LABELLA Associates, D.P.C.
Engineering
Architecture
Environmental
Planning

300 State Street, Suite 201 | Rochester, NY 14614 | p 585.454.6110 | f 585.454.3066 | www.labellapc.com

December 6, 2016

Todd M. Caffoe
Division of Environmental Remediation
New York State Department of Environmental Conservation
6274 East Avon-Lima Road
Avon, New York 14414

Re: Remedial Investigation Work Plan; Addendum 4 – P-1 Plume Area
Former Emerson Street Landfill
NYSDEC Site #828023
LaBella Project No. 210173

Dear Mr. Caffoe,

LaBella Associates, D.P.C. (LaBella) is submitting this letter on behalf of the City of Rochester (City) to the New York State Department of Environmental Conservation (NYSDEC) to propose an additional amendment to the approved Remedial Investigation Work Plan (RIWP) dated November 2012 for the Former Emerson Street Landfill (FESL), Rochester, New York (hereinafter referred to as "the Site").

The work addressed by this amendment includes tasks to further assess the nature and extent of volatile organic compounds (VOCs) in groundwater in the vicinity of the P-1 well at 1700 Emerson Street (formerly 1655 Lexington Avenue). A Site Location Map is included as Figure 1.

The objectives of this addendum are to identify potential overburden sources of contamination, further characterize the extent of VOCs in the overburden, bedrock, and bedrock groundwater, and to evaluate existing occurring degradation processes. The tasks proposed herein include 1) overburden soil borings and soil/fill sampling; 2) drilling, rock core matrix analysis, installation and sampling of four (4) shallow bedrock groundwater monitoring wells in proximity to the P-1 well; and 3) groundwater sampling of wells in the vicinity of P-1 using passive diffusion bags (PDBs). Figure 2 provides the locations of previous testing locations, Figure 3 provides a representation of total chlorinated VOCs (CVOCs) in shallow bedrock groundwater with proposed additional monitoring well locations, and Figure 4 provides a representation of total CVOCs in overburden soil/ fill with proposed additional soil boring locations.

LaBella has retained GEI Consultants Inc., P.C. (GEI) to provide technical support in conducting the proposed work plan amendment. A LaBella and/or GEI representative will be on-Site during all portions of the field sampling activities in order to evaluate for evidence of impairment (i.e., elevated PID readings, staining, odors, etc.), guide the contractor on the work, and conduct the necessary Community Air Monitoring Plan (CAMP) and Health and Safety Plan (HASP). All applicable work will be completed in accordance with the approved RIWP dated November 2012.

Background

The following Work Plan and addendum have been developed for the P-1 Plume:

- Remedial Investigation Work Plan (RIWP), November 2012
- First RIWP Amendment, September 30, 2013
- Second RIWP Amendment, July 11, 2014

- Third RIWP Amendment, January 8, 2015

Tasks completed under the RIWP and associated addenda since 2012 include the following:

- Advancement of sixteen (16) test pits
- Advancement of twenty-five (25) overburden soil borings
- Installation of six (6) overburden monitoring wells
- Installation of eight (8) shallow bedrock monitoring wells
- Installation of two (2) deeper bedrock monitoring wells
- Advancement of twenty-one (21) MIP points
- Low-flow sampling in 2014
- Passive diffusion bag (PDB) sampling in 2016
- Pump tests at four (4) shallow bedrock monitoring wells

Investigations in the P-1 plume area to date have determined the presence of VOCs, including CVOCs and petroleum compounds, in the overburden soil/fill, bedrock, and groundwater. The VOC plume as determined in previous investigations follows the direction of groundwater, traveling in a south-southeast direction towards McCrackanville Street and the deep storm sewer (and associated bedding material) which is installed in blasted bedrock. Figure 3 represents the CVOC groundwater plume source area as determined from the sampling events conducted as part of this RI. The model was developed using the greatest concentration of total CVOCs detected to date in the top 10-feet of bedrock. Based on the modeling, it appears there are data gaps to the south/southwest, and northwest of the inferred source area proximate P-1. As such, the source area of the plume does not appear to be fully delineated in all directions.

Proposed Amendment

The additional investigation activities will be completed to accomplish the following objectives:

1) Identify potential overburden source areas (i.e., drums) contributing to soil and groundwater impacts.
2) Further characterize the horizontal and vertical extent of VOCs, in particular CVOCs in the overburden, bedrock, and bedrock groundwater in the P-1 plume source area to evaluate potential remedial alternatives and design a pilot test; and
3) Evaluate CVOC dechlorination degradation processes to identify methods for observed natural attenuation of the CVOC plume downgradient from the source area.

To accomplish these objectives, the following tasks are proposed:

1) Geophysical survey to locate subsurface anomalies that may be representative of buried drums.
2) Conduct discrete test pits in areas of subsurface anomalies, if identified during the geophysical survey, and in areas of suspect source material.
3) Advancement of up to eight (8) soil borings to bedrock refusal and associated soil sampling for VOCs;
4) Drilling, rock core matrix analysis, installation, and sampling of four (4) shallow (i.e., top 23-ft. of bedrock) bedrock groundwater monitoring wells to the northwest, southwest, and south of the P-1 well; and
5) Groundwater sampling of newly installed wells using passive diffusion bags.

A LaBella or GEI representative will be on-Site at all times during P-1 work. In the event that during the course of the investigation it is determined that containers with chemicals are encountered, the City and the NYSDEC will be contacted immediately to discuss the situation and if warranted implement any emergency actions. The following details the tasks that will be completed as part of this amendment:

Task 1: Geophysical Survey

This task will include a geophysical survey in an approximate 37,000 square foot (sq. ft.) area proximate the P-1 plume. The geophysical survey will be focused in the area with the greatest known overburden soil/ fill impacts in an effort to identify potential overburden source areas (e.g., buried drums). The survey will be completed using of one or more of the following technologies; 1) EM-31, 2) EM-61, and 3) Ground penetrating radar (GPR). The technology(ies) selected will be determined based on recommendations from the geophysicist and based on field conditions. The geophysical survey will require that the existing vegetation be mowed and snow cover removed, if present. Refer to Figure 5 for proposed geophysical survey area, which is approximate and subject to change based on field conditions.

Task 2: Test Pits

This task will consist of one (1) to two (2) days of test pits in the vicinity of P-1. Test pit locations will be determined based on the results of the geophysical survey and focused in areas of identified anomalies. If distinct anomalies are not identified due to interference from the buried fill material, test pit locations will be focused in areas of known shallow overburden impacts identified during soil boring and MIP advancement. In addition, due to shallow refusal approximately 10-ft. west of LAB-OBW-01 at approximately 8-ft. bgs during MIP borings, test pits will be advanced in this area.

Each test pit will be logged by a LaBella representative. Each test pit and the excavated material will be field screened for VOCs with a PID. Potential impacts to soil and fill, including visual (staining, sheens, NAPL) and/or olfactory evidence will be included in the soil descriptions. A decontamination pad will be constructed for decon of equipment at the end of the test pitting work. The decon water will be containerized and characterized for subsequent discharge to the sanitary sewer under a sewer use permit. The disturbed soil/fill will be placed back into the excavation unless drums are encountered or grossly contaminated soils are encountered, in which case, the Site will be secured and the City and the NYSDEC contacted to discuss further actions or the material (if possible) will be containerized, labeled, and characterized prior to disposal at an appropriate facility. Due to the likelihood for significant odors from excavated fill materials and the unknown nature of the fill material, on-Site personnel will be prepared with Level C personal protective equipment (PPE). A soil sample from the area with the greatest PID readings will be collected from each test pit and analyzed for United States Environmental Protection Agency (USEPA) target compound list (TCL) and NYSDEC Commissioner Policy (CP)-51 VOCs using USEPA Method 8260.

Task 3: Overburden Soil Assessment

One (1) day of soil borings will be completed (approximately 8 borings) using direct push methods (i.e., Geoprobe). Soil cores will be retrieved using macrocore liners or split spoons and will be continuously assessed by a LaBella and/or GEI representative for visible impairment, olfactory indications of impairment, and/or indication of detectable VOCs with a PID. Approximately eight (8) soil samples will be submitted for laboratory analysis of TCL and CP-51 VOCs using USEPA Method 8260. Samples selected for laboratory analysis will be determined based on greatest PID readings and assessment of the soil/ fill material. Samples will be collected from the bottom of the boring (i.e., top of bedrock) if no

significant PID readings are encountered. Samples will be placed in a cooler on ice and sent to an Environmental Laboratory Accreditation Program (ELAP) laboratory for analysis. Refer to Figure 4 for approximate locations of proposed overburden soil borings.

Task 4: Shallow Bedrock Groundwater Evaluation

The eastern edge of the source area is well defined; however, additional data points towards the south, southwest and northwest of P-1 appear warranted to better define the limits of significant groundwater impacts. Proposed shallow bedrock groundwater monitoring locations are included in Figure 3.

This task will be completed in a controlled and careful manner in order to assess impacts within the rock as the borings are advanced. Monitoring well installation procedures will be conducted in accordance with the RIWP dated November 2012. The wells will be constructed using the same methods as the previously installed shallow bedrock wells. As stated in the RIWP, at the shallow bedrock groundwater evaluation locations the following methodology will be utilized:

Overburden Assessment

The borehole will be advanced through the overburden/fill using 4 1/4" diameter hollow-stem augers. The soil/fill will be retrieved with a four-foot stainless steel Macrocore sampler using acetate sleeves or potentially once every five feet using split spoon samplers. Soil samples will be screened with a PID and classified similarly to the previously completed soil borings. Due to the potential for VOCs, special care will be taken to evaluate the interface of overburden and bedrock. One sample from each location will be selected for laboratory analysis, determined based on greatest PID readings and assessment of the soil/ fill material. Samples will be collected from the bottom of the boring (i.e., top of bedrock) if no significant PID readings are encountered. Samples will be placed in a cooler on ice and sent to an ELAP laboratory for analysis of TCL and CP-51 VOCs using USEPA Method 8260.

Uppermost Shallow Bedrock Assessment (Top 3-ft. of Bedrock)

Because the upper bedrock surface is generally more highly fractured than deeper bedrock, the assessment of NAPL will initially focus on the upper three feet of bedrock. Upon reaching the bedrock surface, the augers will be removed from the borehole and a temporary 6" diameter steel casing will be driven into the bedrock approximately 2" to 3" in an attempt to seal off overburden groundwater from shallow bedrock groundwater. An HQ rock core barrel will then be advanced approximately three feet into the bedrock. In order to minimize the potential of potable water loss during rock coring, an attempt will be made to utilize air-coring methods during the advancement of the core barrel. If air-coring proves to be unsuccessful, potable water will be utilized as a drilling fluid.

Following completion of the initial core interval, a section of the bedrock core (approximate 3" to 6" in length) exhibiting non-mechanical fracturing will be selected for laboratory analysis of VOC mass in the rock matrix. The selected core interval will be immediately wrapped in aluminum foil for preservation, placed in a one-quart plastic bag, and packed in blue ice for delivery to the laboratory. The rock core will be frozen, crushed and placed in a sample jar containing methanol for extraction via EPA Method 5035 and analyzed by EPA Method 8260 following two weeks of preservation. Currently, it is anticipated that up to two such rock cores per well will be analyzed via this method. To supplement calculation of estimated pore water concentrations from the rock core, four small sections of rock core will be analyzed for TOC to provide site-specific organic content percentages to validate percentages previously estimated for

the Lockport Formation from scientific literature.

After rock coring, a temporary well will be constructed in the bedrock corehole. The well will consist of a two-inch diameter Schedule 40 PVC 10-slot well screen (5 feet in length) with riser pipe which will be lowered to the base of the core hole. Filter sand will be placed around the well screen; a well construction diagram can be found in Attachment 1. An electric submersible pump will be used to purge water from the core hole. A goal is to remove 10 core hole volumes and any drilling water lost to the bedrock formation during the coring process (if used). During the purge process, water quality parameters (temperature, conductivity, pH, dissolved oxygen [DO], turbidity and oxidation-reduction potential [ORP]) will be monitored after the removal of each core hole volume until the ten volumes, or stability in all water quality parameters, has been reached (10% or less variation between readings for each parameter).

Following adequate purging of the bedrock core interval, a groundwater sample will then be collected from the interval and analyzed for CP-51 and TCL VOCs by USEPA Method 8260.

Lower Shallow Bedrock Assessment (3-ft. to 23-ft. Below Top of Rock)
Subsequent to shallow bedrock coring and groundwater sample collection, the PVC screen and riser will be removed and the cored interval will be reamed with a 5 7/8" roller bit to remove the temporary filter sand and to facilitate the installation of a permanent 6" steel casing. The 5-7/8" rock socket will extend approximately three feet into bedrock and the casing will be grouted in place using a tremie pipe and allowed to cure for a minimum of 24 hours prior to further bedrock coring.

An HQ core barrel will be advanced to a depth of 20 feet below the bottom of the permanent casing in 10-foot increments. A groundwater sample will be collected from each 10 foot interval using the procedures outlined for the shallow top of bedrock interval. For the bottom 10-foot interval, a temporary monitoring well completed with sand and bentonite installed to hydraulically isolate the upper 13 feet of the core hole from the lower interval. At the completion of purging and sampling of each cored interval, the HQ core hole will be reamed using a 3 7/8" roller bit, and the monitoring well will be completed as an open bedrock hole. All drilling equipment utilized during the installation and testing of each well will be decontaminated between monitoring well installations.

Details of the rock coring procedure including drill rate, water loss, and the presence of voids noted during core barrel advancement will be recorded on appropriate field forms. The retrieved rock core will be logged by a qualified GEI or LaBella representative, and will include a description of rock type, the presence of natural and mechanical breaks, calculation of rock-quality designation (RQD), voids, and the presence of any odors or staining associated with the rock core.

All soil and drilling fluids generated during the installation of each monitoring well will be containerized in 55 gallon drums as described in the RIWP. The location and elevation of each monitoring well will be surveyed by a LaBella representative.

Task 5: Groundwater Monitoring
VOC Analyses: Each newly installed bedrock groundwater monitoring well will be sampled at discrete intervals during installation as described in Task 2 above. Newly installed bedrock monitoring wells will

be developed in accordance with the RIWP and purge water will be containerized in 55 gallon drums. In addition, a minimum of one (1) week after well development PDBs will be lowered into each of the newly installed monitoring wells at three (3) depth intervals (approximately 3, 12, and 21-ft. below top of bedrock, consistent with the August 2016 sampling intervals). A minimum of two (2) weeks following placement of the PDBs, the PDBs will be retrieved and the groundwater analyzed for CP-51 and TCL VOCs.

Biologic Degradation Potential for Supplemental MNA Evaluation: Compound-Specific Isotope Analysis (CSIA) and CENSUS microbial analyses will be used to monitor natural attenuation process in the downgradient chlorinated-VOC plume. The intent of the assessment is to more precisely evaluate the reductive dechlorination potential and mechanisms and characterize the microbial presence in the groundwater samples. CSIA is an analytical method that measures the ratios of naturally occurring stable isotopes in environmental samples. The results of CSIA can be used as an indicator of whether chemical or biochemical degradation of chemicals has occurred. Most CSIA are focused on the ratio of stable carbon atoms (13C/12C). For PCE/TCE and its breakdown products, the 13C-Cl bond requires slightly more energy to break than the 12C Cl bond. Therefore, as biodegradation of PCE occurs, the 13C/12C ratio measured in the remaining (unreacted PCE/TCE) increases. The ratios of the stable heavy isotopes to the most abundant isotope are small and conventionally reported in units of parts per thousand (‰). The difference between the measured ratio using CSIA and an internationally agreed upon standard ratio is referred to as the "delta" (δ). With respect to aqueous PCE/TCE transport in groundwater, if biodegradation (or chemical reaction) is occurring, the δ13C becomes less negative as with increased travel time (i.e., with distance transported in the downgradient direction). If no biodegradation of chemical reaction is occurring, downgradient δ values will remain constant because sorption and dilution/dispersion mechanisms do not prefer one stable isotope over another.
CSIAs will be conducted on samples collected along the center-line of the plume using micropurge sampling procedures from wells GMX-3 (farthest downgradient), LAB-SBW-07 (immediately downgradient of the source area), LAB-SBW-05 (south source area), and LAB-SBW-4 (northwest source area). Each sample will be analyzed using CSIA methods by Pace/ Microseeps Analytical Laboratories.The CSIA sampling for the centerline of the plume is anticipated to show that the δ13C for PCE/TCE becomes less negative with increasing distance from the source indicating reductive dechlorination is occurring.

For microbial analyses, Bio-Trap samplers will be placed in wells for CENSUS analyses. The samplers are constructed of slotted PVC pipes that allow groundwater to flow through the sampler. The Bio-Traps are filled with Bio-Sep beads, which are 2-3 millimeter diameter beads formulated from a composite of Nomex and powder activated carbon. When deployed, the Bio-Sep beads absorb contaminants and nutrients, and facilitate colonization of indigenous bacteria, in essence creating an in-situ microcosm of contaminants, nutrients, and bacteria that are present in the vicinity of each monitoring well. The Bio-Traps will be installed in the same wells identified above for CSIA and will be left in place for 30 days to allow for sufficient accumulation of contaminants, nutrients, and bacteria. The Bio-Traps will be submitted to Microbial Insights in Rockford, Tennessee for bacteria identification using the CENSUS analytical method. The CENSUS method uses a quantitative polymerase chain reaction (qPCR) to evaluate and quantify the specific microbial population that would aid in intrinsic biodegradation of chlorinated solvents. The Bio-Trap samples will be analyzed for the following microbial populations: Dehalococcoides,(including the functional genes tceA Reductase, BAV1 Vinyl Chloride Reductase, and Vinyl Chloride Reductase), Dehalobacter spp., Desulfitobacterium spp., and Desulfuromonas spp. The presence of these microbes in site groundwater would suggest reductive dechlorination is occurring.

Additional parameters may be collected from select wells for remedial design purposes including but not limited to BOD, TOC, sulfate, nitrate, and iron (total and ferrous).

Investigation Derived Waste
Soil/fill and water encountered and derived during the work described herein will be handled in accordance with the approved RIWP. Material will be containerized and disposed of pending the appropriate analytical sampling and permit issuance.

Health and Safety and Community Air Monitoring
All fieldwork will be completed in accordance with the previously approved Health and Safety Plan and Community Air Monitoring Program as described in the NYSDEC approved RI Work Plan. Personnel conducting the test pit evaluation will be prepared with Level C PPE.

Reporting
Data and findings from this investigation will be included in a Remedial Investigation Report along with the work completed under the approved RIWP to date. In addition, a Feasibility Study will be completed to evaluate remedial alternatives for the P-1 plume.

If you have any questions, please do not hesitate to contact me at (585) 295-6611.

Sincerely,

LABELLA ASSOCIATES, D.P.C.

Daniel P. Noll, P.E.
Project Manager

cc: J. Biondolillo – City of Rochester
R. Frappa - GEI

Figure 1: Site Location Map
Figure 2: Previous Testing Locations
Figure 3: Total CVOCs in Groundwater and Proposed Monitoring Wells
Figure 4: Total CVOCs in Soil and Proposed Soil Borings
Figure 5: Proposed Geophysical Survey Area

Path: \\Projects2\Projects\NZ-Z\Rochester, City\210173 FESL\Drawings\P1 Investigation\October 2016 RIWP Amendment\Figure 1- Site Location Map.mxd

LABELLA Associates, D.P.C.
300 STATE STREET
ROCHESTER, NY 14614
P: (585) 454-6110
F: (585) 454-3066
www.labellapc.com

FORMER EMERSON STREET LANDFILL

CITY OF ROCHESTER

P-1 PLUME REMEDIAL INVESTIGATION WORK PLAN AMENDMENT

SITE LOCATION MAP

N
W E
S

0 200 400
Feet

1 inch = 400 feet

Intended to print on 11x17

210173

FIGURE 1

Legend

- Deep bedrock
- Shallow Bedrock Well (2013-2016)
- MIP
- 2016 Soil Boring
- 2013 Soil Boring
- GeoMatrix Well (2000)
- Overburden Well (2013-2016)
- P-1 Well
- 1700 Emerson Parcel
- Parcel Boundaries

Notes:
1) Aerial image from Monroe County GIS 2009 and may not represent existing conditions.
2) Parcel boundaries from Monroe County GIS 2011 and are considered approximate.

LABELLA Associates, D.P.C.
300 STATE STREET
ROCHESTER, NY 14614
P: (585) 454-6110
F: (585) 454-3066
www.labellapc.com

FORMER EMERSON STREET LANDFILL

CITY OF ROCHESTER

P-1 PLUME REMEDIAL INVESTIGATION WORK PLAN AMENDMENT

PREVIOUS TESTING LOCATIONS

N
W E
S

0 20 40
Feet

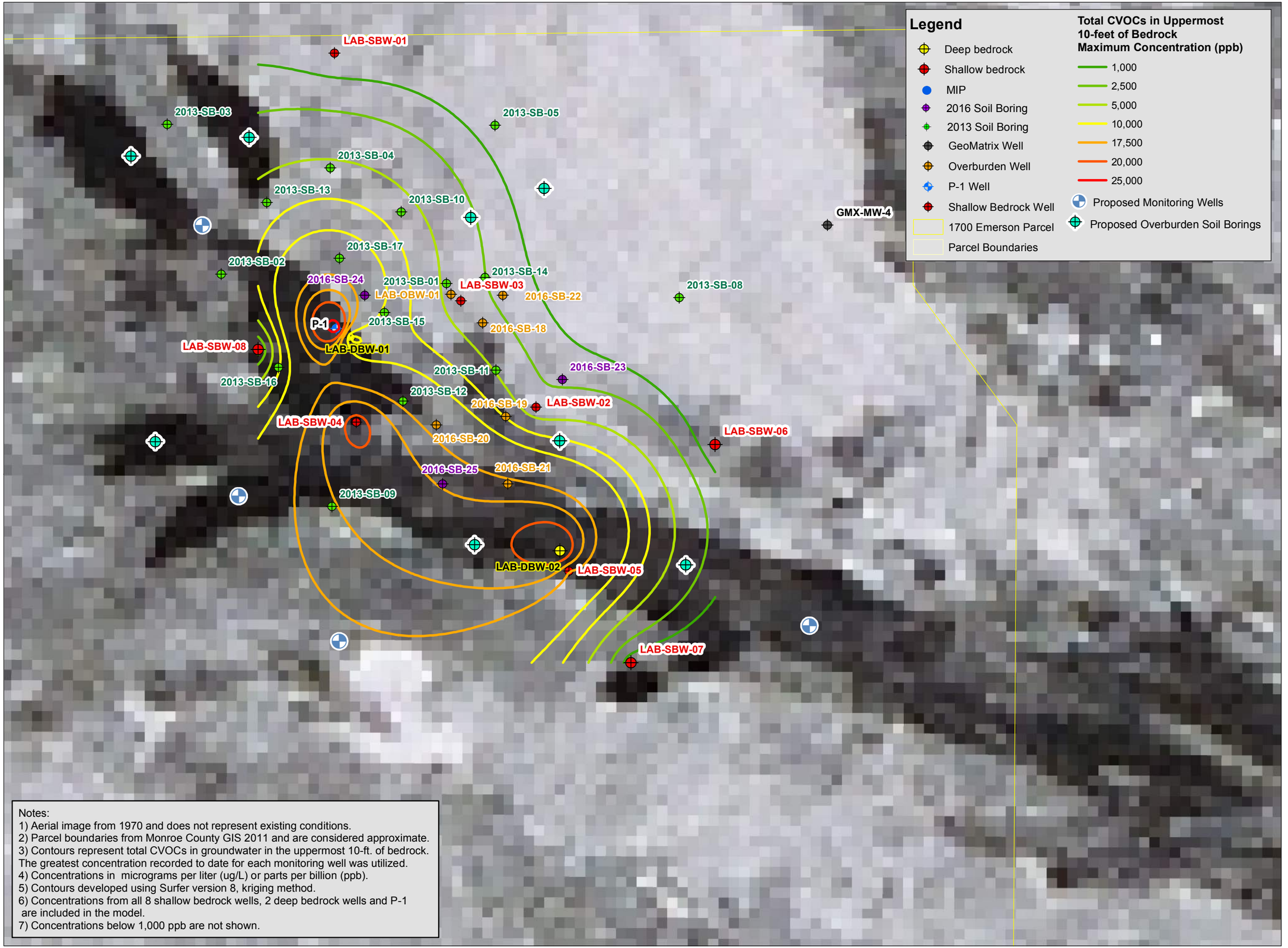
1 inch = 40 feet

Intended to print on 11x17

210173

FIGURE 2

Path: \\Projects2\Projects\NZ-2\Rochester, City\210173 FESL\Drawings\P1 Investigation\October 2016 RIWP Amendment\Figure 2- existing well locations.mxd



Legend

- Deep bedrock
- Shallow bedrock
- MIP
- 2016 Soil Boring
- 2013 Soil Boring
- GeoMatrix Well
- Overburden Well
- P-1 Well
- Shallow Bedrock Well
- 1700 Emerson Parcel
- Parcel Boundaries

Total CVOCs in Uppermost 10-feet of Bedrock Maximum Concentration (ppb)

- 1,000
- 2,500
- 5,000
- 10,000
- 17,500
- 20,000
- 25,000
- Proposed Monitoring Wells
- Proposed Overburden Soil Borings

Notes:
1) Aerial image from 1970 and does not represent existing conditions.
2) Parcel boundaries from Monroe County GIS 2011 and are considered approximate.
3) Contours represent total CVOCs in groundwater in the uppermost 10-ft. of bedrock. The greatest concentration recorded to date for each monitoring well was utilized.
4) Concentrations in micrograms per liter (ug/L) or parts per billion (ppb).
5) Contours developed using Surfer version 8, kriging method.
6) Concentrations from all 8 shallow bedrock wells, 2 deep bedrock wells and P-1 are included in the model.
7) Concentrations below 1,000 ppb are not shown.

LABELLA Associates, D.P.C.
300 STATE STREET
ROCHESTER, NY 14614
P: (585) 454-6110
F: (585) 454-3066
www.labellapc.com

FORMER EMERSON STREET LANDFILL

CITY OF ROCHESTER

P-1 PLUME REMEDIAL INVESTIGATION WORK PLAN AMENDMENT

Total Chlorinated Volatile Organic Compounds (CVOCs) in Groundwater Uppermost 10-feet of Bedrock and Proposed Monitoring Wells

N
W E
S

0 20 40
Feet

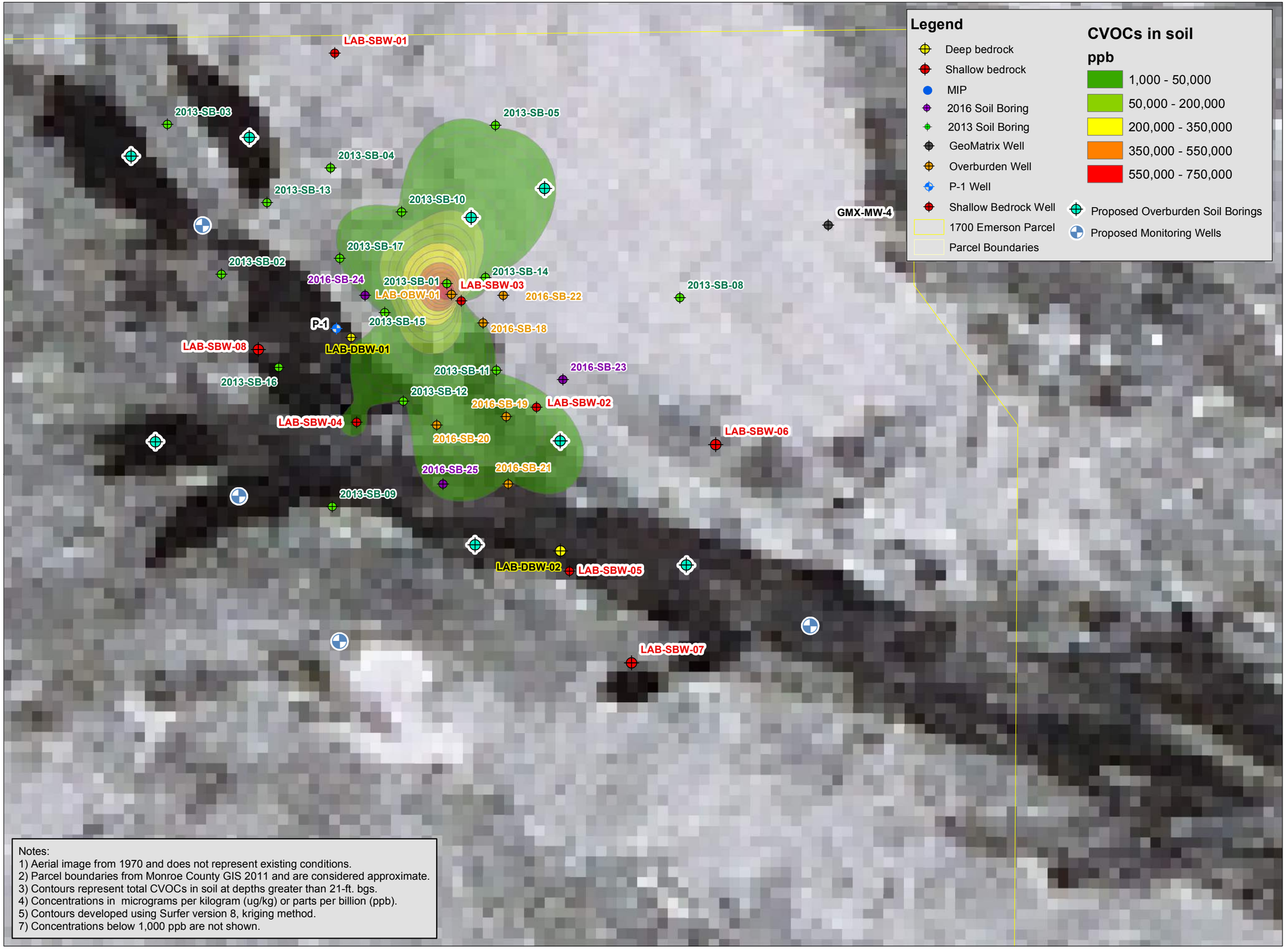
1 inch = 40 feet

Intended to print on 11x17

210173

FIGURE 3

Path: \\Projects2\Projects\NZ-2\Rochester. City\210173 FESL\Drawings\P1 Investigation\October 2016 RIWP Amendment\Figure 3- VOCs in groundwater and proposed wells.mxd



Notes:
1) Aerial image from 1970 and does not represent existing conditions.
2) Parcel boundaries from Monroe County GIS 2011 and are considered approximate.
3) Contours represent total CVOCs in soil at depths greater than 21-ft. bgs.
4) Concentrations in micrograms per kilogram (ug/kg) or parts per billion (ppb).
5) Contours developed using Surfer version 8, kriging method.
7) Concentrations below 1,000 ppb are not shown.

LABELLA Associates, D.P.C.
300 STATE STREET
ROCHESTER, NY 14614
P: (585) 454-6110
F: (585) 454-3066
www.labellapc.com

FORMER EMERSON STREET LANDFILL

CITY OF ROCHESTER

P-1 PLUME REMEDIAL INVESTIGATION WORK PLAN AMENDMENT

Total Chlorinated Volatile Organic Compounds (CVOCs) in Soil and Proposed Soil Borings

N
W E
S

0 20 40
Feet

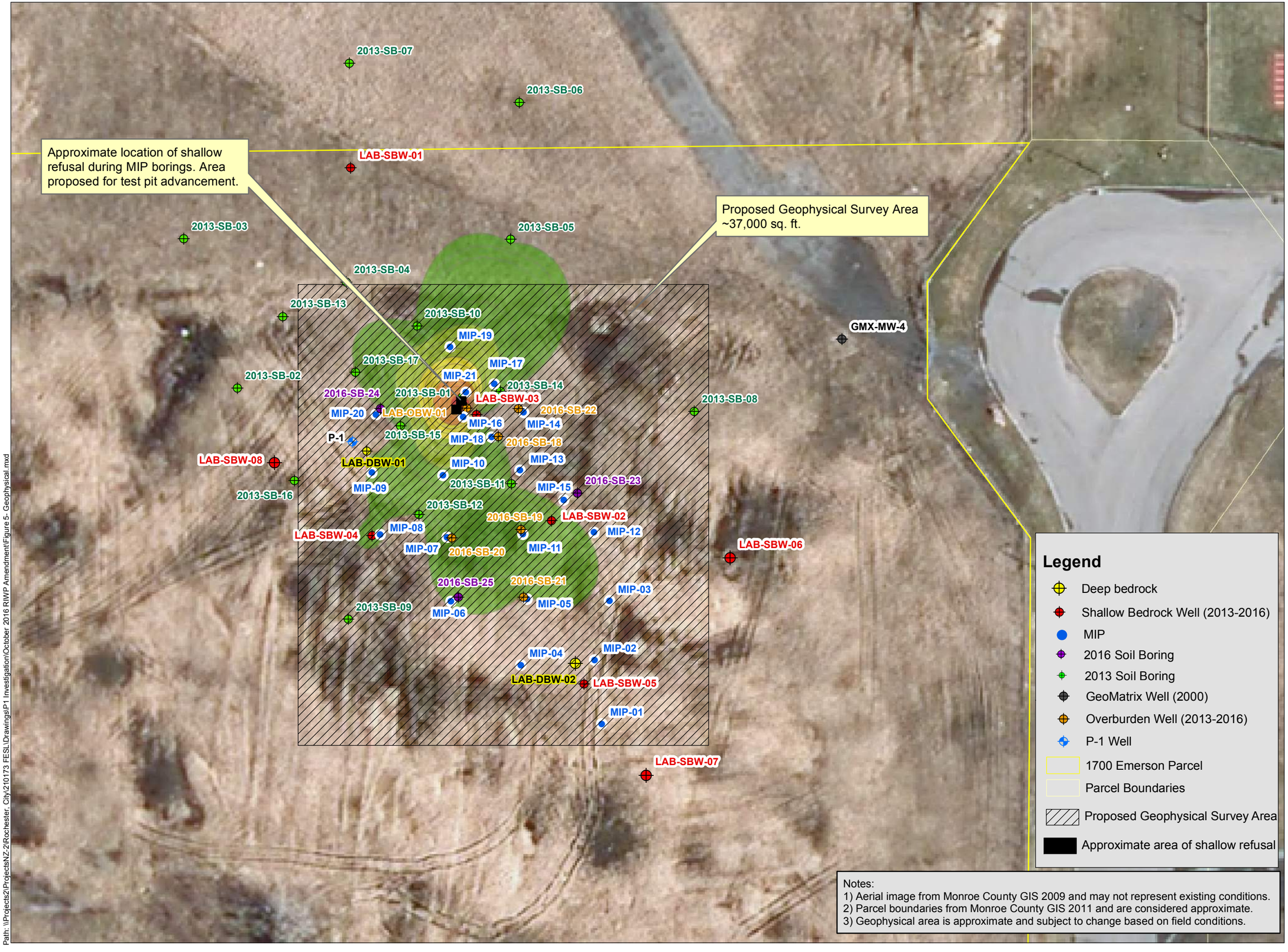
1 inch = 40 feet

Intended to print on 11x17

210173

FIGURE 4

Path: \\Projects2\Projects\NZ-2\Rochester, City\210173 FESL\Drawings\P1 Investigation\October 2016 RIWP Amendment\Figure 4 Soil borings.mxd



Path: \\Projects2\Projects\NZ-2\Rochester, City\210173 FESLD\Drawings\P1 Investigation\October 2016 RIWP Amendment\Figure 5- Geophysical.mxd

LABELLA Associates, D.P.C.
300 STATE STREET
ROCHESTER, NY 14614
P: (585) 454-6110
F: (585) 454-3066
www.labellapc.com

FORMER EMERSON STREET LANDFILL

CITY OF ROCHESTER

P-1 PLUME REMEDIAL INVESTIGATION WORK PLAN AMENDMENT

PROPOSED GEOPHYSICAL SURVEY AREA

N
W E
S

0 20 40
Feet

1 inch = 40 feet

Intended to print on 11x17

210173

FIGURE 5