C&S Companies
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July 22, 2022

Mr. Michael Belveg
Assistant Environmental Engineer
NYSDEC Region 7 – Division of Environmental Remediation
615 Erie Boulevard West
Syracuse, NY 13204-2400

Re: Supplemental RI Work Plan
Sims Matchplate ERP Site
NYSDEC Site No. B00072

File: 119.412.034

Dear Mr. Belveg:

Based on the Department's November 27, 2019 and May 1, 2020 letters and our subsequent phone calls; C&S Engineers, Inc. (C&S) is submitting this Supplemental Work Plan to address the Departments comments. The comments concern the possibility of a trichloroethene (TCE) source area on the northwest portion of the site, the potential for off-site TCE groundwater impacts, and the potential for emerging contaminants.

The objective of the supplemental work is to complete the investigative phase of the Environmental Restoration Program (ERP) so that the City can complete its obligations under the existing State Assistance Contract (SAC). The proposed fieldwork and related reporting are ultimately being completed in order to provide a basis for the New York State Department of Environmental Conservation (NYSDEC) to issue a Record of Decision (ROD) for the site. It is our understanding that this field work and subsequent reporting will generate sufficient information required for the Department to prepare a ROD for the site.

Below is our proposed scope of services.

Surface Soil Investigation

To determine if the subsurface presence of chlorinated solvents on the northwest portion of the Site may be related to a surface release, four surface soil samples will be collected. See **Figure 4** for locations. The surface soil samples will be collected from various depths below the vegetation layer.

Chlorinated volatile organic compounds (CVOCs) will be sampled from the 2" to 6" and 6" to 12" depth interval at each location. Based on the results of the previous Remedial Investigation (by C&S, report dated June 2018), samples will be analyzed for a limited list of CVOCs: TCE, 1,1,1-TCE, and cis-1,2-dichloroethene (1,2-DCE). This includes the surface and subsurface soil samples, as well as groundwater. Per- and Polyfluoroalkyl Substances (PFAS) and 1,4-dioxane will be sampled from the 0" to 2" and 6" to 12" depth interval at each location.

Subsurface Soil Investigation

Prior to conducting this part of the field investigation program, C&S will contact Dig Safe New York to locate utilities along Erie Boulevard. The subsurface investigation at the site will be conducted using a GeoProbe™ unit (i.e., direct-push drilling method). Borings will not be advanced within a minimum of ten feet from any such utility identified.

A total of four borings are proposed as shown on **Figure 4**. The proposed boreholes will be positioned around boring SB-1, which was advanced and sampled during the latest RI. At this location, the TCE concentration was 620 parts per million (ppm) at 17'-20' below grade. The purpose of these borings is to determine if there is a TCE source in the subsurface on the northwest portion of the Site. From each boring, samples will be collected to represent the 4'-8', 8'-12', 12'-16', and 16'-20' intervals. Samples will be analyzed for site-related CVOCs. At one boring location, a sample from each depth interval will be analyzed for PFAS and 1,4-dioxane. No additional subsurface sampling for PFAS will be conducted. However, it is our understanding that consideration for PFAS sampling will be required for any future soil sampling.

The borings will be terminated at a maximum depth of approximately 20 feet. If screening of the retrieved soil samples suggests that CVOCs are present at the 20 foot depth, the boring will be extended until the presence of such CVOCs is no longer detected and sample(s) will be collected. Each borehole will be sampled continuously. Retrieved soil samples will be visually examined to assess subsurface conditions and physical properties of the strata. These properties include: color, moisture content, grain size, density and visual evidence of volatile organic vapors via conventional headspace analysis techniques using a photoionization detector (PID) equipped with a 10.6 eV lamp.

Groundwater Investigation

During the recent RI, five pre-existing 2" permanent wells and two temporary 1" wells were sampled and showed elevated TCE concentrations on the north-central portion of the Site. However, there are no wells in the northwest portion of the Site, or off-site. Therefore we propose to install three temporary wells as shown on **Figure 5**. One onsite well and one off-site well we be completed as permanent wells. The screened interval will be encased with sand pack and then sealed with bentonite. The wells will be developed prior to sampling. The position of the proposed off-site wells will be based on the anticipated groundwater flow direction (see below) and in consultation with NYSDEC. The proposed wells will be sampled for site-related CVOCs and two (one onsite and one off-site) will be analyzed for PFAS and 1,4-dioxane.

Two of the pre-existing onsite wells will be sampled for PFAS and 1,4-dioxane. MW-1 and MW-6 are proposed. The wells will be purged prior to sampling.

A level-run survey will be completed to determine groundwater elevations and determine / confirm groundwater flow direction.

Soil Vapor Intrusion Investigation

Per our phone conversation, soil vapor intrusion sampling is not needed at this time. As stated in the NYSDOH guidance (page 41), "*Our experience to date indicates soil vapor results alone typically cannot be relied upon to rule out sampling at nearby buildings*". Therefore, due to the current presence of chlorinated VOCs in groundwater, soil vapor intrusion sampling will be required following the remedy and prior to building occupancy.

Quality Control

Additionally, Quality Assurance / Quality Control (QA / QC) samples will be collected, and the following describes the minimum number of samples per media type.

- Soil samples
    - Matrix Spike / Matrix Spike Duplicate (MS / MSD) – 5% (2 sets)

- Groundwater samples
    - Trip blank – 1 sample for VOCs
    - Blind Duplicate – 5% (1 sample)
    - Equipment Blank – 1 sample for PFAS
    - Matrix Spike / Matrix Spike Duplicate (MS / MSD) – 5% (1 sample)

Besides the equipment blank, QA/QC samples will not be analyzed for PFAS and 1,4-dioxane. C&S will utilize the services of a NYSDOH Environmental Laboratory Approval Program (ELAP) certified laboratory for analytical testing. The laboratory results for the samples will be reported in a Category B deliverables package to facilitate validation of the data, and a third party validator will review the laboratory data and prepare a Data Usability Summary Report (DUSR). The validator will evaluate the analytical results for the field samples and quality assurance / quality control samples and compare the findings to USEPA guidance to determine the accuracy and validity of the results.

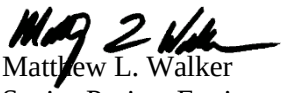
Reporting

Subsequent to the completion of field work and the receipt of laboratory data, C&S will prepare a letter report for submittal to the NYSDEC summarizing the results of the investigation. Following Department review of that letter report, the previously submitted Remedial Alternatives Analysis (RAA) will be updated and submitted based on the new data generated. Note that we have assumed that a letter report will suffice to meet the NYSDEC requirements and that a rewrite of the previously submitted RI report will not be necessary.

Please contact us should you have any questions regarding this proposed scope of services.

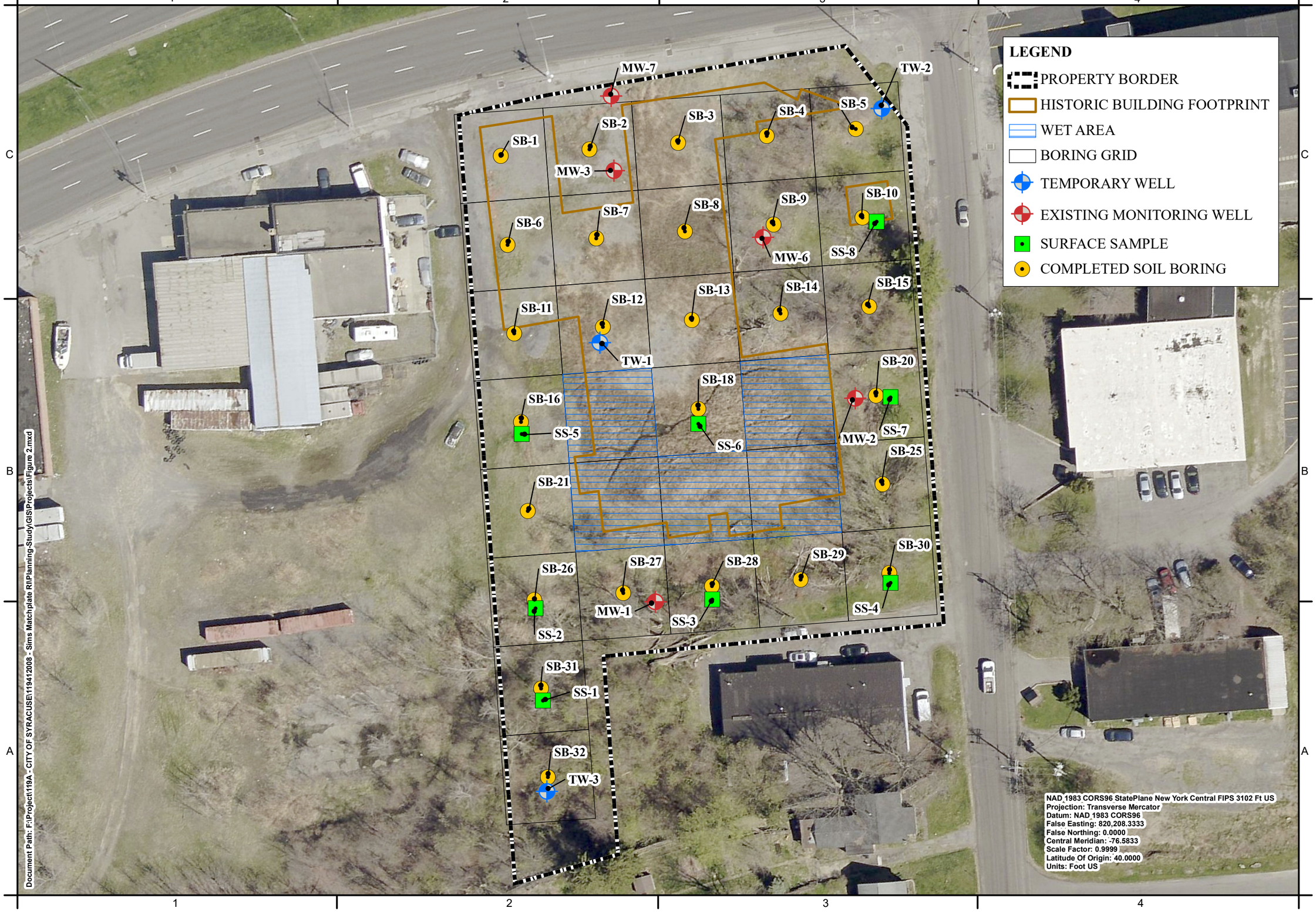
Sincerely,

C&S ENGINEERS, INC.



Matthew L. Walker
Senior Project Environmental Scientist

cc: Owen Kearney, City of Syracuse
Harry Warner, NYSDEC Region 7
Daniel Tucholski, NYSDOH
Scarlett McLaughlin, NYSDOH



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Syracuse New York

N

0 50 Feet

1 inch = 50 feet

Sims Matchplate ERP Site
NYSDEC Site No. B-00072-7
City of Syracuse, Onondaga County, New York

PROJECT NO:	119.412.008
DATE:	March 2019
SCALE:	AS SHOWN
DRAWN BY:	JTB
DESIGNED BY:	JTB
CHECKED BY:	WNR

Modified: 3/11/2019 @ 10:35:00 AM

SITE MAP

Figure 2

LEGEND

- PROPERTY BORDER
- SURFACE SAMPLE
- HISTORIC BUILDING FOOTPRINT
- Fishnet

SAMPLE ID (SAMPLE DEPTH)
CONTAMINANT ABOVE
UNRESTRICTED USE SCO

NOTES: DATA IN PARTS PER MILLION
UR=ANALYTE EXCEEDS UNRESTRICTED USE SCO
R=ANALYTE EXCEEDS RESTRICTED USE SCO
RR=ANALYTE EXCEEDS RESIDENTIAL RESTRICTED USE SCO
C=ANALYTE EXCEEDS COMMERCIAL USE SCO
I=ANALYTE EXCEEDS INDUSTRIAL USE SCO

See Figure 4 for proposed surface sample locations

SS-8 (6"-12")
BENZO[A]ANTHRACENE 2.4 (RR)
BENZO[A]PYRENE 2.1 (I)
BENZO[B]FLUORANTHENE 2.4 (RR)
BENZO[K]FLUORANTHENE 1.4 (R)
CHRYSENE 2.2 (R)
INDENO[1,2,3-CD]PYRENE 1.3 (RR)
4,4'-DDT 3.8 (U)
MERCURY 0.71 (U)
LEAD 333 (U)
ZINC 243 (U)

SS-8 (0-2")
BENZO[B]FLUORANTHENE 1.3 (RR)
CHRYSENE 1.1 (R)
INDENO[1,2,3-CD]PYRENE 0.74 (RR)
4,4'-DDT 0.0086 (U)
MERCURY 0.50 (U)
COPPER 60.6 (U)
LEAD 463 (RR)
ZINC 339 (U)

SS-7 (0-2")

SS-7 (6"-12")
4,4'-DDT 10 (U)

SS-6 (0-2")

SS-5 (0-2")
BENZO[A]ANTHRACENE 5.3 (RR)
BENZO[A]PYRENE 5 (I)
BENZO[B]FLUORANTHENE 5.4 (RR)
BENZO[K]FLUORANTHENE 2.8 (R)
CHRYSENE 5.8 (RR)
DIBENZ(A,H,)ANTHRACENE 1.1 (C)
INDENO[1,2,3-CD]PYRENE 3 (RR)
4,4'-DDT 3.7 (U)
LEAD 81.3 (U)
ZINC 122 (U)

SS-3 (0-2")
BENZO[B]FLUORANTHENE 1.3 (RR)
CHRYSENE 1.1 (R)
INDENO[1,2,3-CD]PYRENE 0.620 (RR)
COPPER 81 (U)
LEAD 76.2 (U)

SS-4 (0-2")
BENZO[A]ANTHRACENE 1.7 (RR)
BENZO[A]PYRENE 2 (I)
BENZO[B]FLUORANTHENE 2.5 (RR)
BENZO[K]FLUORANTHENE 1.3 (R)
CHRYSENE 2.1 (R)
INDENO[1,2,3-CD]ANTHRACENE 1.3 (RR)
4,4'-DDT 15 (U)
LEAD 92 (U)

SS-5 (6"-12")

SS-4 (6"-12")
BENZO[A]ANTHRACENE 1.1 (RR)
BENZO[A]PYRENE 1.2 (I)
BENZO[B]FLUORANTHENE 1.6 (RR)
CHRYSENE 1.3 (R)
INDENO[1,2,3-CD]PYRENE 0.740 (RR)
4,4'-DDT 11 (U)

SS-2 (0-2")
BENZO[B]FLUORANTHENE 1.1 (RR)
INDENO[1,2,3-CD]PYRENE 0.53 (RR)
4,4'-DDE 4.1 (U)

SS-3 (6"-12")
ACETONE 0.053 (U)
4,4'-DDT 10 (U)

SS-2 (6"-12")
BENZO[A]ANTHRACENE 1.8 (RR)
BENZO[A]PYRENE 1.8 (I)
BENZO[B]FLUORANTHENE 2.0 (RR)
BENZO[K]FLUORANTHENE 1.3 (R)
CHRYSENE 2.1 (R)
INDENO[1,2,3-CD]PYRENE 1.1 (RR)
4,4'-DDT 14 (U)
LEAD 137 (U)

SS-1 (0-2")

SS-1 (6"-12")
BENZO[A]ANTHRACENE 1.4 (RR)
BENZO[A]PYRENE 1.2 (I)
BENZO[B]FLUORANTHENE 1.4 (RR)
BENZO[K]FLUORANTHENE 0.83 (U)
CHRYSENE 1.5 (R)
INDENO[1,2,3-CD]PYRENE 0.66 (RR)

NAD 1983 CORS96 StatePlane New York Central FIPS 3102 Ft US
Projection: Transverse Mercator
Datum: NAD_1983 CORS96
False Easting: 820,208.3333
False Northing: 0.0000
Central Meridian: -76.5833
Scale Factor: 0.9999
Latitude Of Origin: 40.0000
Units: Foot US

Document Path: F:\Project\119A - CITY OF SYRACUSE\119412008 - Sims Matchplate RI\Planning-Study\GIS\Projects\Figure 3.mxd

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DESIGNED BY:	JTB
CHECKED BY:	WNR

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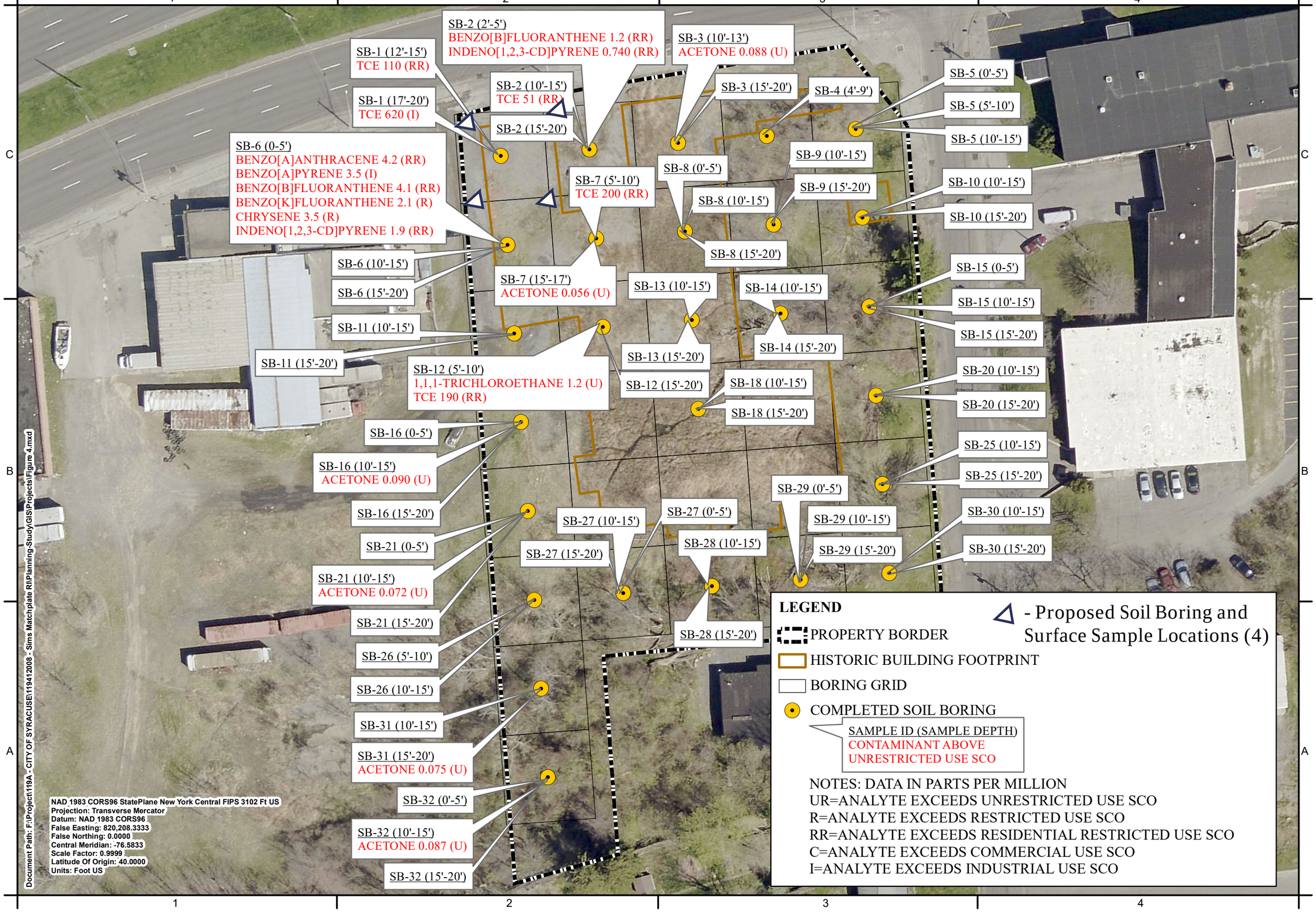
SURFACE SOIL SAMPLE MAP

Figure 3



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SOIL BORING MAP

Figure 4

LEGEND
- Proposed groundwater well (3)
- PROPERTY BORDER
- Proposed soil vapor well (3)
- TEMPORARY WELL
- EXISTING WELL
- HISTORIC BUILDING FOOTPRINT
- BORING GRID

WELL ID
CONTAMINANT ABOVE TOGS 1.1.1

NOTES: DATA IN PARTS PER BILLION

Exact well locations in the Erie Boulevard median are contingent on groundwater flow direction, to be determined during the supplemental RI.

MW-7
CIS-1,2-DICHLOROETHENE 1600
TCE 37000

TW-2
NO RECOVERY

MW-3
CIS-1,2-DICHLOROETHENE 33
TCE 1200

MW-6

TW-1
TCE 130

MW-2

MW-1

TW-3

NAD 1983 CORS96 StatePlane New York Central FIPS 3102 Ft US
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GROUNDWATER SAMPLE MAP

Figure 5