Environmental Resources Management

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XX November 2013
ERM Project No. 0211164

Mr. Steven M. Scharf, P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Action, Bureau A
625 Broadway
Albany, NY 12233-7015

Re: Work Plan For Soil Vapor Intrusion/Indoor Air Quality Investigation
Northeast Building Interior Near Former TCE AST/SVE IRM Area
700 Hicksville Road, Bethpage, New York (Former Grumman Plant 2)

Dear Mr. Scharf:

On behalf of Steel Los III, LP, (Steel Los III), ERM Consulting & Engineering, Inc. (ERM) is providing this Work Plan for a Soil Vapor Intrusion (SVI)/Indoor Air Quality (IAQ) Investigation in the northeast corner of the above referenced building. A site location map showing the area of interest is presented in Figure 1.

The purpose of this investigation is to confirm the absence of impacts to sub-slab soil vapor and indoor air quality in areas adjacent to the Former Outdoor Trichloroethene (TCE) Above Ground Storage Tank (AST) Area. That area has been remediated by soil vapor extraction (SVE) operated as an interim remedial measure (IRM) by Northrop Grumman Corporation since 1994.

BACKGROUND

As you are aware, Steel Los III is contemplating taking over operation of the SVE IRM from Northrop Grumman in an effort to delist the site from the NYSDEC Registry of Inactive Hazardous Waste Sites. ERM understands that the NYSDEC has requested that Steel Los III perform sub-slab soil vapor/indoor air sampling in the indoor area adjacent to the former location of the TCE AST to confirm the absence of impacts to sub-slab soil vapor and indoor air quality from the former TCE AST Area.

We do not expect to observe impacts to indoor air quality from the sub-slab vapors above the NYSDOH indoor air guidelines because the integrity of the floor slab is very good in these areas, and there are powerful heating/ventilation/air conditioning systems that continuously feed and

circulate fresh air from outdoors under a positive pressure to all occupied areas of the building. These would prevent sub-slab vapors from entering the building. Specific details are presented below.

According to Steel Los III, the floor slab throughout the tenant space ranges in thickness from 6 to 12 inches (average of approximately 8 inches), and corresponding ceiling heights range from 9 to 38.5 feet with 96% of the space consisting of high bay areas with a ceiling height of 24 feet or greater. The HVAC system for this area consists of 34 rooftop units that produce airflow of 2,560,000 CFM. The nominal fresh air setting is at 20%, resulting in a fresh air flow of 512,000 CFM. The footprint of the tenant space is 373,000 square feet, with an interior volume of 10,440,000 cubic feet. The HVAC system provides a minimum of 3 air changes an hour. In general, fresh air influx through the HVAC system places the space under positive pressure. The space is not airtight, allowing communication between indoor and outdoor air, which also lessens vapor intrusion concerns.

SCOPE OF WORK

Steel Los III intends to conduct the SVI investigation before the end of the current heating season, which ends in March 2014. The Former Outdoor TCE AST/SVE IRM area and proposed sampling locations are shown in Figure 2.

Sub-slab, indoor air and outdoor air sampling will be performed following the applicable protocols identified in the NYSDOH "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" (October 2006). Prior to collection of samples, ERM will complete the "Indoor Air Quality Questionnaire and Building Inventory, and Product Inventory Forms" contained in Appendix B of the NYSDOH Guidance. This will include activities such as use of a photoionization detector (PID) to identify areas of potential interferences, and removing possible sources of VOCs from the sampling area. All samples will be collected with individually-certified clean 6-liter Summa® canisters fitted with regulators programmed to collect the sample over an 8-hour period.

All sub-slab soil vapor, indoor air and outdoor air samples will be collected over the same 8-hour period. This corresponds to a flow rate of 0.002 liters per minute (L/min), which is less than the maximum 0.2 L/min required by the NYSDOH Guidance. At each sample location, all the pertinent data will be recorded in the field notebook and/or data collection forms. This information will include the following items:

- Sampler's name;
- Date, time and PID reading;
- Date and time of sample start and stop;

- Summa® canister serial number;
- Initial and final Summa® canister vacuum
- Sample identification, and descriptive location of the sampling area;
- Sample identification for other corresponding samples at the same property;
- Weather conditions including barometric pressure, and ambient temperature inside and outside the building;
- Sampling depth(s);
- Soil type at sample location, if known;
- Soil vapor purge volumes;
- Apparent moisture content of the air being sampled;
- Description of features that may impact the vapor measurements (e.g., storage areas for materials that may contain VOCs, drainage facilities, utility lines, any contamination noted, floor stains, etc.); and
- All equipment calibrations performed.

Sub-Slab Soil Vapor Samples

Three (3) sub-slab soil vapor samples (SS-A through SS-C) will be collected at the locations are shown in Figure 1, to be verified in the field based on accessibility and positioned to cause minimal disruption to the business activities of the current tenant. The 3 sample locations are intended to surround and assess sub-slab soil vapor/indoor air quality of the Former Outdoor TCE AST/SVE IRM area.

After the floor slab has been inspected, the location of subsurface utilities determined, and the ambient air surrounding the proposed sampling screened with a PID, a hammer drill will be used to advance a one-inch diameter boring to a depth of approximately one-half-inch into the floor slab, a one-half-inch diameter boring will be drilled in the center of the initial one-inch boring to a minimum depth of three (3) inches beneath the floor slab into the sub-slab aggregate. Dedicated Teflon tubing (approximately 3/8-inch outside diameter) will be inserted two (2) inches into the subsurface through the one-half –inch diameter boring. The annular space between the floor and the tubing will then be sealed with beeswax.

To ensure the sample collected will be representative, one to three volumes of air will be purged from the tubing and the borehole using a dedicated purge pump. Following the purge, a PID will be attached to the sampling tubing and measurements will be monitored and the highest reading recorded. The PID will then be disconnected, and the tubing will be connected to the Summa® canister regulated for an 8-hour sample collection period. Sampling will be discontinued while the canister still exhibits a slight vacuum. After the sub-slab sample collection is complete, the tubing will be removed and the borehole will be filled to the floor surface with

quick drying hydraulic cement. Photographs of the sampling vicinity will be taken.

Indoor Air Samples

Three (3) indoor air samples (IA-A through IA-C) will be collected from the immediate locations of the sub-slab samples. Sample collection will be through a section of dedicated Teflon tubing extending from the Summa® canister to the breathing zone of a seated person, approximately three (3) feet above the floor. Sampling will be discontinued while the canisters still exhibit a slight vacuum. Photographs of the sampling vicinity will be taken.

Ambient Air Sample

The Plant 2 building has roof-mounted heating/ventilation/air conditioning systems that continuously feed and circulate fresh air from outdoors under a positive pressure to all occupied areas of the tenant space. Accordingly, one (1) ambient air sample will collected from an upwind location on the roof adjacent to a roof-top air intake for the tenant space. The ambient air sample location will be selected using the weather and wind direction forecast from the National Weather Service for the day of sampling.

A section of dedicated Teflon tubing will be extended from the Summa® canister to collect the sample from the breathing zone of a standing individual at four (4) to six (6) feet above the ground. Sampling will be discontinued while the canister still exhibits a slight vacuum. Photographs of the sampling vicinity will be taken.

Laboratory Analysis

At the conclusion of sampling, the canisters will be shipped via overnight delivery to Accutest Laboratories (NYSDOH Certification No. 10983) in Dayton, New Jersey, an Environmental Laboratory Accreditation Program-(ELAP)-certified laboratory.

All samples will be analyzed for VOCs using USEPA Method TO-15, with a target detection limit of 1.0 µg/m^3 or less for all parameters except TCE. The target detection limit for TCE in indoor air samples will be 0.25 µg /m^3. If TCE is not detected in an indoor air sample at 1.0 ug/m^3, using the standard TO-15 full-scan analysis, additional analysis of the sample will be carried out using GC/MS selective ion monitoring (SIM) to achieve the required 0.25 µg/m^3 detection limit, as per NYSDOH Guidance.

Health & Safety

All site activities will be performed in accordance with ERM's Health & Safety Guidance Manual. In addition, all sampling will be conducted by a two-person team.

Reporting

All laboratory data will be provided in ASP Category B deliverable format and the data validated. A letter report will be prepared and submitted to NYSDEC that includes: 1) a summary of the sampling activities performed including any required deviations from this work plan, 2) a summary table of all sampling results reported µg/m³ with detection limits equal to 1.0 µg/m³ or less, 3) completed "Indoor Air Quality Questionnaires, Building Inventory Forms, and Product Inventory Forms", 4) sampling logs, 5) photographs of sampling locations, 6) Data Validation Reports, and 7) Category B Laboratory Data Deliverables.

SCHEDULE

Please note that Steel Los III's willingness to perform the scope of work described herein is contingent upon expeditious approval of this work plan by NYSDEC and NYSDOH, and Steel Los III's execution of an agreement with Northrop Grumman, and an Order with NYSDEC. Once this work plan is approved by NYSDEC and NYSDOH, Steel Los III will endeavor to execute the aforementioned agreement and Order, and perform the work before the end of the heating season, i.e., 31 March 2014.

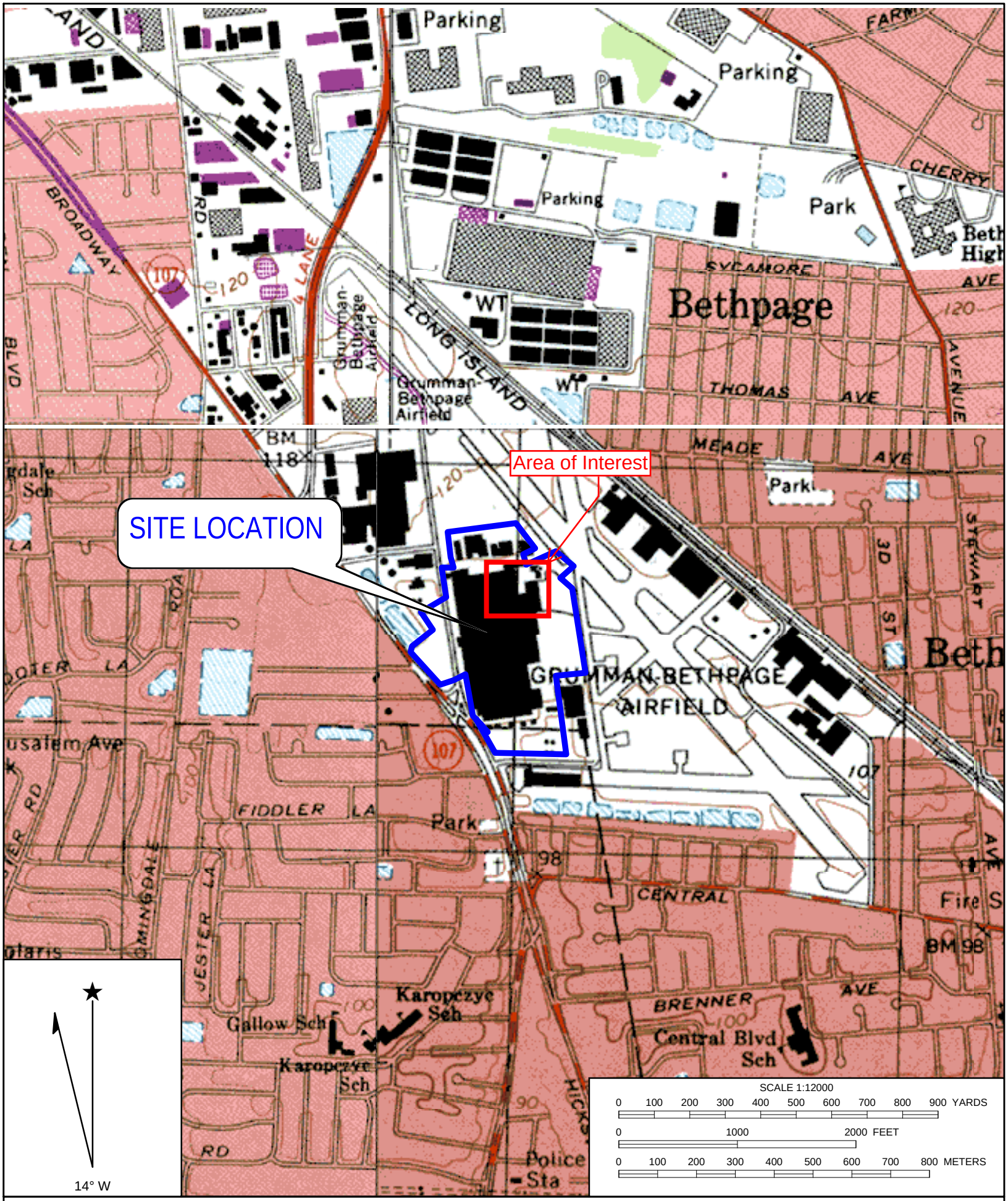
If you have any additional questions or comments, please do not hesitate to contact me at (631) 756-8900

Very truly yours,

Chris W. Wenczel
Principal Consultant

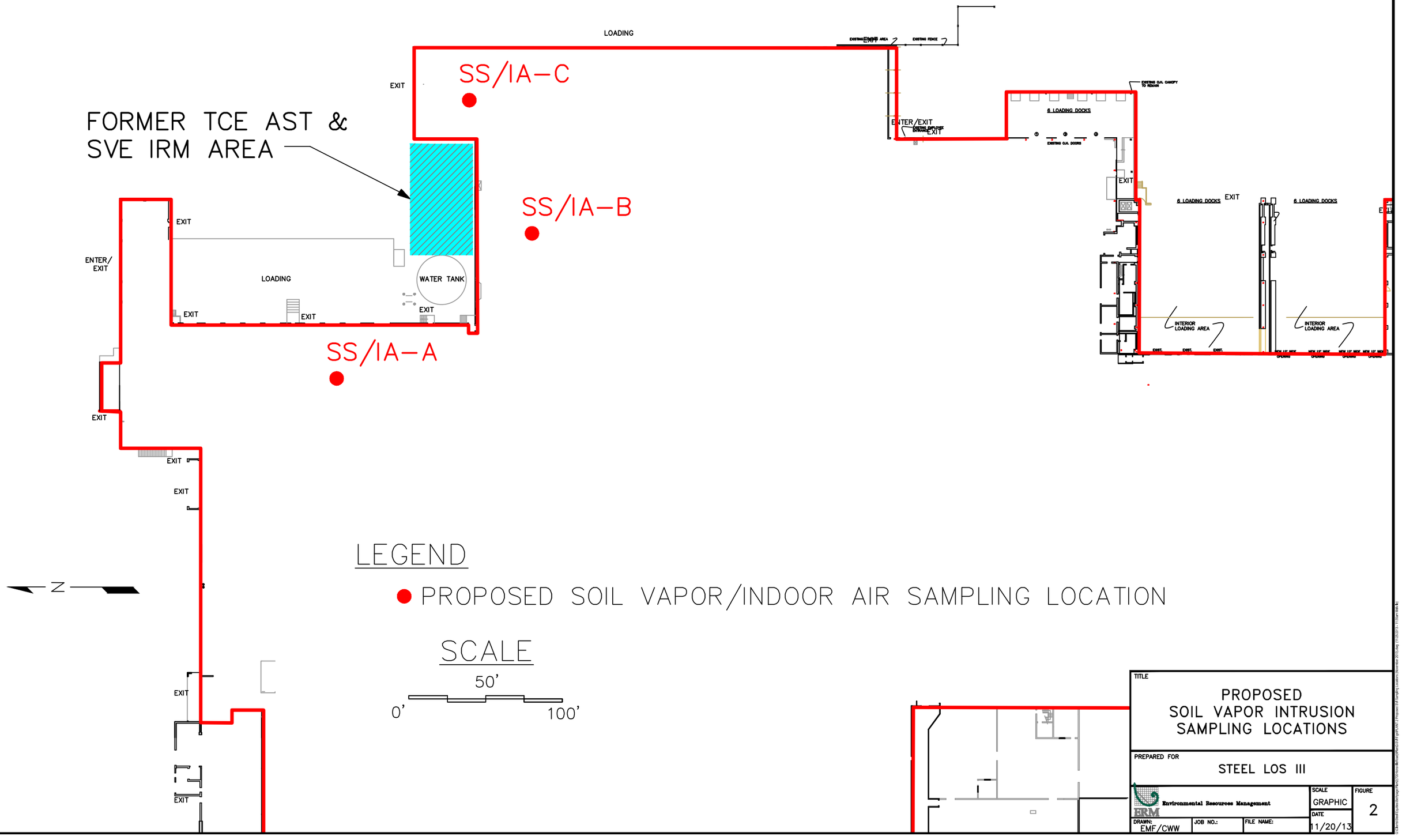
Attachments

cc: Kevin Lumpe, Steel Los III, LP
John Swartwout, NYSDEC
Walter Parish, NYSDEC



Name: AMITYVILLE
Date: 3/20/2009
Scale: 1 inch equals 1000 feet

Location: 040° 44' 45.41" N 073° 29' 47.64" W NAD 27
Caption: Figure 1 - Site Location Map
Former Grumman Plant 2
Bethpage, NY



TITLE

PROPOSED
SOIL VAPOR INTRUSION
SAMPLING LOCATIONS

PREPARED FOR

STEEL LOS III

Environmental Resources Management

SCALE	FIGURE
GRAPHIC	2

DRAWN:	JOB NO.:	FILE NAME:	DATE
EMF/CWW			11/20/13