

ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES (ABCA)

**24 AND 32 YORK STREET
ROCHESTER, NEW YORK 14611**

NYSDEC SPILL #1901036

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EXECUTIVE SUMMARY

On behalf of the City of Rochester, New York (City), Day Environmental, Inc. (DAY) prepared this Analysis of Brownfields Cleanup Alternatives (ABCA) for the remediation of petroleum impacts identified on two City-owned adjoining parcels with a combined area of approximately 0.27 acres located at 24 and 32 York Street, City of Rochester, County of Monroe, New York (Site). A project locus map is included as Figure A.

The New York State Department of Environmental Conservation (NYSDEC) assigned Spill No.1901036 to the Site, which is currently listed as an active spill (“Unknown Petroleum”).

Three remediation alternatives were retained following preliminary screening of applicable remedial methods and technologies.

- **Alternative #1 (No Action)** is the “No Action” alternative, which presumes no cleanup or remediation, and no monitoring will be conducted at the Site.
- **Alternative #2 (Limited Source Removal)** includes the excavation and off-site disposal of petroleum-impacted soil and groundwater, preparation of a NYSDEC Region 8 Soil and Groundwater Management Plan (SGMP) and flagging the Site in the City’s building information system (BIS) as institutional controls to ensure disturbed or displaced residual contamination are properly addressed, and five years of bi-annual post-excavation groundwater monitoring.
- **Alternative #3 (Comprehensive Source Removal and In-Situ Treatment)** includes the excavation and off-site disposal of petroleum-impacted soil, upper one-foot of fractured bedrock and groundwater, the direct application of a bioremediation additive to the open excavation, the installation of in-situ bioremediation delivery hardware in the excavation, a second application of chemical additive through the in-situ remediation delivery system, preparation of a NYSDEC Region 8 SGMP and flagging the Site in the City’s BIS as environmental institutional controls to ensure disturbed or displaced residual contamination are properly addressed, and one year of bi-annual post-remediation groundwater monitoring followed by a second year of bi-annual groundwater monitoring if deemed necessary.

Based on the extent of the impacted areas, the contaminants of concerns, and the affected media, the recommended remedial approach is **Alternative #3**. This alternative provides the most: comprehensive cleanup; long-term effectiveness; and reduction on toxicity, mobility and volume (mass) of contamination. This alternative also better prepares the Site for various future land uses, including multi-family residential and mixed use (commercial and multi-family residential).

1.0 INTRODUCTION AND BACKGROUND

1.1 Site Description and History

The subject property consists of two contiguous parcels located at 24 and 32 York Street in the City of Rochester, County of Monroe, New York (Site). As of September 2019, the Site is owned by the City, and the Monroe County Tax ID numbers for the two parcels are 120.42-2-70 and 120.42-2-71. The two parcels are zoned C-2 (Community Center District) which allows a variety of residential and commercial uses, include mixed use.

Uses of the 24 York Street portion of the Site included a blacksmith shop and a wood working shop in at least 1892; a blacksmith shop, wagon shop, and painting and harness shop in at least 1912; an auto repair facility in at least 1924; a gasoline station (with at least eight underground tanks and at least six pump dispensers) from at least 1925 through at least 1954; an auto repair facility and blacksmith shop in at least 1929-30; a blacksmith shop in at least 1935 and 1950; an auto repair facility from at least 1941 to at least 1973; and an auto sales facility in at least 1978, and vacant land and/or a parking lot from about 1981 to the present.

Uses of the 32 York Street portion of the Site included residential from at least 1888 to about 1935, a post office from about 1935 to at least 1997, and a church from about 2001 to the present.

The Site is bounded to the north and east by commercial property, to the west by York Street with residential and commercial property beyond, and to the south by Ruby Place with commercial property beyond.

The Site is located within the City of Rochester Bull's Head Brownfield Opportunity Area (BOA). The City of Rochester has plans to redevelop the portion of the Bull's Head BOA that includes the Site.

1.2 ABCA Objective

The objective of the ABCA is to identify, evaluate and select a remedy to remediate the petroleum contamination at the Site that results in obtaining closure of active NYSDEC Spill #1901036 and allows redevelopment of the Site for mixed use.

1.3 Summary of Prior Investigations

Previous environmental studies that have been completed for the 24 and 32 York Street Site and/or surrounding area that were utilized in the development of this ABCA include:

- A December 20, 2017 (revised January 3, 2018) Phase I Environmental Site Assessment (Phase I ESA) report completed by DAY for the 24 York Street parcel;
- A December 20, 2017 (revised January 3, 2018) Phase I ESA report completed by DAY for the 32 York Street parcel;
- A July 19, 2019 Preliminary Phase II Environmental Site Assessment (Preliminary Phase II ESA) report completed by DAY for the 24 York Street parcel;
- A July 19, 2019 Preliminary Phase II ESA report completed by DAY for the 32 York Street parcel;

- A July 2019 Pre-Development Phase II Environmental Site Assessment and Geotechnical Study Report completed by DAY for 15 adjoining/nearby City-owned parcels, including investigation work in the public right-of-ways of York Street and Ruby Place that bound the Site; and,
- A November 2019 Phase II ESA Report completed by DAY for the 24 and 32 York Street parcels.

1.3.1 January 3, 2018 Phase I ESAs – 24 and 32 York Street

The Phase I ESA identified historical uses of the 24 York Street parcel as an on-site environmental concern that could impact environmental conditions at the Site. These historical uses included a blacksmith shop and a wood working shop in at least 1892; a blacksmith shop, wagon shop, and painting and harness shop in at least 1912; an auto repair facility in at least 1924; a gasoline station (with at least eight underground tanks [USTs] and at least six pump dispensers) from at least 1925 through at least 1954; an auto repair facility and blacksmith shop in at least 1929-30; a blacksmith shop in at least 1935 and 1950; an auto repair facility from at least 1941 to at least 1973; and an auto sales facility in at least 1978.

In addition, historical uses and regulatory listings of adjoining/nearby properties were identified as an off-site concern that had the potential to impact environmental conditions at the Site. These adjoining/nearby sites included a former dry cleaner, automobile sales and service facilities, a coal company, tailors, a milliner, a sewing machine company, a sheet metal worker, heating contractors, and a locksmith. Documented spill files exist for adjoining/nearby properties.

1.3.2 July 19, 2019 Preliminary Phase II ESAs – 24 and 32 York Street

The Preliminary Phase II ESAs included: a geophysical survey to look for anomalies that could suggest the presence of abandoned underground storage tanks; the advancement of 12 test borings; the installation of ten temporary monitoring wells within ten of these test borings; and the collection and laboratory analysis of soil and groundwater samples. Appendix A contains Figure 2 and select data tables from both of the Preliminary Phase II ESA reports, as well as figures and tables from other previous on-site and adjacent/nearby investigations. The results of the Preliminary Phase II ESA work are summarized below.

- The geophysical survey conducted at the Site did not detect the presence of USTs within the study area at the Site, which suggests any previous tanks have been removed.
- Field evidence of potential petroleum-type impact [e.g., photoionization detector (PID) readings up to 1,067 parts per million (ppm), petroleum-type odors and sheen] was documented at six of the test borings located in the general area of former pump islands, USTs and auto repair buildings. Petroleum sheen and/or light non-aqueous phase liquid (LNAPL) were also detected on groundwater at several of the temporary monitoring wells. Analytical laboratory testing indicates that volatile organic compounds (VOCs) and/or semi-volatile organic compounds (SVOCs) associated with this petroleum impact exceeded some NYSDEC Part 375 Unrestricted Use soil cleanup objectives (SCOs) and/or NYSDEC CP-51 soil cleanup levels (SCLs), but did not exceed the NYSDEC Part 375 Restricted Residential Use SCOs or Commercial Use SCOs. One or more VOC concentrations detected in some of the groundwater samples exceeded NYSDEC

groundwater standards or guidance values referenced in the document titled “Division of Water Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations” (TOGS 1.1.1). Based on the evidence of petroleum impact encountered during the Preliminary Phase II ESAs, a spill was reported to the NSYDEC on April 30, 2019. The NYSDEC opened Spill File #1901036, which currently has an active status.

- Fill material that contained trace to layers of ash, coal, brick, concrete, and/or cinders was observed in fill material. Analytical laboratory testing indicates the some SVOCs and metals in this fill material exceeds some NYSDEC Part 375 Unrestricted Use SCOs, Restricted Residential Use SCOs, and/or Commercial Use SCOs.
- PCBs were not detected at concentrations above the laboratory method detection limits.

It was concluded that the former uses of the Site (e.g., gasoline station, auto repair, etc.) have impacted soil/fill and groundwater at the Site, primarily with petroleum-related constituents. Petroleum-impacted soil/fill that exhibited nuisance characteristics (e.g., odors) at some of the test boring locations was encountered initially at depths ranging between 0.5 and 8.5 feet below the ground surface (bgs). As a result, it is possible that petroleum-impacted soil/fill could be encountered during future subsurface work (e.g., utility work, redevelopment activities, etc.).

A recommendation in the Preliminary Phase II ESAs was to complete additional investigation and remediation in relation to the on-site petroleum impacts associated with Spill File #1901036.

1.3.3 July 2019 Pre-Development Phase II ESA and Geotechnical Study for Bull’s Head Sub-Area North

The Pre-Development Phase II ESA and Geotechnical study included evaluation of subsurface environmental conditions on properties and public right-of-ways that adjoining the 24 and 32 York Street Site. This completion field screening and laboratory analysis of soil and groundwater samples from test pits, test borings and/or monitoring wells. Appendix A contains Figure 3 and select data tables from this report, as well as select figures and tables from other previous on-site investigations.

Field and laboratory evidence of petroleum impact was encountered at off-site test location MW-08 to the south, but not off-site test location TB-15 that is also located to the south. No field or laboratory evidence of petroleum impact was encountered at off-site test locations to the west (TB-19 and MW-07), to the north (TP-13), and to the east (TB-04, MW-01, TB18, TB-05, TB-06 and TB-24). Petroleum impact at MW-08 exceeded NYSDEC TOGS 1.1.1 groundwater standards or guidance values, but did not exceed applicable NYSDEC Part 375 SCOs or NYSDEC CP-51 SCLs.

1.3.4 November 19, 2019 Phase II ESA – 24 and 32 York Street

The Phase II ESA at the Site included: the advancement of 8 test borings; the installation of five temporary monitoring wells within five of these test borings; and the collection and laboratory analysis of soil samples, groundwater samples and a post-purge water sample from the basement sump inside the existing building. Appendix A contains Figure 2 through Figure 7 and Table 3 through Table 6 from this report, as well as select figures and tables from other

previous on-site and adjoining/nearby investigations. The results of the Phase II ESA work are summarized below.

- Field evidence of potential petroleum-type impact (e.g., PID readings up to 165.3 ppm, petroleum-type odors and sheen) was documented at six of the test borings. Petroleum odors and sheen was also detected on groundwater at three of the five temporary monitoring wells.
- Soil samples contained some VOCs, but not at concentrations above their respective NYSDEC Part 375 Unrestricted Use SCOs, Restricted Residential Use SCOs, Commercial Use SCOs and/or NYSDEC CP-51 SCLs. Soil samples also contained SVOCs. The concentrations of SVOCs in one soil sample exceeded some NYSDEC Part 375 Unrestricted Use SCOs, Restricted Residential Use SCOs, Commercial Use SCOs and/or NYSDEC CP-51 SCLs.
- The basement sump post-purge water sample contained one VOC, but at a concentration below its TOGS 1.1.1 groundwater guidance value. SVOCs were not detected in this water sample.
- One or more VOC and SVOC concentrations detected in some of the groundwater samples exceeded their respective NYSDEC TOGS 1.1.1 groundwater standards or guidance values.

It was concluded that the cumulative environmental studies were successful in defining the extent of on-site petroleum contamination associated with NYSDEC Spill #1901036. Petroleum-impacted media are primarily located on the 24 York Street parcel (in areas of suspected former USTs, pump islands and auto repair buildings) and the southeast portion of the 32 York Street parcel that comprise the Site. Petroleum impact has migrated off-site to the south and likely also to some extent to the east and west. Petroleum impact exceeding NYSDEC soil and/or groundwater criteria has been documented on-site and also off-site to the south.

Gravel and fractured rock were encountered prior to drilling equipment refusal at many of the test locations. This fractured rock layer was typically wet, and field evidence of petroleum impact in this layer tended to be less significant in comparison to overlying finer-grained soils. Based on these observations, and given the top of the water table was observed in the overburden on the Site and adjoining properties, it is expected that only the upper one or two feet of fractured/weathered bedrock may be impacted with petroleum.

The Site is located within the City of Rochester Bull's Head Brownfield Opportunity Area (BOA). The City of Rochester has plans to redevelop the portion of the Bull's Head BOA that includes the Site. It is possible that petroleum-impacted soil and groundwater could be encountered during future subsurface work (e.g., utility work, redevelopment activities, etc.).

1.4 Proposed Future Use of the Site

The Site is part of the City's Bull's Head BOA. The City has indicated that the portion of the Bull's Head BOA where the Site is located is anticipated to be redeveloped for mixed use, but could also include restricted residential or commercial use. This future use is also consistent with the City's Bull's Head Revitalization Project plans and current C-2 zoning for the Site.

1.5 Potentially Exposed Population and Exposure Routes

Considering that: 1) Restricted Residential and/or Commercial redevelopment activities at the Site are anticipated; 2) remedial excavation work is anticipated on-site; and 3) residential buildings are located near the Site, the *construction worker/trespasser*, *occupational worker* and *local resident* have been identified as the most appropriate potential human receptors.

Exposures to the construction worker may occur during remediation, construction and other activities that involve excavation on the Site or at its periphery. Exposures to occupational workers at future Site facilities could occur during normal facility operations due to potential vapor intrusion into buildings, by way of exposure to soil vapor and groundwater during remediation within a building, or during any excavation activity that may take place on or around the Site if remediation does not occur prior to Site redevelopment. Exposure to residents of nearby properties could potentially occur during excavation work at the Site through dispersion of particulates and volatilization of contaminants. Potential routes of exposure include:

- Inhalation of vapors released from volatile substances present in subsurface soils (potential future occupational worker and construction worker/trespasser, and local residents during construction);
- Ingestion and dermal contact of substances in subsurface soils (potential future occupational worker and construction worker/trespasser); and
- Ingestion, inhalation and dermal contact with substances present in groundwater (potential future occupational worker and construction worker/trespasser).

Potential exposure during the remedial work will be managed with a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) designed to protect Site workers and the public. Potential future exposures to residual contamination, if any, will be mitigated by way of institutional and engineering controls and an SGMP.

2.0 APPLICABLE REGULATIONS AND CLEANUP STANDARDS

New York State, County or Monroe and City laws and regulations apply to this cleanup. Federal, state, and local laws regarding procurement of contractors to conduct the cleanup will be followed.

2.1 Applicable or Relevant and Appropriate Requirements (ARARS)

ARARs define the minimum level of protection that must be provided by a remedy.

2.1.1 Standards, Criteria and Guidance (SCG)

SCG values to allow for a mixed residential and commercial use are considered in this ABCA. The SCGs assist in defining the extent of contamination requiring remediation, and also are used to evaluate the effectiveness of the remedy. The SCGs for soil, groundwater and soil vapor intrusion to be used for this project are provided below.

- Analytical laboratory results for soil will be compared to SCOs referenced in the 6 New York Codes, Rules and Regulations (NYCRR) NYSDEC document titled “*Part 375, Environmental Remediation Programs*” dated December 14, 2006. Specific SCOs to be considered will include Unrestricted SCOs, Restricted Residential Use SCOs, Restricted Commercial Use SCOs, and Protection of Groundwater SCOs.
- Analytical laboratory results for soil will be compared to SCLs referenced in the NYSDEC document titled “*CP-51 / Soil Cleanup Guidance*” dated October 21, 2010. SCLs to be considered are included in table 2 and Table 3 of the referenced document.
- Analytical laboratory results for groundwater will be compared to groundwater standards and guidance values referenced in the NYSDEC document titled “*Division of Technical and Operational Guidance Series, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations*” (TOGS 1.1.1) dated June 1998 as amended by April 2000 and June 2004 Addendums. Chapter 59 (Health and Sanitation), Article III (Nuisances and Sanitation) § 59-27 (Water Supply) of the current Charter and Code of the City of Rochester, New York implies that groundwater cannot be used as a source of potable water within the city limits

Impacted soil, fill or groundwater containing contaminants above SCGs that are left in-place will be managed with environmental engineering and institutional controls such as:

- A SGMP that provides guidance on management of disturbed or displaced impacted media during future Site activities, such as redevelopment, installation or repair of buried utilities, etc.,
- Flagging the Site in the City’s BIS.
- Evaluating the potential for soil vapor intrusion into new structures, and installing soil vapor mitigation systems on new building if warranted, in accordance with guidelines outlined in the New York State Department of Health (NYSDOH) document “*Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York*” dated October 2006, as amended.

2.1.2 Remedial Action Objectives (RAOs)

RAOs are medium-specific objectives for the protection of human health and the environment. RAOs for this project are as follows:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- Remove the source of groundwater contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of, or exposure from, contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

2.2 Cleanup Oversight Responsibility

The City will execute a Stipulation Agreement with the NYSDEC for the cleanup of the Site. Through the Petroleum Spill Cleanup Program, representatives of the NYSDEC Region 8 office will approve project work plans, oversee the cleanup, and approve project reports.

3.0 DEVELOPMENT OF CLEANUP ALTERNATIVES

3.1 Threshold Criteria

In order to evaluate the effectiveness of remedial alternatives for this Site, nine general and site- specific remediation criteria (i.e., threshold criteria) were reviewed in accordance with the provisions set forth in DER-10. These criteria are presented below.

- Protection of Human Health and the Environment: This criterion is an evaluation of the remedy's ability to protect public health and the environment, and assesses how risks posed through each existing or potential pathway of exposure are eliminated, reduced or controlled through removal, treatment, engineering controls or institutional controls. The remedy's ability to achieve each of the RAOs is evaluated.
- Compliance with Standards, Criteria and Guidance Values: Compliance with SCG values addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance.
- Long-Term Effectiveness and Permanence: This criterion evaluates the long-term effectiveness of the remedy after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated:
 - Whether residual contamination will pose significant threats, exposure pathways, or risks to the community and environment;
 - The adequacy of the engineering and institutional controls intended to limit the risk;
 - The reliability of these controls; and,
 - The ability of the remedy to continue to meet RAOs in the future.
- Reduction of Toxicity, Mobility and Volume: The remedy's ability to reduce the toxicity, mobility or volume of site contamination is evaluated. Preference is given to remedies that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the Site.
- Short-Term Impacts and Effectiveness: The potential short-term adverse impacts and risks of the remedy upon the community, the workers and the environment during its construction and/or its implementation are evaluated. This includes identification of short-term adverse impacts and health risks, the effectiveness of any engineering controls, and the length of time needed to achieve the remedial objectives.
- Implementability: The technical and administrative feasibility of implementing the remedy is evaluated. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. Administrative feasibility includes the availability of the necessary personnel and material, the evaluation of potential difficulties in obtaining specific operating approvals, access for construction, etc.
- Land Use: This criterion is intended to evaluate the remedial alternatives in relation to the planned future use of the Site.
- Community Acceptance. This criterion is intended to select a remedial alternative that is acceptable to the community.
- Cost: Capital, operation, maintenance and monitoring costs are estimated for the remedy.

3.2 General Response Actions

Estimated areas and volumes of contaminated media to be addressed are summarized below.

Petroleum-Impacted Soil: As shown on Figure B and Figure C, soil with evidence of petroleum impact covers an approximate 6,856 square-foot on-site and off-site area that is primarily situated on-site. Figure B and Figure C also shows an approximate 6,405 square-foot on-site removal area. Assuming an average 3.5-foot thickness for petroleum-impacted soil within the on-site removal area, it is estimated that approximately 830 cubic yards (CY), or 1,370 tons (using conversion of 1.65 Ton/CY), of petroleum-impacted soil is on-site.

Petroleum-Impacted Bedrock: It is anticipated that petroleum-impacted bedrock covers the same 6,856 square-foot on-site and off-site area as petroleum-impacted soil that is shown on Figure B and Figure C. Assuming the upper 1.0 foot of bedrock is petroleum-impacted over the 6,405 square-foot on-site removal area shown on Figure 2, it is estimated that approximately 237 CY, or 474 tons (using conversion of 2 Ton/CY) of petroleum-impacted bedrock is on-site.

Petroleum-Impacted Groundwater: It is anticipated that petroleum-impacted groundwater covers the same 6,856 square-foot on-site and off-site area as petroleum-impacted soil that is shown on Figure B and Figure C.

General response actions to address the identified contamination in soil or fill can include one or more of the following:

- in-situ treatment,
- containment,
- excavation and disposal,
- extraction and treatment and/or disposal,
- environmental engineering controls, and
- environmental institutional controls.

The response actions are evaluated for application in addressing soil or fill contamination that exceeds applicable NYSDEC SCOs and SCLs.

General response actions to address the identified contamination in groundwater can include one or more of the following:

- in-situ treatment,
- containment,
- extraction and treatment and/or disposal,
- environmental engineering controls,
- environmental institutional controls, and
- monitored natural attenuation.

The response actions are primarily evaluated for application in addressing groundwater contamination that exceeds NYSDEC TOGS 1.1.1 groundwater standards or guidance values.

3.3 Development of Alternatives

The alternatives considered for this Site are directed at addressing contamination in soil, fill and groundwater, and these alternatives are presented below. The alternatives provided below assume that the existing building on the 32 York Street will be demolished prior to remediation, and the cost to demolish the existing building is not included in the cost of the remedial alternatives. The alternatives consider that the Site will be used for a mixed use (residential and commercial purposes).

- **Alternative #1 (No Action)** is the “No Action” alternative, which presumes no cleanup or remediation, and no monitoring will be conducted at the Site.
- **Alternative #2 (Limited Source Removal)** includes the excavation and off-site disposal of petroleum-impacted soil and groundwater, preparation of a NYSDEC Region 8 SGMP and flagging the Site in the City’s BIS as institutional controls to ensure disturbed or displaced residual contamination are properly addressed, and five years of bi-annual post-excavation groundwater monitoring.
- **Alternative #3 (Comprehensive Source Removal and In-Situ Treatment)** includes the excavation and off-site disposal of petroleum-impacted soil, upper one-foot of fractured bedrock and groundwater, the direct application of a bioremediation additive to the open excavation, the installation of in-situ bioremediation delivery hardware in the excavation, a second application of chemical additive through the in-situ remediation delivery system, preparation of a NYSDEC Region 8 SGMP and flagging the Site in the City’s BIS as environmental institutional controls to ensure disturbed or displaced residual contamination are properly addressed, and one year of bi-annual post-remediation groundwater monitoring followed by a second year of bi-annual groundwater monitoring if deemed necessary.

4.0 DETAILED EVALUATION OF CLEANUP ALTERNATIVES

The selected alternatives for addressing Site contamination are further evaluated in this section. These alternatives are evaluated relative to the criteria presented in Section 3.0, including the future planned use of the Site. Table A compares the assessments of each alternative in relation to the remediation goals, and compares the opinion of costs to implement each alternative.

4.1 Individual Evaluation of Alternatives

Each of the alternatives identified in Section 3.3 are further evaluated in detail in this section of the report. Remedial Alternatives #2 and #3 will include the development and implementation of a Remedial Work Plan, a HASP with CAMP, and a USEPA Brownfield Quality Assurance Quality Project Plan (QAPP).

4.1.1 Alternative #1 - No Action

This alternative presumes no remediation and no monitoring will be conducted at the Site.

4.1.1.1 Alternative #1 Assessment

Protection of Human Health and the Environment: This alternative may not be protective of human health and the environment. Risks associated with potential human health exposure pathways would not be eliminated, reduced or controlled. RAOs for public health protection and environmental protection are not adequately addressed by this alternative.

Compliance with SCG Values: Alternative #1 does not provide adequate monitoring to evaluate compliance with chemical-specific SCG values. Location-specific SCG values are not met since the Site is located within an urban area and could adversely impact human health. Action-specific SCG values are not applicable under the no action alternative.

Long-Term Effectiveness and Permanence: Long-term effectiveness and permanence would not be adequately monitored. Potential exposure pathways identified as part of this project could occur under the No Action alternative.

Reduction of Toxicity, Mobility and Volume: It is likely that natural attenuation and other factors such as advection, dispersion, sorption, diffusion, etc. are occurring at this Site that would result in reduction of contaminant toxicity, mobility or volume over long periods of time (e.g., decades). However, this alternative would require a longer period of time than the more aggressive alternatives being evaluated.

Short-Term Impacts and Effectiveness: There would be no increased short-term impacts or risks associated with Alternative #1 since remedial activities are not implemented.

Implementability: Of the alternatives being considered, Alternative #1 is easiest to technically and administratively implement since remedial, institutional, monitoring, etc. activities are not required. In addition, there are no labor, material, permitting or accessibility requirements for this alternative.

Planned Future Use of the Site: It is anticipated that this alternative would not be acceptable in relation to the planned future use of the Site.

Community Acceptance: It is anticipated that this alternative would not be acceptable to the community in relation to the planned future use of the Site.

Cost: There are no capital/initial costs or Operation, Maintenance, and Monitoring (OM&M)/Annual/Closeout costs associated with the No Action alternative. As shown on Table A, the costs for this alternative are \$0.00.

4.1.2 Alternative #2 – Limited Source Removal

Alternative #2 consists of various technical and administrative actions that are intended to perform remediation of the highest concentrations of soil and groundwater contamination on the Site, reduce exposure to Site contaminants, and provide long-term monitoring of groundwater to document the effectiveness of the remediation completed and to ensure that the contamination is not migrating. The approximate area to be actively remediated under Alternative #2 is shown on Figure B.

To prepare the Site for remediation work, temporary chain link fencing and a gate would be installed to control access, and the existing asphalt pavement would be removed and recycled.

Under this alternative, approximately 1,370 tons of petroleum-impacted soil would be removed and disposed off-site at an appropriate regulated landfill facility. This alternative assumes that infiltrating petroleum-impacted groundwater and storm water would be pumped into one frac tank and that up to 20,000 gallons of water would be collected and disposed of off-site. It is anticipated that excavation dewatering would only be required during the soil and bedrock removal. The water would be pre-treated if necessary, and discharged to a publicly owned treatment works (POTW) under a Specialty Short Term Discharge permit

Post-excavation soil samples would be collected and analyzed to establish baseline conditions. Guidance in NYSDEC DER-10 and input from the NYSDEC Project Manager would be used to determine the actual locations and numbers of post-excavation samples to be collected and analyzed from the removal area.

Subsequent to the removal work, the excavation would be backfilled with site soils deemed re-usable, and also with clean imported select geotechnical fill (e.g., crushed stone, Bank Run, etc.) that meets NYSDEC requirements set forth in DER-10. It is anticipated that four new monitoring wells would be installed after the removal and backfilling work was completed.

As part of Alternative #2, it is anticipated that a SGMP would be prepared to 1) address characterization, handling, disposal or re-use of environmental impacts that may remain at the Site subsequent to the soil removal work, 2) require evaluating the potential for vapor intrusion into any future buildings to be constructed on the Site, including requirements to mitigate such potential vapor intrusions through use of environmental engineering controls or through other means associated with construction of the buildings in a manner that preclude soil vapor

intrusion (SVI) exposure, and 3) include a HASP to assist in reducing potential exposures to Site contaminants. In addition, the City of Rochester would flag the parcels in its BIS to ensure the SGMP is implemented for applicable new building permits and related projects at the Site that have the potential to disturb or displace impacted media and to address potential soil vapor intrusion into any new enclosed structures that are planned.

Up to four on-site monitoring wells would be installed. A groundwater monitoring program would be implemented to evaluate the effectiveness of the remedy. For each monitoring event, static water level measurements would be collected from the four new on-site wells and three existing off-site monitoring wells, a potentiometric groundwater contour map would be prepared, groundwater samples would be collected from the seven eight monitoring wells, portions of the samples would be monitored for water quality parameters (e.g., dissolved oxygen, oxidation-reduction potential, conductivity, temperature, turbidity and pH), and other portions of the samples would undergo analytical laboratory testing for target compound list (TCL) VOCs (United States Environmental Protection Agency, or USEPA, Method 8260) and CP-51 SVOCs(USEPA Method 8270). This alternative presumes that groundwater monitoring would be performed on a bi-annual basis for a period of five years.

4.1.2.1 Alternative #2 Assessment

Protection of Human Health and the Environment: It is anticipated that Alternative #2 would be protective of human health and the environment under current site conditions, and future use of the Site. Risks associated with potential human health exposure pathways would be eliminated or adequately controlled/mitigated. With the exception of not restoring the groundwater aquifer to pre-disposal/pre-release conditions, RAOs for soil and groundwater would be adequately addressed by this alternative in relation to protection of on-site public health and the environment. The tasks associated with addressing the RAOs could readily be completed.

Compliance with SCG Values: Alternative #2 would meet SCG values for soil, but may not meet SCG values for groundwater. Residual contamination would be managed in accordance with the SGMP and the City's BIS flagging system. Alternative #2 provides adequate monitoring to evaluate compliance trends in relation to chemical-specific SCG values for soil and groundwater. This alternative would meet location-specific SCG values for protection of on-site human health and the environment. Action-specific SCG values would also be adequately addressed for this alternative.

Long-Term Effectiveness and Permanence: The long-term risk associated with the contamination would be reduced by: 1) the soil removal; and 2) the SGMP. The remedial components of this alternative permanently remove petroleum impact in the soil, removes and treats some of the impacted groundwater, and controls residual contamination at the Site. However, the effectiveness of this alternative may be limited since it is possible that remaining petroleum-impacted groundwater and bedrock could contaminate backfill and also be encountered during future intrusive work (e.g., Site redevelopment, etc.). As such, this alternative may not have the ability to continue to meet RAOs in the future, especially RAOs for groundwater. The long-term effectiveness and permanence of this alternative in relation to residual contaminants would be monitored.

Reduction of Toxicity, Mobility and Volume: The soil removal and disposal, groundwater removal and treatment, natural attenuation, and other factors such as advection, dispersion, sorption, diffusion, etc. would result in reduction of contaminant toxicity, mobility or volume.

Short-Term Impacts and Effectiveness: This alternative would likely result in a slight risk in regard to short-term impacts. It is anticipated that Site workers and the community would have increased risk at exposure to site contamination (i.e., nuisance odors, inhalation and contact with site contaminants, etc.) during soil removal work. However, implementation of a HASP and CAMP that include dust and vapor control contingencies, and also the SGMP, would protect site workers and the nearby community from these short-term risks. It is anticipated that active on-site remediation activities could take a total of four to six weeks to implement. The removal and disposal of impacted soil, and the removal and off-site treatment of impacted groundwater from the resulting excavation, would result in significant reduction of potential impacts to workers during subsequent redevelopment activities. Physical hazard risks would also likely increase during excavation and backfill activities (e.g., excavation wall stability issues, dewatering issues, etc.).

Implementability: This alternative can be implemented easily in relation to the anticipated future use of the Site. Spatial requirements can be accommodated, and would not impede completion of this alternative.

Planned Future Use of the Site: This alternative would be acceptable in relation to the planned future use of the Site.

Community Acceptance: The project will include citizen participation, and public comments and questions will be addressed and taken into consideration. It is anticipated that this alternative would be acceptable to the community in relation to the planned future use of the Site.

Cost: Alternative #2 costs are less than Alternative #3 costs. As shown on Table A and Table B, the opinion of probable cost for this alternative including a 10% contingency is \$315,735.20.

4.1.3 Alternative #3 – Comprehensive Source Removal and In-Situ Treatment

Alternative #3 consists of various technical and administrative actions that are intended to perform remediation of soil and groundwater contamination on the Site, reduce exposure to Site contaminants, and provide long-term monitoring of groundwater to document the effectiveness of the remediation completed and to ensure that the contamination is not migrating. The approximate area to be actively remediated under Alternative #3 is shown on Figure C.

To prepare the Site for remediation work, temporary chain link fencing and a gate would be installed to control access, and the existing asphalt pavement would be removed and recycled.

Under this alternative, approximately 1,370 tons of petroleum-impacted soil and approximately 474 tons of petroleum-impacted bedrock would be removed and disposed off-site at an appropriate regulated landfill facility. This alternative assumes that infiltrating petroleum-impacted groundwater and storm water would be pumped into two frac tanks and that up to 40,000 gallons of water would be collected and disposed of off-site. It is anticipated that excavation dewatering would only be required during the soil and bedrock removal. The water would be pre-treated if necessary, and discharged to a POTW under a Specialty Short Term Discharge permit.

Post-excavation soil samples would be collected and analyzed to establish baseline conditions. Guidance in NYSDEC DER-10 and input from the NYSDEC Project Manager would be used to determine the actual locations and numbers of post-excavation samples to be collected and analyzed from the removal area.

Prior to backfilling, up to 1,000 pounds of Regenesys ORC-Advanced (or similar product) will be placed in the excavation to enhance bioremediation of residual petroleum impacts within and around the excavation. In addition, a delivery system (e.g., porous backfill, perforated horizontal or vertical subsurface piping connected to vertical solid riser piping) would be installed within the excavation prior to backfilling to assist in future remediation of residual impact within groundwater, if deemed necessary. The remainder of the excavation would be backfilled with site soils deemed re-usable, and also with clean imported select geotechnical fill (e.g., crushed stone, Bank Run, etc.) that meets NYSDEC requirements set forth in DER-10.

As part of Alternative #3, it is anticipated that a SGMP would be prepared to 1) address characterization, handling, disposal or re-use of environmental impacts that may remain at the Site subsequent to the soil removal work, 2) require evaluating the potential for vapor intrusion into any future buildings to be constructed on the Site, including requirements to mitigate such potential vapor intrusions through use of environmental engineering controls or through other means associated with construction of the buildings in a manner that preclude SVI exposure, and 3) include a HASP to assist in reducing potential exposures to Site contaminants. In addition, the City of Rochester would flag the parcels in its BIS to ensure the SGMP is implemented for applicable new building permits and related projects at the Site that have the potential to disturb or displace impacted media and to address potential soil vapor intrusion into any new enclosed structures that are planned.

Up to four on-site monitoring wells would be installed. A groundwater monitoring program would be implemented to evaluate the effectiveness of the remedy. For each monitoring event, static water level measurements would be collected from the four new on-site wells and three existing off-site monitoring wells, a potentiometric groundwater contour map would be prepared, groundwater samples would be collected from the seven eight monitoring wells, portions of the samples would be monitored for water quality parameters (e.g., dissolved oxygen, oxidation-reduction potential, conductivity, temperature, turbidity and pH), and other portions of the samples would undergo analytical laboratory testing for TCL VOCs (USEPA Method 8260) and CP-51 SVOCs (USEPA Method 8270). This alternative presumes that groundwater monitoring would be performed bi-annually for one year followed by a second year of bi-annual groundwater monitoring if deemed necessary.

4.1.3.1 Alternative #3 Assessment

Protection of Human Health and the Environment: It is anticipated that Alternative #3 would be the most protective of human health and the environment under current site conditions, and future use of the Site. Risks associated with potential human health exposure pathways would be eliminated or adequately controlled/mitigated. RAOs for soil and groundwater would be adequately addressed by this alternative in relation to protection of on-site public health and the environment. The tasks associated with addressing the RAOs could readily be completed.

Compliance with SCG Values: Alternative #3 would meet SCG values for soil, and would also likely meet SCG values for groundwater. Residual contamination would be managed in accordance with the SGMP and the City's BIS flagging system. Alternative #3 provides adequate monitoring to evaluate compliance trends in relation to chemical-specific SCG values for soil and groundwater. This alternative would meet location-specific SCG values for protection of on-site human health and the environment. Action-specific SCG values would also be adequately addressed for this alternative.

Long-Term Effectiveness and Permanence: The long-term risk associated with the contamination would be effectively reduced by: 1) the soil, bedrock and groundwater removal; 2) the in-situ bioremediation; and 3) the SGMP. It is anticipated that the components of this alternative would prove to be reliable, and would have the ability to continue to meet RAOs in the future. The remedial components of this alternative are effective in the long term, permanently remove petroleum impact in the soil, bedrock and groundwater, and controls residual contamination at the Site. The long-term effectiveness and permanence of this alternative would be monitored.

Reduction of Toxicity, Mobility and Volume: The soil and bedrock removal and disposal, groundwater removal and treatment, in-situ bioremediation, natural attenuation, and other factors such as advection, dispersion, sorption, diffusion, etc. would result in reduction of contaminant toxicity, mobility or volume.

Short-Term Impacts and Effectiveness: This alternative would likely result in a slight risk in regard to short-term impacts. It is anticipated that Site workers and the community would have increased risk at exposure to site contamination (i.e., nuisance odors, inhalation and contact with site contaminants, etc.) during soil and bedrock removal work and placement of ORC-Advanced additive for bioremediation. However, implementation of a HASP and CAMP that include dust and vapor control contingencies, and also the SGMP, would protect site workers and the nearby community from these short-term risks. It is anticipated that active on-site remediation activities could take a total of six to eight weeks to implement. The removal and disposal of impacted soil and bedrock, and the removal and off-site treatment of impacted groundwater from the resulting excavation, would result in significant reduction of potential impacts to workers during subsequent redevelopment activities. Physical hazard risks would also likely increase during excavation and backfill activities (e.g., excavation wall stability issues, dewatering issues, etc.).

Implementability: This alternative can be implemented easily in relation to the anticipated future use of the Site. Spatial requirements can be accommodated, and would not impede completion of this alternative.

Planned Future Use of the Site: This alternative would be acceptable in relation to the planned future use of the Site.

Community Acceptance: The project will include citizen participation, and public comments and questions will be addressed and taken into consideration. It is anticipated that this alternative would be acceptable to the community in relation to the planned future use of the Site.

Cost: Costs for implementing Alternative #3 are higher than costs of Alternative #2. As shown on Table A and Table C, the opinion of probable cost for this alternative including a 10% contingency is \$388,100.90.

4.2 Comparative Evaluation and Recommended Alternative

This section of the report compares the remedial alternatives proposed for this Site. For reference, the alternatives are reiterated as follows:

Alternative #1 No Action

Alternative #2 Limited Source Removal

Alternative #3 Comprehensive Source Removal and In-Situ Treatment

As previously indicated, Table A compares the assessments of each alternative in relation to the remediation goals, and compares the opinion of probable costs to implement each alternative. Breakdowns of opinions or probable costs for Alternative #2 and Alternative #3 are found in Table B and Table C, respectively.

Comparative Analysis of Alternatives

- Alternative #3 satisfies the threshold criteria (protection of human health and the environment; and compliance SCG values) and provides the best balance of the primary balancing criteria described that are identified in Section 3.1. Alternative #1 does not satisfy the threshold criteria and is not considered viable alternative; thus, is not further discussed in this comparison. Alternative #2 satisfies the threshold criteria, but does not provide the best balance of the primary balancing criteria.
- The long-term effectiveness and permanence of Alternative #3 exceeds that of Alternative #2.
- Alternative #3 would have a greater reduction in toxicity, mobility and volume of contamination at the Site than Alternative #2.

- Alternative #3 would likely result in a faster cleanup than Alternative #2. Short term impacts and risk to the community and workers during implementation of Alternative #3 and Alternative #2 are similar. For either alternative, implementation of a HASP and CAMP would protect site workers and the nearby community from these short-term risks.
- Alternative #2 and Alternative #2 can easily be implemented at the Site.
- Alternative #2 and #3 would be acceptable for the planned future use of the Site.
- It is anticipated that Alternative #2 and #3 would be acceptable to the community.
- Alternative #3 costs are anticipated to be higher than Alternative #2 costs, but result in a greater level of remediation of the petroleum contamination at the Site.

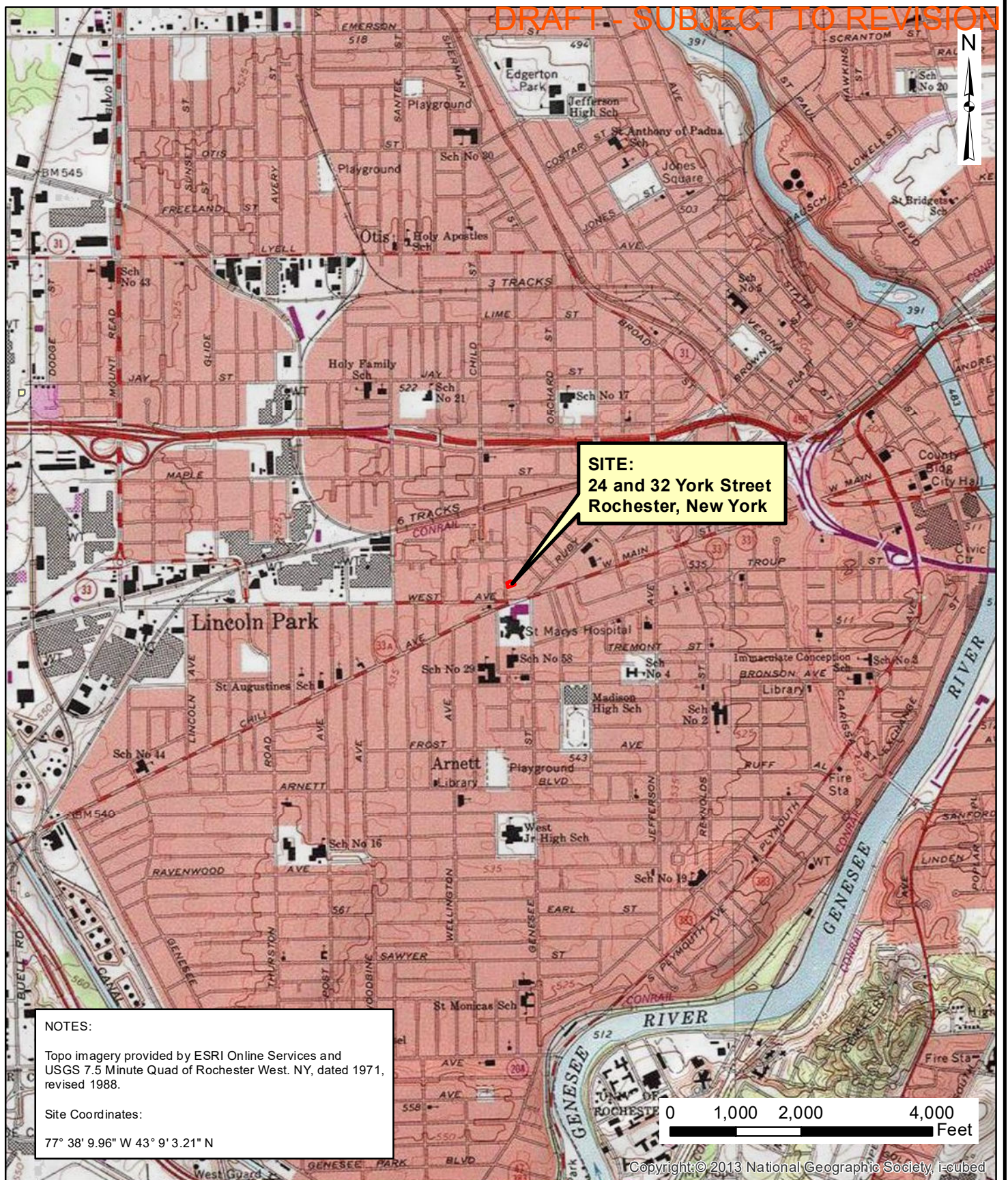
Alternative #3 (Comprehensive Source Removal and In-Situ Treatment) is recommended for the Site. Alternative #3 would achieve the remediation goals for the Site by: removing contaminated soil, bedrock and ground; bioremediating contaminated groundwater; controlling exposure to residual contamination through the use of institutional controls and engineering controls; creating conditions that restore groundwater quality to the extent practicable; and monitoring of groundwater to evaluate the effectiveness of the remedy.

5.0 ABBREVIATIONS AND ACRONYMS

ABCA	Analysis of Brownfields Cleanup Alternatives
Bgs	Below the Ground Surface
BIS	Building Information System
BOA	Brownfield Opportunity Area
CAMP	Community Air Monitoring Plan
City	City of Rochester
CY	Cubic Yard
DAY	Day Environmental, Inc.
HASP	Health And Safety Plan
LNAPL	Light Non-Aqueous Phase Liquid
NYCRR	New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
Phase I ESA	Phase I Environmental Site Assessment
Phase II ESA	Phase II Environmental Site Assessment
PID	Photoionization Detector
POTW	Publicly Owned Treatment Works
PPM	Parts Per Million
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objective
SCG	Standard, Criteria and Guidance
SCL	Soil Cleanup Level
SCO	Soil Cleanup Objective
SGMP	Soil and Groundwater Management Plan
SVI	Soil Vapor Intrusion
SVOC	Semi-Volatile Organic Compound
TCL	Target Compound List
TOGS	Technical and Operational Guidance Series
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound

FIGURES

DRAFT- SUBJECT TO REVISION



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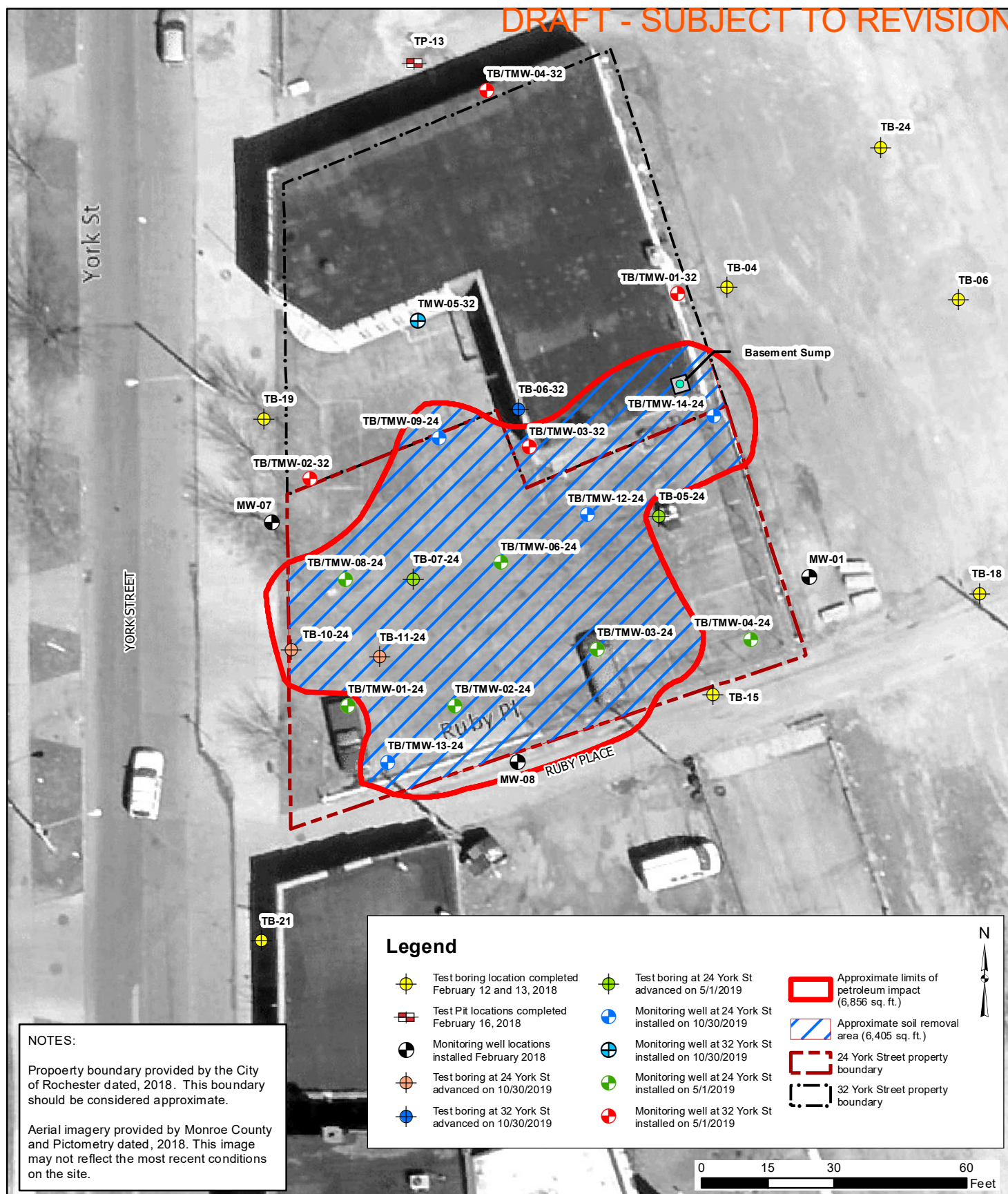
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Scale	AS NOTED

day
DAY ENVIRONMENTAL, INC.
Environmental Consultants
Rochester, New York 14606
New York, New York 10170

Project Title	24 AND 32 YORK STREET ROCHESTER, NEW YORK
	ANALYSIS OF BROWNFIELD CLEANUP ALTERNATIVES
Drawing Title	Project Locus Map

Project No.	5658S-19
	FIGURE A



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Last Date Saved: 18 Nov 2019

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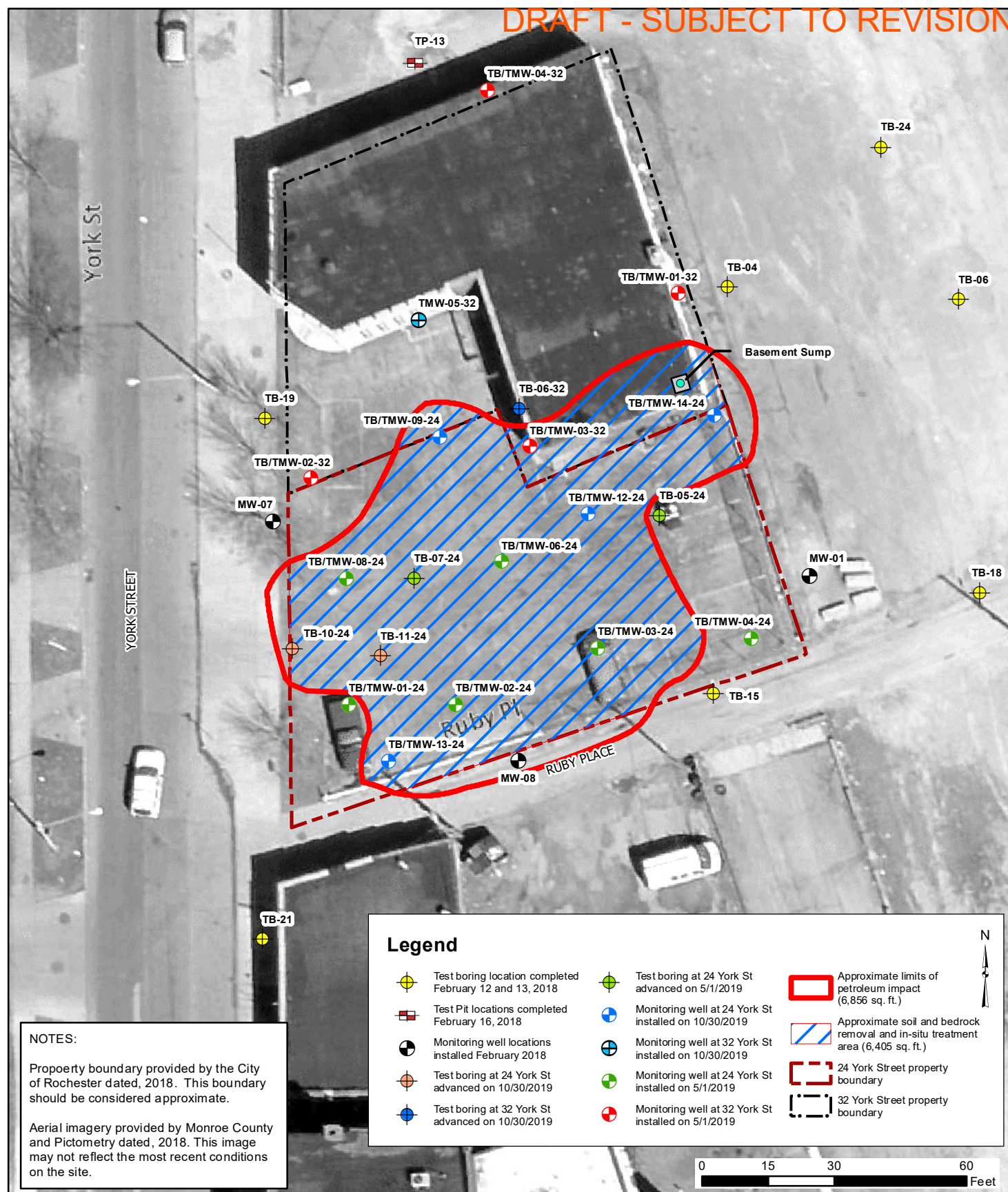
day
DAY ENVIRONMENTAL, INC.
Environmental Consultants
Rochester, New York 14606
New York, New York 10170

Project Title
24 YORK STREET AND 32 YORK STREET
ROCHERSTER, NEW YORK

ANALYSIS OF BROWNFIELD CLEANUP
ALTERNATIVES

Drawing Title
Approximate Area of Petroleum Impact with
Alternative #2 Removal Area

Project No.
5658S-19
FIGURE B



NOTES:

Property boundary provided by the City of Rochester dated, 2018. This boundary should be considered approximate.

Aerial imagery provided by Monroe County and Pictometry dated, 2018. This image may not reflect the most recent conditions on the site.

Legend

- Test boring location completed February 12 and 13, 2018
- Test Pit locations completed February 16, 2018
- Monitoring well locations installed February 2018
- Test boring at 24 York St advanced on 10/30/2019
- Test boring at 32 York St advanced on 10/30/2019
- Test boring at 24 York St advanced on 5/1/2019
- Monitoring well at 24 York St installed on 10/30/2019
- Monitoring well at 24 York St installed on 5/1/2019
- Monitoring well at 32 York St installed on 5/1/2019
- Approximate limits of petroleum impact (6,856 sq. ft.)
- Approximate soil and bedrock removal and in-situ treatment area (6,405 sq. ft.)
- 24 York Street property boundary
- 32 York Street property boundary

0 15 30 60 Feet

Date
11-18-2019

Drawn By
CPS

Scale
AS NOTED

day
DAY ENVIRONMENTAL, INC.
Environmental Consultants
Rochester, New York 14606
New York, New York 10170

Project Title
24 YORK STREET AND 32 YORK STREET
ROCHERSTER, NEW YORK

ANALYSIS OF BROWNFIELD CLEANUP
ALTERNATIVES

Drawing Title
Approximate Area of Petroleum Impact with
Alternative #3 Removal Area and In-Situ Treatment Area

Project No.
5658S-19

FIGURE C

TABLES

Table A

**Analysis of Brownfield Cleanup Alternatives
24 and 32 York Street, Rochester, New York**

Comparison of Cleanup Alternatives

Remediation Criteria	Remedial Alternative #1	Remedial Alternative #2	Remedial Alternative #3
Protection of Human Health and Environment	NO	YES	YES
Compliance with SCGs	NO	YES - Soil No - Groundwater	YES - Soil YES - Groundwater
Long-Term Effectiveness and Permanence	NO	YES -Soil No - Groundwater	YES - Soil YES - Groundwater
Reduction of Toxicity, Mobility, and Volume	Little	YES (moderately high)	YES (very high)
Short-Term Impacts and Effectiveness	Impacts - NO Effectiveness - NO	Impacts - YES Effectiveness - YES	Impacts - YES Effectiveness - YES
Implementability	Easy	Moderate	Moderate
Acceptable for Planned Future Use	NO	YES	YES
Community Acceptance	NO	YES	YES
Total Cost*	\$0.00	\$315,735.20	\$388,100.90

* The Opinion of Probable Costs listed above do not include City of Rochester direct costs associated with programmatic management of the grant, such as required performance reporting, cleanup oversight, and environmental monitoring of cleanup work.

Table B

Analysis of Brownfield Cleanup Alternatives
24 and 32 York Street, Rochester, New York

Alternative #2 Opinion of Probable Cost

Professional Services					
1.0	Finalize ABCA				\$1,175.00
2.0	Remedial Work Plan with HASP, CAMP and QAPP				\$7,655.00
3.0	Remedial Construction Closure Report				\$7,780.00
4.0	Soil and Groundwater Management Plan				\$2,255.00
5.0	USEPA ACRES Database and GIS File Management				\$1,175.00
6.0	Meetings				\$2,330.00
7.0	Document Remediation, Well Installation, Well Development				\$21,810.00
8.0	Post Excavation Groundwater Monitoring	10	Events	\$2,265.00	\$22,650.00
EXPENSES					
7.0	Remediation, Well Installation, Well Development	Quantity	Unit	Rate	Total
	GPS Rental	5	Day	\$100.00	\$500.00
	PID Meter Rental	15	Day	\$50.00	\$750.00
	Particulate Meter Rental	12	Day	\$75.00	\$900.00
	Oil/Water Interface Probe	2	Day	\$40.00	\$80.00
	Peristaltic Pump	1	Day	\$40.00	\$40.00
	Water Quality Meter	1	Day	\$125.00	\$125.00
	Disposable Tubing	100	Ft	\$0.50	\$50.00
	PODs Rental (mob/demob/1-month rental)	1	Month	\$250.00	\$250.00
	Portable Restroom Mob/Demob and Rental	1	Month	\$250.00	\$250.00
	Miscellaneous Supplies	4	unit	\$50.00	\$200.00
7.0	Remediation Subtotal				\$3,145.00
8.0	Post Excavation Groundwater Monitoring	Quantity	Unit	Rate	Total
	Oil/Water Interface Probe	1	Day	\$40.00	\$40.00
	Peristaltic Pump	1	Day	\$40.00	\$40.00
	Water Quality Meter	1	Day	\$125.00	\$125.00
	Disposable Tubing	100	Ft	\$0.50	\$50.00
	Bailers	7	each	\$6.00	\$42.00
	Miscellaneous Supplies	1	Unit	\$50.00	\$50.00
	Per Event Subtotal				\$347.00
8.0	Post Excavation Groundwater Monitoring Subtotal	10	Events	\$347.00	\$3,470.00
SUBCONTRACTED SERVICES					
7.0	Remediation	Quantity	Unit	Rate	Total
	Subcontractor - Mobilize/Demobilize	1	LS	\$4,000.00	\$4,000.00
	Subcontractor - Remove and Recycle Existing Asphalt Pavement	1	LS	\$5,000.00	\$5,000.00
	Subcontractor - Install Temporary Chain Link Fence and Gate, Later Uninstall	1	LS	\$5,000.00	\$5,000.00
	Subcontractor - 20'x30' Decontamination Pad 60 mil Liner, Berms and Sump)	1	LS	\$3,500.00	\$3,500.00
	Subcontractor - Excavate and Stage Clean Soil	1376	CY	\$12.00	\$16,512.00
	Subcontractor - Excavate and Direct-Load Contaminated Soil	1370	Tons	\$14.00	\$19,180.00
	Subcontractor - Frac Tank Rental (1 Tank)	2	Month	\$1,500.00	\$3,000.00
	Subcontractor - Excavation Dewatering	20000	Gallon	\$0.06	\$1,200.00
	Subcontractor - Provide and Place Biosolve	4	Day	\$200.00	\$800.00
	Subcontractor - Prepare Waste Profiles (1 for soil)	1	Profile	\$100.00	\$100.00
	Subcontractor - Transport and Dispose of Non-Hazardous Soil	1370	Ton	\$45.50	\$62,335.00
	Subcontractor - Place and Compact Clean Site Soil	1376	CY	\$10.00	\$13,760.00
	Subcontractor - Provide, Place and Compact Imported Crushed Stone (Dolomite)	1370	Tons	\$30.00	\$41,100.00
	Subcontractor - Frac Tank Discharge	20000	Gallons	\$0.06	\$1,200.00
	Subcontractor - Frac Tank Cleaning (1 Tank)	1	LS	\$1,500.00	\$1,500.00
	Subcontractor - Decontaminate Heavy Equipment/Vehicles	8	Hour	\$150.00	\$1,200.00
	Subcontractor - Install Four Overburden Monitoring Wells	4	Well	\$2,500.00	\$10,000.00
	Laboratory (20 TCL and CP-51 VOCs for Soil Samples)	20	Sample	\$80.00	\$1,600.00
	Laboratory (20 CP-51 SVOCs for Soil Samples)	20	Sample	\$105.00	\$2,100.00
	Laboratory (2 Samples of Soil for Waste Characterization Parameters)	2	Sample	\$800.00	\$1,600.00
	Laboratory (1 Sample of Water for Waste Characterization Parameters)	1	Sample	\$400.00	\$400.00
7.0	Remediation Subtotal				\$195,087.00
8.0	Post Excavation Groundwater Monitoring	Quantity	Unit	Rate	Total
	Laboratory (10 TCL and CP-51 VOCs for Groundwater Samples)	10	Sample	\$80.00	\$800.00
	Laboratory (10 CP-51 SVOCs for Groundwater Samples)	10	Sample	\$105.00	\$1,050.00
	Per Event Subtotal				\$1,850.00
8.0	Post Excavation Groundwater Monitoring Subtotal	10	Events	\$1,850.00	\$18,500.00
	Total Professional Services Cost*				\$66,830.00
	Total Expenses Cost*				\$6,615.00
	Total Subcontracted Services Cost*				\$213,587.00
	TOTAL PROJECT COST*				\$287,032.00
	10 %CONTINGENCY*				\$28,703.20
	TOTAL PROJECT COST PLUS 10% CONTINGENCY*				\$315,735.20

Subcontracted Costs and Outside Expenses include 5% markup, and 8% sales tax where applicable.

* The Opinion of Probable Costs listed above do not include City of Rochester direct costs associated with programmatic management of the grant, such as required performance reporting, cleanup oversight, and environmental monitoring of cleanup work.

Table C

Analysis of Brownfield Cleanup Alternatives
24 and 32 York Street, Rochester, New York

Alternative #3 Opinion of Probable Cost

Professional Services				
1.0	Finalize ABCA			\$1,175.00
2.0	Remedial Work Plan with HASP, CAMP and QAPP			\$7,655.00
3.0	Remedial Construction Closure Report			\$7,780.00
4.0	Soil and Groundwater Management Plan			\$2,255.00
5.0	USEPA ACRES Database and GIS File Management			\$1,175.00
6.0	Meetings			\$2,330.00
7.0	Document Remediation, Well Installation, Well Development			\$26,410.00
8.0	Post Excavation Groundwater Monitoring	4	Events	\$2,265.00
EXPENSES				
7.0	Remediation, Well Installation, Well Development	Quantity	Unit	Rate
	GPS Rental	5	Day	\$100.00
	PID Meter Rental	20	Day	\$50.00
	Particulate Meter Rental	15	Day	\$75.00
	Oil/Water Interface Probe	2	Day	\$40.00
	Peristaltic Pump	1	Day	\$40.00
	Water Quality Meter	1	Day	\$125.00
	Disposable Tubing	100	Ft	\$0.50
	Purchase Regensis ORC-Advanced Amendment (Place in Excavation)	1000	Pounds	\$12.00
	Purchase Regensis ORC-Advanced Amendment (Place in In-Situ System)	500	Pounds	\$12.00
	PODs Rental (mob/demob/2-month rental)	2	Month	\$250.00
	Portable Restroom Mob/Demob and Rental	2	Month	\$250.00
	Miscellaneous Supplies	6	unit	\$50.00
7.0	Remediation Subtotal			\$22,220.00
8.0	Post Excavation Groundwater Monitoring	Quantity	Unit	Rate
	Oil/Water Interface Probe	1	Day	\$40.00
	Peristaltic Pump	1	Day	\$40.00
	Water Quality Meter	1	Day	\$125.00
	Disposable Tubing	100	Ft	\$0.50
	Bailers	7	each	\$6.00
	Miscellaneous Supplies	1	Unit	\$50.00
	Per Event Subtotal			\$347.00
8.0	Post Excavation Groundwater Monitoring Subtotal	4	Events	\$347.00
SUBCONTRACTED SERVICES				
7.0	Remediation	Quantity	Unit	Rate
	Subcontractor - Mobilize/Demobilize	1	LS	\$5,000.00
	Subcontractor - Remove and Recycle Existing Asphalt Pavement	1	LS	\$5,000.00
	Subcontractor - Install Temporary Chain Link Fence and Gate, Later Uninstall	1	LS	\$5,000.00
	Subcontractor - 20'x30' Decontamination Pad 60 mil Liner, Berms and Sump)	1	LS	\$3,500.00
	Subcontractor - Excavate and Stage Clean Soil	1376	CY	\$12.00
	Subcontractor - Excavate and Direct-Load Contaminated Soil	1370	Tons	\$14.00
	Subcontractor - Excavate and Stage Contaminated Bedrock	474	Tons	\$36.00
	Subcontractor - Frac Tank Rental (2 Tanks)	2	Month	\$3,000.00
	Subcontractor - Excavation Dewatering	40000	Gallon	\$0.06
	Subcontractor - Provide and Place Biosolve	4	Day	\$200.00
	Subcontractor - Prepare Waste Profiles (1 for soil)	1	Profile	\$100.00
	Subcontractor - Transport and Dispose of Non-Hazardous Soil	1370	Ton	\$45.50
	Subcontractor - Load, Transport and Dispose of Non-Hazardous Bedrock	474	Ton	\$50.00
	Subcontractor - Provide and Install Hardware in Excavation for Future In-Situ Amendment	1	LS	\$1,500.00
	Subcontractor - Place and Compact Clean Site Soil	1376	CY	\$10.00
	Subcontractor - Provide, Place and Compact Imported Crushed Stone (Dolomite)	1844	Tons	\$30.00
	Subcontractor - Frac Tank Discharge	40000	Gallons	\$0.06
	Subcontractor - Frac Tank Cleaning (2 Tanks)	1	LS	\$3,000.00
	Subcontractor - Provide Water and Mix ORC-Advanced (1,000 lbs ORC-A and 1000 Gallons Water)	1	LS	\$1,500.00
	Subcontractor - Place ORC-Advanced into Excavation	1	LS	\$1,000.00
	Subcontractor - Provide Water and Mix ORC-Advanced (500 lbs ORC-A and 500 Gallons Water)	1	LS	\$1,000.00
	Subcontractor - Inject ORC-Advanced into In-Situ Bioremediation System	1	LS	\$1,000.00
	Subcontractor - Decontaminate Heavy Equipment/Vehicles	8	Hour	\$150.00
	Subcontractor - Install Four Overburden Monitoring Wells	4	Well	\$2,500.00
	Laboratory (20 TCL and CP-51 VOCs for Soil Samples)	20	Sample	\$80.00
	Laboratory (20 CP-51 SVOCs for Soil Samples)	20	Sample	\$105.00
	Laboratory (2 Samples of Soil for Waste Characterization Parameters)	2	Sample	\$800.00
	Laboratory (1 Sample of Water for Waste Characterization Parameters)	1	Sample	\$400.00
7.0	Remediation Subtotal			\$263,971.00
8.0	Post Excavation Groundwater Monitoring	Quantity	Unit	Rate
	Laboratory (10 TCL and CP-51 VOCs for Groundwater Samples)	10	Sample	\$80.00
	Laboratory (10 CP-51 SVOCs for Groundwater Samples)	10	Sample	\$105.00
	Per Event Subtotal			\$1,850.00
8.0	Post Excavation Groundwater Monitoring Subtotal	4	Events	\$1,850.00
6.0	Total Professional Services Cost*			\$57,840.00
6.1	Total Expenses Cost*			\$23,608.00
6.3	Total Subcontracted Services Cost*			\$271,371.00
7.0	TOTAL PROJECT COST*			\$352,819.00
7.0	10 %CONTINGENCY*			\$35,281.90
8.0	TOTAL PROJECT COST PLUS 10% CONTINGENCY*			\$388,100.90

Subcontracted Costs and Outside Expenses include 5% markup, and 8% sales tax where applicable.

* The Opinion of Probable Costs listed above do not include City of Rochester direct costs associated with programmatic management of the grant, such as required performance reporting, cleanup oversight, and environmental monitoring of cleanup work.

APPENDIX A

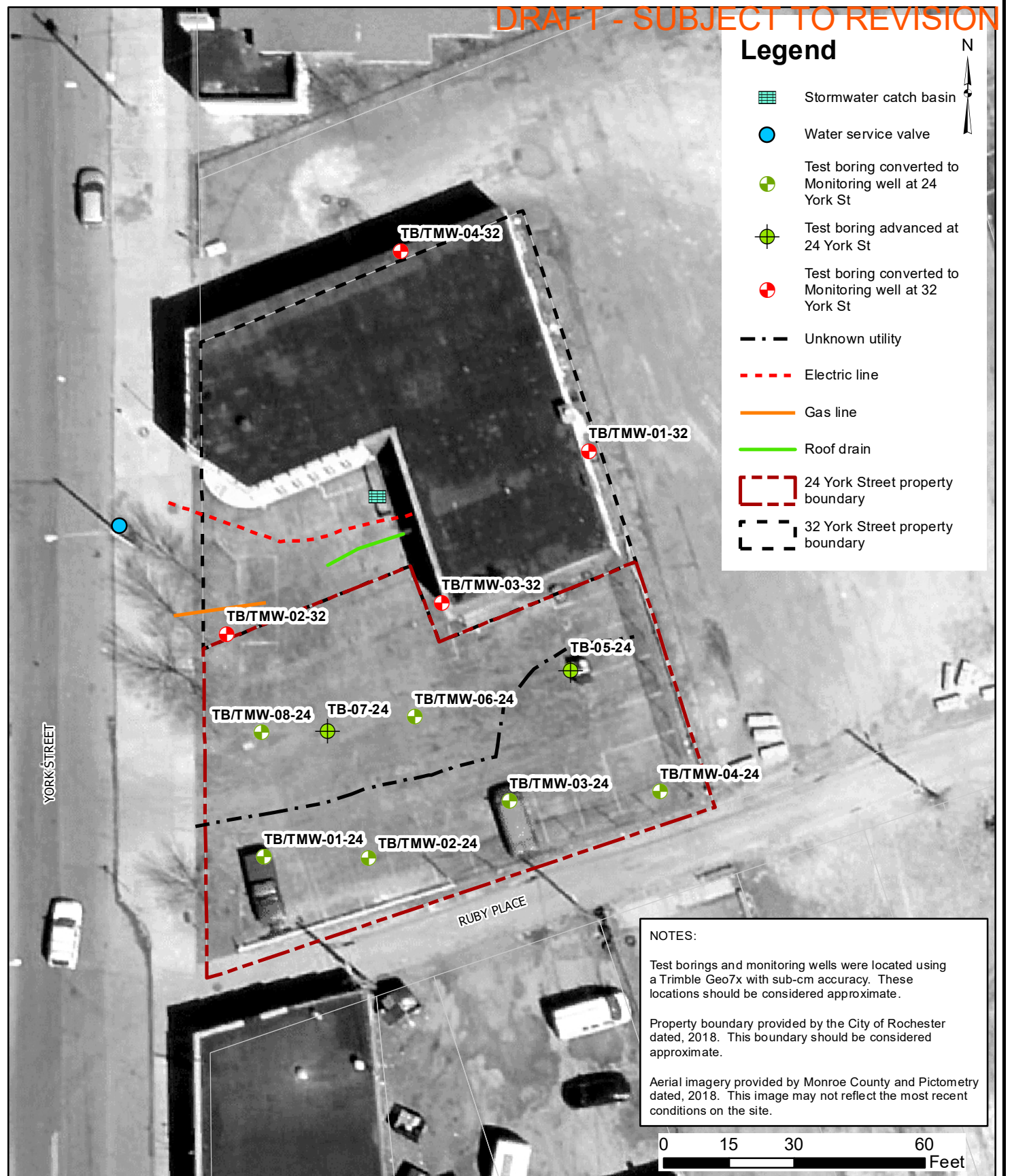
**Figures and Laboratory Data Summary Tables from
Previous Reports**

July 19, 2019 Preliminary Phase II ESAs – 24 and 32 York Street

Figure and Laboratory Data Summary Tables

Legend

- Stormwater catch basin
- Water service valve
- Test boring converted to Monitoring well at 24 York St
- Test boring advanced at 24 York St
- Test boring converted to Monitoring well at 32 York St
- Unknown utility
- Electric line
- Gas line
- Roof drain
- 24 York Street property boundary
- 32 York Street property boundary

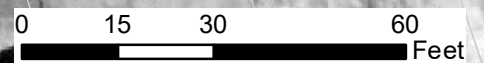


NOTES:

Test borings and monitoring wells were located using a Trimble Geo7x with sub-cm accuracy. These locations should be considered approximate.

Property boundary provided by the City of Rochester dated, 2018. This boundary should be considered approximate.

Aerial imagery provided by Monroe County and Pictometry dated, 2018. This image may not reflect the most recent conditions on the site.



Document Path: E:\GIS Mapping\Rocky\5597S and 5598S-19\Rocky - 24 York St and 32 York St\Phase II\5597S-Pil-01-SamplePlan.mxd

Last Date Saved: 11 Jun 2019

Date	06-11-2019
Drawn By	CPS
Scale	AS NOTED

day
DAY ENVIRONMENTAL, INC.
 Environmental Consultants
 Rochester, New York 14606
 New York, New York 10170

Project Title	24 YORK STREET AND 32 YORK STREET ROCHESTER, NEW YORK
	PRELIMINARY PHASE II ENVIRONMENTAL SITE ASSESSMENT
Drawing Title	Site Plan with Test Locations

Project No.	5597S-19 & 5598S-19
	FIGURE 2

Table 1

24 York Street
Rochester, New York

Summary of Detected VOC Results in mg/Kg or Parts per Million (ppm)

Soil/Fill Samples

Detected Constituent	A Unrestricted SCO ⁽¹⁾	B Restricted Residential SCO ⁽¹⁾	C Commercial SCO ⁽¹⁾	D CP-51 SCL ⁽²⁾	R1903954-002 TB-02-24(6-7) 4/30/2019 Fill	R1903954-005 TB-03-24(7-8) 4/30/2019 Fill	R1903954-007 TB-06-24(7-8) 4/30/2019 Fill	R1903954-009 TB-07-24(7-8) 4/30/2019 Fill	R1903954-011 TB-08-24(8-9) 4/30/2019 Soil
Acetone	0.05	100	500	NA	U	0.640 A	U	0.250 E A	U
Benzene	0.06	4.8	44	0.06	0.092 J AD	0.089 J AD	0.026 J	0.042	U
2-Butanone (MEK)	0.12	100	500	NA	U	U	U	0.029	U
n-Butylbenzene	12	100	500	12	U	0.059 J	U	0.110	36.0 AD
sec-Butylbenzene	11	100	500	11	0.290 J	0.058 J	0.076 J	0.086	10.0
tert-Butylbenzene	5.9	100	500	5.9	0.034 J	U	U	0.021 DJ	0.93 J
Carbon Disulfide	NA	NA	NA	NA	0.043 J	0.040 J	0.038 J	0.0014 J	U
Chloroethane	NA	NA	NA	NA	U	U	U	U	0.98 J
Cyclohexane	NA	NA	NA	NA	0.330 J	0.710	0.150 J	1.500 D	29.0
1,2-Dichlorobenzene	1.1	100	500	NA	U	U	U	0.0034 J	U
1,4-Dichlorobenzene	1.8	13	130	NA	U	U	U	0.0005 J	U
Ethylbenzene	1	41	390	1	0.190 J	U	0.038 J	1.300 D AD	4.5 J AD
Isopropylbenzene	NA	NA	NA	2.3	0.120 J	0.039 J	0.058 J	0.540 D	17.0 D
p-Isopropyltoluene	NA	NA	NA	10	0.420 J	0.049 J	U	0.076	0.82 J
Methyl Acetate	NA	NA	NA	NA	1.500 U	4.400	1.600	0.057	4.5 J
Methylcyclohexane	NA	NA	NA	NA	U	0.980	0.950	2.800 D	100.0
Naphthalene	12	100	500	12	0.200 J	0.160 BJ	0.089 BJ	0.068	49.0 AD
n-Propylbenzene	3.9	100	500	3.9	0.440 J	U	0.096 J	2.600 D	76.0 AD
Toluene	0.7	100	500	0.7	0.130 J	0.042 J	0.060 J	0.005	U
1,2,4-Trimethylbenzene	3.6	52	190	3.6	0.390 J	0.140 J	0.091 J	11.000 D AD	1.2 J
1,3,5-Trimethylbenzene	8.4	52	190	8.4	U	0.100 J	0.023 J	0.029	U
m,p-Xylene	0.26	100	500	0.26	0.390 J AD	U	0.110 J	3.200 D AD	U
o-Xylene	0.26	100	500	0.26	0.045 J	0.041 J	0.030 J	0.020	U
Total VOCs	NA	NA	NA	NA	4.614	7.547	3.435	23.7383	329.93

U = Not detected above laboratory method detection limit

J = Estimated Value

D = Data reported from a dilution

B = Constituent also detected in method blank

VOC = Volatile Organic Compound

NA = Not available

(1) = Soil Cleanup Objective (SCO) referenced in 6 NYCRR Part 375 dated 12/14/2006 and CP-51 dated 10/21/2010

(2) = Soil Cleanup Level (SCL) referenced in CP-51 dated 10/21/2010

Concentration in **BOLD** and **RED** print exceeds one or more of the following criteria.**A** = Concentration Exceeds Unrestricted Use SCO**B** = Concentration Exceeds Restricted Residential Use SCO**C** = Concentration Exceeds Commercial Use SCO**D** = Concentration Exceeds SCL

Table 2

24 York Street
Rochester, New York

Summary of Detected SVOC Results in mg/Kg or Parts Per Million (ppm)

Soil/Fill Samples

Detected Constituent	A Unrestricted SCO ⁽¹⁾	B Restricted Residential SCO ⁽¹⁾	C Commercial SCO ⁽¹⁾	D CP-51 SCL ⁽²⁾	R1903954-001 TB-01-24(1-3) 4/30/2019 Fill	R1903954-004 TB-02-24(7-8) 4/30/2019 Fill	R1903954-006 TB-05-24(1-4) 4/30/2019 Fill	R1903954-008 TB-06-24(4-5) 4/30/2019 Fill	R1903954-010 TB-07-24(2-4) 4/30/2019 Fill
Acenaphthene	20	100	500	20	0.094 J	U	U	U	U
Acenaphthylene	100	100	500	100	0.430	U	U	U	U
Anthracene	100	100	500	100	0.370 J	U	U	0.240 J	0.310 J
Benzo(a)anthracene	1	1	5.6	1	2.000 ABC	0.130 J	0.120 J	0.770 J	0.720 J
Benzo(a)pyrene	1	1	1	1	2.700 ABCD	0.100 J	0.180 J	1.100 ABCD	0.680 J
Benzo(b)fluoranthene	1	1	5.6	1	2.600 ABD	0.140 J	0.180 J	0.990 J	0.700 J
Benzo(g,h,i)perylene	100	100	500	100	1.700	U	0.220 J	0.800 J	0.470 J
Benzo(k)fluoranthene	0.8	3.9	56	0.8	1.000 AD	U	U	0.320 J	U
Carbazole	NA	NA	NA	NA	0.110 J	U	U	U	U
Chrysene	1	3.9	56	1	2.000 AD	0.170 J	0.140 J	0.870 J	0.720 J
Dibenzo(a,h) anthracene	0.33	0.33	0.56	0.33	0.400 ABD	U	U	U	U
Fluoranthene	100	100	500	100	2.800	0.540	0.190 J	1.100	1.600
Indeno(1,2,3-cd)pyrene	0.5	0.5	5.6	0.5	1.600 ABD	U	0.160 J	0.590 J ABD	0.370 J
2-Methylnaphthalene	NA	NA	NA	NA	U	0.260 J	U	U	U
Naphthalene	12	100	500	12	0.089 J	0.160 J	U	U	U
Phenanthrene	100	100	500	100	1.200	0.340 J	U	0.840 J	1.300
Pyrene	100	100	500	100	2.800	0.420	0.260 J	1.500	1.800
Total SVOCs	NA	NA	NA	NA	21.893	2.260	1.450	9.120	8.670

Notes:

U = Not detected above laboratory method detection limit

J = Estimated Value

SVOC = Semi-Volatile Organic Compound

NA = Not available

(1) = Soil Cleanup Objective (SCO) referenced in 6 NYCRR Part 375 dated 12/14/2006 and CP-51 dated 10/21/2010

(2) = Soil Cleanup Level (SCL) referenced in CP-51 dated 10/21/2010

Concentration in **BOLD** and **RED** print exceeds one or more of the following criteria.**A** = Concentration Exceeds Unrestricted Use SCO**B** = Concentration Exceeds Restricted Residential Use SCO**C** = Concentration Exceeds Commercial Use SCO**D** = Concentration Exceeds SCL

Table 4

24 York Street
Rochester, New York

Summary of Detected VOC Results in ug/l or Parts per Billion (ppb)

Groundwater Samples

Detected Constituent	Groundwater Standard or Guidance Value ⁽¹⁾	R1903954-012 TMW-01-24 5/1/2019 Groundwater	R1903954-013 TMW-02-24 5/1/2019 Groundwater	R1903954-014 TMW-04-24 5/1/2019 Groundwater	R1903954-015 TMW-06-24 5/1/2019 Groundwater	R1903954-016 TMW-08-24 5/1/2019 Groundwater
Acetone	50	2.8 J	11 J	U	3.8 J	60 X
Benzene	1	U	1.2 J X	U	1.4 J X	1.6 J X
2-Butanone (MEK)	50	U	2.8 J	U	U	18 J
n-Butylbenzene	5	U	13 X	U	0.92 J	81 X
sec-Butylbenzene	5	0.33 J	6.7 J X	U	2.0 J	27 X
tert-Butylbenzene	5	0.73 J	1.9 J	U	0.48 J	3.6 J
Ethylbenzene	5	U	1.4 J	U	0.55 J	67 X
2-Hexanone (MBK)	50	U	U	U	U	2.9 J
Isopropylbenzene	5	U	25 X	U	2.5 J	130 X
p-Isopropyltoluene	5	U	1.6 J	U	U	2.6 J
4-Methyl-2-pentanone (MIBK)	NA	U	U	U	U	1.8 J
Naphthalene	10	U	56 X	U	U	650 X
n-Propylbenzene	5	U	46 X	U	4.9 J	440 X
Toluene	5	U	0.75 J	U	0.48 J	1.2 J
1,2,4-Trimethylbenzene	5	U	1.5 J	U	1.7 J	12 J X
m,p-Xylene	5	U	1.1 J	U	1.2 J	3.6 J
o-Xylene	5	U	0.73 J	U	0.39 J	1.3 J
Cyclohexane	NA	U	61	U	2.3 J	72
Methylcyclohexane	NA	U	180	U	5.1 J	240
Total VOCs	NA	3.86	411.68	0.0	27.72	1815.6

U = Not detected above laboratory method detection limit

J = Estimated Value

⁽¹⁾ Groundwater standard or guidance value are as referenced in NYSDEC TOGS 1.1.1 dated June 1998 with April 2000 and June 2004 addendums.

X = Concentration exceeds groundwater standard or guidance value

VOC = Volatile Organic Compound

NA = Not available

Table 1

32 York Street
Rochester, New York

Summary of Detected VOC Results in mg/Kg or Parts per Million (ppm)

Soil/Fill Samples

Detected Constituent	A Unrestricted SCO ⁽¹⁾	B Restricted Residential SCO ⁽¹⁾	C Commercial SCO ⁽¹⁾	D CP-51 SCL ⁽²⁾	R1903959-001 TB-01-32(1-2) 4/30/2019 Fill	R1903959-004 TB-02-32(2-3) 4/30/2019 Fill	R1903959-007 TB-03-32(7-8) 4/30/2019 Soil	R1903959-009 TB-04-32(1-4) 4/30/2019 Fill
Acetone	0.05	100	500	NA	0.054 A	0.076 A	U	0.016
Benzene	0.06	4.8	44	0.06	U	0.0002 J	U	U
2-Butanone (MEK)	0.12	100	500	NA	0.0023 J	0.0028 J	U	U
n-Butylbenzene	12	100	500	12	U	U	0.950	U
sec-Butylbenzene	11	100	500	11	U	U	0.370 J	U
tert-Butylbenzene	5.9	100	500	5.9	U	U	0.051 J	U
Chloroethane	NA	NA	NA	NA	U	U	0.032 J	U
Cyclohexane	NA	NA	NA	NA	U	U	8.100	0.00028 J
2-Hexanone (MBK)	NA	NA	NA	NA	U	0.0016 J	U	U
Isopropylbenzene	NA	NA	NA	2.3	U	U	0.240 J	U
p-Isopropyltoluene	NA	NA	NA	10	U	U	0.130 J	U
Methyl Acetate	NA	NA	NA	NA	0.0011 J	0.011	1.600 D	U
Methyl tert-butyl Ether	NA	NA	NA	0.93	U	0.00025 J	U	U
Methylcyclohexane	NA	NA	NA	NA	0.00036 J	0.00056 J	15.000 D	0.00047 J
Naphthalene	12	100	500	12	0.00099 BJ	0.00067 BJ	0.260 DJ	U
n-Propylbenzene	3.9	100	500	3.9	U	U	0.740	U
Toluene	0.7	100	500	0.7	0.0003 J	0.00024 J	U	0.00017 J
1,2,4-Trichlorobenzene	NA	NA	NA	NA	0.00047 BJ	U	U	U
Trichloroethene	0.47	21	200	NA	U	U	0.035 J	U
Trichlorofluoromethane (Freon 11)	NA	NA	NA	NA	U	U	U	0.00032 J
1,2,4-Trimethylbenzene	3.6	52	190	3.6	0.00023 J	U	0.039 J	U
Total VOCs	NA	NA	NA	NA	0.05975	0.09332	27.547	0.01724

U = Not detected

J = Estimated Value

D = Data reported from a dilution

B = Constituent also detected in method blank

VOC = Volatile Organic Compound

NA = Not available

(1) = Soil Cleanup Objective (SCO) referenced in 6 NYCRR Part 375 dated 12/14/2006 and CP-51 dated 10/21/2010

(2) = Soil Cleanup Level (SCL) referenced in CP-51 dated 10/21/2010

Concentration in **BOLD** and **RED** print exceeds one or more of the following criteria.**A** = Concentration Exceeds Unrestricted Use SCO**B** = Concentration Exceeds Restricted Residential Use SCO**C** = Concentration Exceeds Commercial Use SCO**D** = Concentration Exceeds SCL

Table 2

32 York Street
Rochester, New York

Summary of Detected SVOC Results in mg/Kg or Parts Per Million (ppm)

Soil/Fill Samples

Detected Constituent	A Unrestricted SCO ⁽¹⁾	B Restricted Residential SCO ⁽¹⁾	C Commercial SCO ⁽¹⁾	D CP-51 SCL ⁽²⁾	R1903959-002 TB-01-32(2-3) 4/30/2019 Fill	R1903959-006 TB-02-32(4-5) 4/30/2019 Soil/Fill	R1903959-008 TB-03-32(5-7) 4/30/2019 Soil	R190395-010 TB-04-32(4-5) 4/30/2019 Soil
Acenaphthylene	100	100	500	100	0.096 J	U	U	U
Anthracene	100	100	500	100	0.190 J	U	U	U
Benzo(a)anthracene	1	1	5.6	1	0.630	U	U	U
Benzo(a)pyrene	1	1	1	1	0.580	U	U	U
Benzo(b)fluoranthene	1	1	5.6	1	0.730	U	0.083 J	U
Benzo(g,h,i)perylene	100	100	500	100	0.420 J	U	U	U
Benzo(k)fluoranthene	0.8	3.9	56	0.8	0.280 J	U	U	U
Chrysene	1	3.9	56	1	0.610	U	U	U
Dibenzo(a,h) anthracene	0.33	0.33	0.56	0.33	0.082 J	U	U	U
Fluoranthene	100	100	500	100	1.300	U	0.095 J	U
Indeno(1,2,3-cd)pyrene	0.5	0.5	5.6	0.5	0.390 J	U	U	U
Phenanthrene	100	100	500	100	0.700	U	U	U
Pyrene	100	100	500	100	1.100	U	0.091 J	U
Total SVOCs	NA	NA	NA	NA	7.108	0.000	0.269	0.000

U = Not detected above laboratory method detection limit

J = Estimated Value

SVOC = Semi-Volatile Organic Compound

NA = Not available

(1) = Soil Cleanup Objective (SCO) referenced in 6 NYCRR Part 375 dated 12/14/2006 and CP-51 dated 10/21/2010

(2) = Soil Cleanup Level (SCL) referenced in CP-51 dated 10/21/2010

Concentration in **BOLD** and **RED** print exceeds one or more of the following criteria.**A** = Concentration Exceeds Unrestricted Use SCO**B** = Concentration Exceeds Restricted Residential Use SCO**C** = Concentration Exceeds Commercial Use SCO**D** = Concentration Exceeds SCL

Table 4
32 York Street
Rochester, New York
Summary of Detected VOC Results in ug/l or Parts per Billion (ppb)
Groundwater Samples

Detected Constituent	Groundwater Standard or Guidance Value ⁽¹⁾	R1903959-011 TMW-01-32 5/1/2019 Groundwater	R1903959-012 TMW-02-32 5/1/2019 Groundwater	R1903959-013 TMW-03-32 5/1/2019 Groundwater	R1903959-014 TMW-04-32 5/1/2019 Groundwater
Acetone	50	2.5 J	U	220 X	8.7 J
Bromodichloromethane	50	U	U	U	2.2 J
2-Butanone (MEK)	50	U	U	78 X	U
n-Butylbenzene	5	U	U	16 X	U
sec-Butylbenzene	5	U	U	9.2 J X	U
tert-Butylbenzene	5	U	U	2.0 J	U
Chloroethane	5	U	U	1.9 J	U
Chloroform	7	U	U	U	5.7
Chloromethane	5	U	U	1.2 J	U
Dibromochloromethane	50	U	U	U	0.78 J
Ethylbenzene	5	U	U	2.1 J	U
2-Hexanone (MBK)	50	U	U	12 J	U
Isopropylbenzene	5	U	U	15 X	U
p-Isopropyltoluene	5	U	U	3.6 J	U
4-Methyl-2-pentanone (MIBK)	NA	U	U	7.0 J	U
Naphthalene	10	U	U	28 X	U
n-Propylbenzene	5	U	U	39 X	U
Tetrachloroethene	5	0.33 J	U	U	U
Toluene	5	U	0.36 J	0.55 J	0.22 J
1,2,4-Trimethylbenzene	5	U	0.25 J	0.85 J	U
m,p-Xylene	5	U	0.42 J	0.85 J	U
Cyclohexane	NA	U	U	62	U
Methylcyclohexane	NA	0.37 J	0.45 J	210	U
Total VOCs	NA	3.2	1.48	709.25	17.60

U = Not detected

J = Estimated Value

⁽¹⁾ Groundwater standard or guidance value are as referenced in NYSDEC TOGS 1.1.1 dated June 1998 with April 2000 and June 2004 addendums.

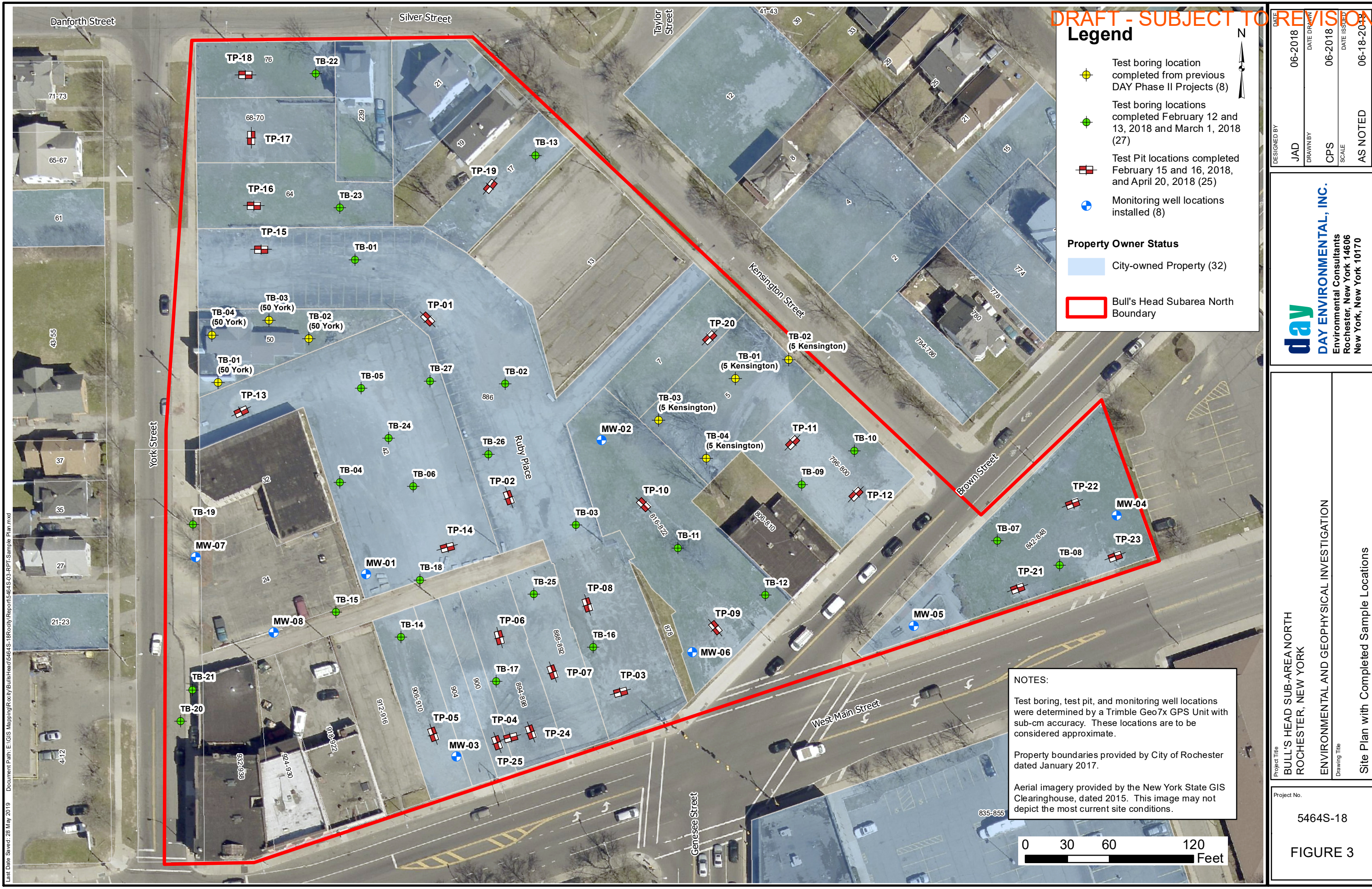
X = Concentration exceeds groundwater standard or guidance value

VOC = Volatile Organic Compound

NA = Not available

**July 2019 Pre-Development Phase II ESA and Geotechnical Study – Bull’s Head Sub-Area
North**

Figure and Laboratory Data Summary Tables



DRAFT - SUBJECT TO REVISION

Legend

- Test boring location completed from previous DAY Phase II Projects (8)
- Test boring locations completed February 12 and 13, 2018 and March 1, 2018 (27)
- Test Pit locations completed February 15 and 16, 2018, and April 20, 2018 (25)
- Monitoring well locations installed (8)

Property Owner Status

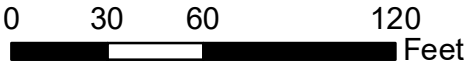
- City-owned Property (32)
- Bull's Head Subarea North Boundary

NOTES:

Test boring, test pit, and monitoring well locations were determined by a Trimble Geo7x GPS Unit with sub-cm accuracy. These locations are to be considered approximate.

Property boundaries provided by City of Rochester dated January 2017.

Aerial imagery provided by the New York State GIS Clearinghouse, dated 2015. This image may not depict the most current site conditions.



DESIGNED BY	JAD	DATE	06-2018
DRAWN BY	CPS	DATE DRAWN	06-2018
SCALE	AS NOTED	DATE ISSUED	06-18-2018

day
DAY ENVIRONMENTAL, INC.
Environmental Consultants
Rochester, New York 14606
New York, New York 10170

Project Title
**BULL'S HEAD SUB-AREA NORTH
ROCHESTER, NEW YORK**

Drawing Title
ENVIRONMENTAL AND GEOPHYSICAL INVESTIGATION

Project No.
5464S-18

FIGURE 3

Site Plan with Completed Sample Locations

Last Date Saved: 28 May 2019 Document Path: E:\GIS Mapping\Rochester\Bull's Head\5464S-18\Rochester\Report\5464S-03-RPT-Sample Plan.mxd

Bulls Head Sub Area North
Rochester, New York

Summary of Detected VOC Results in mg/Kg or Parts Per Million (ppm)

Soil and Fill Samples

Detected Constituent	CAS Number	A Unrestricted SCO ⁽¹⁾	B Residential SCO ⁽¹⁾	C Restricted Residential SCO ⁽¹⁾	D Commercial SCO ⁽¹⁾	G Protection of Groundwater SCO ⁽¹⁾	R1801334-003 TB-04 (2.5) 2/12/18 Fill	R1801334-004 TB-07 (5.5) 2/12/18 Fill	R1801334-005 TB-10 (15.0) 2/12/18 Fill	R1801334-005 TB-13 (8.0) 2/12/18 Soil	R1801334-005 TB-14 (7.0) 2/13/18 Fill	R1801334-008 TB-15 (7.0-7.5) 2/13/18 Soil	R1801334-010 TB-19 (10.0) 2/13/18 Soil	R1801334-011 TB-20 (3.0) 2/13/18 Soil
Acetone	67-64-1	0.05	100	100	500	0.05	0.038	0.068 AG	0.040	0.0023 J	U	0.024	0.0091	0.010
Benzene	71-43-2	0.06	2.9	4.8	44	0.06	0.0011 J	0.00032 J	0.00030 J	U	U	U	0.00045 J	0.0064
2-Butanone (MEK)	78-93-3	0.12	100	100	500	0.12	0.0052	0.010	0.012	U	U	U	0.0021 J	0.0018 J
n-Butylbenzene	104-51-8	12	100	100	500	12	0.0010 J	0.0024 J	U	U	7.5	U	U	U
sec-Butylbenzene	135-98-8	11	100	100	500	11	U	U	U	U	3.4	U	U	U
tert-Butylbenzene	98-06-6	5.9	100	100	500	5.9	U	U	U	U	0.760 J	U	U	U
Carbon Disulfide	75-15-0	NA	100	NA	NA	2.7	U	0.015	U	U	U	U	U	U
Cyclohexane	110-82-7	NA	NA	NA	NA	NA	0.020	U	U	U	1.300 J	U	0.0017 J	0.012
Ethylbenzene	100-41-4	1	30	41	390	1	0.0013 J	U	U	U	0.720 J	U	U	0.0018 J
Isopropylbenzene	98-82-8	NA	100	NA	NA	2.3	U	U	U	U	1.1 J	U	U	U
p-Isopropyltoluene	99-87-6	NA	NA	NA	NA	10	U	0.00099 J	U	U	3.7	U	U	U
Methylene chloride	75-09-2	0.05	51	100	500	0.05	0.00062 J	U	0.00061 J	U	U	U	U	0.00050 J
Methylcyclohexane	108-87-2	NA	NA	NA	NA	NA	0.0032 J	0.0017 J	U	U	5.2	U	0.0020 J	0.020
n-Propylbenzene	103-65-1	3.9	100	100	500	3.9	0.0011 J	U	U	U	2.4	U	U	U
Styrene	100-42-5	NA	NA	NA	NA	NA	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	79-34-5	NA	35	NA	NA	0.6	0.0012 J	0.0011 J	U	U	U	U	U	U
Tetrachloroethene	127-18-4	1.3	5.5	19	150	1.3	U	U	U	U	U	U	U	U
Toluene	108-88-3	0.7	100	100	500	0.7	0.0023 J	U	U	U	U	U	0.0016 J	0.015
Trichloroethene	79-01-6	0.47	10	21	200	0.47	U	U	U	U	U	U	U	U
Trichlorofluoromethane (Freon 11)	75-69-4	NA	NA	NA	NA	NA	U	U	U	U	U	U	U	U
1,2,4-Trimethylbenzene	95-63-6	3.6	47	52	190	3.6	0.0021 J	0.0082	U	U	27 AG	U	0.00066 J	0.0071
1,3,5-Trimethylbenzene	108-67-8	8.4	47	52	190	8.4	0.0012 J	0.0025 J	U	U	8.1	U	U	0.0035 J
m,p-Xylene	179601-23-1	0.26	100	100	500	1.6	0.0021 J	U	U	U	2.9 AG	U	0.0015 J	0.014
o-Xylene	95-47-6	0.26	100	100	500	1.6	0.00090 J	U	U	U	0.220 J	U	U	0.0042
Total VOCs		NA	NA	NA	NA	NA	0.08132	0.11021	0.05291	0.0023	64.300	0.024	0.01911	0.0963

(1) = Soil Cleanup Objective (SCO) referenced in 6 NYCRR Part 375 dated 12/14/2006

Concentration in **BOLD** and **RED** print exceeds one or more of the following criteria.

- A** = Concentration Exceeds Unrestricted Use SCO
- B** = Concentration Exceeds Residential Use SCO
- C** = Concentration Exceeds Restricted Residential Use SCO
- D** = Concentration Exceeds Commercial Use SCO
- G** = Concentration Exceeds Protection of Groundwater SCO

B = Also detected in associated blank

J = Estimated Value

U = Not Detected

D = Data reported from a dilution

VOC = Volatile Organic Compound

NA = Not Available

Bulls Head Sub Area North
Rochester, New York

Summary of Detected VOC Results in mg/Kg or Parts Per Million (ppm)

Soil and Fill Samples

Detected Constituent	CAS Number	A Unrestricted SCO ⁽¹⁾	B Residential SCO ⁽¹⁾	C Restricted Residential SCO ⁽¹⁾	D Commercial SCO ⁽¹⁾	G Protection of Groundwater SCO ⁽¹⁾	R1801334-012 TB-21 (5.0) 2/13/18 Soil	R1801334-013 TB-22 (12.0) 2/13/18 Soil	R1801453-008 TP-07 (4.0) 2/15/18 Fill	R1801453-009 TP-08 (5.5) 2/15/18 Fill	R1801453-011 TP-10 (5.0) 2/15/18 Fill	R1801453-012 TP-12 (5.0) 2/15/18 Fill	R1801453-019 TP-22 (4.0-5.0) 2/16/18 Fill	R1801818-001 MW-08 (6.0-8.0) 2/28/18 Soil
Acetone	67-64-1	0.05	100	100	500	0.05	0.0093	U	0.042 B	0.033 B	0.0043 BJ	0.022 B	0.034 B	U
Benzene	71-43-2	0.06	2.9	4.8	44	0.06	0.00058 J	U	U	0.0034 J	U	U	0.00057 J	0.890 AG
2-Butanone (MEK)	78-93-3	0.12	100	100	500	0.12	U	U	0.012	0.0071	U	U	0.0091	U
n-Butylbenzene	104-51-8	12	100	100	500	12	U	U	U	U	U	U	0.170	0.790 J
sec-Butylbenzene	135-98-8	11	100	100	500	11	U	U	U	U	U	U	0.150	0.390 J
tert-Butylbenzene	98-06-6	5.9	100	100	500	5.9	U	U	U	U	U	U	U	U
Carbon Disulfide	75-15-0	NA	100	NA	NA	2.7	U	U	U	0.0015 J	U	U	0.0021 J	U
Cyclohexane	110-82-7	NA	NA	NA	NA	NA	U	U	U	U	U	U	0.0026 J	0.450 J
Ethylbenzene	100-41-4	1	30	41	390	1	U	U	U	0.0030 J	U	0.00038 J	0.018	1.300 AG
Isopropylbenzene	98-82-8	NA	100	NA	NA	2.3	U	U	U	0.00067 J	U	U	0.063	0.320 J
p-Isopropyltoluene	99-87-6	NA	NA	NA	NA	10	U	U	U	U	U	U	0.780 D	U
Methylene chloride	75-09-2	0.05	51	100	500	0.05	U	U	U	0.00061 J	0.00074 J	U	U	U
Methylcyclohexane	108-87-2	NA	NA	NA	NA	NA	0.0014 J	U	U	U	U	U	0.023	1.800
n-Propylbenzene	103-65-1	3.9	100	100	500	3.9	U	U	U	U	U	U	0.084	1.300
Styrene	100-42-5	NA	NA	NA	NA	NA	U	U	U	0.0025 J	U	U	U	U
1,1,2,2-Tetrachloroethane	79-34-5	NA	35	NA	NA	0.6	U	U	U	U	U	U	U	U
Tetrachloroethene	127-18-4	1.3	5.5	19	150	1.3	0.00095 J	U	U	U	U	U	U	U
Toluene	108-88-3	0.7	100	100	500	0.7	0.0015 J	U	U	U	U	U	0.0029 J	2.600 AG
Trichloroethene	79-01-6	0.47	10	21	200	0.47	U	U	U	0.0012 J	U	U	U	U
Trichlorofluoromethane (Freon 11)	75-69-4	NA	NA	NA	NA	NA	U	U	U	0.00059 J	U	U	U	U
1,2,4-Trimethylbenzene	95-63-6	3.6	47	52	190	3.6	0.00052 J	U	U	0.0013 J	U	0.0065	5.000 D AG	2.400
1,3,5-Trimethylbenzene	108-67-8	8.4	47	52	190	8.4	U	U	U	0.00063 J	U	0.0021 J	0.240 DJ	0.310 J
m,p-Xylene	179601-23-1	0.26	100	100	500	1.6	0.0011 J	U	U	0.0020 J	U	0.0018 J	0.023	4.900 AG
o-Xylene	95-47-6	0.26	100	100	500	1.6	U	U	U	0.0012 J	U	0.0010 J	0.020	0.790 J A
Total VOCs		NA	NA	NA	NA	NA	0.01535	0.000	0.054	0.05870	0.00504	0.03378	6.62227	18.240

(1) = Soil Cleanup Objective (SCO) referenced in 6 NYCRR Part 375 dated 12/14/2006

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- C** = Concentration Exceeds Restricted Residential Use SCO
- D** = Concentration Exceeds Commercial Use SCO
- G** = Concentration Exceeds Protection of Groundwater SCO

B = Also detected in associated blank

J = Estimated Value

U = Not Detected

D = Data reported from a dilution

VOC = Volatile Organic Compound

NA = Not Available

Table 6

Bulls Head Sub Area North
Rochester, New York

Summary of Detected SVOC Results in mg/Kg or Parts Per Million (ppm)

Soil and Fill Samples

Detected Constituent	CAS Number	A Unrestricted SCO ⁽¹⁾	B Residential SCO ⁽¹⁾	C Restricted Residential SCO ⁽¹⁾	D Commercial SCO(1)	G Protection of Groundwater SCO ⁽¹⁾	R1801334-001 TB-01 (3.0) 2/12/18 Fill	R1801334-002 TB-02 (8.0) 2/12/18 Fill	R1801334-003 TB-04 (2.5) 2/12/18 Fill	R1801334-007 TB-14 (7.0) 2/13/18 Fill	R1801334-009 TB-18 (10.0-11.0) 2/13/18 Soil	R1801334-014 TB-24 (2.5) 2/13/18 Fill	R1801453-001 TP-01 (3.0-4.0) 2/15/18 Fill	R1801453-002 TP-02 (4.0) 2/15/18 Fill
Acenaphthene	83-32-9	20	100	100	500	98	U	U	U	0.220 J	U	U	U	U
Acenaphthylene	208-96-8	100	100	100	500	107	U	U	U	U	U	U	U	U
Anthracene	120-12-7	100	100	100	500	1000	U	0.170 J	U	U J	U	U	U	U
Benzo(a)anthracene	56-55-3	1	1	1	5.6	1	0.086 J	0.450 J	U	U	U	0.093 J	0.680 J	0.280 J
Benzo(a)pyrene	50-32-8	1	1	1	1	22	0.091 J	0.400 J	U	U	U	0.100 J	0.770 J	0.290 J
Benzo(b)fluoranthene	205-99-2	1	1	1	5.6	1.7	0.120 J	0.480 J	0.160 J	U	U	0.170 J	1.100 J ABC	0.350 J
Benzo(g,h,i)perylene	191-24-2	100	100	100	500	1000	0.092 J	0.270 J	U	U	U	0.140 J	0.780 J	0.230 J
Benzo(k)fluoranthene	207-08-9	0.8	1.0	3.9	56	1.7	U	0.190 J	U	U	U	U	U	0.130 J
Biphenyl	92-52-4	NA	NA	NA	NA	NA	U	U	U	0.220 J	U	U	U	U
Butyl benzyl phthalate	85-68-7	NA	100	NA	NA	122	U	U	U	U	U	U	U	U
Carbazole	86-74-8	NA	NA	NA	NA	NA	U	0.150 J	U	U	U	U	U	U
Chrysene	218-01-9	1	1	3.9	56	1	0.100 J	0.490 J	U	U	U	0.110 J	0.920 J	0.320 J
Dibenzo(a,h) anthracene	53-70-3	0.33	0.33	0.33	0.56	1000	U	U	U	U	U	U	U	U
Dibenzofuran	132-64-9	7	14	59	350	210	U	U	U	U	U	U	U	U
Fluoranthene	206-44-0	100	100	100	500	1000	0.160 J	0.980	U	U	U	0.110 J	1.900	0.670
Fluorene	86-73-7	30	100	100	500	386	U	U	U	0.350 J	U	U	U	U
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	0.5	0.5	5.6	8.2	0.090 J	0.290 J	U	U	U	0.110 J	0.720 J ABC	0.230 J
2-Methylnaphthalene	91-57-6	NA	0.41	NA	NA	36.4	U	U	U	1.800 B	U	U	U	U
3 & 4-Methylphenol (m & p-Cresol)	108-39-4, 106-44-5	0.33	100	100	500	0.33	U	0.170 J	U	U	U	U	U	U
Naphthalene	91-20-3	12	100	100	500	12	U	U	U	0.250 J	U	U	U	U
Phenanthrene	85-01-8	100	100	100	500	1000	0.091 J	0.880	U	1.300	U	U	1.200 J	0.370 J
Pyrene	129-00-0	100	100	100	500	1000	0.150 J	0.800	U	U	U	0.098 J	1.600 J	0.560
Total SVOCs		NA	NA	NA	NA	NA	0.980	5.720	0.160	4.140	0.000	0.931	9.670	3.430

(1) = Soil Cleanup Objective (SCO) referenced in 6 NYCRR Part 375 dated 12/14/2006

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SVOC = Semi-Volatile Organic Compound

U = Not detected

J = Estimated Value

NA = Not Available

Table 6

Bulls Head Sub Area North
Rochester, New York

Summary of Detected SVOC Results in mg/Kg or Parts Per Million (ppm)

Soil and Fill Samples

Detected Constituent	CAS Number	A Unrestricted SCO ⁽¹⁾	B Residential SCO ⁽¹⁾	C Restricted Residential SCO ⁽¹⁾	D Commercial SCO(1)	G Protection of Groundwater SCO ⁽¹⁾	R1801453-003 TP-02 (10.0) 2/15/18 Soil	R1801453-005 TP-05 (6.0) 2/15/18 Fill	R1801453-006 TP-06 (5.5) 2/15/18 Fill	R1801453-007 TP-06 (9.0) 2/15/18 Soil	R1801453-008 TP-07 (4.0) 2/15/18 Fill	R1801453-009 TP-08 (5.5) 2/15/18 Fill	R1801453-010 TP-09 (7.0) 2/15/18 Fill	R1801453-011 TP-10 (5.0) 2/15/18 Fill
Acenaphthene	83-32-9	20	100	100	500	98	U	U	U	U	0.2200 J	0.960 J	U	U
Acenaphthylene	208-96-8	100	100	100	500	107	U	U	U	U	U	U	U	U
Anthracene	120-12-7	100	100	100	500	1000	U	U	U	U	0.680	3.200	0.400 J	U
Benzo(a)anthracene	56-55-3	1	1	1	5.6	1	U	U	0.097 J	U	1.700 ABCG	4.400 ABCG	0.930	0.590 J
Benzo(a)pyrene	50-32-8	1	1	1	1	22	U	U	0.130 J	U	1.400 ABCD	3.700 ABCD	1.000	0.660 J
Benzo(b)fluoranthene	205-99-2	1	1	1	5.6	1.7	U	U	0.170 J	U	1.800 ABCG	4.400 ABCG	1.200 ABC	0.780 J
Benzo(g,h,i)perylene	191-24-2	100	100	100	500	1000	U	U	0.110 J	U	0.710	2.300	0.540 J	0.480 J
Benzo(k)fluoranthene	207-08-9	0.8	1.0	3.9	56	1.7	U	U	U	U	0.700	1.700 AB	0.450 J	U
Biphenyl	92-52-4	NA	NA	NA	NA	NA	U	U	U	U	U	U	U	U
Butyl benzyl phthalate	85-68-7	NA	100	NA	NA	122	U	U	U	U	U	U	U	U
Carbazole	86-74-8	NA	NA	NA	NA	NA	U	U	U	U	0.300 J	1.700	U	U
Chrysene	218-01-9	1	1	3.9	56	1	U	U	0.120 J	U	1.700 ABG	4.200 ABCG	0.960	0.630 J
Dibenzo(a,h) anthracene	53-70-3	0.33	0.33	0.33	0.56	1000	U	U	U	U	0.200 J	0.580 J ABCD	U	U
Dibenzofuran	132-64-9	7	14	59	350	210	U	U	U	U	0.120 J	1.300	U	U
Fluoranthene	206-44-0	100	100	100	500	1000	U	U	0.140 J	U	4.100	12.000	1.600	1.100 J
Fluorene	86-73-7	30	100	100	500	386	U	U	U	U	0.200 J	1.400	U	U
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	0.5	0.5	5.6	8.2	U	U	0.092 J	U	0.860 ABC	2.500 ABC	0.590 J ABC	0.460 J
2-Methylnaphthalene	91-57-6	NA	0.41	NA	NA	36.4	U	U	U	U	U	0.500 J B	U	U
3 & 4-Methylphenol (m & p-Cresol)	108-39-4, 106-44-5	0.33	100	100	500	0.33	U	U	U	U	U	U	U	U
Naphthalene	91-20-3	12	100	100	500	12	U	U	U	U	U	1.400	U	U
Phenanthrene	85-01-8	100	100	100	500	1000	U	U	U	U	2.800	12.000	1.500	0.570 J
Pyrene	129-00-0	100	100	100	500	1000	U	U	0.130 J	U	3.200	9.400	1.600	0.990 J
Total SVOCs		NA	NA	NA	NA	NA	0.000	0.000	0.9890	0.000	20.690	67.640	10.770	6.260

(1) = Soil Cleanup Objective (SCO) referenced in 6 NYCRR Part 375 dated 12/14/2006

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SVOC = Semi-Volatile Organic Compound

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Table 6

Bulls Head Sub Area North
Rochester, New York

Summary of Detected SVOC Results in mg/Kg or Parts Per Million (ppm)

Soil and Fill Samples

Detected Constituent	CAS Number	A Unrestricted SCO ⁽¹⁾	B Residential SCO ⁽¹⁾	C Restricted Residential SCO ⁽¹⁾	D Commercial SCO(1)	G Protection of Groundwater SCO ⁽¹⁾	R1801453-012 TP-12 (5.0) 2/15/18 Fill	R1801453-013 TP-13 (1.0-2.0) 2/16/18 Fill	R1801453-014 TP-13 (7.0) 2/16/18 Soil	R1801453-015 TP-14 (3.5) 2/16/18 Fill	R1801804-005 TP-14 (8.5) 2/16/18 Soil	R1801453-016 TP-17 (4.0) 2/16/18 Fill	R1801453-017 TP-19 (3.0-4.0) 2/16/18 Fill	R1801453-018 TP-20 (9.0) 2/16/18 Fill
Acenaphthene	83-32-9	20	100	100	500	98	U	U	U	U	U	U	U	U
Acenaphthylene	208-96-8	100	100	100	500	107	0.280 J	U	U	U	U	0.130 J	U	0.760 J
Anthracene	120-12-7	100	100	100	500	1000	0.630 J	U	U	0.290 J	U	0.370 J	U	2.300
Benzo(a)anthracene	56-55-3	1	1	1	5.6	1	3.500 ABCG	U	U	1.000	U	0.950	0.490 J	4.000 ABCG
Benzo(a)pyrene	50-32-8	1	1	1	1	22	2.900 ABCD	U	U	1.400 ABCD	U	0.920	0.590 J	3.500 ABCD
Benzo(b)fluoranthene	205-99-2	1	1	1	5.6	1.7	3.500 ABCG	U	U	1.700 ABC	U	1.200 ABC	0.740 J	3.600 ABCG
Benzo(g,h,i)perylene	191-24-2	100	100	100	500	1000	1.400	U	U	1.000	U	0.480	U	1.700
Benzo(k)fluoranthene	207-08-9	0.8	1.0	3.9	56	1.7	1.300 AB	U	U	0.590	U	0.500	U	1.500 AB
Biphenyl	92-52-4	NA	NA	NA	NA	NA	U	U	U	U	U	U	U	U
Butyl benzyl phthalate	85-68-7	NA	100	NA	NA	122	U	U	U	U	U	0.470	U	U
Carbazole	86-74-8	NA	NA	NA	NA	NA	U	U	U	U	U	0.140 J	U	0.460 J
Chrysene	218-01-9	1	1	3.9	56	1	3.400 ABG	U	U	1.100 ABG	U	0.980	0.480 J	3.500 ABG
Dibenzo(a,h) anthracene	53-70-3	0.33	0.33	0.33	0.56	1000	0.430 J ABC	U	U	0.220 J	U	0.130 J	U	0.530 J ABC
Dibenzofuran	132-64-9	7	14	59	350	210	U	U	U	0.130 J	U	U	U	0.500 J
Fluoranthene	206-44-0	100	100	100	500	1000	5.200	U	U	1.700	U	1.900	0.790 J	8.700
Fluorene	86-73-7	30	100	100	500	386	U	U	U	U	U	0.110 J	U	0.930
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	0.5	0.5	5.6	8.2	1.700 ABC	U	U	1.100 ABC	U	0.570 ABC	U	2.300 ABC
2-Methylnaphthalene	91-57-6	NA	0.41	NA	NA	36.4	U	U	U	U	U	U	U	U
3 & 4-Methylphenol (m & p-Cresol)	108-39-4, 106-44-5	0.33	100	100	500	0.33	U	U	U	U	U	U	U	U
Naphthalene	91-20-3	12	100	100	500	12	U	U	U	0.120 J	U	U	U	U
Phenanthrene	85-01-8	100	100	100	500	1000	2.000	U	U	1.100	U	1.200	U	7.700
Pyrene	129-00-0	100	100	100	500	1000	5.000	U	U	1.600	U	1.600	0.730 J	7.000
Total SVOCs		NA	NA	NA	NA	NA	31.240	0.000	0.000	13.050	0.000	11.650	3.820	48.980

(1) = Soil Cleanup Objective (SCO) referenced in 6 NYCRR Part 375 dated 12/14/2006

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B = Concentration Exceeds Residential Use SCO

C = Concentration Exceeds Restricted Residential Use SCO

D = Concentration Exceeds Commercial Use SCO

G = Concentration Exceeds Protection of Groundwater SCO

SVOC = Semi-Volatile Organic Compound

U = Not detected

J = Estimated Value

NA = Not Available

Table 6
Bulls Head Sub Area North
Rochester, New York
Summary of Detected SVOC Results in mg/Kg or Parts Per Million (ppm)
Soil and Fill Samples

Detected Constituent	CAS Number	A Unrestricted SCO ⁽¹⁾	B Residential SCO ⁽¹⁾	C Restricted Residential SCO ⁽¹⁾	D Commercial SCO(1)	G Protection of Groundwater SCO ⁽¹⁾	R1801453-019 TP-22 (4.0-5.0) 2/16/18 Fill	R1803614-001 TP-24 (4.0) 4/20/18 Fill	R1803614-002 TP-25 (5.0) 4/20/18 Fill
Acenaphthene	83-32-9	20	100	100	500	98	2.700	U	U
Acenaphthylene	208-96-8	100	100	100	500	107	U	U	U
Anthracene	120-12-7	100	100	100	500	1000	3.800	0.110 J	U
Benzo(a)anthracene	56-55-3	1	1	1	5.6	1	7.800	ABCDG	0.320 J
Benzo(a)pyrene	50-32-8	1	1	1	1	22	8.600	ABCD	0.330 J
Benzo(b)fluoranthene	205-99-2	1	1	1	5.6	1.7	9.800	ABCDG	0.420
Benzo(g,h,i)perylene	191-24-2	100	100	100	500	1000	5.500	0.230 J	U
Benzo(k)fluoranthene	207-08-9	0.8	1.0	3.9	56	1.7	3.700	ABG	0.140 J
Biphenyl	92-52-4	NA	NA	NA	NA	NA	U	U	U
Butyl benzyl phthalate	85-68-7	NA	100	NA	NA	122	U	U	U
Carbazole	86-74-8	NA	NA	NA	NA	NA	2.000 J	U	U
Chrysene	218-01-9	1	1	3.9	56	1	7.600	ABCG	0.330 J
Dibenzo(a,h) anthracene	53-70-3	0.33	0.33	0.33	0.56	1000	1.500 J	ABCD	U
Dibenzofuran	132-64-9	7	14	59	350	210	1.900 J	U	U
Fluoranthene	206-44-0	100	100	100	500	1000	14.000	0.660	U
Fluorene	86-73-7	30	100	100	500	386	4.500	U	U
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	0.5	0.5	5.6	8.2	6.100	ABCD	0.220 J
2-Methylnaphthalene	91-57-6	NA	0.41	NA	NA	36.4	5.500	B	U
3 & 4-Methylphenol (m & p-Cresol)	108-39-4, 106-44-5	0.33	100	100	500	0.33	U	U	U
Naphthalene	91-20-3	12	100	100	500	12	2.700	U	U
Phenanthrene	85-01-8	100	100	100	500	1000	20.000	0.410	U
Pyrene	129-00-0	100	100	100	500	1000	12.000	0.600	U
Total SVOCs		NA	NA	NA	NA	NA	119.700	3.770	0.000

(1) = Soil Cleanup Objective (SCO) referenced in 6 NYCRR Part 375 dated 12/14/2006

Concentration in **BOLD** and **RED** print exceeds one or more of the following criteria.

A = Concentration Exceeds Unrestricted Use SCO

B = Concentration Exceeds Residential Use SCO

C = Concentration Exceeds Restricted Residential Use SCO

D = Concentration Exceeds Commercial Use SCO

G = Concentration Exceeds Protection of Groundwater SCO

SVOC = Semi-Volatile Organic Compound

U = Not detected

J = Estimated Value

NA = Not Available

Bulls Head High Priority Sub Area North
Rochester, New York

Summary of Detected Constituents Results in ug/l or Parts per Billion (ppb)

Groundwater Samples

Detected Constituent	CAS Number	Groundwater Standard or Guidance Value ⁽¹⁾	R1802137-001 MW-01 3/9/18 Groundwater	R1803412-001 MW-01 4/16/18 Groundwater	R1802137-002 MW-02 3/9/18 Groundwater	R1803412-002 MW-02 4/16/18 Groundwater	R1802137-003 MW-03 3/9/18 Groundwater	R1803412-003 MW-03 4/16/18 Groundwater	R1802137-004 MW-04 3/9/18 Groundwater	R1803412-004 MW-04 4/16/18 Groundwater
Volatile Organic Compounds										
Acetone	67-64-1	50	U	2.0 JB	U	1.4 JB	U	U	U	1.7 JB
tert-Butylbenzene	98-06-6	5	U	U	U	U	U	U	U	U
Carbon Disulfide	75-15-0	60	U	U	U	U	U	U	U	U
Chloroform	67-66-3	7	U	U	U	U	U	U	U	U
1,1-Dichloroethane	75-34-3	5	U	U	U	U	U	U	U	0.34 J
Cyclohexane	110-82-7	NA	U	U	U	U	U	U	U	U
Methylcyclohexane	108-87-2	NA	U	U	U	U	U	U	U	U
Total VOCs		NA	0.0	2.0	0.0	1.4	0.0	0.0	0.0	2.04
Total TICs		NA	NT	0.0	NT	12.2 JN	NT	0.0	NT	0.0
Total VOCs and TICs		NA	0.0	2.0	0.0	13.6	0.0	0.0	0.0	2.04
Semi-Volatile Organic Compounds										
Naphthalene	91-20-3	10	NT	NT	10	NT	NT	NT	NT	NT
Total SVOCs		NA	NT	NT	10.00	NT	NT	NT	NT	NT
Metals										
Barium	7440-39-3	1,000	NT	NT	138	NT	NT	NT	NT	NT

U = Not detected

VOC = Volatile Organic Compound

SVOC = Semi-Volatile Organic Compound

NA = Not available

NT = Not tested

⁽¹⁾ Groundwater standard or guidance value are as referenced in NYSDEC TOGS 1.1.1 dated June 1998 with April 2000 and June 2004 addendums.

✖ = Concentration exceeds groundwater standard or guidance value

J = Estimated Value

B= Constituent was also detected in the associated trip blank, which may have contributed to the sample result.

N = Indicates presumptive evidence of a compound

Bulls Head High Priority Sub Area North
Rochester, New York

Summary of Detected Constituents Results in ug/l or Parts per Billion (ppb)

Groundwater Samples

Detected Constituent	CAS Number	Groundwater Standard or Guidance Value ⁽¹⁾	R1802137-005 MW-05 3/9/18 Groundwater	R1803412-005 MW-05 4/16/18 Groundwater	R1802137-006 MW-06 3/9/18 Groundwater	R1803412-006 MW-06 4/16/18 Groundwater	R1802137-007 MW-07 3/9/18 Groundwater	R1803412-007 MW-07 4/16/18 Groundwater	R1802137-001 MW-08 3/9/18 Groundwater	R1803412-008 MW-08 4/16/18 Groundwater
Volatile Organic Compounds										
Acetone	67-64-1	50	U	U	U	U	U	3.6 JB	U	2.9 JB
tert-Butylbenzene	98-06-6	5	U	U	U	U	U	0.25 J	U	U
Carbon Disulfide	75-15-0	60	U	U	U	U	U	U	U	0.45 J
Chloroform	67-66-3	7	U	0.49	U	U	U	U	U	U
1,1-Dichloroethane	75-34-3	5	U	U	U	U	U	U	U	U
Cyclohexane	110-82-7	NA	U	U	U	U	U	0.56 J	U	U
Methylcyclohexane	108-87-2	NA	U	U	U	U	U	U	U	0.29 J
Total VOCs		NA	0.0	0.49	0.0	0.0	0.0	4.41	0.0	3.6
Total TICs		NA	NT	0.0	NT	0.0	NT	0.0	NT	5.0 J
Total VOCs and TICs		NA	0.0	0.5	0.0	0.0	0.0	4.4	0.0	8.6
Semi-Volatile Organic Compounds										
Naphthalene	91-20-3	10	NT	NT	NT	NT	NT	NT	U	NT
Total SVOCs		NA	NT	NT	NT	NT	NT	NT	U	NT
Metals										
Barium	7440-39-3	1,000	NT	NT	NT	NT	NT	NT	78	NT

U = Not detected

VOC = Volatile Organic Compound

SVOC = Semi-Volatile Organic Compound

NA = Not available

NT = Not tested

⁽¹⁾ Groundwater standard or guidance value are as referenced in NYSDEC TOGS 1.1.1 dated June 1998 with April 2000 and June 2004 addendums.

X = Concentration exceeds groundwater standard or guidance value

Results of Data Usability Report have been incorporated

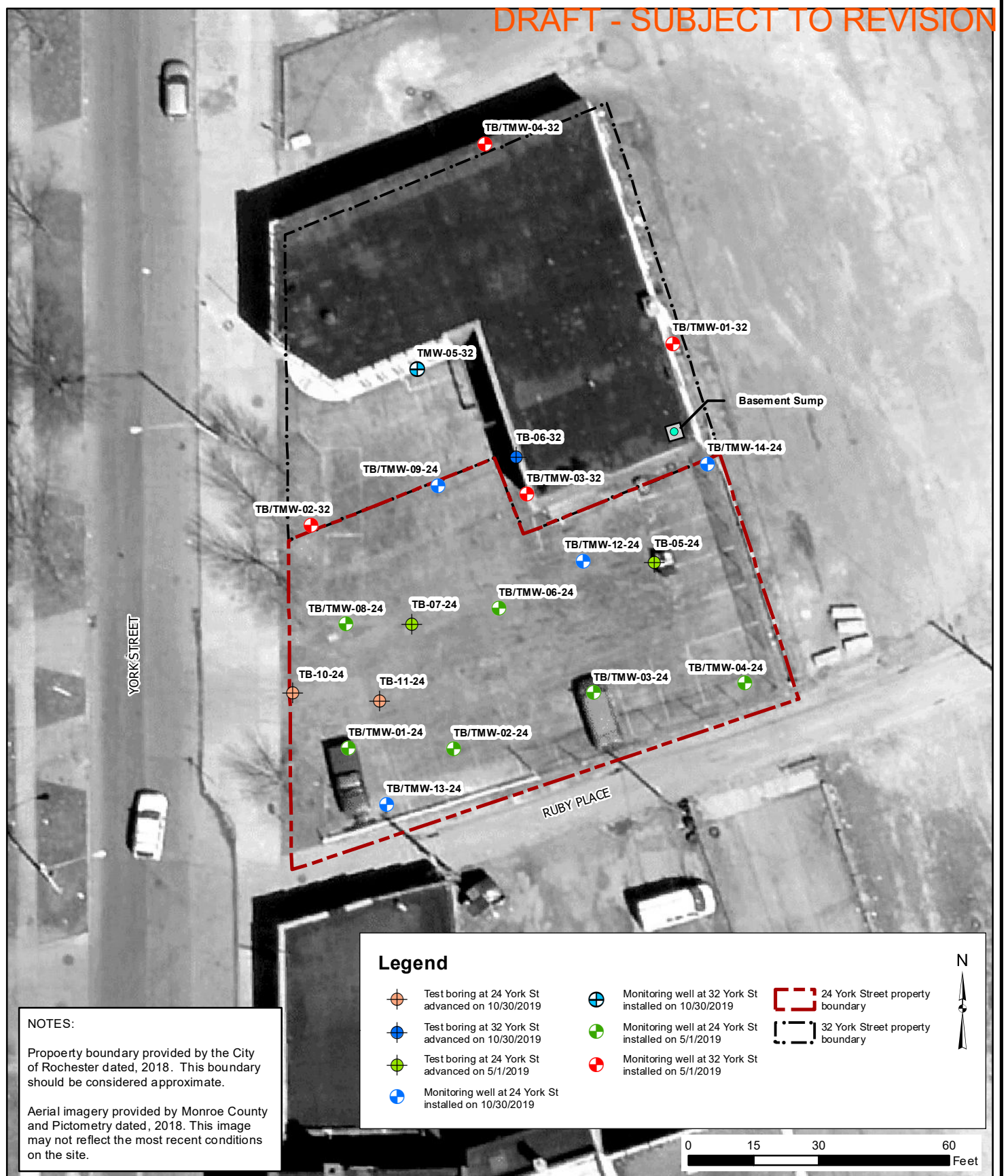
B= Constituent was also detected in the associated trip blank, which may have contributed to the sample result.

N = Indicates presumptive evidence of a compound

November 19, 2019 Phase II ESA – 24 and 32 York Street

Figures and Laboratory Data Summary Tables

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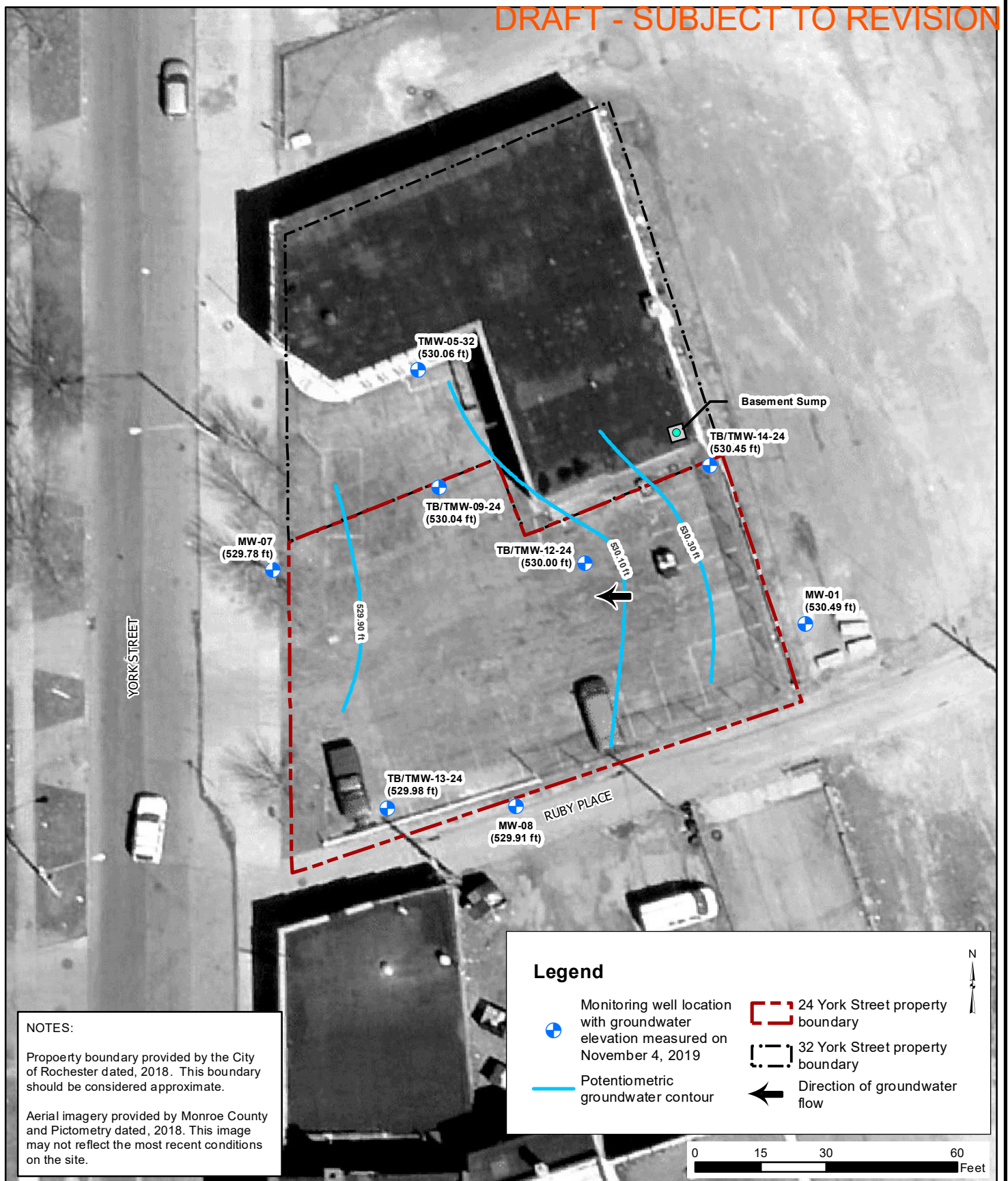
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Project Title	24 YORK STREET AND 32 YORK STREET ROCHERSTER, NEW YORK
Project Title	PHASE II ENVIRONMENTAL SITE ASSESSMENT
Drawing Title	Site Plan with Test Locations

Project No.	5658S-19
Figure No.	FIGURE 2

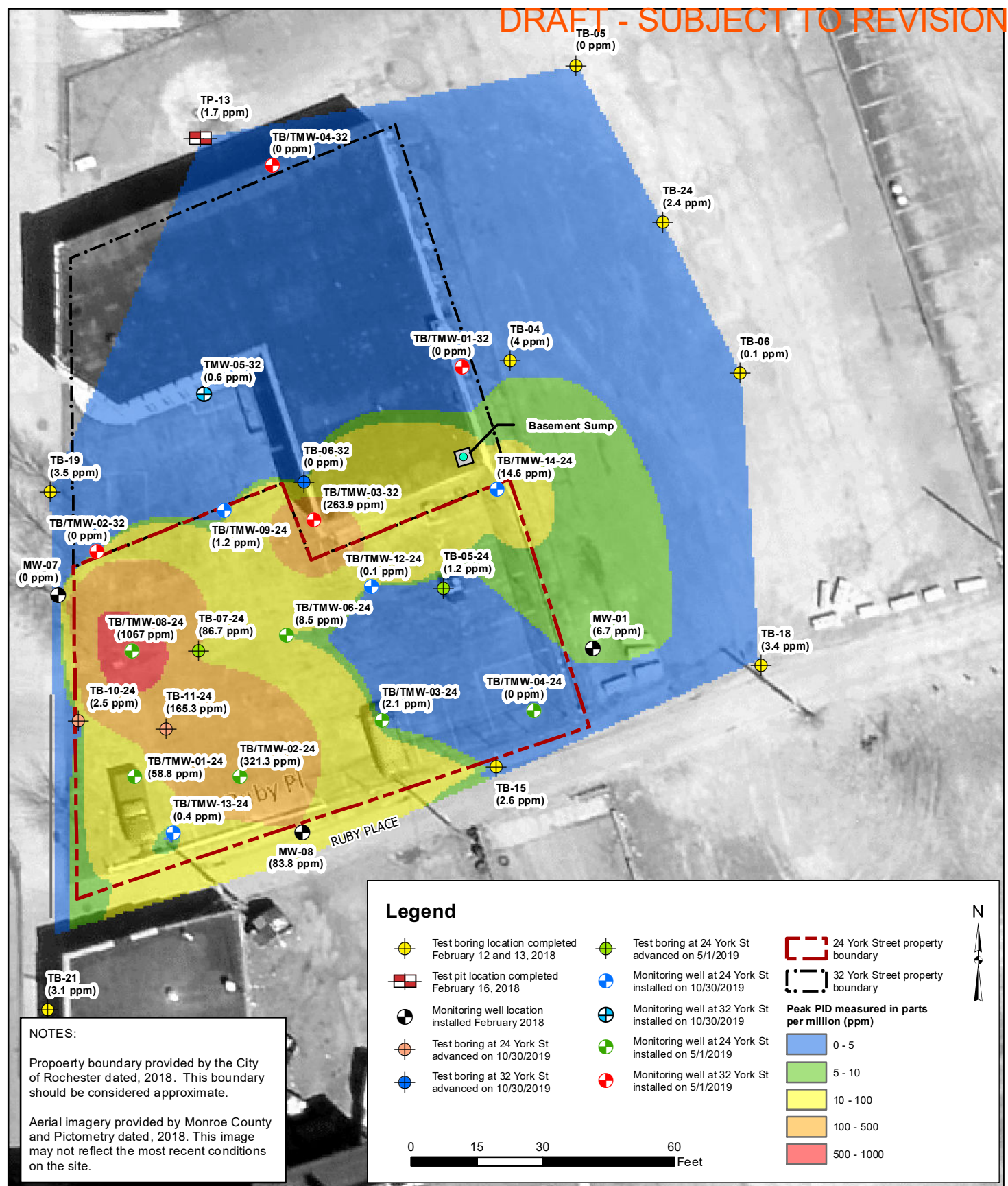


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Project Title	PHASE II ENVIRONMENTAL SITE ASSESSMENT
Drawing Title	Potentiometric Groundwater Contour Map for November 4, 2019

Project No.	5658S-19
Figure	FIGURE 3

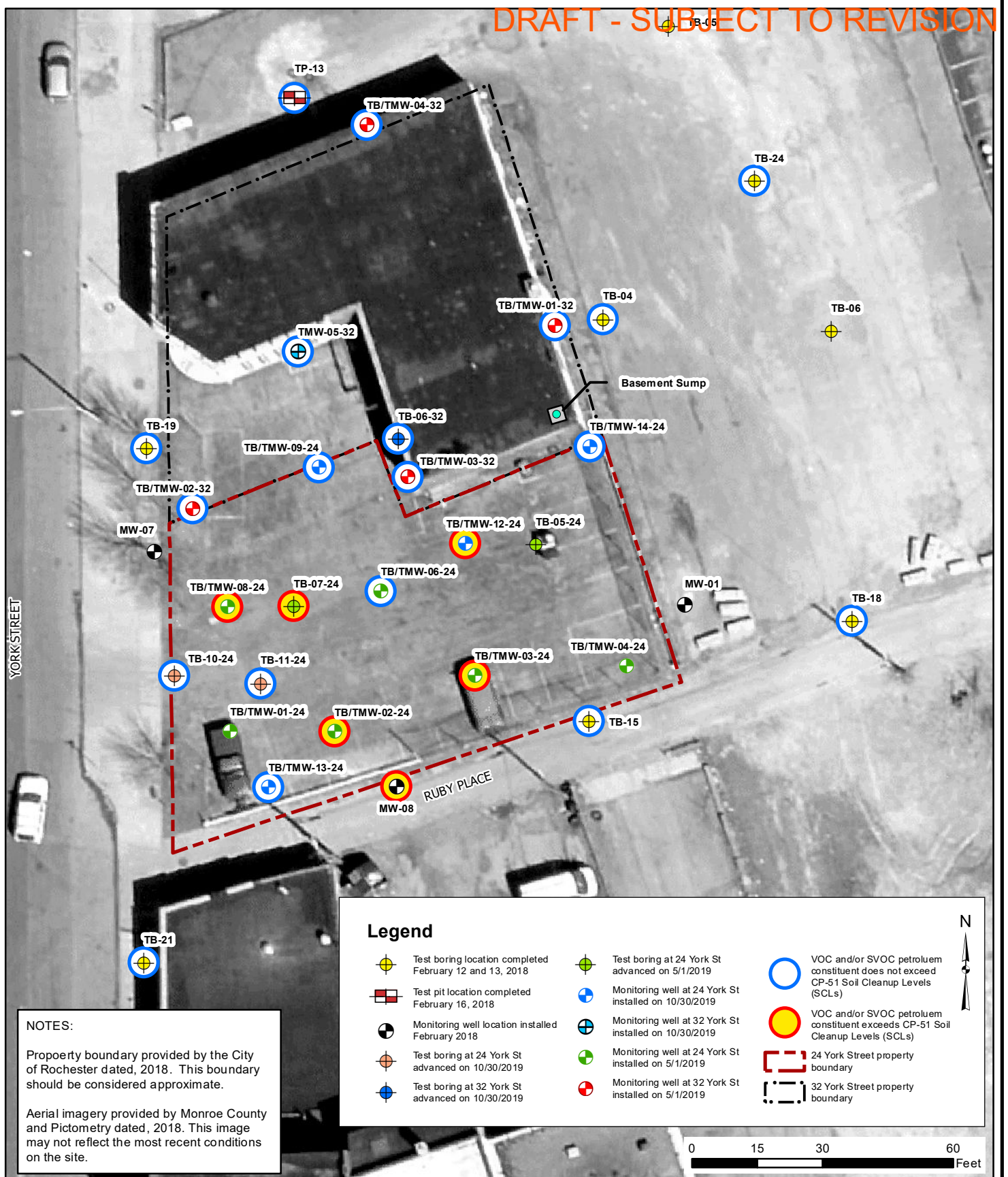


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Project Title	24 YORK STREET AND 32 YORK STREET ROCHESTER, NEW YORK
Drawing Title	PHASE II ENVIRONMENTAL SITE ASSESSMENT Peak PID Readings at Cumulative Test Locations

Project No.	5658S-19
FIGURE 4	

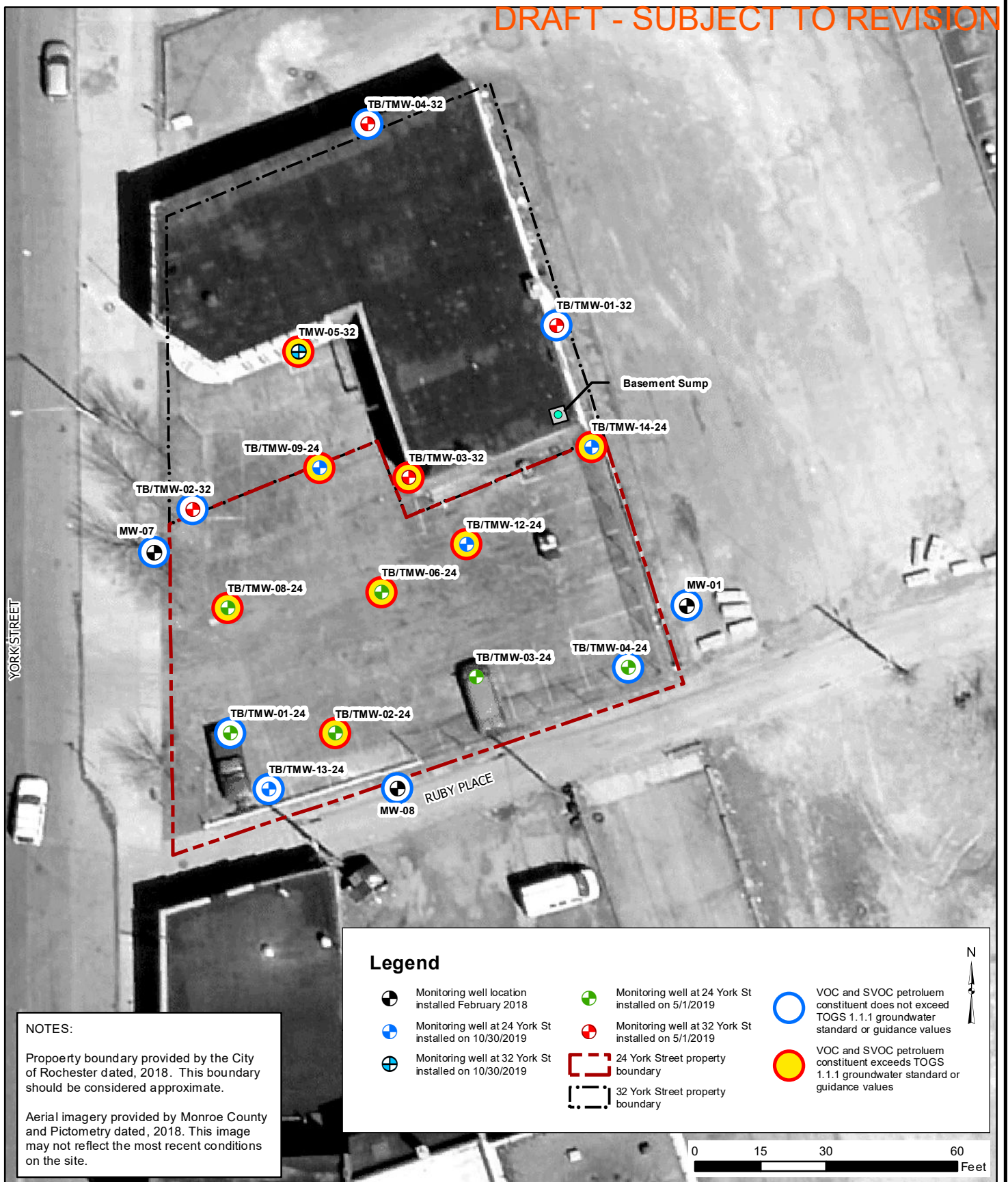


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Project Title	24 YORK STREET AND 32 YORK STREET ROCHESTER, NEW YORK
Project Title	PHASE II ENVIRONMENTAL SITE ASSESSMENT
Drawing Title	Petroleum Constituent Results in Cumulative Soil Samples

Project No.	5658S-19
Figure	FIGURE 5

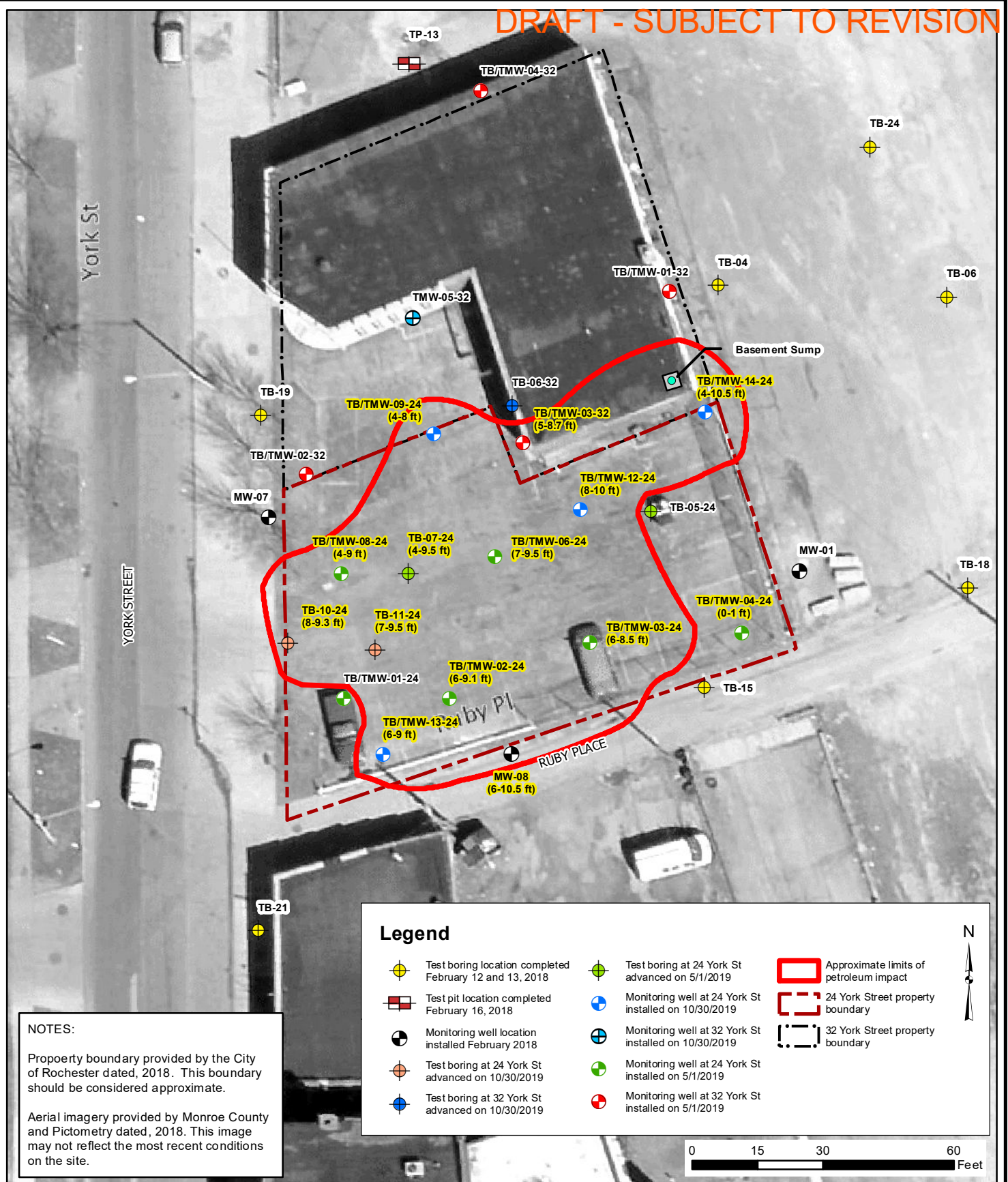


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Project Title	24 YORK STREET AND 32 YORK STREET ROCHERSTER, NEW YORK
Project Title	PHASE II ENVIRONMENTAL SITE ASSESSMENT
Drawing Title	Petroleum Constituent Results in Cumulative Groundwater Samples

Project No.	5658S-19
Figure	FIGURE 6



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Project Title	24 YORK STREET AND 32 YORK STREET ROCHERSTER, NEW YORK
Project Title	PHASE II ENVIRONMENTAL SITE ASSESSMENT
Drawing Title	Evidence of Petroleum Impact at Cumulative Test Locations

Project No.	5658S-19
Figure	FIGURE 7

Table 3

24 and 32 York Street
Rochester, New York

Summary of Detected VOC Results in mg/Kg or Parts per Million (ppm)

Soil/Fill Samples

Detected Constituent	A Unrestricted SCO ⁽¹⁾	B Restricted Residential SCO ⁽¹⁾	C Commercial SCO ⁽¹⁾	D CP-51 SCL ⁽²⁾	L1951354-02 TB-05-32(8-9.8) 10/30/2019 Soil	L1951354-03 TB-06-32(6-8) 10/30/2019 Soil	L1951354-04 TB-09-24(8-8.3) 10/30/2019 Soil	L1951354-05 TB-10-24(8-9.3) 10/30/2019 Soil	L1951354-06 TB-11-24(6-7) 10/30/2019 Fill	L1951354-08 TB-12-24(6-8) 10/30/2019 Soil	L1951354-09 TB-13-24(8-10) 10/30/2019 Soil	L1951354-10 TB-14-24(4-6) 10/30/2019 Soil
Acetone	0.05	100	500	NA	0.0054 J	0.035	0.017	0.023	U	0.030	0.026	U
Benzene	0.06	4.8	44	0.06	U	U	0.0046	0.00052	0.016 J	U	0.0023	U
2-Butanone (MEK)	0.12	100	500	NA	U	0.0073 J	U	U	U	0.006 J	U	U
n-Butylbenzene	12	100	500	12	U	U	U	U	0.420	U	U	U
sec-Butylbenzene	11	100	500	11	U	U	0.0024	U	0.200	U	U	0.020 J
tert-Butylbenzene	5.9	100	500	5.9	U	U	0.00046 J	0.00044 J	0.030 J	U	0.00048 J	U
Cyclohexane	NA	NA	NA	NA	U	U	0.0079 J	0.0014 J	1.900	U	0.0047 J	U
1,4-Dichlorobenzene	1.8	13	130	NA	0.00015 J	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	0.19	100	500	NA	0.00015 J	U	U	U	U	U	U	U
Ethylbenzene	1	41	390	1	U	U	U	0.00020 J	U	U	0.00046 J	0.032 J
Isopropylbenzene	NA	NA	NA	2.3	U	U	U	U	0.093	U	0.00013 J	0.0076 J
p-Isopropyltoluene	NA	NA	NA	10	U	U	U	U	0.045 J	U	U	0.016 J
Methyl Acetate	NA	NA	NA	NA	U	U	U	U	U	U	U	0.090 J
Methylcyclohexane	NA	NA	NA	NA	U	U	0.031	0.0027 J	13.000	U	0.0082	U
Naphthalene	12	100	500	12	U	U	0.00074 J	U	0.190 J	U	0.00086 J	0.300
n-Propylbenzene	3.9	100	500	3.9	U	U	U	U	0.290	U	U	0.033 J
Toluene	0.7	100	500	0.7	U	U	0.0080	0.0014	U	U	0.0038	U
1,2,4-Trimethylbenzene	3.6	52	190	3.6	U	U	0.0028	0.00055 J	0.056 J	U	0.0011 J	0.110 J
1,3,5-Trimethylbenzene	8.4	52	190	8.4	U	U	0.0013 J	0.00021 J	0.019 J	U	0.00063 J	0.036 J
m,p-Xylene	0.26	100	500	0.26	U	U	0.0066	0.0010 J	0.054 J	U	0.0025	0.110 J
o-Xylene	0.26	100	500	0.26	U	U	0.0022	0.00034 J	U	U	0.00084 J	0.024 J
Total VOCs	NA	NA	NA	NA	0.00570	0.0423	0.08500	0.03176	16.313	0.036	0.05200	0.7786

U = Not detected above laboratory method detection limit

J = Estimated Value

VOC = Volatile Organic Compound

NA = Not available

(1) = Soil Cleanup Objective (SCO) referenced in 6 NYCRR Part 375 dated 12/14/2006 and CP-51 dated 10/21/2010

(2) = Soil Cleanup Level (SCL) referenced in CP-51 dated 10/21/2010

Concentration in **BOLD** and **RED** print exceeds one or more of the following criteria.

A = Concentration Exceeds Unrestricted Use SCO

B = Concentration Exceeds Restricted Residential Use SCO

C = Concentration Exceeds Commercial Use SCO

D = Concentration Exceeds SCL

Table 4

24 and 32 York Street
Rochester, New York

Summary of Detected SVOC Results in mg/Kg or Parts Per Million (ppm)

Soil Samples

Detected Constituent	A Unrestricted SCO ⁽¹⁾	B Restricted Residential SCO ⁽¹⁾	C Commercial SCO ⁽¹⁾	D CP-51 SCL ⁽²⁾	L1951354-02 TB-05-32(8-9.8) 10/30/2019 Soil	L1951354-03 TB-06-32(6-8) 10/30/2019 Soil	L1951354-04 TB-09-24(8-8.3) 10/30/2019 Soil	L1951354-05 TB-10-24(8-9.3) 10/30/2019 Soil	L1951354-07 TB-11-24(8-9) 10/30/2019 Soil	L1951354-08 TB-12-24(6-8) 10/30/2019 Soil	L1951354-09 TB-13-24(8-10) 10/30/2019 Soil	L1951354-10 TB-14-24(4-6) 10/30/2019 Soil
Acenaphthene	20	100	500	20	U	U	U	U	U	15.0	U	U
Acenaphthylene	100	100	500	100	U	U	U	U	U	7.3	0.029 J	U
Anthracene	100	100	500	100	U	U	U	U	U	35.0	0.064 J	U
Benzo(a)anthracene	1	1	5.6	1	0.051 J	U	U	U	0.048 J	36.0	ABCD	0.050 J
Benzo(a)pyrene	1	1	1	1	0.051 J	U	U	U	U	26.0	ABCD	U
Benzo(b)fluoranthene	1	1	5.6	1	0.083 J	U	U	U	0.068 J	30.0	ABCD	0.040 J
Benzo(g,h,i)perylene	100	100	500	100	0.038 J	U	U	U	0.036 J	10.0	U	U
Benzo(k)fluoranthene	0.8	3.9	56	0.8	U	U	U	U	U	11.0	ABD	U
Chrysene	1	3.9	56	1	0.064 J	U	U	U	0.056 J	29.0	ABD	0.038 J
Dibenzo(a,h) anthracene	0.33	0.33	0.56	0.33	U	U	U	U	U	3.3	ABCD	U
Fluoranthene	100	100	500	100	0.160	U	U	U	0.110 J	76.0	0.110	0.065 J
Fluorene	30	100	500	30	U	U	U	U	U	25.0	0.034 J	U
Indeno(1,2,3-cd)pyrene	0.5	0.5	5.6	0.5	0.038 J	U	U	U	0.038 J	12.0	ABCD	U
Phenanthrene	100	100	500	100	0.100 J	U	U	U	0.058 J	100.0	ABD	0.140
Pyrene	100	100	500	100	0.130	U	U	U	0.088 J	60.0	0.085 J	0.062 J
Total SVOCs	NA	NA	NA	NA	0.715	0	0	0	0.502	475.6	0.590	0.273

Notes:
U = Not detected above laboratory method detection limit
J = Estimated Value
SVOC = Semi-Volatile Organic Compound
NA = Not available
(1) = Soil Cleanup Objective (SCO) referenced in 6 NYCRR Part 375 dated 12/14/2006 and CP-51 dated 10/21/2010
(2) = Soil Cleanup Level (SCL) referenced in CP-51 dated 10/21/2010
Concentration in **BOLD** and **RED** print exceeds one or more of the following criteria.
A = Concentration Exceeds Unrestricted Use SCO
B = Concentration Exceeds Restricted Residential Use SCO
C = Concentration Exceeds Commercial Use SCO
D = Concentration Exceeds SCL

Table 5

24 and 32 York Street
Rochester, New York

Summary of Detected VOC and SVOC Results in ug/l or Parts per Billion (ppt)

Basement Sump - Post-Purge Water Sample

Detected Constituent	Groundwater Standard or Guidance Value ⁽¹⁾	L1951354-01 Sump-1(Post) 10/30/2019 Sump Water
VOCs		
Acetone	50	2.0 J
Total VOCs	NA	2.00
Total SVOCs	NA	U

U = Not detected above laboratory method detection limit

J = Estimated Value

⁽¹⁾ Groundwater standard or guidance value are as referenced in NYSDEC TOGS 1.1.1 dated June 1998 with April 2000 and June 2004 addendums.

VOC = Volatile Organic Compound

SVOC = Semi-Volatile Organic Compound

NA = Not available

Table 6

24 and 32 York Street
Rochester, New York

Summary of Detected VOC and SVOC Results in ug/l or Parts per Billion (ppb)

Groundwater Samples

Detected Constituent	Groundwater Standard or Guidance Value (1)	L1952193-01 TMW-05-32 11/4/2019 Groundwater	L1952193-02 TMW-09-24 11/4/2019 Groundwater	L1952193-03 TMW-12-24 11/4/2019 Groundwater	L1952193-04 TMW-13-24 11/4/2019 Groundwater	L1952193-05 TMW-14-24 11/4/2019 Groundwater
VOCs						
Acetone	50	7.2	2.5 J	U	2.5 J	1.6 J
Benzene	1	U	U	3.0 X	U	U
Bromodichloromethane	50	0.51	U	U	U	U
Chloroform	7	3.0	U	U	U	U
Dibromochloromethane	50	0.26 J	U	U	U	U
Naphthalene	10	U	U	460 X	U	1.0 J
Total VOCs	NA	10.97	2.5	463.0	2.5	2.6
SVOCs						
Acenaphthene	20	U	U	59 X	0.21	0.10
Acenaphthylene	NA	U	U	11	U	U
Anthracene	50	U	U	15	U	U
Benzo(a)anthracene	0.002	0.06 J X	0.02 J X	2.0 X	U	0.06 J X
Benzo(a)pyrene	0	0.06 J X	U	1.2 X	U	0.04 J X
Benzo(b)fluoranthene	0.002	0.09 J X	0.03 J X	1.4 X	U	0.09 J X
Benzo(g,h,i)perylene	NA	0.06 J	U	0.48 J	U	U
Benzo(k)fluoranthene	0.002	U	U	0.47 J X	U	U
Chrysene	0.002	0.07 J X	U	1.8 X	U	0.10 X
Fluoranthene	50	0.11	0.06 J	9.7	U	0.13
Fluorene	50	U	U	49	U	U
Indeno(1,2,3-cd)pyrene	0.002	0.05 J X	U	0.62 X	U	U
Phenanthrene	50	0.08 J	0.05 J	61 X	0.02 J	0.06 J
Pyrene	50	0.11	0.05 J	7.3	U	0.13
Total SVOCs	NA	0.69	0.21	219.97	0.23	0.71

U = Not detected above laboratory method detection limit

J = Estimated Value

(1) Groundwater standard or guidance value are as referenced in NYSDEC TOGS 1.1.1 dated June 1998 with April 2000 and June 2004 addendums.

X = Concentration exceeds groundwater standard or guidance value

VOC = Volatile Organic Compound

SVOC = Semi-Volatile Organic Compound

NA = Not available