DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

RCRA Corrective Action
Environmental Indicator (EI) RCRAInfo code (CA725)
Current Human Exposures Under Control

Facility Name: Niagara Mohawk N Albany Svc Ctr
Facility Address: 1125 Broadway, Albany, NY 12204
Facility EPA ID #: NYD000730408

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EIs) 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 EIs 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 "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "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 remain 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 "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

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

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, 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 #6 and enter "IN" (more information needed) status code.

   Background - enter info below

   The North Albany site is a 25 acre parcel located in an urban area of Albany County. It is on the east side of Broadway and to the south of interstate 90. The main site features include several buildings surrounded by paved parking lots and gravel covered storage yards. The site is zoned for commercial use and is currently used as a service center for National Grid. The surrounding parcels are a mix of various commercial uses. A railroad is adjacent to the east. The nearest residential property is roughly 50 yards to the west.

   The site was originally a Manufactured Gas Plant ("MGP") through the 1940's and then was converted as a service center for the local utility. The principal waste material is coal tar, which has escaped from gas holders and tar pits. In 1995, the North Albany Service center obtained a RCRA permit for the site. This permit allowed the site to operate as a TSDF to store Polychlorinated Biphenyls (PCBs). The permit also required corrective action to address contamination associated with the MGP operations. Prior to the issuance of the permit, in 1992, Niagara Mohawk signed a consent order with the New York State Department of Environmental Conservation ("Department") to investigate and remediate the MGP contamination on the North Albany site.

   A remedial investigation discovered coal tar, and its constituent chemicals, various volatile organic compounds and semi-volatile organic compounds present in elevated levels in both the subsurface soil and groundwater. These were found in various areas across the site, but were more prevalent around the areas of the historic MGP structures. The investigation also found the presence of PCBs at elevated levels in the areas where PCB-laden equipment was stored and/or maintained.

   In 2000, the facility performed a closure of the TSDF portion of its operations and the Department accepted its closure without further work required for the areas of PCB storage. In 2006, an interim remedial measure was performed to remove PCB and SVOC contaminated soil in the area immediately south of the former TSDF facility. The remedial work for the MGP contamination on the site is pending as the Department is awaiting a revised feasibility study to examine the various remedial options for the property.

2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to

be **"contaminated"**[1] above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	YES	NO	?	Rationale/Key Contaminants
Groundwater	X			Groundwater samples taken from various wells across the property show levels of benzene, toluene, xylene, ethylbenzene, and naphthalene which are above established groundwater standards
Air (indoors)[2]		X		Indoor air sampling has not indicated the presence of site-related contaminants.
Surface Soil (e.g., <2 ft)		X		Surface soil, contaminated with benzo(a)pyrene, benzo(a)anthracene, and benzo(b) fluoranthene was removed during the IRM in 2006.
Surface Water		X		The nearest surface water body is well outside the established extent of site-related contamination.
Sediment		X		The nearest surface water body is well outside the established extent of site-related contamination.
Subsurface Soil (e.g., >2 ft)	X			Soil samples taken from depths as deep as 30' feet below grade were contaminated with benzene, toluene, ethylbenzene, xylene, naphthalene, phenathrene, benzo(a)pyrene, benzo(a)anthracene, and benzo(b)fluoranthene.
Air (outdoors)		X		Outdoor air sampling did not indicate the presence of site-related contaminants.

____ If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

__X__ If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and

[1] "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 appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

[2] Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggests that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

referencing supporting documentation.

_____ If unknown (for any media) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

Groundwater and subsurface soil was found to be contaminated with site-related contaminants. The areas of contamination were associated with the historic MGP facilities and were found downgradient of those. MGP tars were found in the subsurface and would seem to be acting as a source material for the subsurface soil and groundwater contamination.

Surface soil is generally not present on the site, with most of the areas covered by buildings, concrete, or asphalt. However, in the southern section of the site, surface soil samples collected from a gravel-covered area found elevated levels of both PCBs and SVOCs. This area of contamination was addressed in 2006 through a shallow-removal and off-site disposal IRM.

As part of a soil vapor intrusion investigation, soil vapor, indoor air, and ambient (outside) air was sampled in 2008 and 2009. This sampling showed no site related contaminants in indoor air or outdoor air.

Surface water and sediment were not sampled as the nearest surface water and sedimentary deposits were roughly 0.5 mile from the farthest extent of contamination.

"*MGP/RCRA Investigation Report*," Blasland, Bouck, & Lee, Inc., November 1997

"*TSDF Closure Certification Report,*" Blasland, Bouck, & Lee, Inc, December 2000

"*Yard Storage Area Interim Remedial Measure Summary Report,*" Blasland, Bouck, & Lee, Inc, November 2007

"*Vapor Intrusion Investigation Report*," Arcadis, January 2010

3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

	Potential **Human Receptors** (Under Current Conditions)						
"Contaminated" Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food[3]
Groundwater	NO	NO	NO	NO	---	---	NO
~~Air (indoors)~~	~~NO~~	~~NO~~	~~NO~~	~~NO~~	~~—~~	~~—~~	~~NO~~
~~Soil (surface, e.g., <2 ft)~~	~~NO~~	~~NO~~	~~NO~~	~~NO~~	~~NO~~	~~NO~~	~~NO~~
~~Surface Water~~	~~NO~~	~~NO~~	~~—~~	~~—~~	~~NO~~	~~NO~~	~~NO~~
~~Sediment~~	~~NO~~	~~NO~~	~~—~~	~~—~~	~~NO~~	~~NO~~	~~NO~~

[3] Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

Soil (subsurface e.g., >2 ft)	---	---	---	YES	---	---	NO
~~Air (outdoors)~~	~~NO~~	~~NO~~	~~NO~~	~~NO~~	~~NO~~	—	—

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated" as identified in #2 above.
2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("_---_"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

_____ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

__X__ If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.

_____ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code

Rationale and Reference(s):

The only remaining contamination at the site is in the subsurface soil and the groundwater. Groundwater is roughly 10 feet below grade, well below the depth at which a utility worker would be working and all area properties are supplied with municipal water. As such there are no reasonably expected exposures to contaminated groundwater. Shallower subsurface soil contamination does exist on the site and it is reasonably expected that utility crews or construction workers on the site could be exposed to contamination if subsurface work was being performed.

"*MGP/RCRA Investigation Report*," Blasland, Bouck, & Lee, Inc., November 1997

"*TSDF Closure Certification Report,*" Blasland, Bouck, & Lee, Inc, December 2000

"*Yard Storage Area Interim Remedial Measure Summary Report,*" Blasland, Bouck, & Lee, Inc, November 2007

"*Vapor Intrusion Investigation Report*," Arcadis, January 2010

4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to

be **"significant"**[4] (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

__X__ If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

____ If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

____ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

Rationale and Reference(s):

The site is an active electric and gas utility service center. It has tightly controlled security and established safety rules for all employees on the site. As such, prior to any excavation work occurring on the site, the utility notifies the Department of the planned work and a health and safety plan is implemented. This plan includes additional investigation of the area of planned work as well as pre-clearing activities to remove contaminated subsurface soils from the area where the planned work will occur. This, along with personal monitoring of the work, prevents exposures from being "significant."

5. Can the "significant" **exposures** (identified in #4) be shown to be within **acceptable** limits?

__X__ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

____ If no (there are current exposures that can be reasonably expected to be "unacceptable")- continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

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[4] If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

_____ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

Rationale and Reference(s):

Type Here

6. Check the appropriate RCRA Info status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

__X__ YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the **Niagara Mohawk N Albany Svc Ctr, EPA ID # NYD000730408, located at 1125 Broadway, Albany, NY 12204** under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

_____ NO - "Current Human Exposures" are NOT "Under Control."

_____ IN - More information is needed to make a determination.

Completed by: _____ Date: 4-16-2012
Douglas MacNeal, P.E.
Environmental Engineer 2

Supervisor: _____ Date: 4-16-2012
Gardiner Cross
Environmental Geologist 3

Director: _____ Date: 4-17-2012
Michael Ryan - Director
Remedial Bureau C
Division of Environmental Remediation

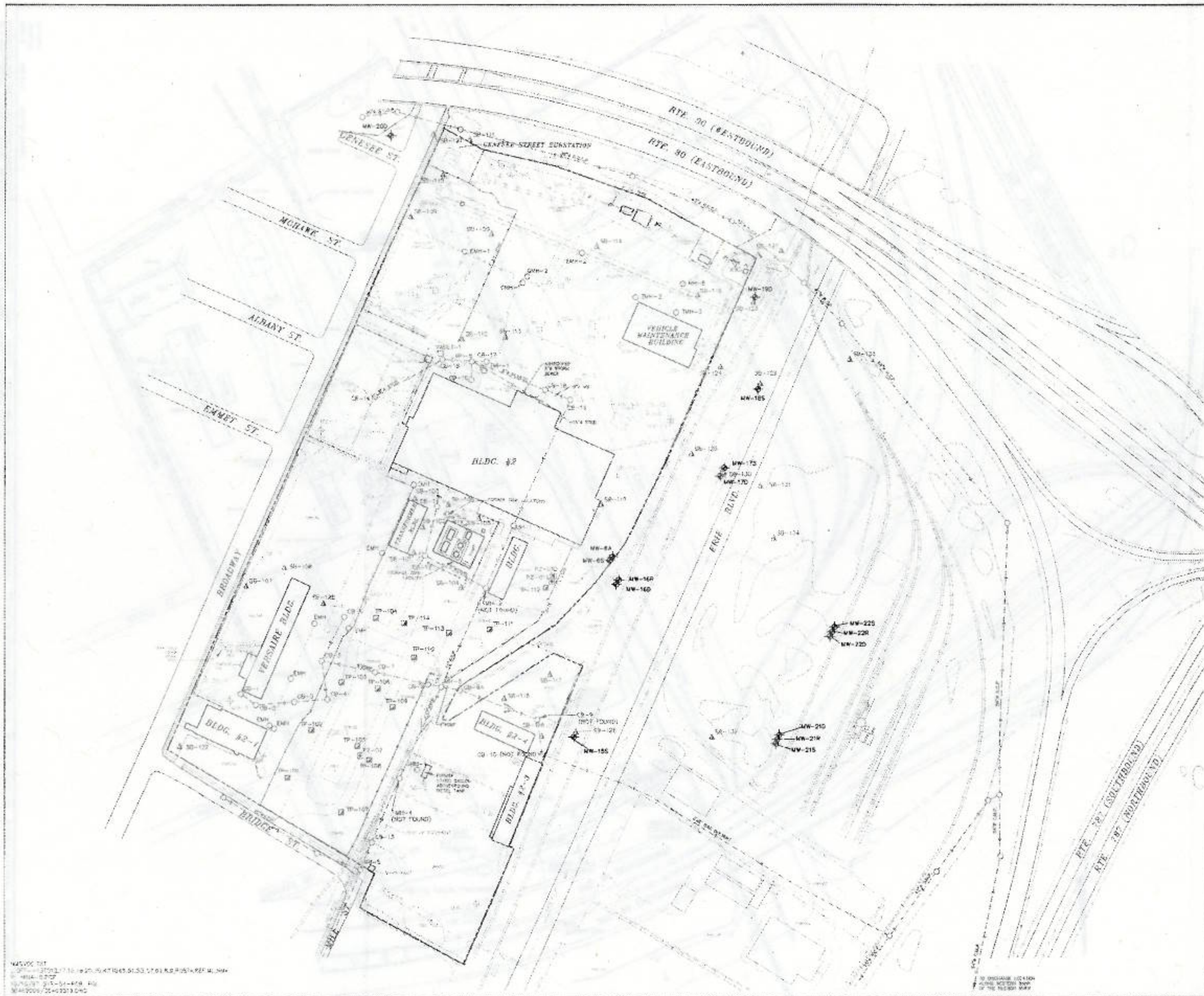
Locations where References may be found:

New York State Department of Environmental Conservation, Central Office
Division of Environmental Remediation
625 Broadway 11th Floor
Albany, New York 12233-7014

Contact telephone and e-mail numbers:

Douglas MacNeal
(518) 402-9564
dkmacnea@gw.dec.state.ny.us

FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.



LEGEND

- FENCE
- EXISTING RAILROAD
- APPROXIMATE PROPERTY LINE
- MW-155 MGP/RCRA GROUND-WATER MONITORING WELL LOCATION
- SB-170 MGP/RCRA SOIL BORING LOCATION
- TP-105 MGP/RCRA TEST PIT LOCATION
- PZ-01 MGP/RCRA PIEZOMETER
- PSA/IRM GROUND-WATER MONITORING WELL LOCATION
- PSA/IRM SOIL BORING LOCATION
- PSA/IRM TEST PIT LOCATION
- CB-2 EXISTING CATCH BASIN
- SMH-1 EXISTING STORM SEWER MANHOLE
- EMH-1 EXISTING ELECTRICAL MANHOLE
- TMH-1 EXISTING TELEPHONE MANHOLE
- GMH-1 EXISTING UTILITY MANHOLE
- STORM SEWER
- SANITARY SEWER
- TELEPHONE LINE
- ELECTRICAL LINE
- GAS LINE
- WATER LINE
- CABLE LINE
- GUARD RAIL

GENERAL NOTES:

1. BASE MAP (INCLUDING BUILDING LOCATIONS AND PSA/IRM SAMPLING LOCATIONS) DEVELOPED FROM ELECTRONIC FILE OF NIAGARA MOHAWK POWER CORPORATION (NMPC) DRAWING NO. D-26236-C, DATED JULY 1994, ENTITLED NORTH ALBANY SERVICE CENTER HAZARDOUS WASTE MANAGEMENT PERMIT APPLICATION, TOPOGRAPHIC MAP – INDEX SHEET.
2. LOCATIONS OF UNDERGROUND UTILITIES (INCLUDING ON-SITE STORM SEWERS, SANITARY SEWERS, TELEPHONE LINES, ELECTRICAL LINES, GAS LINES, WATER LINES, AND CABLE) WERE DIGITIZED FROM NMPC DRAWING NO. D-29734-E, FILE INDEX NO. 20.3-A11-B2, DATED JUNE 27, 1994, ENTITLED NORTH ALBANY SERVICE CENTER SITE PLAN – PAVING (OUTSIDE FENCE).
3. MGP/RCRA INVESTIGATION SAMPLING LOCATIONS AND LOCATIONS OF MANHOLES AND CATCH BASINS WERE OBTAINED FROM A SURVEY CONDUCTED BY NMPC DURING JULY/AUGUST 1997 WITH THE FOLLOWING EXCEPTIONS: SB-116 AND SB-117, WHICH ARE APPROXIMATE LOCATIONS.
4. LOCATIONS OF OFF-SITE STORM AND SANITARY SEWERS WERE DIGITIZED FROM CITY OF ALBANY DRAWINGS AND ARE APPROXIMATE.

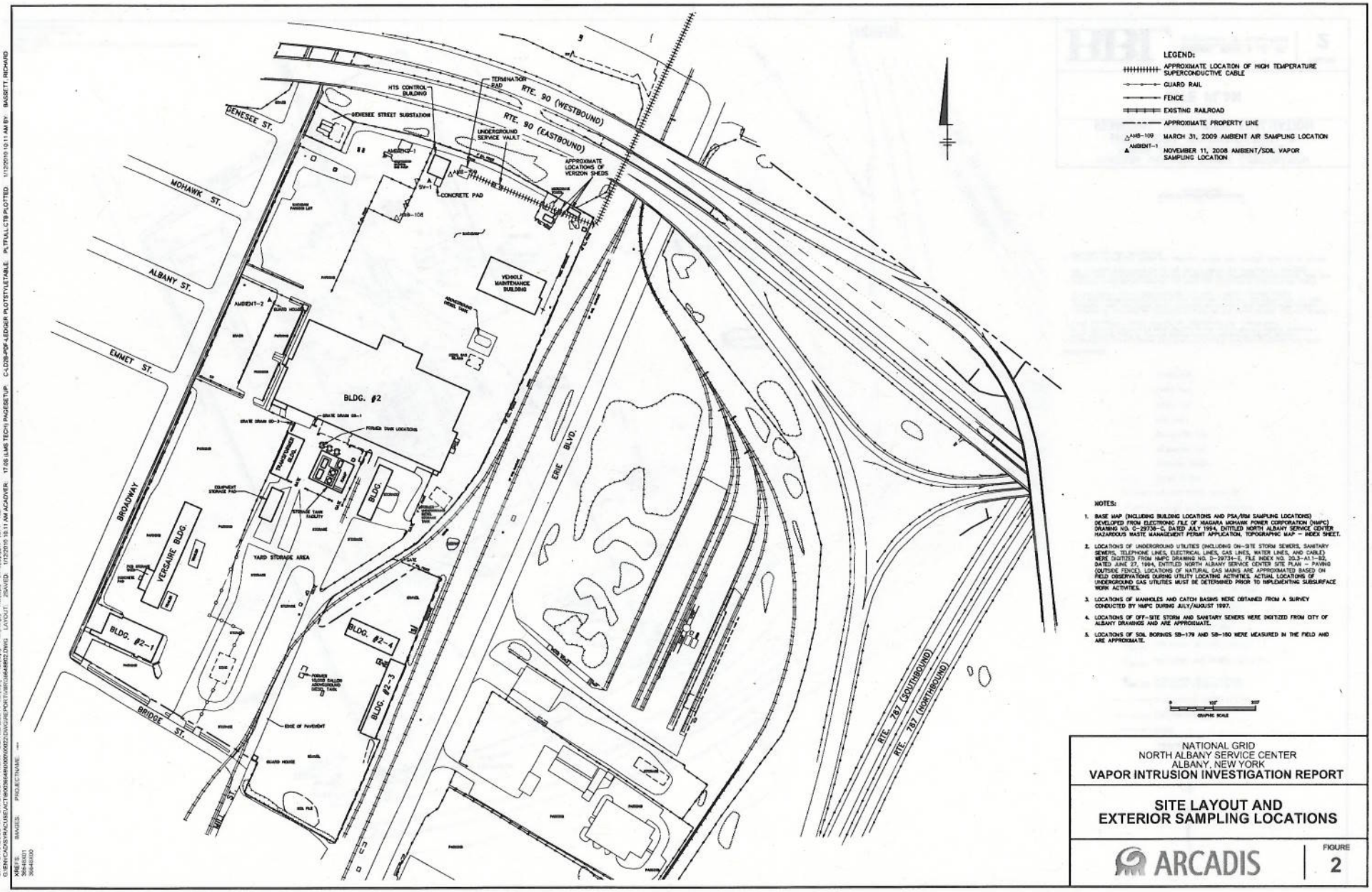
APPROXIMATE SCALE

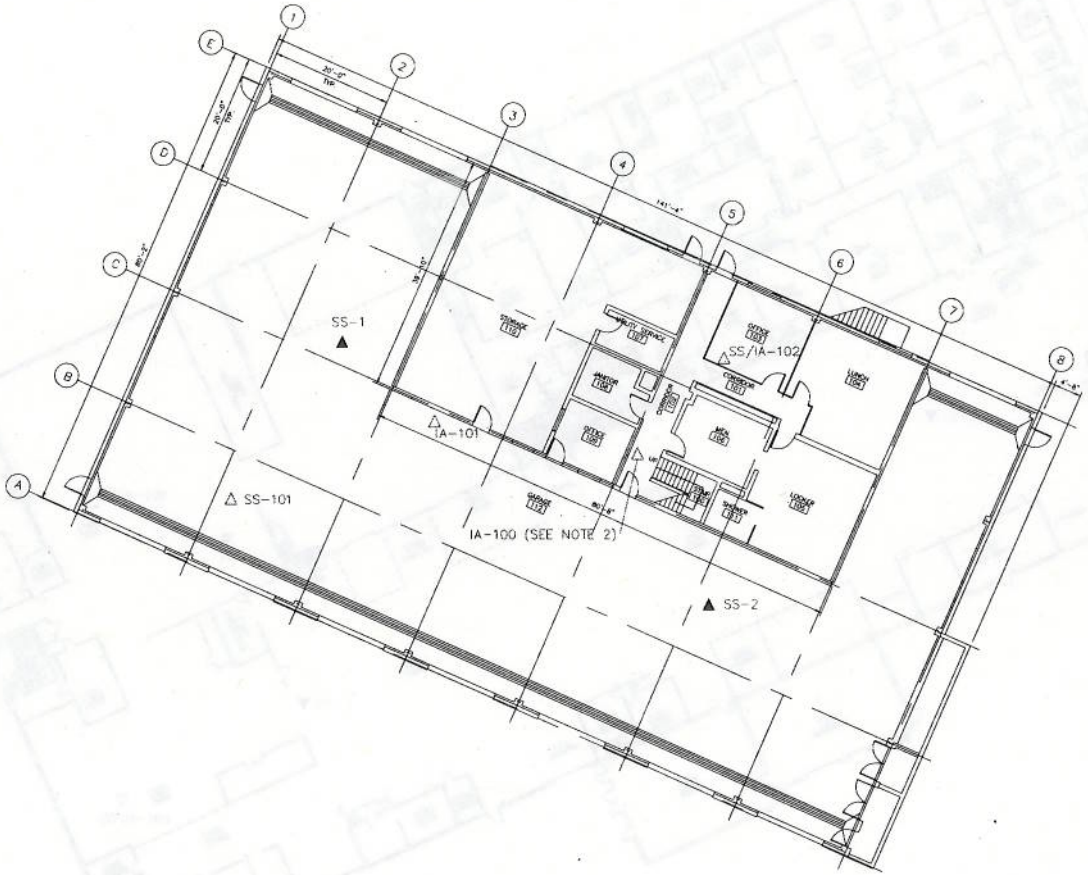
NIAGARA MOHAWK POWER CORPORATION
NORTH ALBANY SERVICE CENTER
MGP/RCRA INVESTIGATION &
REMEDIAL MEASURES EVALUATION

SITE PLAN

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 2


LEGEND:
APPROXIMATE LOCATION OF HIGH TEMPERATURE SUPERCONDUCTIVE CABLE
GUARD RAIL
FENCE
EXISTING RAILROAD
APPROXIMATE PROPERTY LINE
AMB-109 MARCH 31, 2009 AMBIENT AIR SAMPLING LOCATION
AMBIENT-1 NOVEMBER 11, 2008 AMBIENT/SOIL VAPOR SAMPLING LOCATION
NOTES:
1. BASE MAP (INCLUDING BUILDING LOCATIONS AND PSA/RIM SAMPLING LOCATIONS) DEVELOPED FROM ELECTRONIC FILE OF NIAGARA MOHAWK POWER CORPORATION (NMPC) DRAWING NO. C-29736-C, DATED JULY 1994, ENTITLED NORTH ALBANY SERVICE CENTER HAZARDOUS WASTE MANAGEMENT PERMIT APPLICATION, TOPOGRAPHIC MAP – INDEX SHEET.
2. LOCATIONS OF UNDERGROUND UTILITIES (INCLUDING ON-SITE STORM SEWERS, SANITARY SEWERS, TELEPHONE LINES, ELECTRICAL LINES, GAS LINES, WATER LINES, AND CABLE) WERE DIGITIZED FROM NMPC DRAWING NO. D-29734-E, FILE INDEX NO. 20.3-A1.1-B2, DATED JUNE 27, 1994, ENTITLED NORTH ALBANY SERVICE CENTER SITE PLAN – PAVING (OUTSIDE FENCE). LOCATIONS OF NATURAL GAS MAINS ARE APPROXIMATED BASED ON FIELD OBSERVATIONS DURING UTILITY LOCATING ACTIVITIES. ACTUAL LOCATIONS OF UNDERGROUND GAS UTILITIES MUST BE DETERMINED PRIOR TO IMPLEMENTING SUBSURFACE WORK ACTIVITIES.
3. LOCATIONS OF MANHOLES AND CATCH BASINS WERE OBTAINED FROM A SURVEY CONDUCTED BY NMPC DURING JULY/AUGUST 1997.
4. LOCATIONS OF OFF-SITE STORM AND SANITARY SEWERS WERE DIGITIZED FROM CITY OF ALBANY DRAWINGS AND ARE APPROXIMATE.
5. LOCATIONS OF SOIL BORINGS SB-179 AND SB-180 WERE MEASURED IN THE FIELD AND ARE APPROXIMATE.
0 100' 200'
GRAPHIC SCALE
NATIONAL GRID
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK
VAPOR INTRUSION INVESTIGATION REPORT
SITE LAYOUT AND EXTERIOR SAMPLING LOCATIONS
ARCADIS
FIGURE 2



LEGEND:

△SS/IA-101 MARCH 31, 2009 SUB-SLAB/ INDOOR AIR SAMPLING LOCATION

▲ SS-1 NOVEMBER 11, 2008 SUB-SLAB SAMPLING LOCATION

NOTES:

1. BUILDING LAYOUT FROM ELECTRONIC FILE PROVIDED BY NATIONAL GRID'S FACILITY ENGINEERING DEPARTMENT.
2. IA-100 WAS COLLECTED IN A 2ND FLOOR OFFICE.

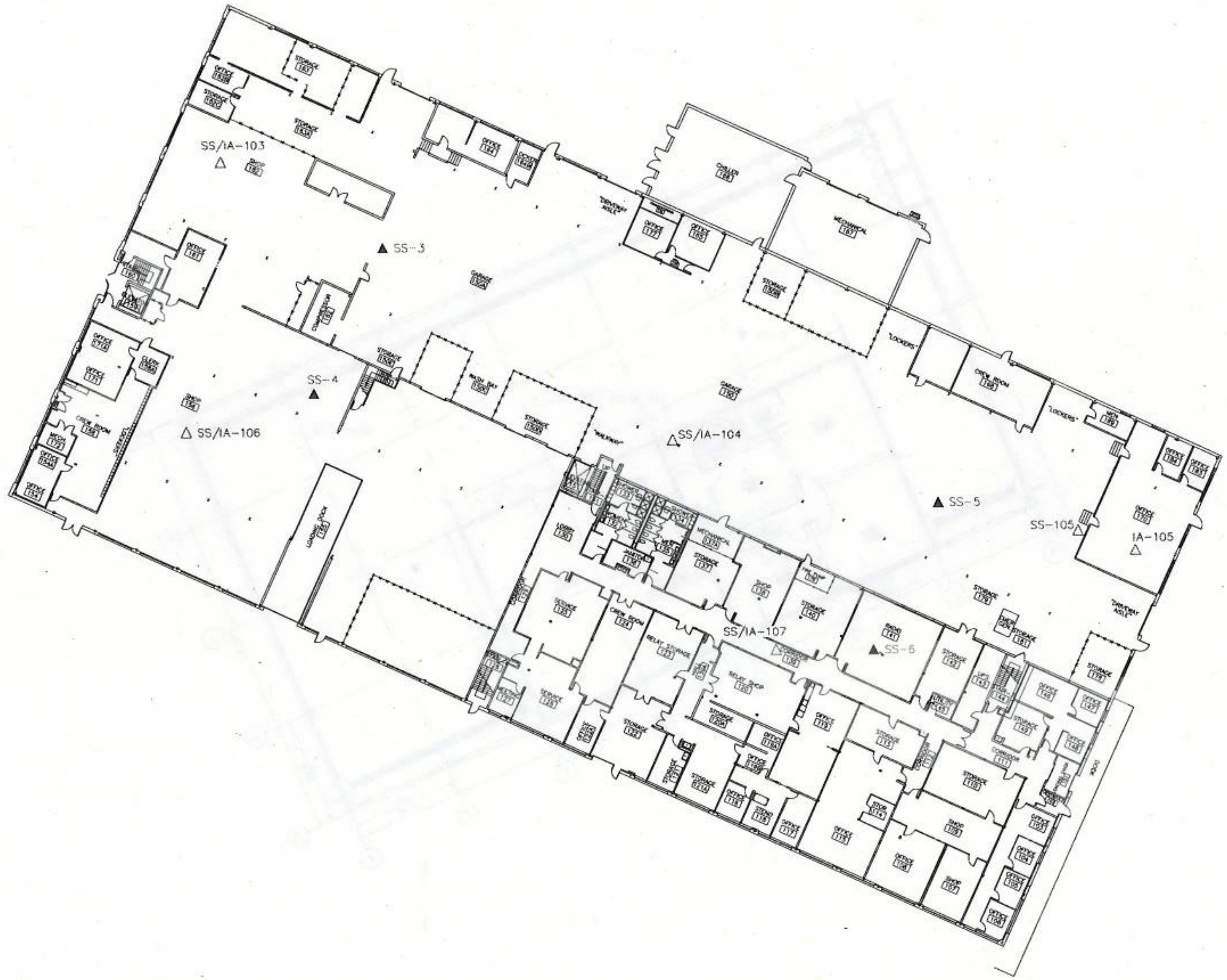
0 10' 20'
GRAPHIC SCALE

NATIONAL GRID
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK
VAPOR INTRUSION INVESTIGATION REPORT

SUB-SLAB AND INDOOR AIR SAMPLING LOCATIONS FOR VEHICLE MAINTENANCE BUILDING

ARCADIS

FIGURE 3



LEGEND:

△ SS/IA-105 — MARCH 31, 2009 SUB-SLAB INDOOR AIR SAMPLING LOCATION

▲ SS-5 — NOVEMBER 11, 2008 SUB-SLAB SAMPLING LOCATION

NOTE:

1. BUILDING LAYOUT FROM ELECTRONIC FILE PROVIDED BY NATIONAL GRID'S FACILITY ENGINEERING DEPARTMENT.

0 20' 40'
GRAPHIC SCALE

NATIONAL GRID
NORTH ALBANY SERVICE CENTER
ALBANY, NEW YORK
VAPOR INTRUSION INVESTIGATION REPORT

SUB SLAB AND INDOOR AIR SAMPLING LOCATIONS FOR BUILDING 2

ARCADIS

FIGURE
4