April 19, 2017

Scott Deyette
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau C, 11th Floor
625 Broadway
Albany, NY 12233-7014

RE: Former Sealectro, Inc. Facility, Mamaroneck, New York - Site #360027
Alternative Remedial Technology Pre-Design Investigation Work Plan

FILE: 3356/64734

Dear Mr. Deyette:

This letter presents ITT LLC's (ITT's) proposed pre-design investigation work plan (PDI Work Plan) associated with implementation of the alternative remedial technology at the Former ITT Sealectro Inc. Site (Site #360027). The alternative remedial technology which is to be implemented at the Site to address residual volatile organic compounds (VOCs) is in-situ chemical oxidation (ISCO).

BACKGROUND

On August 5, 2016, OBG submitted a letter entitled *Proposed Alternative Remedial Technology* (OBG, 2016b), in which ISCO was proposed as the alternative remedial technology based on an evaluation of alternatives / remedy enhancements that was triggered in 2013 in accordance with the March 1999 ROD (NYSDEC, 1999) and the September 2000 *Remedial Design/Remedial Action (RD/RA) Work Plan* (OBG, 2000). ISCO was approved as the alternative remedial technology for the Site by NYSDEC in a letter dated October 26, 2016.

In the August 5, 2016 letter, we described the portion of the Site where ISCO could be performed given site access limitations and would have the potential to contribute significantly to VOC mass reduction. The remedial approach focuses on this high impact area as depicted in Figure 1, based on the results of the Corrective Measures Investigation (CMI) as documented in the *Corrective Measures Investigation Report* (OBG, 2016a).

Overall, the high impact zone extends southwest from A-3, includes A-6 and A-8, and ends in the vicinity of B-5. The interval of high impact indicated a distribution of residual impacts extending to the west away from the former UST area. Total soil VOC concentrations up to 16,623 milligrams per kilogram (mg/kg) were documented within this high impact zone.

Based on the CMI data, the depth of the high impact zone ranges from approximately 15 feet below ground surface (ft bgs) at A-3 to approximately 26 ft bgs at B-5. The thickness of the zone ranges from approximately 4 ft (at A-3) to approximately 1 ft (at A-6 and A-8) and may vary locally within the proposed ISCO area. This high impact zone occurs within a regime of heterogeneous lithology, which includes finer grained silts and clays as well as coarser grained sand and fine grained gravel.

Also within the August 5, 2016 letter, OBG described a phased approach for implementing the ISCO program at the Site, consisting of addressing logistics with the property owner and tenant, and conducting a pilot test to develop the basis for the design of the full scale ISCO application. In order to design the ISCO pilot test and to refine the proposed remediation area, additional characterization of the extent and mass in the high impact zone is required. Therefore, ITT is proposing a limited PDI to advance four additional soil borings, as shown on Figure 1. The four proposed soil borings will be installed to the south and southwest of the site building as described below:

- SB-1 will be located between existing Membrane Interface Probe (MIP) boring locations A-8 and B-5;
- SB-2 will be located along the approximate limits of the high-impact area;
- SB-3 will be located between existing MIP boring locations A-6 and A-8; and
- SB-4 will be located at the corner of the building between existing MIP boring locations A-3 and A-6.

The soil borings will be installed to provide additional chemical data in areas of the high impact zone between the existing MIP boring locations. The data collected from these soil borings will be used in conjunction with the CMI data to design the ISCO pilot test. Results of the PDI will be presented in an ISCO Pilot Test Work Plan to be submitted to NYSDEC.

INVESTIGATION PROCEDURES

Each of the four soil borings will be advanced to approximately 30-feet below grade using direct push drilling methods, as described in Section 2.4 of Appendix A, Field Activities Plan of the *Corrective Measures Investigation Work Plan* (OBG, 2014). Samples will be collected from six depth intervals at each of the four soil borings (i.e., a total of 24 discrete depth soil samples). Samples will be collected from MacroCores ™ using EnCore© samplers for laboratory VOC analysis at the following depth intervals at each boring:

- (1) sample collected within approximately 0-6-inches above the encountered water table
- (1) sample collected within approximately 0-6-inches just above the high impact zone based on surrounding CMI data and field / visual screening
- (3) samples collected within the high impact zone as defined by surrounding CMI data and field / visual screening
- (1) sample collected within approximately 0-6 inches below the high impact zone based on surrounding CMI data and field / visual screening

Samples will be collected and submitted for VOC analysis in accordance with the Appendix A, Field Activities Plan and Appendix B, Quality Assurance Project Plan of the CMI Work Plan, as further described below. The only change will be the quantity of samples to be collected (total of 24) at the depth intervals specified above.

PDI WORK PLAN COMPONENTS

Due to the limited nature of the PDI and similarity to the CMI procedures, the following CMI Work Plan components specific to advancing soil borings for sample collection and analysis will be utilized for the PDI:

SUMMARY OF FIELD ACTIVITIES

The Field Activities Plan (FAP) for the Site is provided in Appendix A of the CMI Work Plan and has been prepared in general accordance with the *DER-10 Guidance*. The FAP presents the procedures for implementing the field investigations. The FAP also provides the detailed procedures for collecting soil samples including: equipment and personnel requirements, utilities mark-outs, drilling techniques, sampling techniques, equipment decontamination procedures, and handling of investigation derived waste (IDW).

QUALITY ASSURANCE PROJECT PLAN

The proposed field sampling activities included within this Work Plan will be conducted pursuant to the Quality Assurance Project Plan (QAPP) provided as Appendix B of the CMI Work Plan and has been prepared in general accordance with Section 2.3 of the *DER-10 Guidance*. The QAPP provides quality assurance/quality control criteria for the proposed investigation and will assist in generating data of a known and acceptable level of precision and accuracy. Based on discussions with NYSDEC on April 13, 2017, data validation will not be performed on the analytical results of the soil samples collected during this PDI.

The QAPP also provides information regarding the project description and personnel responsibilities, and sets forth specific procedures to be used during sampling of relevant environmental matrices, field activities, and the analyses of data. The procedures in this QAPP will be followed by personnel participating in the field investigation and in the laboratory analyses of environmental samples.

HEALTH AND SAFETY PLAN

OBG has developed a Health & Safety Plan (HASP), provided as Appendix C of the CMI Work Plan, which describes the potential hazards and safeguards that will be used for OBG personnel on-Site during the Work Plan activities. The HASP was prepared in accordance with applicable federal, state, and local requirements, including but not limited to, general industry (29 CFR 1910) and construction (29 CFR 1926) standards of the Federal Occupation Safety and Health Administration (OSHA). The HASP outlines the health and safety procedures and equipment required for the investigation activities to minimize the potential for exposure and/or increased risk to field personnel and the community. The HASP also includes site control measures, engineering controls and work practices, air monitoring procedures, decontamination and residuals management procedures, and emergency response information.

Subcontractors who will be conducting the activities described within the FAP (i.e., Geoprobe® services) will also prepare a HASP prior to initiating work. The subcontractors' HASPs will be developed to specifically discuss the contractor's means and methods for executing the work and will be prepared in accordance with any applicable federal, state, and local requirements, including but not limited to general industry (29 CFR 1910) and construction requirements (29 CFR 1926) of the OSHA.

COMMUNITY AIR MONITORING PLAN

A Community Air Monitoring Plan (CAMP) has been prepared and incorporated into the Site HASP, provided as Appendix C of the CMI Work Plan. The CAMP has been prepared in general accordance with Section 1.9 of the *DER-10 Guidance*. The CAMP identifies measures and/or actions to ensure that the public living and working near the Site, as well as employees or visitors at the Site, are protected from exposure to Site constituents of concern during investigation activities. The CAMP includes both a dust/particulate monitoring program and a VOC monitoring program to be conducted during the Work Plan activities.

PRE-DESIGN INVESTIGATION DATA

Data collected during this investigation will be documented in an ISCO Pilot Test Work Plan. This documentation will include the following:

- Description of field activities conducted at the Site;
- Boring logs;
- Summary of soil analytical results, and results of field parameters measured during the investigation;
- Soil boring location figure; and,
- Laboratory Data Report for soil analytical results

Further evaluation of the data will also be provided in the ISCO Pilot Test Work Plan.

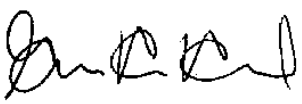
PDI SCHEDULE

The PDI schedule is presented below. Relative time frames have been provided for each task. Due to the straightforward nature of the limited soil boring investigation and procedures already approved by NYSDEC via the CMI Work Plan, ITT is not seeking NYSDEC approval for the PDI activities. Rather, NYSDEC approval will be sought for the submittal associated with the next phase of the project, the ISCO Pilot Test Work Plan. The schedule will also be dependent on appropriate and necessary Site access. If necessary, ITT will provide any subsequent updates and revised schedules to NYSDEC.

Task Description	Estimated Schedule	Approximate duration
Work Plan Submittal to NYSDEC	April 19, 2017	--
Geoprobe soil investigation – soil sample tentative locations shown on Figure 1.	Mobilization to occur 4-6 weeks from PDI Work Plan submittal to NYSDEC based on tenant access / scheduling	2-3 days
Sample Analysis	2 weeks after sample shipment to laboratory	--
Data Evaluation	4 weeks after receipt of laboratory report	--
Technical Meeting with NYSDEC to Discuss Parameters of the Pilot Test	6-8 weeks after receipt of laboratory report	--
Submittal of the PDI Data	To be provided in the ISCO Pilot Test Work Plan (Schedule to be provided)	--

Should you have any questions or comments, please do not hesitate to contact Lisa Hall of ITT at (949) 562-7402 or me at (732) 638-2930.

Very truly yours,
O'BRIEN & GERE ENGINEERS, INC.



Gary Angyal
Vice President

Attachments
Figure 1 - Site Plan with proposed PDI soil boring locations

cc: Edward Moore - NYSDEC Region 3
Anthony Perretta & Maureen Schuck - NYSDOH
Jeff Stanek & Lisa Hall - ITT
Lori B. Marino - ITT
Michael Peters - Stockli Slevin & Peters, LLP
Robert Morgan - Balfour Beatty, Inc.
Janet McCord – Balfour Beatty, Inc.
Ira Seligman & Keith Richman – Richman & Levine, P.C.
Michael Colarrassi & Dina Gupta – Simone Development
Daniel Smith – Apex Companies, LLC
Guy Swenson – OBG

REFERENCES

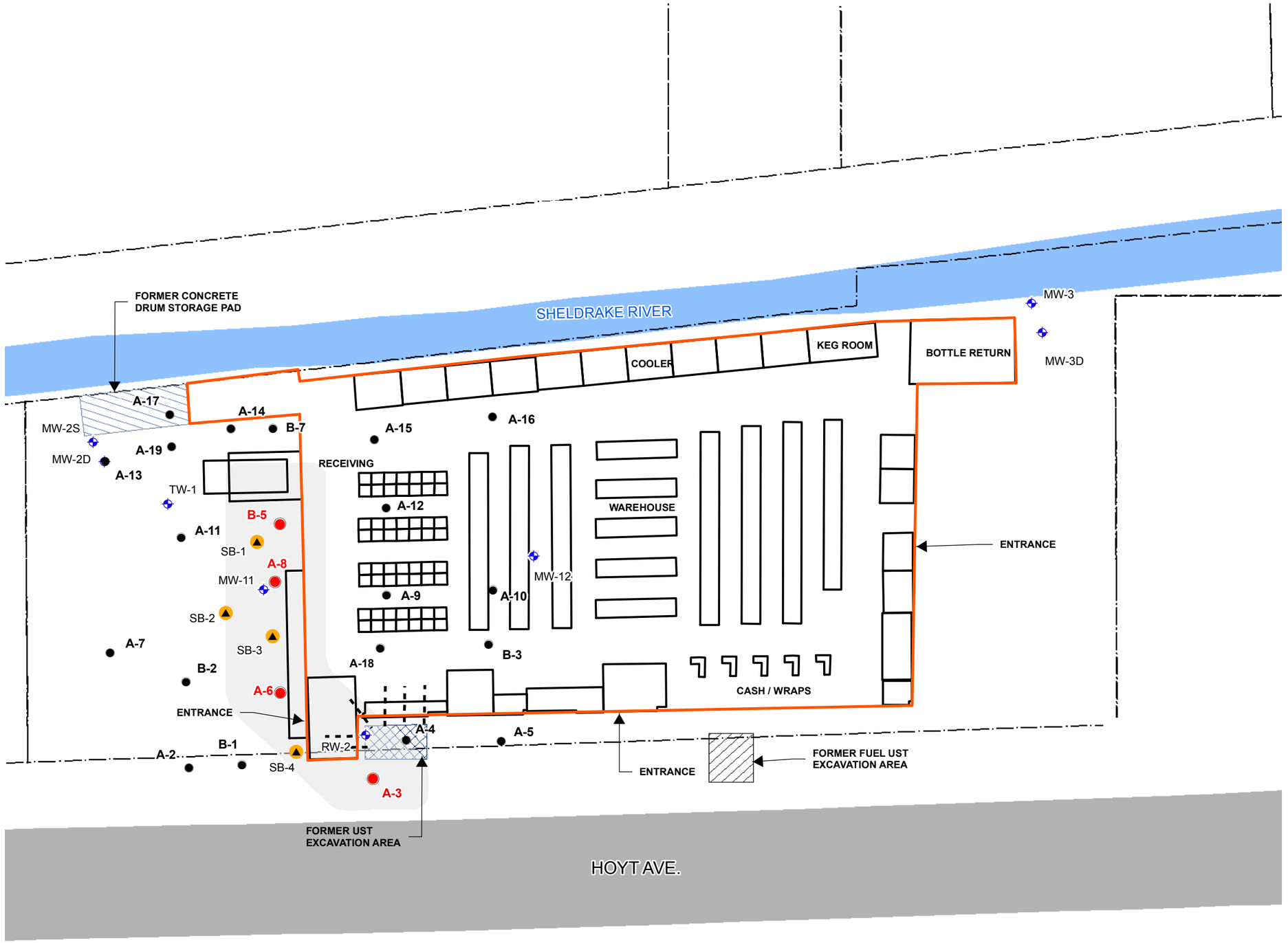
New York State Department of Environmental Conservation (NYSDEC), 1999, *Record of Decision (ROD) ITT Sealectro Site, Village of Mamaroneck, Westchester County, Site Number 3-60-027,* March 31, 1999.

OBG, 2000, *Remedial Design/Remedial Action Work Plan (RD/RA Work Plan),* September 2000.

OBG, 2014, *Corrective Measures Investigation Work Plan (CMI Work Plan)*, July 28, 2014.

OBG, 2016a, *Corrective Measures Investigation Report (CMIR)*, January 22, 2016.

OBG, 2016b, *Proposed Alternative Remedial Technology*, August 5, 2016.



LEGEND

- PROPOSED SOIL BORING
- HIGH VOC IMPACT MIP BORING
- MIP BORING
- EXISTING MONITORING WELL
- HORIZONTAL WELL LOCATION
- APPROXIMATE HIGH IMPACT AREA*
- FORMER CONCRETE DRUM STORAGE PAD
- FORMER UST EXCAVATION AREA
- FORMER FUEL UST EXCAVATION AREA
- HALF TIME BUILDING
- PROPERTY BOUNDARY

NOTE:

- MEMBRANE INTERFACE PROBE (MIP) DATA COLLECTED BETWEEN OCT 12 TO OCT 20, 2015 BY VIRONEX TECHNICAL SERVICES INC.
- MIP RESPONSES WERE OBSERVED AT DEPTHS GREATER THAN 4FT BELOW GROUND SURFACE.

*THE APPROXIMATE HIGH IMPACT ZONE IS 1-4 FT THICK AND OCCURS BETWEEN 15-26 FT DEPTH. THE HORIZONTAL EXTENT IS ESTIMATED BASED ON MIP BORING RESULTS.

FORMER SEALECTRO INC. FACILITY
MAMARONECK, NY

PRE-DESIGN INVESTIGATION - PROPOSED SOIL BORINGS

0 15 30 60
Feet

APRIL 2017
3356.64734

O'BRIEN & GERE ENGINEERS, INC.