Revised SSA Work Plan Addendum for Additional Phase III Activities at Gabriel Manufacturing Co., Inc.

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Purpose/Objectives

E.I. du Pont de Nemours (DuPont), Union Carbide Corporation (A Wholly Owned Subsidiary of The Dow Chemical Company), and Honeywell International Inc.—collectively referred to as the "Companies"—are submitting this Phase III work plan addendum for the Gabriel Manufacturing Co., Inc. facility in Stony Point, New York (site) in accordance with an Administrative Order on Consent signed by the Companies and the New York State Department of Environmental Conservation (NYSDEC) on August 1, 2007.

This work plan addendum describes additional tasks to be conducted as part of Phase III of the Final Supplemental Site Assessment (SSA) Work Plan (CH2M HILL 2007). This addendum is being performed to confirm and characterize the presence of chlorofluorocarbons (CFCs) in soil and groundwater at the site and to fill certain data gaps from the previously conducted preliminary site assessment (PSA; LMS 2000). This addendum addresses comments made by NYSDEC and the New York State Department of Health (NYSDOH) during the August 8, 2008, meeting with CH2M HILL and documented in an August 11, 2008, e-mail.

Scope of Work

The scope of work below has been designed to accompany the Final SSA Work Plan (CH2M HILL, 2007) in order to complete the Phase III objectives. Two tasks (preliminary bedrock structural geology characterization and septic tank identification) were not part of the original Final SSA Work Plan; however, these tasks were identified after completion of Phase I and II activities. These tasks are necessary collect additional information about the site and the surroundings to assist with decisions regarding appropriate sample locations.

Septic Tank Identification

The septic tank identification task was discussed during the August 8, 2008, meeting with NYSDEC. In order to obtain additional information about the septic tank, CH2M HILL will interview Mr. Edmond Gabriel to assist with septic system construction and associated piping details. If no additional information is available, CH2M HILL will use a magnetometer to attempt to locate the septic tank cover. If the tank cover is located, CH2M HILL will collect a sample of the tank contents. Depending on the depth of the tank and its contents, a sample jar will be lowered into the tank and filled. The sample will be analyzed for target compound list (TCL) volatile organic compounds (VOCs) using U.S. Environmental Protection Agency (USEPA) SW846 Method 8260B; the TCL VOC list includes all targeted site constituents of interest. If access is not available to the septic tank, samples of the tank contents will not be collected.

Preliminary Bedrock Structural Geology Characterization

The preliminary bedrock structural geology characterization task is being undertaken to satisfy the NYSDEC request to install the bedrock wells within the same timeframe as the overburden wells. CH2M HILL will conduct a preliminary characterization of the geological structural geology of the shallow bedrock aquifer at the site. The preliminary characterization will assist in finalizing the specific locations of the proposed bedrock monitoring wells.

The bedrock characterization will consist of the following:

- Reviewing and interpreting available New York State (NYS) Geological Survey structural geology maps
- Conducting a lineament study using one or more sets of available stereoscopic aerial photographs, NYS Geological Survey bedrock geology and structural geology maps, and United State Geological Survey (USGS) topographic quadrangle and regional topographic maps
- Conducting a literature search and document review of available USGS, NYS Geological Survey, appropriate thesis or dissertations for the area, and publications pertaining to the hydrogeology, geology, and structural geology of the site area
- Conducting a field visit to obtain strike and dip field data of bedrock from local outcrops (2-mile area around the site)
- Revisiting water level elevation data for the existing bedrock and overburden monitoring wells
- Conducting telephone conversations with the Rockland County Health Department to determine the location and other available information for water supply wells within 2 miles of the site

CH2M HILL will prepare a technical memorandum summarizing the results of the characterization activities, with final proposed bedrock well locations cited on the site base map.

Confirmation Soil Samples

As stated in the Final SSA Work Plan (CH2M HILL 2007), soil samples will be completed to confirm the results of the membrane interface probe (MIP) investigation. Figure 1 shows the approximate soil boring locations.

Based on the August 8, 2008, meeting and subsequent e-mail on August 11, 2008, a maximum of five soil borings will be installed at the site as follows:

- The MIP locations M-17, M-18, and M-20 provided electron capture detector (ECD) responses during Phase II activities, hence, three soil borings will be installed in the vicinity of these previous MIP locations. The soil borings will be completed to the groundwater table, and up to eight samples for VOCs including the site target constituents of concern will be collected from each soil boring.
- MIP location M-01 provided a saturated ECD response indicating there was a need to collect additional information at this location in the loading dock. In the August 11, 2008, e-mail, NYSDEC requested that two soil borings be installed in the loading dock area; however, the loading dock is a small area for two boring locations. Therefore, in order to meet this NYSDEC request, CH2M HILL will:
  - Install one boring in the location of M-01 of the loading dock.
  - Collect samples approximately every 5 feet to the groundwater. This approach will be based on field observations due to inherent limitations of PID detection of CFCs.
  - Analyze some samples on an expedited turnaround time (48 to 72 hours, depending on laboratory capabilities) from above the groundwater table in order to evaluate CFC levels at depth. According to the MIP results, these samples should be impacted at some level; therefore, sample data from M-01 will be reviewed to determine if these soil samples exceed NYSDEC soil cleanup objectives, and,
  - Evaluate the need to locate an additional soil boring in the loading dock based on review of this data. NYSDEC will be consulted on the results of this data and the path forward in the loading dock area.

Confirmation Soil Samples – Subslab

Based on the meeting with NYSDEC and subsequent e-mail on August 11, 2008, two subslab soil samples will be collected from beneath the Gabriel Manufacturing Co., Inc. warehouse to confirm the subslab vapor results during the Phase II activities. One sample will be collected in the vicinity of subslab vapor sample GAB-V-005, and one sample will be collected near the rear of the warehouse adjacent to the loading dock. Actual sample locations will depend on the location of underground utilities, accessibility, and machinery/equipment used to collect the subslab soil sample. Soil samples will be collected and analyzed for VOCs as specified in Section 4.3.2 of the Final SSA Work Plan (CH2M HILL 2007). Figure 2 shows the approximate locations of the proposed subslab soil sample locations.

Overburden and Bedrock Monitor Well Installation

NYSDEC comments received via e-mail on August 11, 2008, requested that one additional overburden well be installed at the site in the location of the septic field. CH2M HILL reviewed the MIP detector responses based on the NYSDEC request and noticed the following:

- MIP boring locations M-07 and M-08 were installed adjacent to the aboveground tanks at the site, and MIP location M-07 was installed in the proposed location of monitoring well MWT-1. Review of the MIP information down to 8 feet, however, indicates no ECD responses in either sample location M-07 or M-08. These responses appear to indicate that surficial release in this area did not occur.
- Based on the MIP ECD response, the detector responses generated from the septic field MIP work are one to two orders of magnitude greater than ECD responses at MIP locations M-07 and M-08.

Based on this information, CH2M HILL proposes that monitoring well MWT-1 be relocated to the septic field area. Figure 3 indicates MIP locations M-07 and M-08 as well as the newly proposed location for overburden monitor well MWT-1 installation locations.

After completing the geologic survey and an understanding of the bedrock in Stony Point is obtained, the two bedrock monitor wells will be completed as stated in the Final SSA Work Plan (CH2M HILL 2007). Upon completing the geologic survey, CH2M HILL will prepare a figure with proposed monitoring wells and submit it for NYSDEC approval. It is anticipated that the bedrock well installation may be performed during the same mobilization to install the overburden wells.

Groundwater Sampling and Analysis

Prior to collecting groundwater samples, existing overburden monitor wells will be redeveloped. Groundwater samples will be collected from the existing overburden and bedrock wells in addition to the newly installed monitoring wells for analysis stated in Section 4.3.4 of the Final SSA Work Plan (CH2M HILL 2007).

Schedule

CH2M HILL has revised the SSA implementation schedule are as follows:

- Additional Scope Letter/Work Plan to NYSDEC—September 2008
- Approval of Work Plan—October 2008
- Sub-Slab Soil Sampling—November 2008
- Overburden Well Installation—December 2008
- Bedrock Well Installation—December 2008
- Draft Report Preparation (including internal review)—February-April 2009
- Final Report Revision—May/June 2009
- Project Closeout—September 2009

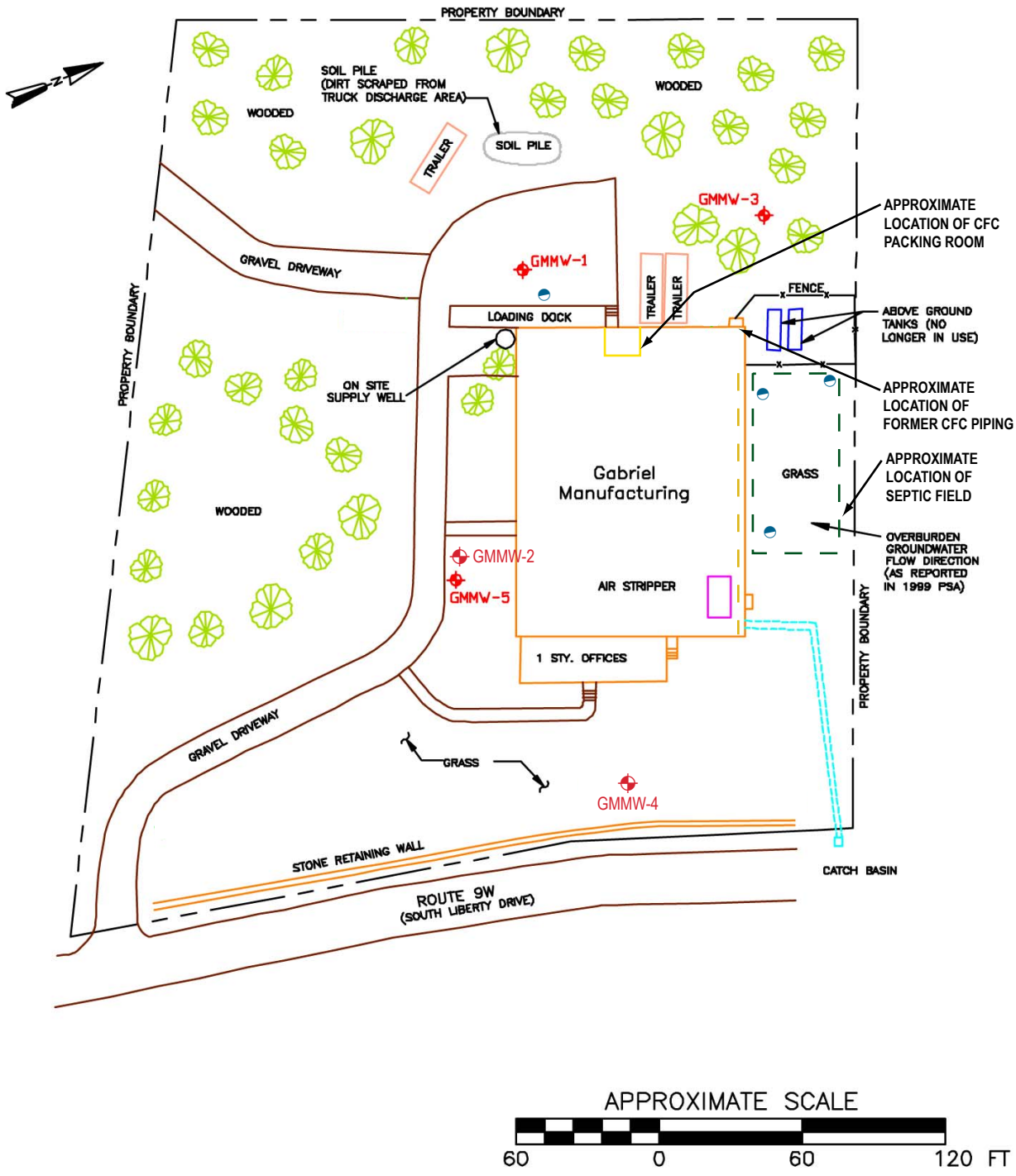
The revised schedule is consistent with the timeframes specified in the Final SSA Work Plan (CH2M HILL 2007) except that the soil sampling and well installation task may add 2 to

3 weeks to the task duration, and the draft report preparation may require 2 weeks to completely acquire, validate, and assess the additional data.

References

CH2M HILL. 2007. Supplemental Site Assessment Work Plan.

Lawler, Matusky & Skelly Engineers LLP, (LMS). 2000. *Preliminary Site Assessment Report, Gabriel Manufacturing Site, Stony Point, New York*, Site No. 3-44-041. Prepared for the NYSDEC Division of Environmental Remediation. July.

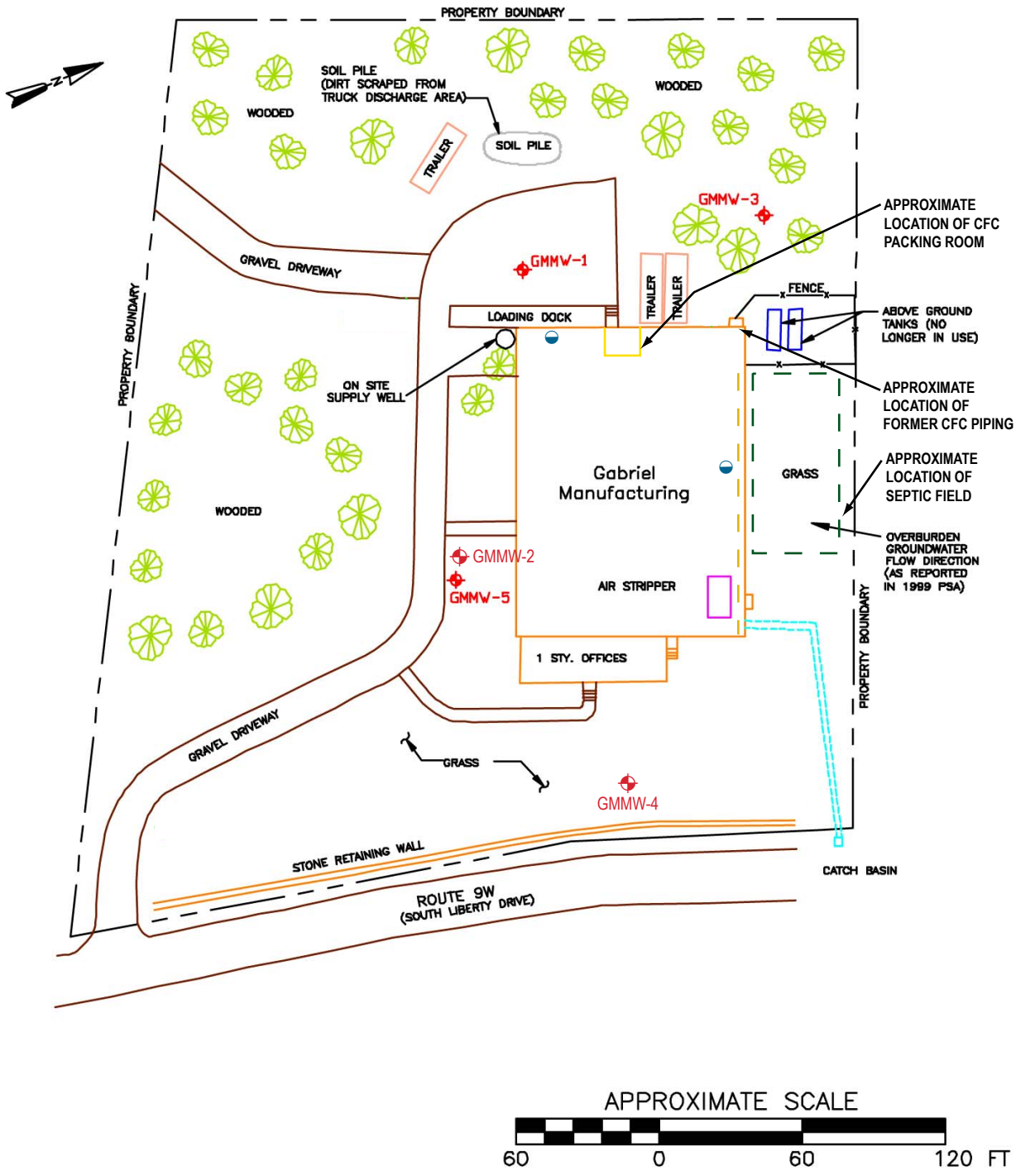


LEGEND

- Existing monitoring well location (Installed 1999 PSA)
- Approximate location of abandoned production water line underneath concrete subslab
- Proposed soil boring location

Figure 1
Soil borings based on MIP Investigation
Supplemental Site Assessment
Gabriel Manufacturing Co. Inc.

Source: Supplemental Site Assessment Work Plan for the Gabriel Site, Stony Point, New York. URS. 2003

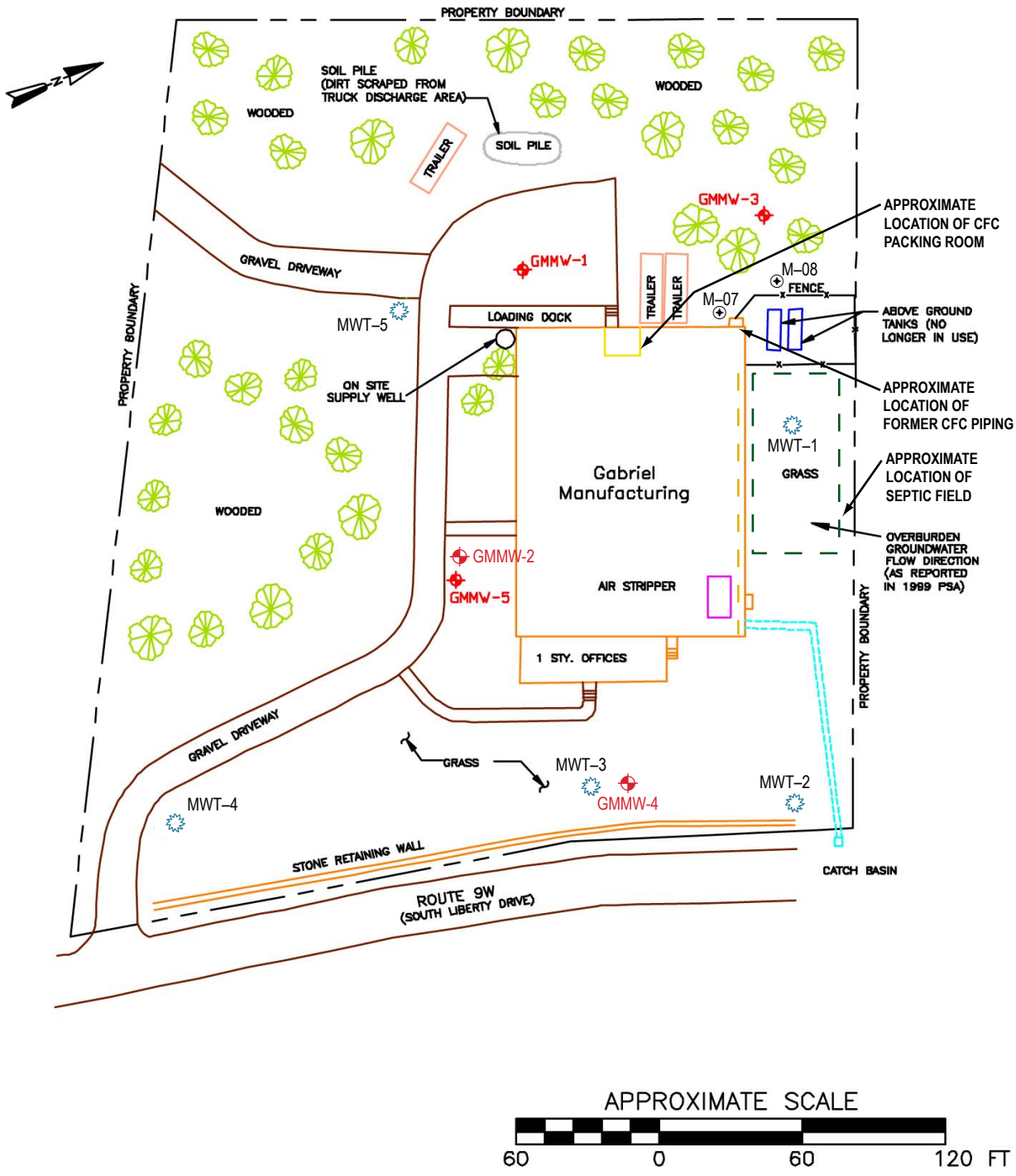


LEGEND

- Existing monitoring well location (Installed 1999 PSA)
- Approximate location of abandoned production water line underneath concrete subslab
- Proposed sub–slab soil sample location

Figure 2
Proposed Sub–Slab Soil Sample Location
Supplemental Site Assessment
Gabriel Manufacturing Co. Inc.

Source: Supplemental Site Assessment Work Plan for the Gabriel Site, Stony Point, New York. URS. 2003



LEGEND

- Existing monitoring well location (Installed 1999 PSA)
- Approximate location of abandoned production water line underneath concrete subslab
- Membrane Interface Probe (MIP) location approximate
- Proposed rotosonic soil borings and associated well location–overburden

Figure 3
Proposed Overburden (Till) Monitor Well Location
Supplemental Site Assessment
Gabriel Manufacturing Co. Inc.

Source: Supplemental Site Assessment Work Plan for the Gabriel Site, Stony Point, New York. URS. 2003