NEW YORK STATE | Department of Environmental Conservation

March 2018

FACT SHEET

State Superfund Program

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Site Name: Morse Industrial Corporation
DEC Site #: 755010 Operable Unit 02 *
Address: NYS Route 96B
Ithaca, NY 14850

Have questions? See "Who to Contact" Below

Investigation Completed at State Superfund Site; Results Will Help to Evaluate Ways to Address Contamination

An investigation has been completed for the Morse Industrial Corporation site ("site") located at NYS Route 96B, Ithaca, Tompkins County. Please see the map for the site location (Figure 1). Documents related to the cleanup of this site can be found at the location(s) identified below under "Where to Find Information." The investigation was conducted by Emerson Electric Co. (Emerson) with oversight provided by New York State Department of Environmental Conservation (NYSDEC).

The site is listed as a Class "2" site in the State Registry of Inactive Hazardous Waste Disposal Sites (list of State Superfund sites). A Class 2 site represents a significant threat to public health or the environment; action is required.

Additional site details, including environmental and health assessment summaries, are available on NYSDEC's website at:

http://www.dec.ny.gov/cfmx/extapps/derexternal/haz/details.cfm?pageid=3&progno={ProgNo}

NYSDEC has approved a report, called a "Phase II Supplemental Remedial Investigation Report," that describes the results of the site investigation and recommends development of a remedy to address the contamination that was found.

Highlights of the Remedial Investigation Report

A Phase II Supplemental Remedial Investigation was completed in 2016 to collect additional soil, sediment, stormwater and groundwater data to support the completion of a feasibility study for the 60-acre former manufacturing complex referred to as Operable Unit 2 (OU2). Based on the investigations conducted to date within OU2, the primary contaminants of concern include chlorinated volatile organic compounds (CVOCs), including trichloroethene (TCE), tetrachloroethene (PCE), cis-1,2-dichloroethene (DCE), and vinyl chloride; petroleum hydrocarbons; polycyclic aromatic hydrocarbons (PAHs); and RCRA metals, including barium; and cyanide.

Soil:
The soil investigations in OU2 were focused on 11 Areas of Concern (AOCs) at the site, designated as AOC 1 and AOCs 26 through 35 (see Figure 2). AOC 35 consists of 13 distinct locations, labeled 35A through 35M, as shown on Figure 2. Based on the current redevelopment plans for the site which is comprised of mixed uses, soil sample results for AOC 30 (Rice Paddy Area) were compared to industrial use Soil Cleanup Objectives (SCOs). Soil sample results in AOC 28 (Former Oil Shed Area) and AOC 29 (Former Propane Above-Ground Storage Tank Area) were compared to commercial use SCOs; and the remaining 8 AOCs (1, 26, 27, 31, 32, 33, 34, and 35) were compared to restricted residential use SCOs.

**Operable Unit:* An administrative term used to identify a portion of a site that can be addressed by a distinct investigation and/or cleanup approach. An operable unit can receive specific investigation, and a particular remedy may be proposed.

Each of the AOCs was further investigated and data compared to relevant SCOs. Findings support the need for remedial action in 16 AOCs (this includes seven of the AOC 35 distinct areas). No further action was warranted in AOC 33 or in six of the AOC 35 distinct areas. Table 1 provides a summary of the soil AOCs that will be carried forward to the next step.

Groundwater:
Groundwater contaminant levels exceed the NYSDEC groundwater standards (Class GA) standards for CVOCs, specifically TCE, cis-1,2-dichloroethene (DCE), vinyl chloride, and 1,1,1-trichloroethane (TCA); and for metals, specifically barium and cyanide.

CVOCs were detected above groundwater standards primarily in the following areas; AOC 1, AOC 26, AOC 28, and downgradient of AOC 35C below Building 2. Additionally, an isolated area of TCA-impacted groundwater was identified below Building 5. The maximum concentrations of CVOCs were detected in exterior wells within the AOC-1 area. DCE and vinyl chloride were detected up to 19,700 parts per billion (ppb) and 2,040 ppb, respectively, in these wells as compared to their groundwater standards of 5 and 2 ppb. TCA and its breakdown product 1,1-dichloroethane, were detected at a maximum total concentration of 4,780 ppb. Total CVOCs in the other three areas were generally less than 3,000 ppb. See Table 1 for a summary of findings by AOC.

Barium was detected above the groundwater standard of 1000 ppb in several areas, including below and downgradient of AOC 27, upgradient and below Building 2, below Building 24 in AOC 26, and in one well located between Building 3 and the Former Fire Water Reservoir. Cyanide was detected above groundwater standards in AOC 27 and in the southwestern portion of the site (AOCs 28 and 30). Based on the concentrations detected and the distribution of barium and cyanide in groundwater, the primary source area is within the bedrock in the immediate vicinity and downgradient of AOC 27. Barium and cyanide were detected up to 6.5 and 42 times the standard, respectively, in this area.

Vinyl chloride and lead were detected slightly above the NYS groundwater standards in a discharge pipe west of Building 18, and TCE was detected above the groundwater standard in a pipe discharging from Building 24 in AOC 26. Discharge from this pipe is currently being treated using activated carbon.

A historical abandoned well (HISTWELL-1) was discovered during construction activities associated with an upgrade to the existing groundwater treatment system in OU1. The well depth was measured to be approximately 142 feet deep and contained an approximate 7-foot layer of viscous light non-aqueous phase liquid (LNAPL). A fingerprint analysis of the LNAPL indicated a petroleum compound consistent with motor oil at a concentration of 560,000 ppm (56%). Elevated levels of PAHs and site-related CVOCs were also detected in the LNAPL.

Sanitary Sewers:
Samples of water and residuals, where present, were collected from the majority of sanitary sewer manholes/manways and trench drains originating from below plant Buildings 13, 14, 15, 34, 35 and 6A. Most were found to contain metals and cyanide. Elevated concentrations of barium and cadmium were detected in residuals from two sanitary sewer lines proximate to Buildings 14 and 15. The concentrations of metals detected in the aqueous samples were all below the sanitary sewer discharge limits.

Soil Vapor:
Soil vapor intrusion testing was not conducted as part of this investigation, however results from previous sampling events showed TCE, DCE and/or 1,1,1-trichloroethane in indoor air at concentrations greater than the NY State Department of Health indoor air guidelines in many of the plant buildings. This information, combined with presence of CVOCs in soil and groundwater beneath on-site buildings, indicate that soil vapor intrusion is occurring or has the potential to occur.

The site buildings are currently unoccupied and potential exposure issues due to vapor intrusion in the South Hill neighborhood to the north have been mitigated by Emerson under a Record of Decision issued by NYSDEC in 2010. There are no other site-related exposure issues to surrounding properties.

Next Steps

A Feasibility Study will be conducted based on information obtained during the investigation to achieve the following:
1) define the objectives of the site cleanup program;
2) develop cleanup alternatives; and
3) screen and analyze the alternatives.

NYSDEC will then develop a draft cleanup plan, called a "Proposed Remedial Action Plan." This plan describes the remedy preferred by NYSDEC to address contamination related to the site. The draft cleanup plan will explain the decision that led to the preferred remedy by discussing each alternative and the reasons for choosing or rejecting it. The goal of the plan will be to ensure the protection of public health and the environment. NYSDEC will announce the draft cleanup plan in a future fact sheet and present it to the public for its review and comment during a 30-day comment period and at a public meeting.

NYSDEC will keep the public informed throughout the investigation and cleanup of the site.

Site Description

Location: The Morse Industrial Corporation site is located at 620 South Aurora Street along the west side of South Aurora Street/Danby Road (Route 96B) in the South Hill portion of the Town of Ithaca, Tompkins County, New York. The northern one third of the site (29 acres) resides in the City of Ithaca, with the remaining portion (67 acres) residing in the Town of Ithaca. The site's surface elevation ranges from 450 to 720 feet above mean sea level (amsl), resulting in a very hilly topography, with the plant buildings situated at the top of the hillside. The site is bounded by Aurora Street to the east; undeveloped, steep woodlands to the south and southwest; and residential neighborhoods to the north and northwest.
An approximate 60-acre former manufacturing plant complex is located on the northern half of the site. This area is referred to as Operable Unit 02 Former Manufacturing Complex (OU2). The former Fire Water Reservoir located immediately west of the main plant is designated as Operable Unit 01 (OU1); and the surrounding South Hill neighborhood to the north is designated as Operable Unit 03 (OU3).

Site Features: The main plant building consists of series of interconnected buildings constructed on manmade terraces along the bedrock slope. There is one free-standing building (Building 24) located immediately to the north of the main building, and a small oil shed located immediately to the south of the main building. The buildings are flanked by a series of access roads and parking lots that terrace the hillside above the plant to the east. The entire southern portion of the site is wooded and undisturbed. There is a former rail spur and two drainage ditches that run north-south along the western side of the site.

Current Zoning/Use: The site is currently zoned predominantly industrial by both the City and the Town of Ithaca. Land uses surrounding the site are predominantly residential to the north and northwest, commercial to the west and south, and a mix of residential and commercial to the east. South Hill Elementary School and the Ithaca College campus are located approximately 500 feet northeast and a half-mile east of the site, respectively. The South Hill Business Campus is located adjacent to the site to the south.

Geology and Hydrogeology: The site buildings were constructed on partially excavated and back-filled terraces along the bedrock slope above Cayuga Valley. Underlying the site is a thin, discontinuous layer of glacial till and manmade fill. The soil consists of silty or clayey gravel and ranges in depth from 2.3 to 33 feet. Overburden is thickest to the west, behind the retaining walls and is comprised primarily of fill. North of the plant, the topography drops off at a 40% grade (approximately 80 feet) to a residential area.

The residential structures are generally terraced into the steep hillside. Bedrock beneath the overburden can be classified into three zones; the upper weathered B-zone ranging from 8 to 10 feet in thickness, the transitional C-zone extending up to 55 feet below the B-zone, and the D-zone extending to a minimum depth of 145 feet below ground surface. The shallowest bedrock (less than 1 foot below ground surface) is encountered on the undeveloped hillsides and below the plant buildings and roadways. Groundwater flow direction within the overburden and underlying B-zone generally mimics surface topography, which slopes to the northwest.

State Superfund Program: New York's State Superfund Program (SSF) identifies and characterizes suspected inactive hazardous waste disposal sites. Sites that pose a significant threat to public health and/or the environment go through a process of investigation, evaluation, cleanup and monitoring.

NYSDEC attempts to identify parties responsible for site contamination and require cleanup before committing State funds.

For more information about the SSF, visit: http://www.dec.ny.gov/chemical/8439.html

FOR MORE INFORMATION

Where to Find Information:
Project documents are available at the following location(s) to help the public stay informed.

Tompkins County Public Library
101 East Green Street
Ithaca, NY 14850
phone: (607) 272-4557

NYSDEC Region 7
Attn: Karen Cahill
615 Erie Blvd West
Syracuse, NY 13204
phone: (315) 426-7551

Who to Contact:
Comments and questions are always welcome and should be directed as follows:

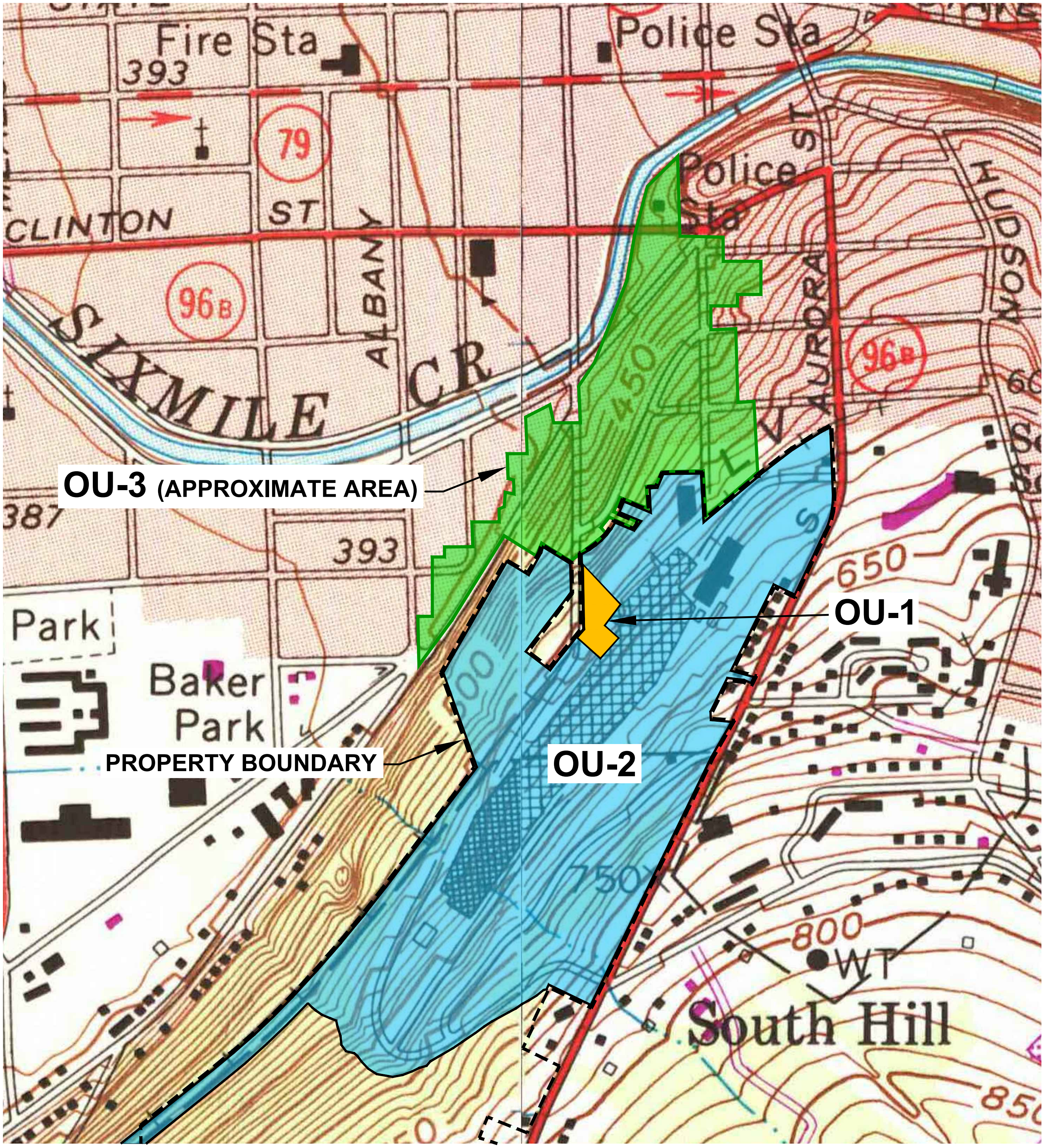
Project Related Questions
Karen Cahill
Department of Environmental Conservation
Division of Environmental Remediation
615 Erie Blvd W
Syracuse, NY 13204
(315) 426-7551
karen.cahill@dec.ny.gov

Site-Related Health Questions
Steve Karpinski
New York State Department of Health
Empire State Plaza Corning Tower, Room 1787
Albany, NY
(518) 402-7860
BEEI@health.ny.gov

We encourage you to share this fact sheet with neighbors and tenants, and/or post this fact sheet in a prominent area of your building for others to see.

Receive Site Fact Sheets by Email
Have site information such as this fact sheet sent right to your email inbox. NYSDEC invites you to sign up with one or more contaminated sites county email listservs available at the following web page: http://www.dec.ny.gov/chemical/61092.html. It's quick, it's free, and it will help keep you *better informed*.

As a listserv member, you will periodically receive site-related information/announcements for all contaminated sites in the county(ies) you select.



REFERENCES:

USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLES, ITHACA WEST AND ITHACA EAST, N.Y., DATED 1969, PHOTOREVISED 1978. SCALE: 1:24,000

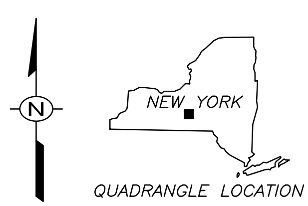


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FIGURE 1

SITE LAYOUT

FORMER EMERSON POWER TRANSMISSION
ITHACA, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

A

Drawn By: 01/16/2018

Checked: 01/18/2018

Approved:

DWG Name: 314P0551-A01

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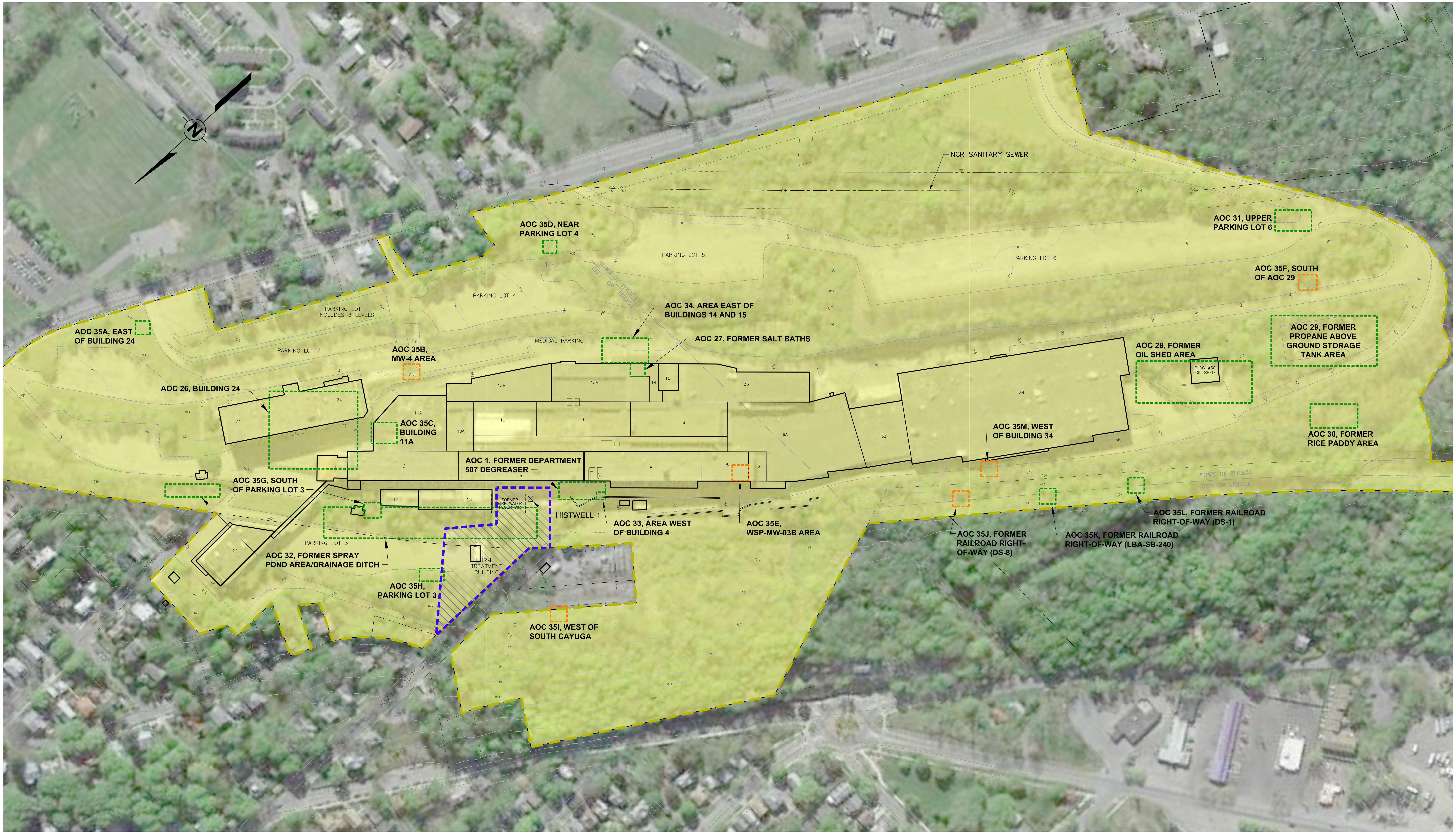

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NCR SANITARY SEWER
AOC 31, UPPER PARKING LOT 6
AOC 35D, NEAR PARKING LOT 4
PARKING LOT 5
PARKING LOT 6
AOC 35F, SOUTH OF AOC 29
AOC 35A, EAST OF BUILDING 24
PARKING LOT 7 INCLUDES 3 LEVELS
PARKING LOT 4
AOC 34, AREA EAST OF BUILDINGS 14 AND 15
AOC 27, FORMER SALT BATHS
AOC 29, FORMER PROPANE ABOVE GROUND STORAGE TANK AREA
PARKING LOT 7
MEDICAL PARKING
AOC 35B, MW-4 AREA
AOC 28, FORMER OIL SHED AREA
AOC 26, BUILDING 24
AOC 35C, BUILDING 11A
AOC 35M, WEST OF BUILDING 34
AOC 30, FORMER RICE PADDY AREA
AOC 1, FORMER DEPARTMENT 507 DEGREASER
AOC 35G, SOUTH OF PARKING LOT 3
HISTWELL-1
AOC 33, AREA WEST OF BUILDING 4
AOC 35E, WSP-MW-03B AREA
AOC 35L, FORMER RAILROAD RIGHT-OF-WAY (DS-1)
AOC 35J, FORMER RAILROAD RIGHT-OF-WAY (DS-8)
AOC 35K, FORMER RAILROAD RIGHT-OF-WAY (LBA-SB-240)
TOWN OF ITHACA
CITY OF ITHACA
PARKING LOT 3
AOC 32, FORMER SPRAY POND AREA/DRAINAGE DITCH
IRM TREATMENT BUILDING
AOC 35H, PARKING LOT 3
AOC 35I, WEST OF SOUTH CAYUGA

LEGEND

- 34 BUILDING NUMBER
- HISTWELL-1 ⊠ HISTORICAL WELL
- PROPERTY BOUNDARY
- RIGHT-OF-WAY

LEGEND

- APPROXIMATE LIMITS OF AREAS OF CONCERN
- APPROXIMATE LIMITS OF AREAS OF CONCERN WITH NO FURTHER ACTION
- BOUNDARY FOR OU-1
- BOUNDARY FOR OU-2/PROPERTY BOUNDARY SITE NO. 755010

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SUPPLEMENTAL REMEDIAL INVESTIGATION AREAS OF CONCERN

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FIGURE 2

Drawing Number
314P0551-D86

Table 1: Summary of Investigation Findings

Area of Concern (AOC)	AOC Description/Sub-Area	Contaminant(s)	Affected Media	Soil Cleanup Objective Driver	Anticipated Future Land Use
Restricted Residential/Mixed Use Area					
1	Former Department 507 Degreaser (exterior)	CVOCs	Soil, Groundwater	Protection of Groundwater	Restricted Residential
26	Building 24 Interior (second floor)	CVOCs	Soil, Groundwater	Protection of Groundwater	Restricted Residential
	Building 24 Exterior (parking lot)	CVOCs	Soil, Groundwater	Protection of Groundwater	Restricted Residential
27	Former Salt Baths	Metals (Ba)	Soil, Bedrock, Groundwater	Restricted Residential Use	Restricted Residential
31	Upper Parking Lot 6	Metals (As, Ba, Cd, Cr, Cu, Ni)	Soil	Restricted Residential Use	Restricted Residential
32	Former Spray Pond Area	PAHs, PCBs, and Metals (As, Ba, Pb, Hg)	Soil	Restricted Residential Use	Restricted Residential
	Former Spray Pond Area Ditch	PAHs and Metals	Sediment	Restricted Residential Use	Restricted Residential
34	Area East of Buildings 13A and 14	CVOCs	Soil	Protection of Groundwater	Restricted Residential
		PAHs	Soil	Restricted Residential Use	Restricted Residential
35A	East of Building 24 (SB-103/SB-103SS)	Metals (As)	Soil	Restricted Residential Use	Restricted Residential
35C	Building 11A (LBA-SB-250)	CVOCs	Soil/Groundwater	Protection of Groundwater	Restricted Residential
		PAHs	Soil	Restricted Residential Use	Restricted Residential
35D	Near Parking Lot 4 (SS-100)	PAHs	Soil	Restricted Residential Use	Restricted Residential
35G	South of Parking Lot 3 (LBA-B17-TSS-3)	Metals (Ba)	Soil	Restricted Residential Use	Restricted Residential
35H	Parking Lot 3 (LBA-TP-03)	PAHs	Soil	Restricted Residential Use	Restricted Residential
35K	Former Railway Right-of-Way (SB-240)	Metals (As)	Soil	Restricted Residential Use	Restricted Residential
35L	Former Railway Right-of-Way (DS-1)	PAHs	Soil	Restricted Residential Use	Restricted Residential
Commercial Use Area					
28	Oil Shed Area - Northeast	CVOCs	Soil/Groundwater	Protection of Groundwater	Commercial
29	Former Propane Aboveground Storage Tank Area	PAHs	Soil	Commercial Use	Commercial
Industrial Use Area					
30	Rice Paddy Area	PAHs	Soil	Industrial Use	Industrial
Other					
Building 2	Building 2 Area	CVOCs, Metals (Ba)	Groundwater	NA	NA

CVOC = chlorinated volatile organic compound; PAH = polycyclic aromatic hydrocarbon; PCBs = polychlorinated biphenyls;
As = arsenic; Ba = barium; Cd = cadmium; Cr = chromium; Cu = copper; Pb = lead; Hg = mercury; Ni = nickel.
NA - Not applicable