SUPPLEMENTAL REMEDIAL INVESTIGATION WORK PLAN

131-05 & 131-15 Fowler Avenue Site

Block 5076, Lot 31

Site ID: C241161

Submitted to:

New York State Department of Environmental Conservation

Division of Environmental Remediation

Remedial Bureau B, 12th Floor

625 Broadway

Albany, NY 12233-7016

Prepared for:

131-05 Holding, LLC

21 Howard Street, Suite 203

New York, NY 10013

Prepared by:

YU & Associates Engineers, P.C.

200 Riverfront Boulevard

Elmwood Park, NJ 07407

June 4, 2015

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1.0 INTRODUCTION

A remedial investigation was performed at the 131-05 & 131-15 Fowler Avenue, Flushing, NY (the Site) to characterize soil, groundwater, and soil vapor contaminations in January and February 2015. A draft remedial investigation report (RIR) was prepared by YU & Associates (YU) and submitted to the New York State Department of Environmental Conservation (NYSDEC or the Department) in March 2015. NYSDEC provided comments on the RIR dated April 1st, 2015, which is included in Appendix A. Based on our review of the analytical and field data, and discussions with the Department, YU has prepared this supplemental remedial investigation work plan for the additional investigation to characterize polychlorinated biphenyls (PCBs) contamination in the vicinity of soil borings YB-04, YB-07 and YB-12, to characterize the building material for potential PCBs contamination, and to collect additional design data through an in-situ chemical reduction bench study.

2.0 POLYCHLORINATED BIPHENYLS

As per the previous remedial investigation, PCBs concentrations in three soil samples (YB-04, YB-07, and YB-12) exceeded 50 ppm; the highest concentration of PCBs in soil was found at YB-04 at the concentration of 552 ppm. The delineation and waste classification of PCB impacted soil is hereby proposed to be conducted in accordance with the United State Environmental Protection Agency (USEPA) Toxic Substance Control Act (TSCA) regulations set forth in 40 CFR 761.61.

2.1 SOIL SAMPLING

A total of 28 soil borings will be advanced in the vicinity of the high PCBs contamination area, 14 soil boring within the north alley of the property, 14 soil boring at the south of the north alley (at the building basement), and the soil borings will be horizontally 10 feet apart. Soil samples (PB-01 to PB-14) will be collected at the 0 to 2 feet, 2 to 5 feet, 5 to 10 feet, 10 to 15 feet, and 15 to 20 feet intervals at each boring in the north alley, soil samples (PB-15 to PB-28) at the building basement will be collected at the 0 to 2 feet, 2 to 5 feet, and 5 to 10 feet intervals. The soil boring locations are shown on Figure 1. Soil borings will be installed utilizing a Geoprobe for limited access (e.g., Geoprobe 420M, 540MT).

Samples will be collected with laboratory-supplied, pre-cleaned sample containers, placed in storage/transportation coolers, preserved with ice, kept at the temperature of 4°C, and shipped under proper chain of custody procedures to a New York State Department of Health Environmental Laboratory Approval Program (NYSDOH ELAP) certified laboratory for analysis. Soil samples collected from the 0-2 feet interval will be analyzed to see if the PCB concentrations exceed 50 ppm. If PCB concentrations exceed, then soil samples from the next interval will be analyzed until PCB concentrations in soil are detected below 50 ppm to delineate the vertical extent of PCB contamination.

2.2 BUILDING MATERIAL SAMPLING

Samples will be taken from the building material in the vicinity of the heaviest PCBs contamination observed in the subsurface soils (e.g., boring YB-04) to characterize for potential PCBs contamination. A 10-in. diameter area surrounding the sample location will be cleaned

using methanol and steel wool. An electric hammer drill with the decontaminated ¾-in diameter masonry bit will be used to drill to 1 inch depth with in the building wall within the sample area to collect the sample. The collected building material samples will be analyzed for PCBs via USEPA method 8082.

3.0 IN-SITU CHEMICAL REDUCTION BENCH STUDY

According the groundwater sample results from the previous remedial investigation report, the contaminants of concern (COCs) for groundwater are Chlorinated Volatile Organic Compounds (CVOCs) including Trichloroethylene (TCE) and Tetrachloroethylene (PCE). The highest CVOC concentrations in groundwater were at TW-12 and TW-08. The in-situ chemical reduction is proposed as the remedial approach for the groundwater contamination.

In situ chemical reduction involves the placement of a reductant or reductant generating material in the subsurface for the purpose of degrading toxic organic compounds to potentially nontoxic or less toxic compounds, immobilizing forms. Zero-valent iron (ZVI) or elemental iron (Fe^o) is a strong reducing agent, it is commonly used to treat TCE and PCE in soil and groundwater. ZVI dechlorinates organic compounds by creating reducing conditions[1]. A case study in which ZVI was applied into treat TCE and PCE is included in Appendix B, this case study showing over 98% removal of PCE and 93% of TCE within the treatment zone.

The reduction chemical treatment reagent ZVI powders is proposed to be placed at the groundwater level and extend to the 2 feet below the groundwater table, and it will be intermixed with the saturated soils with the iron-to-soil ratio of 0.004[1]. A bench study is proposed to evaluate the effectives of ZVI for TCE and PCE treatment. Saturated soil samples will be collected at the groundwater level from the previous highest groundwater sample locations (TW-12 and TW-08). YU will retain Conestoga-Rovers & Associates to conduct the bench study. Soil samples will be analyzed for pH, Oxidation Reduction Potential (ORP), and CVOCs, then soil samples will be mixed manually with the ZVI at a soil-to-iron ratio of 0.004. Mixing of the soils will be performed in a cold room in order to minimize volatilization of CVOCs. After one week, the mixed soil samples will be analyzed for pH, ORP, and CVOCs.

4.0 PROJECT MANAGEMENT

Project management of this supplemental remedial investigation will follow the same program as established in the Remedial Investigation Work Plan dated January 15, 2015 submitted by YU, including the Health and Safety Plan, Quality Assurance Plan, and Field Sampling Plan.

5.0 REPORTING

The results of supplemental investigation will be presented in the revised RIR including the following:

- Description of field activities and methodologies.
- Summary of the analytical results with a comparison to appropriate regulations.

- Figures illustrating approximate sample locations on scaled drawings.
- Photographic documentation.
- Data tables summarizing the data collected during the investigation.
- Conclusions and recommendations.

6.0 REFERENCE

1. Naval Facilities Engineering Command, Engineering Services Center, Port Hueneme, California 93043-4370, Cost and Performance Report Nanoscale Zero-Valent Iron Technologies for Source Remediation, September, 2005.

2. United State Environmental Protection Agency, Toxic Substance Control Act, 1976.

3. New York State Department of Environmental Conservation, (2010). DER-10 Technical Guidance for Site Investigation and Remediation. Division of Environmental Remediation, May 2010.

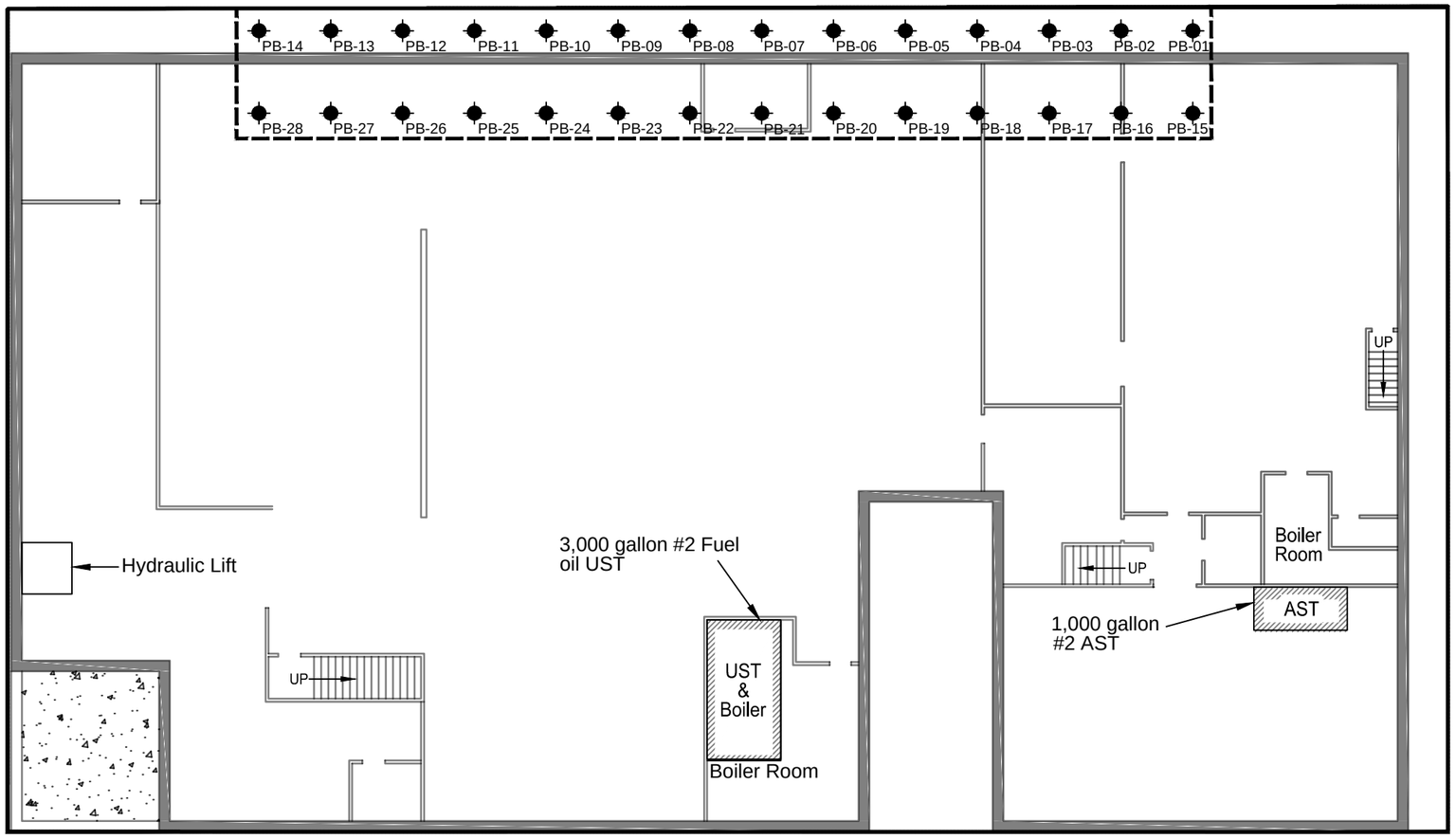
4. New York State Department of Environmental Conservation, (2006). 6 NYCRR Part 375 Environmental Remediation Programs. Division of Environmental Remediation, December, 2006.

5. New York State Department of Environmental Conservation, (as revised June 1998) Division of Water Technical and Operational Guidance Series (1.1.1), Ambient Water Quality Standards and Guidance Values and Effluent Limitations.

FIGURE

Legend:

- Site Boundary
- PCB Delineation Limits
- PB-01 — PCB Sample Locations



FOWLER AVENUE

Notes:

1. The location plan shows the basement level.
2. The location plan is based on field measurements taken by YU & Associates on July 23, 2014 and is approximate.
3. PCB = Polychlorinated Biphenyl

0 10 20 40 Feet

Graphic Scale

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PCB SAMPLING PLAN
131-05 & 131-15 FOWLER AVENUE
SITE ID: C241161

QUEENS

FLUSHING NEW YORK

JOB NO.: 14164	SCALE: As Shown	DATE: 06/04/15	FIG. 1

P:\14\14164 131-05 Fowler Ave\Environmental\Supplemental RIWP\dwg\ PCB Sampling Plan.dwg Jun 04, 2015 - 5:35pm szhang

APPENDICES

Appendix A- NYSDEC Comments Letter for the Remedial Investigation Report

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau B
625 Broadway, 12th Floor, Albany, NY 12233-7016
P: (518) 402-9768 I F: (518) 402-9773
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April 1, 2015

131-05 Holding LLC
Attn: Philip Chong
21 Howard Street, Suite #203
New York, New York 10013

Re: 131-05 & 131-15 Fowler Avenue Site (BCP #C241161)
131-05 & 131-15 Fowler Avenue
Flushing, NY 11355

Dear Mr. Chong:

The New York State Departments of Health and Environmental Conservation have reviewed the Remedial Investigation Report for the 131-05 & 131-15 Fowler Avenue site, dated March 12, 2015. In accordance with subparagraph II.D(2) of Appendix A to the Brownfield Cleanup Agreement (BCA), the Department requires the RIR to be modified.

The following comments need to be addressed before the document is acceptable to the Department:

1. Cover page, please include site address.
2. Page 4, specify contaminants of concern as well as exceedances versus applicable SCOs or standard values.
3. Page 6, Section 3.2, states that all investigation derived waste including soil cuttings and purged water were disposed as non-hazardous waste. The Department is concerned that soil cuttings containing PCBs (up to 550 ppm) and purge water with TCE (up to 440 ppb) disposal was not performed in accordance with applicable laws and/or regulations. Please clarify.
4. Page 14, Section 7.1, please create figure(s) to depict stratigraphic cross-section(s) of the site using the environmental data collected during 2015 fieldwork.
5. Page 15, Section 8.1, this section should discuss/present sample results exceeding Unrestricted Use SCOs and Protection of Groundwater SCOs as applicable, in

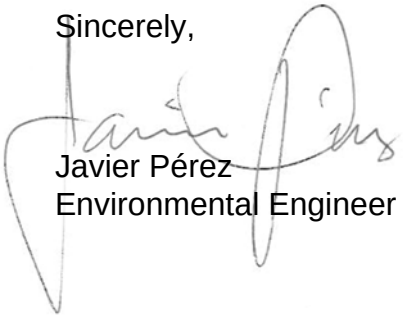
addition to the Residential SCOs. Also, individual figures depicting soil sample results exceeding Unrestricted Use SCOs and Protection of Groundwater SCOs are required.

6. Page 15, last paragraph, replace “25” with “35”.
7. Page 18, Quality Assurance/Quality Control Sample Results, a copy of the appropriate Electronic Data Deliverable (EDD) for EQuIS format data in connection with the RI at the site should be submitted to the Department. All EQuIS submittals must be received and successfully uploaded prior to approval of the RIR. Also, a complete Data Usability Summary Report (DUSR) should be included and discussed in the RIR.
8. Page 19, Qualitative Human Exposure Assessment, off-site soil, groundwater, and soil vapor potential for exposure must be discussed in the assessment and the assessment conclusions should be modified accordingly.
9. Appendixes, the Department does not require submission of hard copies of Category B deliverables. However, all final documents (including Category B deliverables) are to be submitted in electronic (PDF) format.
10. Additional investigation will be necessary in the vicinity of borings YB-02, YB-07 and YB12 to characterize PCBs contamination in those areas in accordance with TSCA PCB regulations (40 CFR part 761). TSCA regulations specifies horizontal 10 ft. grid sampling but does not specify depths. We recommend that you consider collecting samples at several depths, and analyzing samples in a sequential manner, as warranted. Please refer to 40 CFR part 761 for specific in-place characterization, sampling and analytical methods and requirements.
11. Also, we strongly recommend the Volunteer characterize the building material for potential PCB contamination, particularly in the vicinity of the heaviest PCB contamination observed in the subsurface soils (e.g., boring YB-04). Failure to do so could, in the worst case scenario, lead to the entire volume of demolition debris being regulated as TSCA/hazardous waste, which could greatly increase disposal cost. Any PCB contamination identified prior to demolition could be remediated ahead of time, resulting in far lower disposal costs.
12. The Volunteer should be developing potential remedial alternatives at this point per discussions at our recent meeting to assess whether additional data may be needed to support certain technology (e.g., in-situ treatment parameters, etc.). Collection of any necessary additional data to inform the remedial alternatives development and evaluation during the proposed fieldwork may ultimately save time and money.

Please submit a supplemental Remedial Investigation Work Plan (RIWP) for review and approval by NYSDEC and NYSDOH. Results of the supplemental investigation will be presented in the revised RIR. Consistent with the Brownfield Cleanup Agreement (BCA) subparagraph II.D, within 15 days after receiving this letter, please elect in writing a supplemental RIWP, and then submit revised document within 30 days of this

communication. Should you have any questions regarding this communication please call me at (518) 402-9768 or at 1-888-212-9586.

Sincerely,



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Appendix B — ZVI Case Study

Hepure Technologies Inc

Case Study: Ferox-Plus™

CASE SUMMARY

This Superfund site is located in North Central Ohio. The remediation activity included Operable Unit #1, which consists of a 7 acre plume (Figure 1) located within the unconsolidated zone and includes residual source material under the retail shopping center, surface water, shallow groundwater contamination, and indoor air contamination. The site is primarily an open field surrounded by busy streets in the township, with mixed commercial and residential occupancy. Investigations in 1994 showed that volatile organic compounds (PCE, TCE, and VC) were contaminating the groundwater. Testing showed a former dry cleaning business was the likely source of ground water contamination.

SITE BACKGROUND

Geology: Unconsolidated glacial deposits and underlying bedrock. The treatment zone consists of interbedded silt, sand, clay, and gravel.

Hydrology: Hydraulic conductivities for the shallow water-bearing units is 7.37×10^{-3} with an average linear groundwater flow velocity of 1.05×10^{3} cm/s (2.98 feet per day [ft/day]).

Extent of Contaminant: Approximately 2 ppm of Tetrachloroethylene (PCE) and 1 ppm Trichloroethylene (TCE)

Remediation Goal: MCLs for Groundwater (5 ppb) and PRGs for soil (480 ppb)

REMEDIATION APPROACH

The injection activity occurred over approximately four months using a three man crew with a 7000 series Geoprobe and a ChemGrout® high pressure injection system.

A total of 145,000 lbs of Ferox-Plus was injected, with an average of 10 pts and 4,600 lbs of Ferox-Plus injected per day.

PROJECT OBJECTIVES

The objective of this phase of the remediation project was to promote in situ reductive dechlorination to remove the cVOCs by injecting Ferox-Plus carbon/ZVI formulation into the shallow groundwater.

For comparison, one fourth of the treatment area was treated with a similar EHC® ISCR reagent (PeroxyChem Inc.). Also, in ~10% of the injection points, bioaugmentation was performed 2 weeks after injection of the Ferox-Plus to determine the effectiveness of the addition of dehalococcoides sp. microorganism to complete dechlorination of site contaminants to ethene.

The injection contract was based on a fixed unit price per pound of product injected per point with the product distributed to at least 5 feet horizontally in all directions in each injection interval. Also, it required that suitable mixing equipment be used to ensure that the product was well mixed and free of clumps.

Ferox-Plus was chosen for its site-ready format and its superior distribution characteristics.

Remediation Approach, cont.

376 injection points (Figure 2) were injected with ~30 lbs/ft or ~400 pounds per point, starting at around the depth of shallow groundwater (~ 1 to 4 feet) throughout the targeted treatment interval (~14 ft. bgs.) The Ferox-Plus was injected in 2 foot vertical intervals in a top-down fashion at a spacing based on a 5' radius of influence (ROI) (Figure 2). Angled injection was used to distribute the Ferox-Plus up to 15 feet horizontally from the injection point. Over 100 conformational borings were completed to determine the ROI. The Ferox-Plus injections were in compliance over 95% of the time.

In the comparison with EHC ISCR Reagent activities, it was found that in order to get the necessary distribution of iron to comply with the specifications, EHC had to be applied at the similar loading rate per linear foot, but at approximately a 2.5' ROI (Figure 2). 208 points (Figure 2) were injected with ~50 lbs/ft or ~125 pounds (dry product) per point, starting at around the depth of shallow groundwater.

RESULTS

After four months of injections, a quarterly sample event occurred. Table 1 shows a comparison of the average concentrations of PCE before the treatment compared to the values from the most recent quarterly sampling event. MW-3S, MW-5S, and MW-14S were all shallow monitoring wells in the Ferox-Plus treatment area. MW-4S was within the EHC treatment area.

Over 98% removal of PCE and 93% of TCE was found in all wells within the treatment zone. As to be expected from these preliminary results, there were some increases and decreases of daughter products, cis-1,4 Dichloroethene (cis-DCE) and vinyl chloride, as the degradation process proceeds.

Both Ferox-Plus and EHC ISCR Reagent gave similar results. However, because the Ferox-Plus was ready to inject and required only 10 lbs/yd^3 treated, versus 170 lbs/yd^3, it is much more economical.

Table 1: Reduction in PCE after treatment with Ferox-Plus

PCE	MW-3S	MW-4S*	MW-5S	MW-14S
BEFORE	214	857	1,060	27,500
AFTER	1.1	6	4.6	660
% REDUCTION	99%	99%	100%	98%
ORP	-120	-117	-146	-241

*EHC® ISCR Reagent treatment area

CONCLUSION

Ferox-Plus carbon/ZVI amendment provided a very effective and cost-efficient solution to enhancing cVOC removal at this site. Its site-ready format eliminated any mixing or clumping problems. It distributed easily in the subsurface with greater ROI, ensuring its effectiveness on site.

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Figure 1: Copley Square 7 Acre Shallow PCE Plume

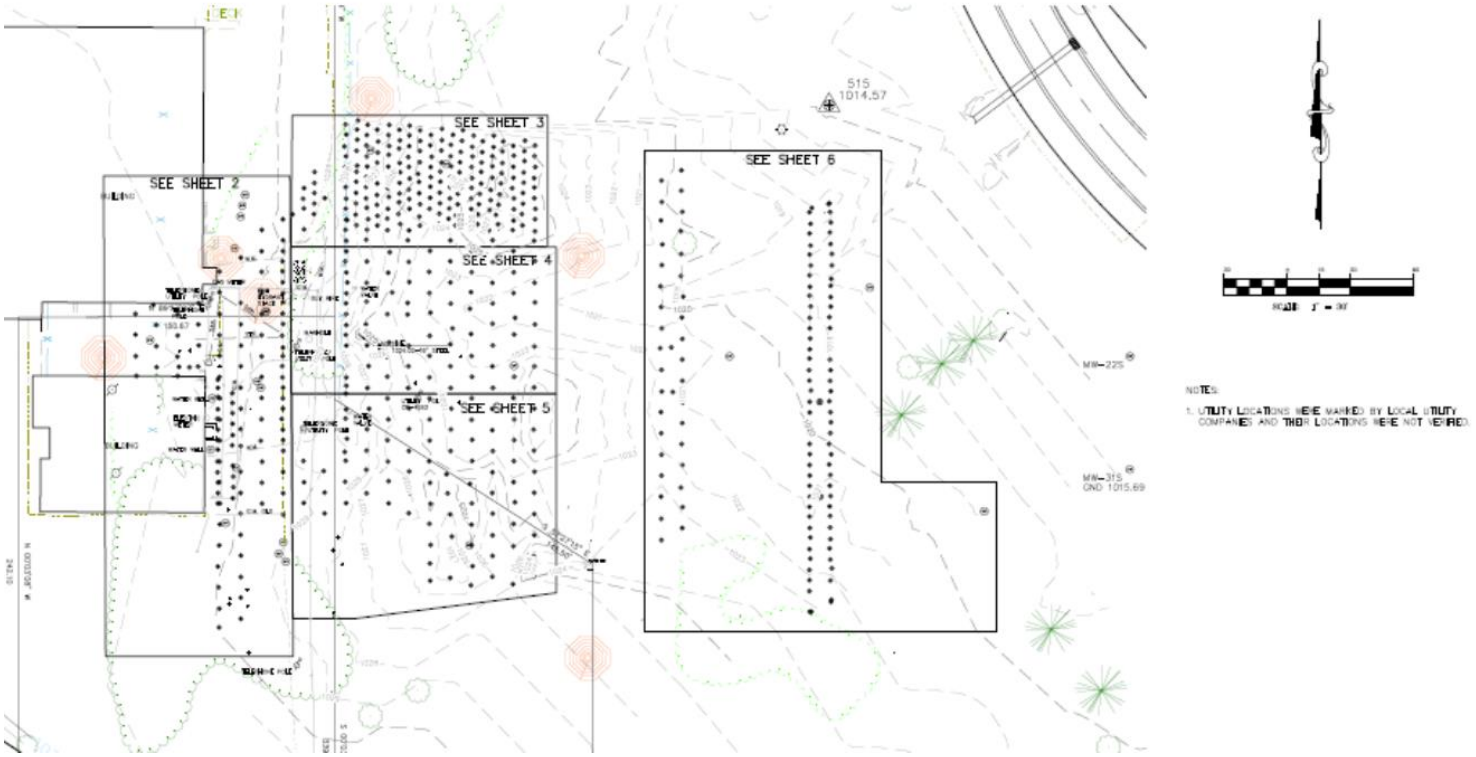

Figure 2: Copley Square Injection Point Layout