chemicals and of low carbon content, and will be obtained from a borrow area approved by the New York State Department of Transportation. In addition, appropriate documentation will be provided to confirm that the backfill material is "clean" (i.e. meets the lower of the Part 375 Residential Use or Protection of Groundwater standards).

Consideration will be given to placing Hydrogen Release Compound (HRC) into the open excavation pit at Area B prior to filling the excavation pit with backfill material. The possible placement of such material will be considered as a possible measure to enhance the biodegradation effects already observed to be ongoing within the underling dissolved VOC plume in shallow groundwater. A more detailed explanation for the possible placement of HRC during the implementation of this IRM will be provided in the letter addendum to be prepared for this Work Plan. Such explanation will include a discussion of the basis for the possible use of HRC as part of this IRM, and the quantity of HRC to be used in this context. Any further discussion regarding potential activities to verify and/or monitor future groundwater quality conditions will be addressed as part of an overall comprehensive remedial program to be developed subsequent to the completion of the subject IRM.

### 6.3.2 Pavement Replacement

Following backfilling, a bedding layer potentially comprised of the previously removed pavement and/or gravel, will be placed over the clean backfill material. This bedding layer will then be topped with fresh asphalt.

### 6.3.3 Demobilization

Once all IRM activities have been completed, the staging area(s) and all temporary facilities will be dismantled and removed from the Site. All equipment will be demobilized and also removed form the Site. All liners, PPE and similar materials will be appropriately disposed.

## 7. Health and Safety

The existing site Health & Safety Plan (HASP) dated July 28, 2004, and submitted as part of the RI Work Plan will provide the basis for all health and safety protocols associated with this IRM program. However, the existing HASP will be supplemented with several other procedures specifically intended to address conditions that are unique to the proposed soil excavation activities. Such conditions will include, but may not be limited to, the following: securing the work area from pedestrian traffic, conducting Fugitive Dust Monitoring, and monitoring the breathing space within the work zone for VOCs.

The primary mechanism for limiting the potential for pedestrian traffic within the excavation areas will be to conduct the subject work on non-business days (i.e., weekends or holidays) when tenants and other facility support personnel are least likely to be on the premises. In addition, the perimeter of the excavation will be flagged, taped, or barricaded to prevent accidental entry at any time an open excavation may be left unattended.

Fugitive dust monitoring and air monitoring of the breathing space for VOCs within the work zone will be conducted during all excavation activities associated with the implementation of this IRM. Fugitive dust monitoring will be conducted using a TSI Dust Trak aerosol monitor in conformance with NYS Department of Health (DOH) protocols, and VOC monitoring will be conducted with the use of a PID. These activities will be conducted in accordance with the

Community Air Monitoring Plan (CAMP) previously approved and in place for this Site, and will be consistent with Appendix 1A of NYSDEC DER 10 Guidelines (NYSDEC, 2002). Any VOC concentrations measured in excess of specified limits will result in a temporary stoppage of work, and may result in the need to utilize respiratory protection by individuals within the work zone.

At a minimum, the excavation contractor will be required to review and agree to adhere to all provisions outlined in the HASP prior to beginning work. The contractor will also be required to add any other steps they believe will be necessary to protect the health and safety of their employees while implementing the work. All Contractor personnel working on this program will be required to demonstrate completion of OSHA-required health and safety training and medical surveillance program participation pursuant to 29 CFR 1910.120 prior to beginning work at the Site.

## 8. Schedule

The actual schedule for the implementation of the proposed impacted soil removal IRM will be finalized once the IRM Work Plan has been conditionally approved by NYSDEC. However, it is currently anticipated that pre-excavation delineation sampling activities can be initiated in the Spring of 2008, and can be completed within one to two days. The final receipt, and subsequent evaluation, of analytical results will be completed within six weeks of sample collection. A letter addendum to this Work Plan will then be prepared and provided to NYSDEC for review and approval. Such letter addendum will outline specific proposed limits of excavation, the waste disposal requirement for the excavated material, and any other information pertinent to the successful implementation of this IRM.

Once the letter addendum is approved by NYSDEC, actual scheduling of the implementation of this IRM can be finalized. It is currently anticipated that such implementation will be completed in the Summer of 2008. Due to a combination of safety concerns, and a desire to minimize the disturbance that soil removal activities may cause to tenants at the Carlson Park Facility, an attempt will be made to conduct all soil removal and site restoration activities

during non-business days (i.e., weekends and/or holidays). Accordingly, it is hoped that all the actual soil removal and backfilling activities to be conducted in each area (i.e., Area A and Area B), will be completed over consecutive non-business days. Consequently, it is anticipated that separate mobilizations may be utilized to conduct the field tasks associated with each of the two areas to be addressed as part of this IRM. The actual scheduling of soil removal activities will be somewhat dependent upon forecasted weather conditions. An attempt will be made to conduct all excavation and backfilling activities during periods of relatively dry weather conditions.

# 9. References


Voluntary Cleanup Program Remedial Investigation Work Plan; Carlson Park (Site #V00514; Index #B8-0604-12-01); 100 Carlson Road, Rochester, New York; October 2004. (GeoQuest Environmental Inc. and $S_2C_2$ Inc.)

NYSDEC, 2002. Draft DER-10 Technical Guidance for Site Investigation and Remediation. New York State Department of Environmental Conservation, December 2002.

NYSDEC, 2004. Draft Brownfield Cleanup Program Guide. New York State Department of Environmental Conservation, May 2004.