

## **DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION**

### **RCRA Corrective Action**

#### **Environmental Indicator (EI) RCRAInfo Code (CA750)**

#### **Migration of Contaminated Groundwater Under Control**

**Facility Name:** Bombardier Mass Transit (Former Foster Wheeler)  
**Facility Address:** 9431 Foster Wheeler Road, Dansville, New York  
**Facility EPA ID #:** NYD002205599

#### **Definition of Environmental Indicators (for the RCRA Corrective Action)**

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

#### **Definition of "Migration of Contaminated Groundwater Under Control" EI**

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

#### **Relationship of EI to Final Remedies**

While final remedies establish the long-term objective of the RCRA Corrective Action program the EIs are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains only to the physical migration (i.e., further spread) of contaminated groundwater and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

#### **Duration / Applicability of EI Determinations**

EI determinations status codes should remain in the RCRAInfo national database only as long as they remain accurate (i.e., RCRAInfo status codes must be changed when the regulatory authorities become aware of contrary information).



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1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

  X   If yes - check here and continue with #2 below.

       If no - re-evaluate existing data, or

       If data is not available, skip to #8 and enter "IN" (more information needed) status code.

**BACKGROUND**

The former Foster Wheeler Energy Corp. (Foster Wheeler) facility is comprised of five parcels, totaling approximately 80 acres (Figure 1). The site is located at 9431 Foster Wheeler Road, Town of North Dansville, Livingston County, New York 14437. The property consists of multiple buildings and is zoned for commercial and industrial use. Foster Wheeler was a metal fabrication plant where a variety of industrial processes occurred over the years. In 1927, Foster Wheeler began a foundry operation (furnaces, condensers, heat exchangers) with light metal fabrication (boilers, generators) predominating after 1969. Foster Wheeler ceased operations in February 2003. LaBella Associates (LaBella) and Dansville Properties completed a site assessment and performed corrective action at the facility for future operations. The current owner and operator is Bombardier Mass Transit.

Environmental concerns at the site include an inactive landfill and areas where hazardous substances have spilled. The inactive landfill was closed under a 1972 Consent Order. Foster Wheeler entered into a Remedial Investigation/Feasibility Study (RI/FS) Consent Order with the Department in May 1997. RI field work began in July 1997 and was completed in early 1998. Foster Wheeler submitted a draft RI report in April 1998. The final RI report was approved in October 1998. Based on the results of investigation, no remedial action was proposed. The New York State Department of Environmental Conservation (Department) Record of Decision (ROD), dated March 1999 reflects the Remedial Investigation performed at the facility in 1998, by the Department's Division of Environmental Remediation (DER) Inactive Hazardous Waste Site Program.

NYSDOH sampled residential wells north of the plant in August 1990. Results showed elevated concentrations of sodium, iron and manganese. These compounds are likely attributable to naturally occurring geologic deposits. The NYSDOH also conducted private well sampling in 1991, 1992 and 1993. One private well was contaminated with tetrachloroethane, but below the NYS drinking water standard for public water supplies. The owner has since declined any additional sampling. Other private wells sampled by NYSDOH in 1994 and 1996 showed no contamination above drinking water standards. Additional groundwater monitoring was completed in October 1998, after approval of the final RI report. Based on ROD issued in 1999, because of the low frequency of Standards, Criteria and Guidelines exceedences and the natural tendency for most of the constituents to absorb to soil, groundwater is not a media of concern at the site and no remedial action was proposed.

The Department, via DER, requested that RIs be conducted at five potential areas of concern: a soil berm, a former landfill, a former water storage pond and two Super Strypp spill areas. According to the 1999 ROD, due to the low frequency of occurrences and generally low contaminant mobility, the Department determined that site contaminants do not represent a significant threat to the public health or the



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environment. The Foster Wheeler facility was deleted from the NYSDEC Registry of Inactive Hazardous Waste Sites in 1999. No significant threats warranting remedial action remained at the facility.

The former Division of Solid and Hazardous Materials (DSHM) conducted a Preliminary Review/Visual Site Inspection (PR/VSI) on December 22, 2005. The purpose of the PR/VSI was to assess the facility regarding its past status as both a hazardous waste generator and an interim status treatment, storage and disposal facility. It was determined that further sampling was required for two areas of concern to determine if corrective measures were necessary. DSHM required corrective measure activities be performed based on sampling data received May 3, 2006. The sump pump area concrete samples showed low levels of polychlorinated biphenyls (PCBs) and the area was sealed using a concrete sealant to eliminate any potential exposure to PCBs still present. Floor Drain 1 in Tube 2 (Figure 2) showed levels of volatile organic compounds (VOCs) above TAGM 4046. DSHM requested that the floor drains be flushed; the water be captured and sampled at the outlet; soil at the outlet be sampled and the drains be sealed. LaBella Associates submitted a Summary Letter Report describing their efforts and all pertinent data on September 11, 2008. All RCRA closure and corrective action activities required by DSHM were completed as of December 18, 2008, based on review of the Summary Letter. Access to the site is controlled by facility security personnel and limited physical barriers, minimizing potential exposure to non-workers. The site has control of current human exposures.

2. Is **groundwater** known or reasonably suspected to be "**contaminated**"<sup>1</sup> above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

\_\_\_\_\_ If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

  **X**   If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not known or reasonably suspected to be "contaminated."

\_\_\_\_\_ If unknown - skip to #8 and enter "IN" status code.

**Rationale:**

Please see the response to question #1

**References:**

"No Further Action" determination was issued for exterior areas in the 1999 ROD

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<sup>1</sup>"Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

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3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"<sup>2</sup> as defined by the monitoring locations designated at the time of this determination)?

\_\_\_\_\_ If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"<sup>2</sup>).

\_\_\_\_\_ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"<sup>2</sup>) - skip to #8 and enter "NO" status code, after providing an explanation.

\_\_\_\_\_ If unknown - skip to #8 and enter "IN" status code.

**Rationale:**

**References:**

4. Does "contaminated" groundwater **discharge** into **surface water** bodies?

\_\_\_\_\_ If yes - continue after identifying potentially affected surface water bodies.

\_\_\_\_\_ If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

\_\_\_\_\_ If unknown - skip to #8 and enter "IN" status code.

**Rationale:**

**References:**

5. Is the **discharge** of "contaminated" groundwater into surface water likely to be **"insignificant"** (i.e., the maximum concentration<sup>3</sup> of each contaminant discharging into surface water is less than

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<sup>2</sup>"existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

<sup>3</sup>As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.



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10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

\_\_\_\_\_ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration<sup>3</sup> of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

\_\_\_\_\_ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration<sup>3</sup> of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations<sup>3</sup> greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

\_\_\_\_\_ If unknown - enter "IN" status code in #8.

**Rationale:**

**References:**

6. Can the **discharge** of "contaminated" groundwater into surface water be shown to be "**currently acceptable**" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented<sup>4</sup>)?

\_\_\_\_\_ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR  
2) providing or referencing an interim-assessment,<sup>5</sup> appropriate to the potential

<sup>4</sup>Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

<sup>5</sup>The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a

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for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

\_\_\_\_\_ If no - (the discharge of "contaminated" groundwater can not be shown to be "**currently acceptable**") - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

\_\_\_\_\_ If unknown - skip to 8 and enter "IN" status code.

**Rationale:**

**References:**

7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

\_\_\_\_\_ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

\_\_\_\_\_ If no - enter "NO" status code in #8.

\_\_\_\_\_ If unknown - enter "IN" status code in #8.

**Rationale:**

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rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.



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8. Check the appropriate RCRAInfo status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

  X   YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the Bombardier Mass Transit facility, EPA ID NYD002205599, located at 9431 Foster Wheeler Road, Dansville New York. Specifically, this determination indicates that the migration of known or reasonably suspected to be "contaminated" groundwater is under control, and that monitoring will be conducted, as necessary, to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater". This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

       NO - Unacceptable migration of contaminated groundwater is observed or expected.

       IN - More information is needed to make a determination.

Completed by:  Date: 9-29-2010

Name: Jessica LaClair  
Environmental Engineer

Supervisor:  Date: 9-29-2010

Name: Kevin Farrar  
Engineering Geologist 3

Director:  Date: 9-29-2010

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Remedial Bureau D  
Division of Environmental Remediation

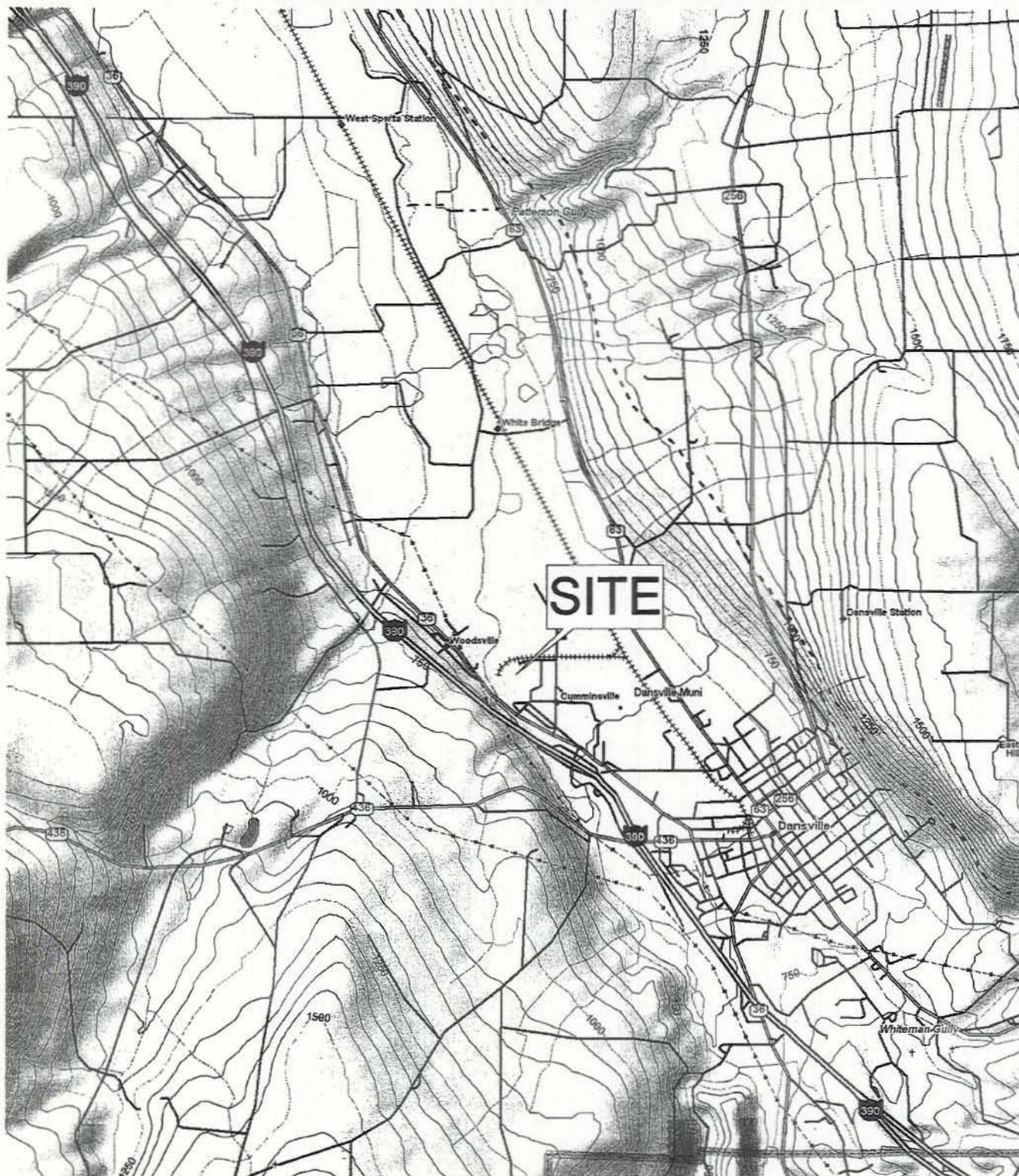
**Locations where References may be found:**

New York State Department of Environmental Conservation  
Division of Environmental Remediation  
625 Broadway 12<sup>th</sup> Floor  
Albany, New York 12233

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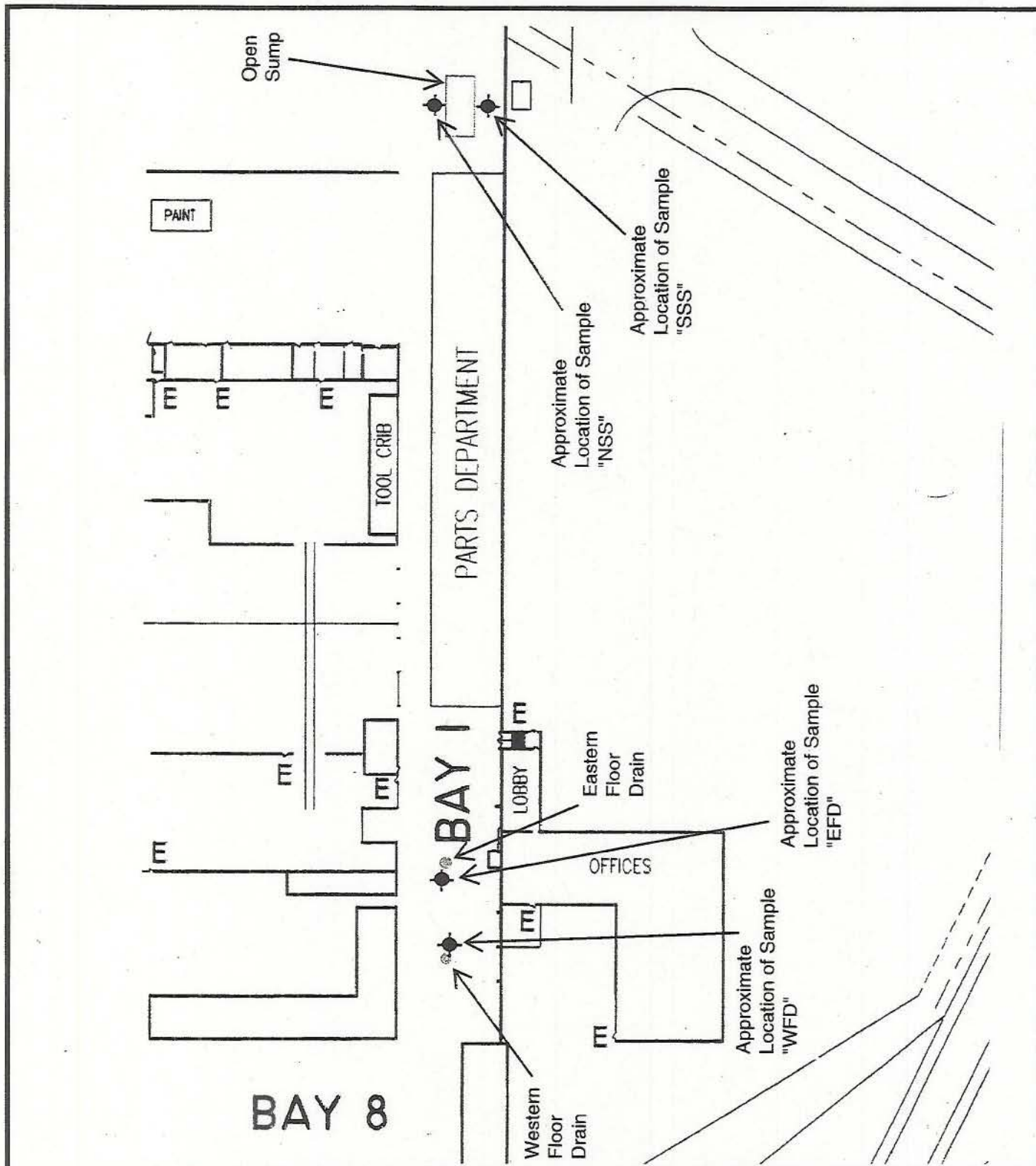
# **FIGURE 1** **SITE LOCATION MAP**

9431 Foster Wheeler Road  
 Town of Dansville, Livingston County, New York

**ABELLA**

PROJECT NO. 206251.01





**FIGURE 2**  
**BORING LOCATION MAP**

9431 Foster Wheeler Road  
Town of Dansville, Livingston County, New York

**ABELLA**

PROJECT NO.  
206251.01

NOT TO SCALE