Statement of Basis

G.T.E. Products Corporation

Seneca Falls, Seneca County
Site No. 850003
March 2018

Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

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DECLARATION STATEMENT - RECORD OF DECISION

Statement of Purpose and Basis

This document presents the remedy for the GTE Products Corporation site, a RCRA site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 373.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the GTE Products Corporation site and the public's input to the remedy presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Description of Selected Remedy

The elements of the remedy, as shown in Figure 2, for Operable Unit. No. 1 (OU1) are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. Green remediation principals and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

    - Considering the environmental impacts of treatment technologies and remedy stewardship over the long-term;
    - Reducing direct and indirect greenhouse gases and other emissions;
    - Increasing energy efficiency and minimizing use of non-renewable energy;
    - Conserving and efficiently managing resources and materials;
    - Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
    - Maximizing habitat value and creating habitat when possible;

- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Soil Vapor Intrusion Mitigation

   On-site buildings will be required to have a sub-slab depressurization system, or other acceptable measures, to address the migration of harmful vapors into the building from soil and/or groundwater. The data presented in the Corrective Measures Study indicate that a soil vapor intrusion pathway is not present in Building 12, and that the potential for soil vapor intrusion in Buildings 13 and 13A is limited. Thus, soil vapor intrusion mitigation is not planned in Buildings 12, 13, and 13A.

3. In-Situ Thermal Treatment

   Areas of soil which are contaminated with dense non-aqueous phase chlorinated solvents (DNAPL) within AOCs 1 and 3, except that below remaining buildings, will be addressed via In-Situ Thermal Treatment in the form of Electrical Resistance Heating (ERH) or Thermal Conductive Heating (TCH). In-Situ Thermal Remediation (ISTR) is an aggressive treatment option that heats the subsurface to volatilize Compounds of Potential Concern (COPC). Electrical Resistance Heating (ERH) is typically used to heat low permeability saturated and unsaturated zone soils. ERH passes three (3) phase electrical current between subsurface electrodes. The soil's resistance to the electrical current heats the soil causing the COPC to volatilize. The TCH process uses electrically powered in situ heater wells that span the vertical treatment interval. The COPC vapor can then be removed from the soil above the water table. The actual volume of soil to be treated shall be determined based on design phase sampling. A conceptual area to be treated within AOCs 1 and 3 is represented on Figure 8 of the Corrective Measures Study Addendum and Figure 3 of this Statement of Basis.

4. Monitored Natural Attenuation

   Monitoring the natural attenuation of compounds of potential concern in AOC 1, 2 and 3 groundwater over the long-term and comparing results to predicted concentrations.

5. Limited Soil Excavation

   Excavating unsaturated soil in AOCs 1, 2, and 3 with concentrations greater than commercial SCOs. On-site soils which do not exceed the Protection of Groundwater SCOs may be used above the water table to backfill the excavation or re-grade the site. Areas where soil is removed will be restored with backfill meeting the Protection of Groundwater SCOs and the vegetation will be reseeded. Clean fill meeting the Protection of Groundwater SCOs will be brought in to replace the excavated soil and establish the designed grades at the site. The unsaturated zone in the excavation area is between 3 and 5 feet thick. It is estimated that 15 cubic yards of material needs to be removed but the final volume will depend on end point sampling.

6. Cover System

A site cover will be required to allow for commercial or industrial use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required it will be a minimum of one (1) foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six (6) inches of the soil of sufficient quality to maintain a vegetation layer.

For Operable Unit No. 2 (OU2): Historic Outfalls and Canal Sediments, the remedies are as follows:

1. Limited Soil Excavation

Excavating soil in AOC 5, the historic outfall ditches, with concentrations greater than commercial SCOs. AOC 5 soils that exist in drainage ditches beyond the limits of the former plant property will be remediated to residential clean-up objectives. A floodplain and bank restoration plan shall be included with the remedial design plan and will target restoration of removed vegetation and establishment of stable banks. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) (Protection of Ecological Resources) will be brought in to replace the excavated soil and establish the designed grades at the site

2. Sediments in the canal at the point where the outfall ravines enter the canal (up to the limits of the 100 year flood plain adjacent to the former plant) will be sampled and all sediments exceeding sediment criteria for the contaminants of concern will be removed up to the edge of the navigation channel. Restoration of the excavation will be completed if the removal will leave unstable sediments or canal bank.

3. Cover System

Cadmium in Van Cleef Lake sediment was reported at elevated concentrations, but is covered beneath at least six (6) inches of more recent sediment with lower cadmium concentrations. In very deep water (>20 ft.), potential exposure of biota and humans to cadmium in the lake will be limited if sediments remain undisturbed. A plan for monitoring the extent and integrity of clean sediment as a cover and contingencies in the case of its erosion or removal will be required.

Elements common to both OUs include:

- Institutional Controls;
  - Imposition of an institutional control in the form of an environmental easement for the controlled property that:
    - requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375- 1.8 (h)(3);

- allows the use and development of the controlled property for commercial or industrial use as defined by Part 375-1.8 (g) (which includes warehousing and distribution), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County Department of Health; and
- requires compliance with the Department-approved Site Management Plan.

- Engineering Controls;
  - The cover system, or other engineered systems to control exposure to contaminants remaining in OU-02 (the historic outfalls and Van Cleef Lake sediments). This plan includes, but may not be limited to:
    - An Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
    - A provision for further investigation to refine the nature and extent of contamination in areas where access was previously hindered. Any necessary remediation will be completed prior to, or in association with, redevelopment;
    - A periodic evaluation of the integrity of clean sediment cover in Van Cleef Lake, and contingencies in the case of its erosion or other change in lake bottom conditions, or removal, will be required;
    - Provisions for the management and inspection of the identified engineering controls;
    - Maintaining site access controls and Department notification; and
    - The steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- An Operation and Maintenance (O&M) Plan
  - An O&M Plan will be required to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy (including the sediment cover in Van Cleef Lake). The plan includes, but is not limited to:
    - Procedures for operating and maintaining the remedy;
    - Compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
    - Maintaining site access controls and Department notification; and
    - Providing the Department access to the site and O&M records.
- A Site Management Plan, which will include the following:
  - An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to assure all institutional and/or engineering controls remain in place and effective.

  This plan includes, but may not be limited to:
  - description of the provisions of the environmental easement including any on-site groundwater use restrictions;
  - a provision that should the owners of adjacent properties request to have their properties sampled in the future, the NYSDEC, in consultation with the NYSDOH, shall assess the need for soil vapor intrusion sampling and take appropriate action;

- maintaining on-site access controls and Department notification;
- the steps necessary for the periodic reviews and certification of the institutional controls;
- a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
    - Monitoring of groundwater to assess the performance and effectiveness of the remedy, including a provision for implementing actions recommended to address exposures;
    - Continued monitoring for soil vapor intrusion for existing buildings;
    - Monitoring for soil vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above;
    - Monitoring of restoration and replacement of failed vegetation;
    - Provisions for monitoring to determine if soils remain contained and undisturbed;
    - Provisions for monitoring to determine if sediments remain contained and undisturbed; and
    - A schedule of monitoring and frequency of submittals to the Department.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

March 31, 2018
Date

Michael J. Ryan, P.E., Director
Division of Environmental Remediation

Statement of Basis

G.T.E. Products Corporation
Seneca Falls, Seneca County
Site No. 850003
March 2018

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has a remedy for the above- referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. The remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This Statement of Basis (SOB) identifies the remedy, summarizes the other alternatives considered, and discusses the reasons for proposing the remedy.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 373. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comments on the remedy. All comments on the remedy received during the comment period were considered by the Department in selecting the final remedy for the site. Site-related reports and documents were available for review by the public at the following document repository: Seneca Falls Public Library at 47 Cayuga Street.

A public comment period was completed on March 30, 2018 (45 days).

Receive Site Citizen Participation Information by Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act (RCRA) Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html .

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The 64.2-acre site is located at 50 Johnston Street in the Village of Seneca Falls, Seneca County.

Site Features: The site is a complex of interconnected buildings constructed between 1914 and the 1970s. The buildings cover approximately 13 acres. Currently not all of the buildings are occupied. The remaining 51 acres are asphalt parking lots and roadways, grassy areas, and woods. Waste water was historically discharged from outfalls into drainage ditches which ran across portions of the site, into the Cayuga and Seneca Canal.

Current Zoning/Uses: The site is zoned M-1, Industrial. Adjacent properties are zoned either R-1 Single Family, M-1 Multiple Family, or A-1 Agricultural.

Historic Use(s): Prior to 1914 the site was undeveloped. From 1914 through the 1930s water pumps were manufactured on site. From the 1930s through the early 1950s black-and-white television components were manufactured on site. Manufacturing was converted to color-television components in the early 1950s. A waste water treatment plant (WWTP) was constructed in the early 1970s. Manufacturing operations ceased in 1986. With the cessation of manufacturing, the waste water treatment plant was decommissioned. Roof drainage and storm water were directly to the Cayuga and Seneca Canal through an outfall. In 1989, the Seneca County Industrial Development Agency acquired the site. From 1989 to the present, H.P. Neun Company, Inc., and later Seneca Falls Specialties & Logistics Company, Inc., leased the building complex from the Seneca County Industrial Development Agency for warehousing.

Operable Units: An operable unit represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigate, eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination.

The site is divided into two Operable Units.

Operable Unit 1 (OU1) has been defined as the on-site RCRA corrective actions. Operable Unit 2 (OU2) is both on-site and off-site. It consists of the historic waste water outfalls and the canal sediments. Both Operable Units are the subject of this document.

Site Geology and Hydrogeology: Across the site, unconsolidated soils consisting of a discontinuous and variable thickness of urban fill (up to eight (8) feet but typically less than one (1) foot thick) overlie a very low permeability till (up to 45 feet thick). The till outcrops along the southern site boundary at an escarpment to the north of the Cayuga-Seneca Canal. The top of the escarpment is approximately 50 feet higher than the canal. The bedrock is Bertie Limestone. It outcrops along the southern site boundary to the north of the canal. The till is an unconfined, water-bearing unit with a water table 3 to 5 feet below the ground surface. Groundwater within the till flows south southeast toward the canal. Groundwater velocity is 2 to 4 feet per year.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, an alternative that restrict the use of the site to commercial or industrial use as described in Part 375-1.8(g) was evaluated.

A comparison of the results of the RCRA Facility Investigation (RFI) to the appropriate standards, criteria and guidance values (SCGs) for the identified land use for the site contaminants is available in the RFI and Corrective Measures Study (CMS) Reports.

SECTION 5: ENFORCEMENT STATUS

Enforcement Status

GTE Operations Support Incorporated has been identified as a Potentially Responsible Party for the site. After the remedy is selected, the Department will approach any identified PRPs to implement the selected remedy.

6 NYCRR Part 373 Hazardous Waste Management Permits include requirements for corrective action. Owners of RCRA facilities must investigate and, when appropriate, remediate releases of hazardous wastes and/or constituents to the environment. G.T.E. Products Corporation does not currently have a Hazardous Waste Management permit for this site. Corrective action activities are expected to be be performed under the authority of a corrective action only order that the Department will negotiate upon the Statement of Basis issaunce.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the RCRA Facility Investigation

A RCRA Facility Investigation (RFI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RFI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RFI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RFI influence the development of remedial alternatives. The RFI report is available for review in the

site document repository and the results are summarized in Section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- sediment
- indoor air
- sub-slab vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RFI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html.

6.1.2: Investigation Results

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the Corrective Measures Study (CMS)Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

For OU1

- trichloroethene (TCE)
- cis-1,2-dichloroethene For OU2
- cadmium

The contaminant(s) of concern exceed the applicable SCGs for:

- groundwater
- soil
- indoor air
  - soil vapor intrusion
- sediment

6.2: Interim Corrective Measures

An interim corrective measure (ICM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

The following ICM is being conducted at this site based on conditions observed during the RFI.

Soil Vapor Intrusion Mitigation

Where appropriate, consistent with the Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH 2006), actions have been taken to address the potential for exposure associated with soil vapor intrusion. Actions have included installing sub-slab depressurization (SSD) systems in on-site buildings, modifying heating and ventilation systems, and monitoring of indoor air.

Specifically**,** SSD systems have been installed and are operating in Buildings 1, 1A, 7, 8, 10, 10A, 11, and 11A. In addition, ventilation of the indoor air in the Building 9 crawl space and Building 2 basement area in ongoing. Quarterly indoor air monitoring within the buildings that have SSD systems or ventilation systems continue to demonstrate that TCE is still present in the indoor air above the New York State Department of Health guideline of 2 mcg/m3 in air.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The Corrective Measures Study report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors. The nature and extent of contamination is further discussed in Exhibit A.

Under the site conceptual model developed in the Corrective Measures Study (June 28, 2013), the site has been divided into five areas of concern:

Area of Concern 1 – Building 2 Area. Chlorinated Volatile Compounds
Area of Concern 2 – Building 7 Area. Chlorinated Volatile Organic Compounds
Area of Concern 3 – Building 11 Area. Chlorinated Volatile Organic Compounds
Area of Concern 4 – Soil Vapor Intrusion Pathways. Chlorinated Volatile Organic Compounds
Area of Concern 5 – Historic Outfalls. Heavy Metals in Soil

AOCs 1 through 4 comprise OU1; AOC 5 and the canal sediments comprise OU2. AOC 4 is being addressed by the interim corrective measures, as discussed in Section 6.2.

Based upon investigations conducted to date, the primary contaminants of concern for this site include TCE, its breakdown products (cis-1,2-dichlorothene and vinyl chloride), and cadmium.

Soils are contaminated with dense non-aqueous phase chlorinated solvents (DNAPL) within AOCs 1 and 3, to the south of buildings 2 and 11. In total the area effected by DNAPL is estimated to be 6,400 square feet. In OU2, soils in the outfall areas between the outfalls and the canal are contaminated with heavy metals.

In groundwater, concentrations of TCE and its breakdown products, collectively termed volatile organic compounds (VOCs), exceed GA standards (typically 5 parts per billion (ppb)).

VOC concentrations in soil vapor and indoor air also exceed concentration that trigger a recommendation for mitigation in some buildings. Cadmium concentrations in some soil samples exceed the commercial clean-up objective (9.3 parts per million (ppm)).

Heavy metals contaminated sediments in the Cayuga – Seneca Canal. The distribution of metals both upstream and downstream of the historic outfalls, as well as vertically in the sediment column are tabulated in Exhibit A.

Sediments in Van Cleef Lake and the Cayuga-Seneca Canal are contaminated with heavy metals, primarily cadmium, nickel, and zinc. In general, areas with elevated zinc and nickel are generally co-located with cadmium. Therefore, cadmium is used as the primary contaminant targeted. Cadmium also appears to be locally sourced whereas nickel and zinc are in the upstream sediment transect.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure.*

People may contact contaminants in soil if they dig below the surface or contact soil from the historic outfall ditches. People are not drinking contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in the groundwater and soil may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Environmental sampling has identified impacts associated with soil vapor intrusion at five on-site buildings and actions have been taken to address those impacts. Additional monitoring is needed to evaluate the effectiveness of those actions. The potential exists for people to inhale site contaminants in indoor air due to soil vapor intrusion in any future on-site building development and occupancy. Sampling indicates that soil vapor intrusion is not a concern for off-site structures.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

For OU1:

Groundwater

RAOs for Public Health Protection

- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.
- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.

RAOs for Environmental Protection

- Restore groundwater aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

For OU2:

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

Sediment

RAOs for Public Health Protection

- Prevent direct contact with contaminated sediments.
- Prevent surface water contamination which may result in fish advisories.

RAOs for Environmental Protection

- Prevent releases of contaminant(s) from sediments that would result in surface water levels in excess of ambient water quality criteria.
- Prevent impacts to biota from ingestion/direct contact with sediments causing toxicity or impacts from bioaccumulation through the marine or aquatic food chain.

SECTION 7: ELEMENTS OF THE REMEDY

To be selected, the remedy must be protective of public health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives identified for the site, which are presented in Section 6.5. Potential remedial alternatives for the site were identified, screened and evaluated in reports entitled Corrective Measures Study Report (June 2013) and Corrective Measures Study Report Addendum (October 2016). The alternatives that were considered for this site are presented in Exhibit B. A summary of the Remedial Alternatives Costs is included as Exhibit C. The basis for the Department's selection of the remedy is set forth in Exhibit D.

Based on the results of the investigations at this site, the interim corrective measures (ICMs) being performed and the evaluation presented here, the Department has selected the following remedial actions:

The elements of the remedy, as shown in Figure 2, for OU1 are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. Green remediation principals and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

    - Considering the environmental impacts of treatment technologies and remedy stewardship over the long-term;
    - Reducing direct and indirect greenhouse gases and other emissions;
    - Increasing energy efficiency and minimizing use of non-renewable energy;
    - Conserving and efficiently managing resources and materials;
    - Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
    - Maximizing habitat value and creating habitat when possible;

- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Soil Vapor Intrusion Mitigation

   On-site buildings will be required to have a sub-slab depressurization system, or other acceptable measures, to address the migration of harmful vapors into the building from soil and/or groundwater. The data presented in the Corrective Measures Study indicate that a soil vapor intrusion pathway is not present in Building 12, and that the potential for soil vapor intrusion in Buildings 13 and 13A is limited. Thus, soil vapor intrusion mitigation is not planned in Buildings 12, 13, and 13A.

3. In-Situ Thermal Treatment

   Areas of soil which are contaminated with dense non-aqueous phase chlorinated solvents (DNAPL) within AOCs 1 and 3, except that below remaining buildings, will be addressed via In-Situ Thermal Treatment in the form of Electrical Resistance Heating (ERH) or Thermal Conductive Heating (TCH). In-Situ Thermal Remediation (ISTR) is an aggressive treatment option that heats the subsurface to volatilize Compounds of Potential Concern (COPC). Electrical Resistance Heating (ERH) is typically used to heat low permeability saturated and unsaturated zone soils. ERH passes three (3) phase electrical current between subsurface electrodes. The soil's resistance to the electrical current heats the soil causing the COPC to volatilize. The TCH process uses electrically powered in situ heater wells that span the vertical treatment interval. The COPC vapor can then be removed from the soil above the water table. The actual volume of soil to be treated shall be determined based on design phase sampling. A conceptual area to be treated within AOCs 1 and 3 is represented on Figure 8 of the Corrective Measures Study Addendum and Figure 3 of this Statement of Basis.

4. Monitored Natural Attenuation

   Monitoring the natural attenuation of compounds of potential concern in AOC 1, 2 and 3 groundwater over the long-term and comparing results to predicted concentrations.

5. Limited Soil Excavation

   Excavating unsaturated soil in AOCs 1, 2, and 3 with concentrations greater than commercial SCOs. On-site soils which do not exceed the Protection of Groundwater SCOs may be used above the water table to backfill the excavation or re-grade the site. Areas where soil is removed will be restored with backfill meeting the Protection of Groundwater SCOs and the vegetation will be reseeded. Clean fill meeting the Protection of Groundwater SCOs will be brought in to replace the excavated soil and establish the designed grades at the site. The unsaturated zone in the excavation area is between 3 and 5 feet thick. It is estimated that 15 cubic yards of material needs to be removed but the final volume will depend on end point sampling.

6. Cover System

A site cover will be required to allow for commercial or industrial use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required it will be a minimum of one (1) foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six (6) inches of the soil of sufficient quality to maintain a vegetation layer.

For Operable Unit No. 2 (OU2): Historic Outfalls and Canal Sediments, the remedies are as follows:

1. Limited Soil Excavation

Excavating soil in AOC 5, the historic outfall ditches, with concentrations greater than commercial SCOs. AOC 5 soils that exist in drainage ditches beyond the limits of the former plant property will be remediated to residential clean-up objectives. A floodplain and bank restoration plan shall be included with the remedial design plan and will target restoration of removed vegetation and establishment of stable banks. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) (Protection of Ecological Resources) will be brought in to replace the excavated soil and establish the designed grades at the site

2. Sediments in the canal at the point where the outfall ravines enter the canal (up to the limits of the 100 year flood plain adjacent to the former plant) will be sampled and all sediments exceeding sediment criteria for the contaminants of concern will be removed up to the edge of the navigation channel. Restoration of the excavation will be completed if the removal will leave unstable sediments or canal bank.

3. Cover System

Cadmium in Van Cleef Lake sediment was reported at elevated concentrations, but is covered beneath at least six (6) inches of more recent sediment with lower cadmium concentrations. In very deep water (>20 ft.), potential exposure of biota and humans to cadmium in the lake will be limited if sediments remain undisturbed. A plan for monitoring the extent and integrity of clean sediment as a cover and contingencies in the case of its erosion or removal will be required.

Elements common to both OUs include:

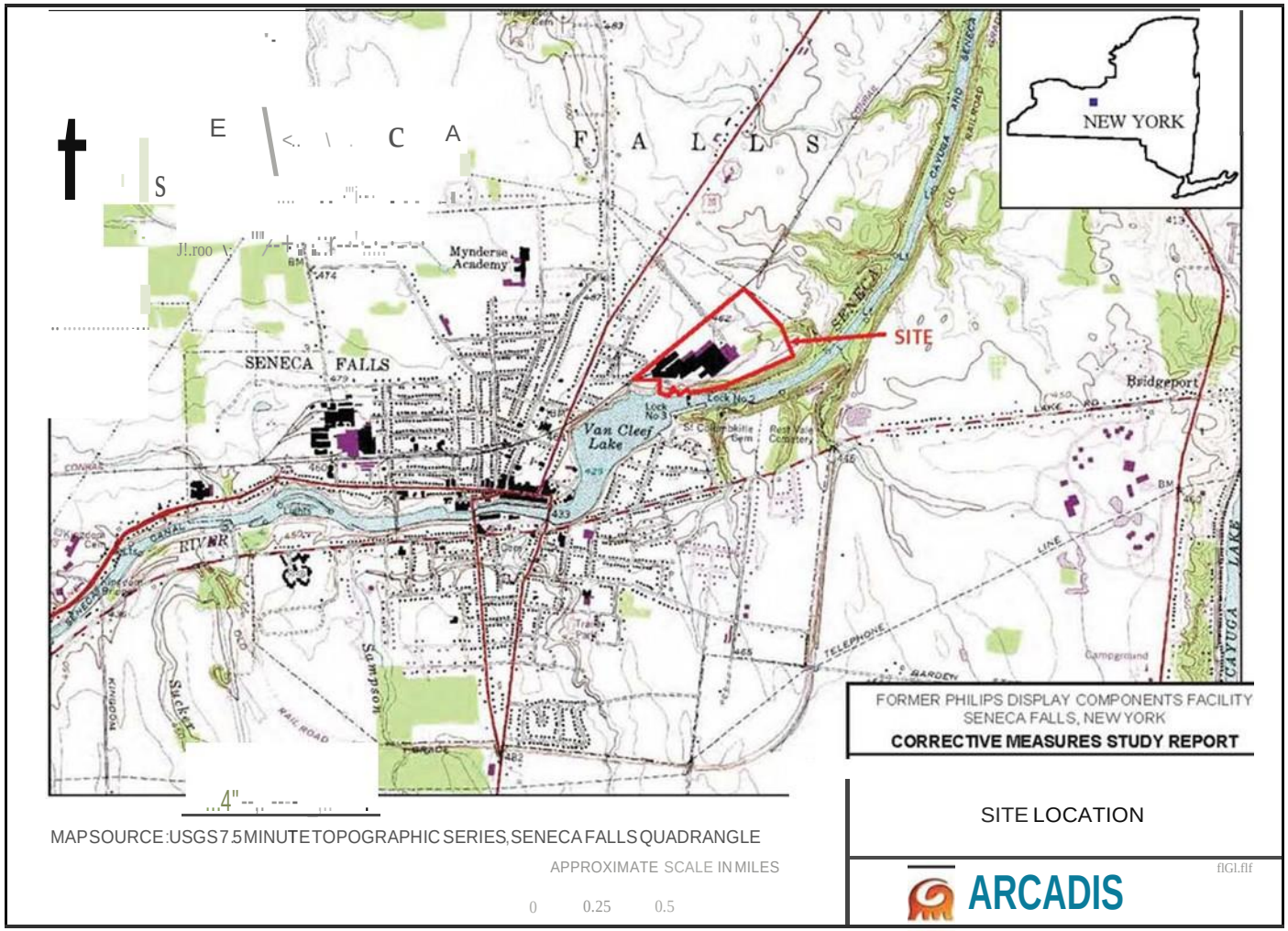
- Institutional Controls;
  - Imposition of an institutional control in the form of an environmental easement for the controlled property that:
    - requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375- 1.8 (h)(3);

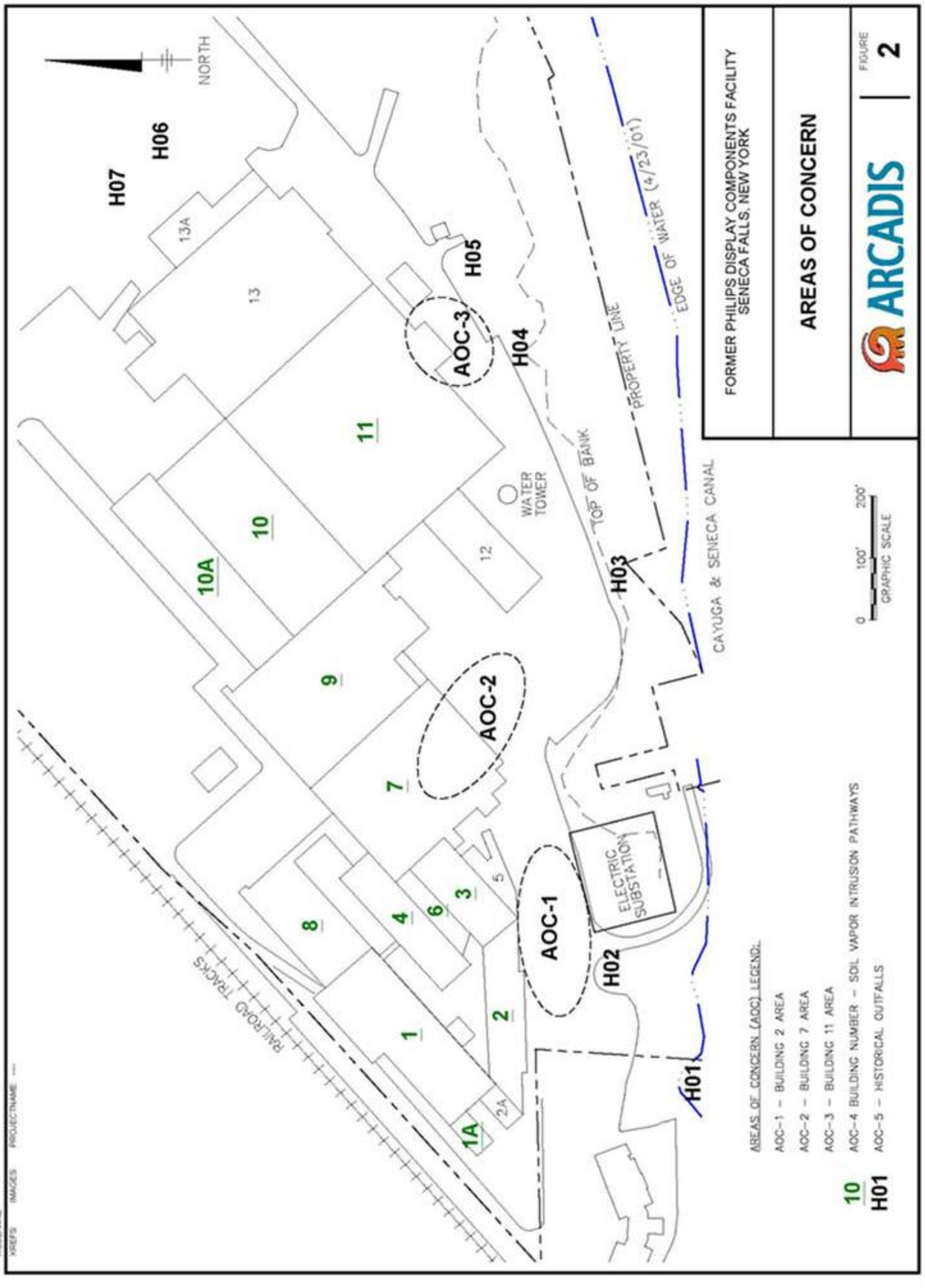
- allows the use and development of the controlled property for commercial or industrial use as defined by Part 375-1.8 (g) (which includes warehousing and distribution), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County Department of Health; and
- requires compliance with the Department-approved Site Management Plan.

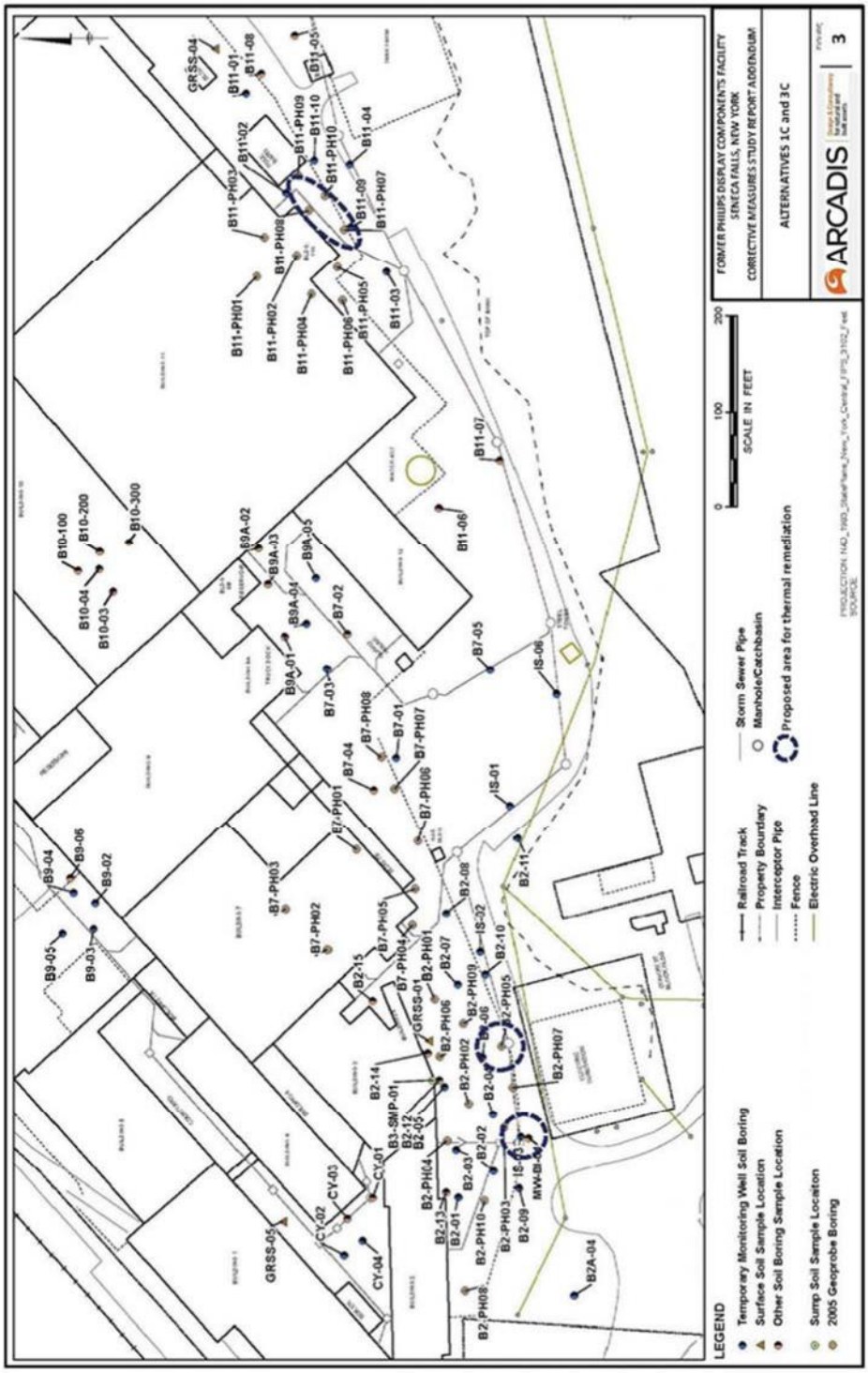
- Engineering Controls;
  - The cover system, or other engineered systems to control exposure to contaminants remaining in OU-02 (the historic outfalls and Van Cleef Lake sediments). This plan includes, but may not be limited to:
    - An Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
    - A provision for further investigation to refine the nature and extent of contamination in areas where access was previously hindered. Any necessary remediation will be completed prior to, or in association with, redevelopment;
    - Periodic evaluation of the integrity of clean cover sediment in Van Cleef Lake and contingencies in the case of its erosion or other change in lake bottom conditions, or removal, will be required;
    - Provisions for the management and inspection of the identified engineering controls;
    - Maintaining site access controls and Department notification; and
    - The steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- An Operation and Maintenance (O&M) Plan
  - An O&M Plan will be required to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy (including the sediment cover in Van Cleef Lake). The plan includes, but is not limited to:
    - Procedures for operating and maintaining the remedy;
    - Compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
    - Maintaining site access controls and Department notification; and
    - Providing the Department access to the site and O&M records.
- A Site Management Plan, which will include the following:
  - An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to assure all institutional and/or engineering controls remain in place and effective.

  This plan includes, but may not be limited to:
  - description of the provisions of the environmental easement including any on-site groundwater use restrictions;
  - a provision that should the owners of adjacent properties request to have their properties sampled in the future, the NYSDEC, in consultation with the NYSDOH, shall assess the need for soil vapor intrusion sampling and take appropriate action;

- maintaining on-site access controls and Department notification;
- the steps necessary for the periodic reviews and certification of the institutional controls;
- a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
    - Monitoring of groundwater to assess the performance and effectiveness of the remedy, including a provision for implementing actions recommended to address exposures;
    - Continued monitoring for soil vapor intrusion for existing buildings;
    - Monitoring for soil vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above;
    - Monitoring of restoration and replacement of failed vegetation;
    - Provisions for monitoring to determine if soils remain contained and undisturbed;
    - Provisions for monitoring to determine if sediments remain contained and undisturbed; and
    - A schedule of monitoring and frequency of submittals to the Department.

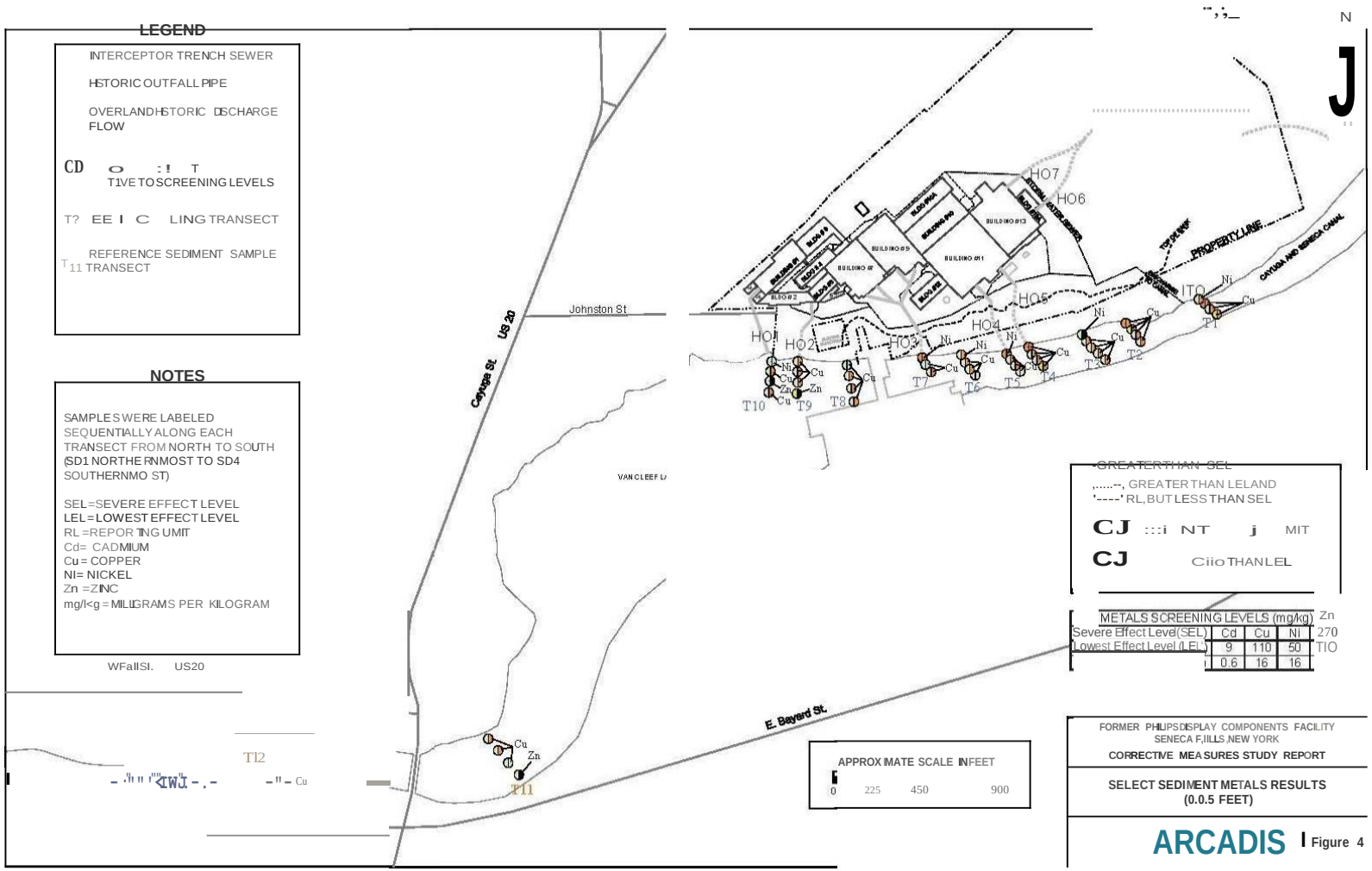

NEW YORK
SITE
SENECA FALLS
Mynderse Academy
Van Cleef Lake
Bridgeport
FORMER PHILIPS DISPLAY COMPONENTS FACILITY
SENECA FALLS, NEW YORK
CORRECTIVE MEASURES STUDY REPORT
SITE LOCATION
MAP SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC SERIES, SENECA FALLS QUADRANGLE
APPROXIMATE SCALE IN MILES
0 0.25 0.5
ARCADIS

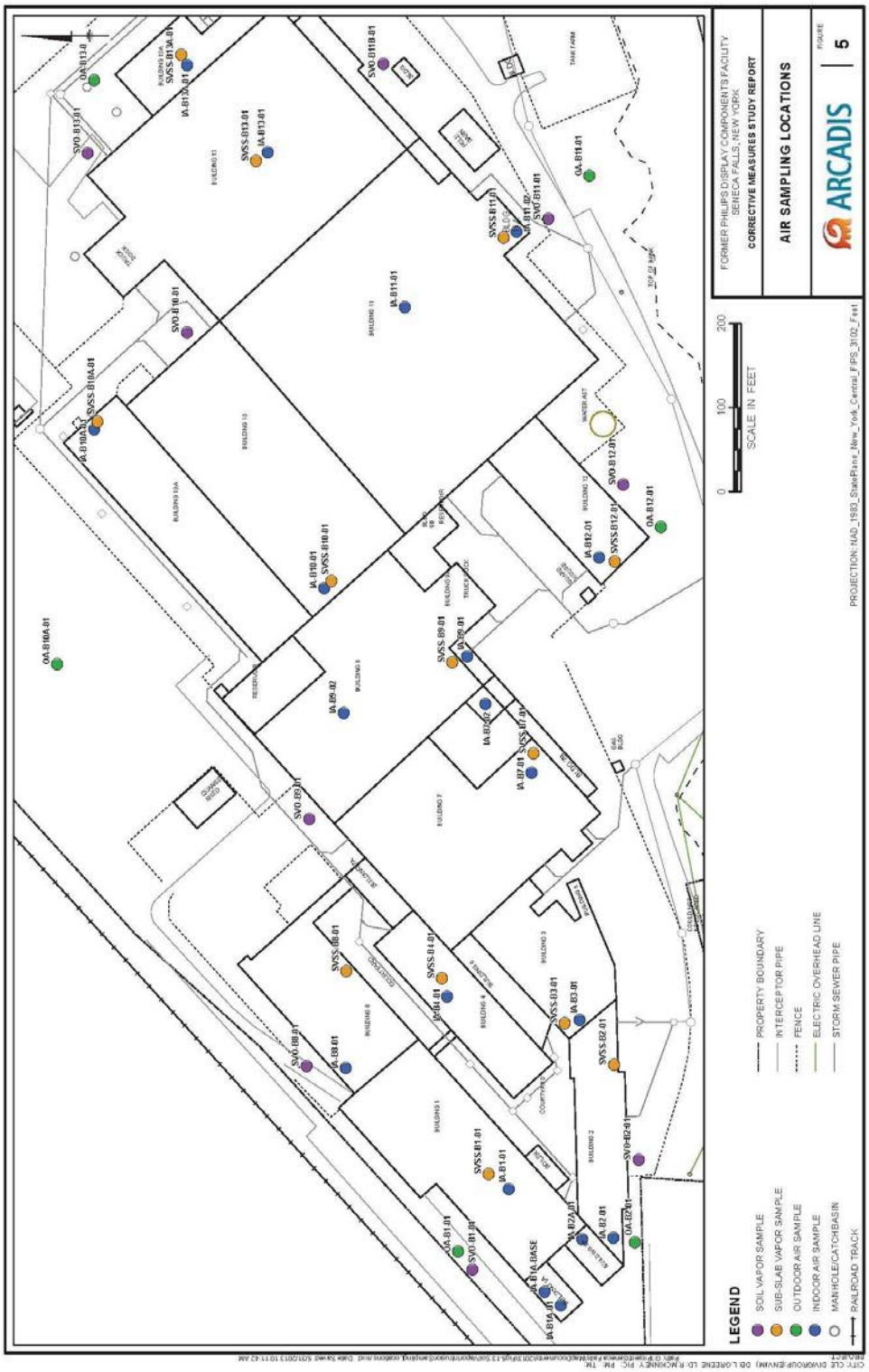

FORMER PHILIPS DISPLAY COMPONENTS FACILITY
SENECA FALLS, NEW YORK
AREAS OF CONCERN
ARCADIS
FIGURE
2
NORTH
CAYUGA & SENECA CANAL
EDGE OF WATER (4/23/01)
PROPERTY LINE
TOP OF BANK
WATER TOWER
ELECTRIC SUBSTATION
RAILROAD TRACKS
AOC-1
AOC-2
AOC-3
H01
H02
H03
H04
H05
H06
H07
AREAS OF CONCERN (AOC) LEGEND:
AOC-1 – BUILDING 2 AREA
AOC-2 – BUILDING 7 AREA
AOC-3 – BUILDING 11 AREA
AOC-4 BUILDING NUMBER – SOIL VAPOR INTRUSION PATHWAYS
AOC-5 – HISTORICAL OUTFALLS
GRAPHIC SCALE



Note: Figure 3 - Corrective Measures Study Report Addendum October 11, 2016

Areas for Thermal Remediation


LEGEND
INTERCEPTOR TRENCH SEWER
HISTORIC OUTFALL PIPE
OVERLAND HISTORIC DISCHARGE FLOW
CD o :! T
T1VE TO SCREENING LEVELS
T? EE I C LING TRANSECT
REFERENCE SEDIMENT SAMPLE
T11 TRANSECT
NOTES
SAMPLES WERE LABELED SEQUENTIALLY ALONG EACH TRANSECT FROM NORTH TO SOUTH (SD1 NORTHERNMOST TO SD4 SOUTHERNMOST)
SEL=SEVERE EFFECT LEVEL
LEL=LOWEST EFFECT LEVEL
RL=REPORTING LIMIT
Cd= CADMIUM
Cu = COPPER
NI= NICKEL
Zn =ZINC
mg/l<g = MILLIGRAMS PER KILOGRAM
WFallSI. US20
Johnston St
Cayuga St
US 20
VAN CLEEF LI
E. Bayard St.
T12
T11
HO1
HO2
HO3
HO4
HO5
HO6
HO7
T1
T2
T3
T4
T5
T6
T7
T8
T9
T10
Ni
Cu
Zn
N
J
-GREATER THAN SEL
,.....--, GREATER THAN LELAND
'----' RL, BUT LESS THAN SEL
CJ :::i NT j MIT
CJ CiioTHANLEL
METALS SCREENING LEVELS (mg/kg)
Severe Effect Level(SEL) 9 110 50 270
Lowest Effect Level (LEL) 0.6 16 16 TIO
APPROXIMATE SCALE IN FEET
0 225 450 900
FORMER PHILIPS DISPLAY COMPONENTS FACILITY
SENECA F, ILLS, NEW YORK
CORRECTIVE MEASURES STUDY REPORT
SELECT SEDIMENT METALS RESULTS
(0.0.5 FEET)
ARCADIS
Figure 4



Note Figure 5: Sampling results can be found in Corrective Measures Study Report June 28, 2013

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the RCRA Facility Investigation for all environmental media that were evaluated. As described in Section 6.1, samples were collected from various environmental media to characterize the nature and extent of contamination.

For each medium for which contamination was identified, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into two (2) categories; volatile organic compounds (VOCs) and inorganics (metals). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, if applicable, the Restricted Use SCGs identified in Section 4 and Section 6.1.1 are also presented.

The key findings of the RCRA Facility Investigation (RFI), RFI Addenda, the Corrective Measures Study (CMS) and its addendum are that compounds of concern (COC) in soils that are at concentrations greater than commercial soil clean-up objectives (SCOs) are limited to three (3) isolated areas. Sediment and soil data also indicate that inorganic COCs are isolated in soil in former drainage ditches, or they are buried in sediments in the Seneca - Cayuga Canal beneath a natural cap of more recent sediment and, therefore, have a reduced potential for exposure. The total area in which COC concentrations are greater than Class GA Groundwater Standards is approximately 25 acres. COC concentrations in soil vapor generally coincide with elevated groundwater concentrations. These COC distributions, combined with historical site use and hydrogeologic conditions, form the basis for developing and evaluating corrective measure alternatives.

The nature and extent of concentrations in soil, groundwater, soil vapor, and sediment, and are organized into five (5) areas of concern (AOC) as described below. The details regarding the depth of sampling, locations, concentrations and comparison to the applicable standards, criteria and guidance (SCGs) can be found in the June 28, 2013 Corrective Measures Study.

- Areas of Concern 1, 2, and 3 (Buildings 2, 7, and 11 areas) – Elevated concentrations of VOCs in soil and groundwater including trichloroethene (TCE) and breakdown products. TCE was detected up to 3,100 ppm and cis-1,2-Dichloroethene up to 21,000 ppm in groundwater and TCE up to 8,100 ppm in soil;
- Area of Concern 4 (Soil Vapor Intrusion Pathways) – Elevated concentrations of VOCs in sub- slab vapor and indoor air. These are being addressed by existing and planned interim corrective
  measures (ICMs) discussed in Section 6.2;
- Area of Concern 5 (Historical Outfall) – Elevated metal concentrations in historic outfall (HO) drainage ditch soil; primarily cadmium, up to 78.3 ppm in soil.

Waste/Source Areas

As described in the CMS Report, waste/source materials were identified at the site and are impacting groundwater, soil, sediment, and soil vapor.

Source areas are areas of concern at a site where substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium. Wastes and Source Areas were identified at the site include: Areas of Concern 1, 2, and 3 (Building 2, 7, and 11 areas).

Soil investigations were completed at the site between 1999 and 2001 as part of the RFI (URS 2002). Additional soil investigations have been conducted since 2002 as part of RFI Addenda, the CMS, and ICM activities.

These investigations defined the nature and extent of residual contamination. Soil contamination was observed at concentrations above commercial SCOs and represent a potential source of groundwater contamination if left unaddressed.

TCE was reported in soil sampled in the Building 2 and 11 areas (AOCs 1 and 3) at concentrations that indicate the potential presence of Dense Non-Aqueous Phase Liquids (DNAPLs).

The waste/source areas identified will be addressed in the remedy selection process.

Groundwater

Groundwater samples were collected from overburden and bedrock monitoring wells. VOCs have been reported at concentrations greater than NYSDEC Class GA Standards over approximately 25 acres of the site. The upper water-bearing zone is in a low permeability glacial till unit, and the VOCs dissolved within the groundwater migrate very slowly, on the order of a few feet per year. The extent of VOCs in groundwater and the low permeability of the till make it infeasible to remediate groundwater completely in the near term. The presence of degradation products indicate natural attenuation of the source material is occurring.

Table 1 - Groundwater

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
VOCs			
Trichloroethene (TCE)	ND - 3,100	5	6/17
cis-1,2-Dichloroethene	ND - 21,000	5	6/17
Vinyl Chloride	ND - 290	2	4/17

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

The primary groundwater contaminants are trichloroethylene (TCE) and cis-1,2,-dichloroethene (cis-1,2-DCE) associated with operation of the former television manufacturing facility. As noted on Figure 2 of the SOB, the groundwater contamination associated AOCs 1, 2 and 3 is the focus of remedial efforts.

Based on the findings of the Corrective Measures Study, the past disposal of hazardous waste has resulted in the contamination of groundwater. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of groundwater to be addressed by the remedy proposal process are: TCE and cis-1,2-DCE.

Soil

Soil samples were collected at the site during the Corrective Measures Study, from on-site locations to further delineate the source areas and the impacts of historic outfalls. Soil samples were collected in the vicinity of AOCs 1 through 3, and from drainage ditches associated with historic waste water discharges.

The Corrective Measures Study soil sampling results were compared to the applicable Soil Cleanup Objectives (SCOs) for protection of groundwater (PGW) and commercial restricted use, as discussed in Section 3, and indicate that the primary contaminants of concern on-site are VOCs and cadmium.

The VOC contamination exceeding the PGW and commercial SCOs was determined to exist to the south of the historic source area. The estimated area of soil VOC contamination is approximately 82,000 square feet and extends approximately 33 feet below ground surface, for a total volume of approximately 100,200 cubic yards.

Table 2 – Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	PGW SCG[b] (ppm)	Frequency Exceeding PGW SCG	Commercial Use SCG[c] (ppm)	Frequency Exceeding Restricted Commercial SCG	Industrial Use SCG[d] (ppm)	Frequency Exceeding Restricted industrial SCG
Trichloroethene (TCE)	nd - 8,100	0.47	79 / 187	200	10 / 187	400	5 /187
cis-1,2-Dichloroethene	nd - 20	0.25	25 / 187	500	0 / 187	1000	0 / 187
Cadmium[e]	nd - 78.3	4	4 / 43	9.3	3 / 43	60	1 / 43

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(b), Protection of Groundwater Soil Cleanup Objectives.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Commercial Use, unless otherwise noted.
d - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Industrial Use, unless otherwise noted.
e - SCG: Part 375-6.8(b), Protection of Ecological Resources Soil Cleanup Objectives. Cadmium is not a compound of concern for GW.

Based on the findings of the Corrective Measures Study, the presence of VOCs and heavy metals have resulted in the contamination of soil. The site contaminants identified in soil which are considered to be the primary contaminants of concern, to be addressed by the remedy are, TCE, its associated degradation product cis-1,2-DCE and cadmium.

Cadmium and chlorinated solvent soil contamination, is associated with liquid waste disposal activity at the site. Metal soil contamination, with the exception of cadmium, is not considered a remedy driving contaminants of concern. Metals are not present in groundwater above standards so use based standards will be used to select the remedy.

Sediments

Soil and sediment samples were collected during the Corrective Measures Study from the on-site drainage ditches and at locations upstream, and adjacent to the site along the Seneca River. The samples were collected to assess the potential for impacts to drainage ditch and river sediment from the site. The results indicate that soil in the on-site ditches and sediment in the Seneca River exceed the Department's SCGs for sediments for cadmium. The concentrations of metals of concern obtained in upstream locations were considered in determining site background. Thirteen (13) samples were collected from upstream locations and the maximum concentration detected was used as site-specific guidance in determining the site related metals of concern.

Figure 4 of the SOB shows the location used to evaluate sediment contamination.

Table 3 – Seneca River Sediment

Transects 1 through 11 (Van Cleef Lake/Downstream)

Sample Depth Below River Bottom	Concentration Range Detected [a]	Freshwater Sediment Guidance Value[a]	Frequency of Detections	Percentage of Detections
Cadmium <0.5 ft	ND - 9.3	Class A <1	37 of 45	75.56%
		Class B 1-5	7 of 45	15.56%
		Class C >5	4 of 45	8.89%
Cadmium >0.5 ft	ND - 78.4	Class A <1	29 of 64	45.31%
		Class B 1-5	19 of 64	29.69%
		Class C >5	16 of 64	25.00%
Copper <0.5 ft	4.63 - 49.6	Class A <32	24 of 45	53.33%
		Class B 32-150	21 of 45	46.67%
		Class C >150	0 of 45	0.00%
Copper >0.5 ft	5.39 - 96.3	Class A <32	19 of 64	29.69%
		Class B 32-150	40 of 64	62.50%
		Class C >150	5 of 64	7.81%
Nickle <0.5 ft	ND - 56.5	Class A <23	35 of 45	77.78%
		Class B 23-49	9 of 45	20.00%
		Class C >49	1 of 45	2.22%
Nickle >0.5 ft	ND - 40.4	Class A <23	43 of 64	67.19%
		Class B 23-49	21 of 64	32.81%
		Class C >49	0 of 64	0.00%
Zinc <0.5 ft	14.6 - 1430	Class A <120	19 of 45	42.22%
		Class B 120-460	25 of 45	55.56%
		Class C >460	1 of 45	2.22%
Zinc >0.5 ft	22.2 - 2700	Class A <120	20 of 64	31.25%
		Class B 120-460	22 of 64	34.38%
		Class C >460	22 of 64	34.38%

Transect 12 (Upstream)[b]

Sample Depth Below River Bottom	Concentration Range Detected [a]	Freshwater Sediment Guidance Value[a]	Frequency of Detection	Percentage of Detections
Cadmium <0.5 ft	ND - 9.3	Class A <1	4 of 4	100.00%
		Class B 1-5	0 of 4	0.00%
		Class C >5	0 of 4	0.00%
Cadmium >0.5 ft	ND - 78.4	Class A <1	9 of 9	100.00%
		Class B 1-5	0 of 9	0.00%
		Class C >5	0 of 9	0.00%
Copper <0.5 ft	4.63 - 49.6	Class A <32	1 of 4	25.00%
		Class B 32-150	3 of 4	75.00%
		Class C >150	0 of 4	0.00%
Copper >0.5 ft	5.39 - 96.3	Class A <32	6 of 9	66.67%
		Class B 32-150	3 of 9	33.33%
		Class C >150	0 of 9	0.00%
Nickle <0.5 ft	ND - 56.5	Class A <23	3 of 4	75.00%
		Class B 23-49	1 of 4	25.00%
		Class C >49	0 of 4	0.00%
Nickle >0.5 ft	ND - 40.4	Class A <23	9 of 9	100.00%
		Class B 23-49	0 of 9	0.00%
		Class C >49	0 of 9	0.00%
Zinc <0.5 ft	14.6 - 1430	Class A <120	0 of 4	0.00%
		Class B 120-460	4 of 4	100.00%
		Class C >460	0 of 4	0.00%
Zinc >0.5 ft	22.2 - 2700	Class A <120	1 of 9	11.11%
		Class B 120-460	4 of 9	44.44%
		Class C >460	4 of 9	44.44%

Notes:

- All concentrations and sediment guidance values are in mg/kg (ppm).
- Transect 12 was located upstream of the historic outfall discharges into the Seneca River.

The primary sediment contaminant is cadmium, associated with the historical waste water outfalls and surface soil in the historic outfall ditches. As noted on Figure 4, the primary soil and sediment contamination is found in the historic outfall drainage ditches and the Seneca River downstream of the discharge points of those ditches.

The copper, nickel and zinc found in sediments were also found in the upstream sediment samples and appears to be associated with a regional enrichment within the Seneca River. Therefore, these elements in sediment is not considered a site-specific contaminant of concern.

Based on the findings of Corrective Measures Study, the disposal of hazardous waste has resulted in the contamination of sediment. The site contaminant which is considered to be the primary contaminant of concern and which will drive the remediation of sediment to be addressed by the remedy selection process is cadmium.

Soil Vapor and Indoor Air

The evaluation of the potential for soil vapor intrusion resulting from the presence of site related soil or groundwater contamination was evaluated by the sampling of soil vapor, sub-slab soil vapor, indoor and outdoor air.

Pre-mitigation

Trichloroethylene (TCE) has been identified in sub-slab vapor and indoor and outdoor air at the former Philips Display Components Facility. Concentrations of TCE were found in sub-slab vapor ranging from 2.7 to 160, 000 micrograms per cubic meter (mcg/m3). In the indoor air, TCE was found from non-detect at 0.21 mcg/m3 to 210 mcg/m3.

Based on the results of the soil vapor intrusion investigation, sub-slab depressurization (SSD) systems were installed at Buildings 1, 1A, 7, 8, 10, 10A, 11, and 11A. In addition, ventilation of the indoor air in the Building 9 crawl space and Building 2 basement area in ongoing. Based on the lack of occupancy of Buildings 2, 2A, 3, 4, 5, and 6, measures to address potential exposure were deferred until those buildings become re-occupied.

Post-mitigation:

Quarterly indoor air monitoring within the buildings that have SSD systems or ventilation systems continue to demonstrate that TCE is still present in the indoor air above the New York State Department of Health guideline of 2 mcg/m3 in air. Specifically, concentrations of TCE in the indoor air range from non-detect at 0.054 mcg/m3 to 81 mcg/m3.

Figure 5 in the Statement of Basis shows the location of air/vapor samples.

Based on the concentration detected, and, soil vapor contamination identified during the RFI is being addressed in some buildings by the ICM described in Section 6.2, however; additional actions are necessary to address potential exposures via soil vapor intrusion in the remaining buildings on the site.

Based on the findings of the Remedial Investigation, the disposal of hazardous waste has resulted in the contamination of soil vapor. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of soil vapor to be addressed by the remedy selection process are, trichloroethylene and its breakdown products.

Exhibit B

Description of Remedial Alternatives

The following alternatives were considered based on the remedial action objectives (see Section 6.5) to address the contaminated media identified at the site as described in Exhibit A.

For OU1

Soil Vapor/Indoor Air Contamination
Dense Non-Aqueous Phase Liquids (DNAPL)
Groundwater Contamination
Soil Contamination

For OU2
Soil Contamination
Sediment Contamination

Alternative 1: No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative leaves the site in its present condition and does not provide any additional protection to public health and the environment. There are no costs associated with this alternative.

Alternative 2: Site Management

The Site Management Alternative requires only institutional controls for the site. This alternative includes institutional controls, in the form of an environmental easement and a site management plan, necessary to protect public health and the environment from any contamination identified at the site. This alternative does not reduce the mass, toxicity or mobility of site contaminants, rather it avoids them through accepted management practices.

Present Worth: $90,000
Capital Cost:.....$35,000
Annual Costs: .....$ 7,900

Alternative 3: Restoration to Pre-Disposal or Unrestricted Conditions

This alternative achieves all of the SCGs discussed in Section 6.1.1 and Exhibit A and soil meets the unrestricted soil clean objectives listed in Part 375-6.8 (a). This alternative would include: demolition of all on-site structures, the excavation and off-site disposal of all soil contamination (including DNAPL) above the unrestricted soil cleanup objectives, in-situ thermal treatment of contaminated groundwater, and the dredging of cadmium contaminated sediments. There would be no site management, no restrictions, and no periodic review. This remedy will have no annual

cost, only the capital cost. Costs do not include that of temporarily relocating workers and/or acquiring new tenants for vacated spaces.

Present Worth.....$68,000,000
Capital Cost:.....$68,000,000
Annual Cost 0

Alternative 4: Cover System, In-Situ Thermal Treatment, Vapor Mitigation, Excavation, Monitored Natural Attenuation, Institutional Controls and Site Management

This alternative would include:

Site Cover

A site cover in areas not occupied by buildings and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain the existing site cover. The site cover may include paved surface parking areas, sidewalks or soil where the upper one foot of exposed surface soil meets the applicable soil cleanup objectives (SCOs) for commercial use. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6NYCRR part 375-6.7(d).

In Situ Thermal Treatment

In-Situ Thermal Treatment will be implemented to destroy or volatilize VOCs in the area indicated on Figure 3 of the SOB. The gases produced by the thermal treatment will be collected by vapor extraction wells and treated in an ex-situ treatment unit.

Vapor Mitigation

Any on-site buildings will be required to have a sub-slab depressurization system, or other acceptable measures, to address the migration of vapors into the building from soil and/or groundwater**.**

Excavation

Soils above the water table which exceed the Commercial SCOs will be excavated and transported off-site for disposal. Approximately 15 cubic yards of contaminated soil will be removed from the site.

Soils within the historic outfall drainage ditches which exceed the Commercial SCOs will be excavated and transported off-site for disposal. An exception will be made for ditches that cross over the sites property line. Ditches over the property line will be remediated to Residential SCOs. The volume of soil/sediment to be removed will be determined by sampling to be done during a design phase, and by access.

Monitored Natural Attenuation

Groundwater contamination (remaining after active remediation) will be addressed with monitored natural attenuation (MNA). It is anticipated that contamination will decrease by half in a reasonable period of time (ten (10) years). Active remediation will be implemented if it appears that natural processes alone will not address the contamination.

This alternative includes institutional controls, in the form of an environmental easement, a site management plan, and an operation and maintenance plan necessary to protect public health and the environment.

Present Worth: $6,049,000
Capital Cost:.....$5,237,000
Annual Costs:.....$116,900

Exhibit C

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
No Action	0	0	0
Site Management	35,000	7,900	90,000
Restore to Pre-disposal	68,000,000	0	68,000,000
Cover System, In-Situ Thermal Treatment, Vapor Mitigation, Excavation, Monitored Natural Attenuation, Institutional Controls and Site Management	5,240,000	117,000	6,049,000

Exhibit D

SUMMARY OF THE REMEDY

The Department is selecting Alternative 4, Cover System, In-Situ Thermal Treatment, Vapor Mitigation, Excavation, Monitored Natural Attenuation, Institutional Controls and Site Management as the remedy for this site. Alternative 4 will achieve the remediation goals for the site by removing contaminant mass (DNAPL), mitigating vapor intrusion, preventing exposure to contaminated historic outfall drainage ditch soils, allowing groundwater contamination to attenuate and preventing exposure to contaminated deep sediments in the Seneca River. The elements of this remedy are described in Section 7. The remedy is depicted in Figures 2 and 3 of the SOB.

Basis for Selection

The remedy is based on the results of the Corrective Measures Study and the evaluation of alternatives. A detailed discussion of the evaluation criteria and comparative analysis is included in the Corrective Measures Study (2013) and Corrective Measures Study Addendum (2016) reports.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be chosen.

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

The remedy (Alternative 4) will satisfy this criterion by mobilizing DNAPL from below the water table and moving it to the vadose zone where it is recovered using vacuum extraction. Alternative 4 addresses the source of the groundwater contamination, which is a threat to public health and the environment, and allows contamination in the groundwater to attenuate naturally. Alternative 4 also reduces exposure to soils contaminated with the compounds of concern (chlorinated solvent and cadmium) through limited excavation and removal, and maintaining the current site cover system. The vapor intrusion pathway is mitigated through sub- slab depressurization systems. Alternative 1 (No Action) does not provide any additional protection to public health and the environment and will not be evaluated further. Alternative 3, by removing all soil contaminated above the unrestricted soil cleanup objective, meets the threshold criteria. Alternatives 2 and 4 also comply with this criterion but to a lesser degree or with lower certainty. Alternatives 2 and 4 rely on a restriction of groundwater use at the site to protect human health. Alternative 3 may require a shorter-term restriction on groundwater use; however, the restriction would be removed with the attainment of pre-disposal conditions. The potential for soil vapor intrusion will be addressed by Alternatives 2, 3, and 4.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

Alternative 4 complies with SCGs to the extent practicable. It addresses source areas of contamination and complies with the restricted use soil cleanup objectives at the surface through maintenance of a cover system and limited excavation and removal. It also creates the conditions necessary to restore groundwater quality to the extent practicable. Alternative 3 also complies with this criterion. Because Alternatives 2, 3 and 4 satisfy the threshold criteria, the remaining criteria are particularly important in proposing a final remedy for the site. It is expected Alternative 3 will achieve groundwater SCGs, while groundwater contamination above SCGs will remain on-site under Alternatives 2 and 4 for many years.

The next six (6) "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Long-Term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

Long-term effectiveness is best accomplished by those alternatives involving excavation of the contaminated soils and reduction in contaminant mass (Alternatives 3 and 4). Alternative 3 results in removal of almost all of the chemical contamination at the site and removes the need for property use restrictions and long-term monitoring. Alternative 4 will result in the removal of chlorinated solvent contaminants at the site from the soil below the water table, but it also requires an environmental easement, and long-term monitoring of the Natural Attenuation component. For Alternative 2, site management remains effective, but is less desirable in the long-term. Although groundwater beneath the site is not currently used, Alternatives 2, 3, and 4 would require an institutional groundwater use restriction until GA standards were achieved.

4. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Alternative 2 would control potential exposures with institutional controls only and will not reduce the toxicity, mobility or volume of contaminants remaining. Alternative 3, excavation and off-site disposal, reduces the toxicity, mobility and volume of on-site waste by transferring the material to an approved off-site location. However, depending on the disposal facility, the volume of the material would not be reduced. Alternative 4 requires the treatment of approximately 8,200 cubic yards of contaminated soil. The volume of the contaminated soil is reduced, the overwhelming majority of contamination from below the water table will be removed reducing toxicity and mobility. However, the consolidation area will contain residual contamination, entailing restrictions on the use of the property and long-term maintenance of the capped area. All alternatives except number three (3) would require groundwater use restrictions, however, groundwater has not been used at this site in the past and is not reasonably anticipated to be used in the future.

5. Short-Term Impacts and Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

Alternatives 2 through 4 all would have short-term impacts which could be controlled, however, Alternative 2 would have the smallest impact. The time needed to attain the remediation goal of achieving commercial SCOs is the shortest for Alternative 4, Alternative 2 does not attempt to achieve these goals, rather, it limits exposure through site management.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

Alternatives 2 and 4 are favorable in that they are readily implementable. Alternative 3 is also implementable, but the volume of soil excavated under this alternative would necessitate increased truck traffic on local roads for an extended period of time. Further, workers would be displaced while the buildings are removed and rebuilt. The excavation to achieve pre-release conditions required by Alternative 3 would also be logistically challenging, as it would have to extend dozens of feet below the water table in AOCs 1 and 3.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two (2) or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

The costs of the alternatives vary significantly. Alternative 2 has a low cost, but the DNAPL and contaminated soil would not be addressed other than by institutional controls. With its large volume of soil to be handled, Alternative 3 (excavation to unrestricted SCOs and off-site disposal, as well as dredging the Seneca River) would have the highest cost. In-situ thermal treatment, limited shallow excavations, a natural cap on Seneca River sediments and a SSDS (Alternative 4) will be much less expensive than Alternative 3, yet it will provide equal protection of the groundwater resource. The benefits of Alternatives 3 and 4 are similar to each other, although the capital cost for Alternative 3 would be much higher than that of Alternative 4. The long-term maintenance cost of Alternative 4 would be higher than long-term maintenance under Alternative 3.

8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy proposal.

Since the anticipated use of the site is industrial, Alternatives 2 and 4 would be less desirable because at least some contaminated soil would remain on the property whereas Alternative 3 would remove or treat the contaminated soil permanently. However, the residual contamination with

Alternative 4 will be controllable with implementation of a Site Management Plan. With Alternative 3, removing the soil to a depth of 33 feet below grade in area south of the current structures (AOCs 1, 2, and 3) soils exceeding commercial SCOs in the drainage ditches and dredging the bottom of the Seneca River to achieve sediment standards, most of the unsaturated overburden would be removed and restrictions on the site use would not be necessary.

The final criterion, Community Acceptance, is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Remedial Action Plan have been received.

9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the SOB are evaluated. A responsiveness summary has been prepared that describes public comments received and the manner in which the Department will address the concerns raised.

Alternative 4 is being selected because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion.

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

G.T.E. Products Corporation
Operable Units No. 01 and 02
On-site RCRA corrective actions, historic waste water outfalls and the canal sediments.
Resource Conservation and Recovery Act (RCRA)
Seneca Falls, Seneca County, New York
Site No. 850003

The Draft Statement of Basis (SoB) for the G.T.E. Products Corporation site was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 14, 2018. The SoB outlined the remedial measure proposed for the contaminated groundwater and soil vapor at the G.T.E. Products Corporation site.

The release of the SoB was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy. Copies of the SoB and it's support documents were provided to the Document Repository located at the Seneca Falls Public Library.

A 45-day public comment period provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the SoB ended on March 30, 2018.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the Department's responses:

Greg Zellers - Seneca Falls Devolvement Corporation called the NYSDEC Project Manager and verbally submitted Comment 1.

Comment 1: I read in the fact sheet that you (C. Magee) are the contact for this site. We would like some additional information on this project.

Response 1: A file has been made available to the Commenter via the Department's file transfer service. The file includes multiple site related documents including:

02/14/2018 Draft Statement of Basis (NYSDEC)
03/23/1994 RCRA Facility Assessment (Chester Environmental)
02/28/1995 Supplemental Sampling Visit Investigation Report (Chester Environmental)
01/08/2002 Historical Chain of Title Report (O'Brien & Gere engineers Inc.)
06/28/2002 RCRA Facility Investigation Report (URS)
01/29/2003 RCRA Facility Investigation Report Addendum Parts 1 & 2 (URS)
01/15/2004 Examination of Title Report (Public Audit)
06/28/2013 Corrective Measures Study Report (Arcadis)
10/11/2016 Corrective Measures Study Report Addendum (Arcadis)

Note, all of the above listed documents are also available at the site's document repository at the Seneca Falls Public Library.

Mathew Walsh, Manager, Corporate Environmental, Health, Safety, and Compliance, GTEOSI, submitted a letter dated March 26, 2018 which contained comments 2 through 12.

Comment 2: The SSD and ventilation systems in Buildings 1, 2, 7, 8, and 9 were installed and activated during the first quarter of 2017.

Installation of the new SSD system for Buildings 10 and 11 is underway. The IRM systems in these buildings are still operating. The piping system in Buildings 10 and 11 is complete, and we are currently installing the vacuum pumps, appurtenances, and controls (housed inside Building 9B). We anticipate starting the Buildings 10 and 11 SSD system in about 6 weeks. At that time, the upgrades and expansions to the SSD and ventilation systems described in the Sub-Slab Depressurization System Conceptual Design Report will be complete and operating.

Response 2: Thank you for the update. Comment noted.

Comment 3: Cover Page: The site name is listed as "G.T.E. Products Corporation." We suggest a change to "Former Philips Display Components Facility" to match previous documents prepared for this site. This change should be carried on throughout the document.

Response 3: According to the Division of Environmental Remediation's records, "GTE" is the actual remedial party and the site has been known by the current name (or something very similar) since 1983.

Comment 4: Section 3: Site Description and History - In the last sentence under "Historic Use(s)", "Viva Foam Products, Inc." should be changed to "Seneca Falls Specialties & Logistics Company, Inc.", which currently operates the facility.

Response 4: This change has been made to Statement of Basis document.

Comment 5: Section 5: Enforcement Status - The entity "Verizon GTE Operation Support Inc." does not exist and should be changed to the correct entity name: "GTE Operations Support Incorporated". GTE Operations Support Incorporated is not a PRP, but is performing the site cleanup through a business arrangement with Philips, the facility's former owner and operator between 1981 and 1989.

Response 5: Section 5 of the Statement of Basis has been updated to read "GTE Operations Support Incorporated has been identified as a Potentially Responsible Party for the site," consistent with the information presented in NYSDEC's Uniform Information System.

Comment 6: Section 6.1.2: Investigation Results and Section 6.3 Summary of Environmental Assessment - For consistency and accuracy, "RI Report" should be changed to "RFI Report" in these sections and in the remainder of the document.

Response 6: Section 6.1.2 has been modified to read "Corrective Measures Study (CMS) Report", as that report contains the most complete tabulations of the data collected at the site, including that which as gather for and reported in the RFI.

Comment 7: Section 6.3: Summary of Environmental Assessment - The fourth paragraph should be clarified as follows to avoid implying that cadmium is a breakdown product of TCE.
Based upon investigations conducted to date, the primary contaminants of concern for this site include TCE, its breakdown products (cis-1,2-dichlorothene and vinyl chloride), and cadmium.

Response 7: Section 6.3 has been modified to reflect the suggested change.

Comment 8: Section 6.4: Summary of Human Exposure Pathways - The first sentence of the second paragraph *states "People may contact contaminants in soil if they dig below the surface or occupy the historic outfalls."* It is not possible to dig below the surface or occupy the historical outfalls because the pipes were sealed off and the outfalls no longer exist or are buried. This statement should be revised to refer to soil in the outfall ditches.

Response 8: It is physically possible to dig below the surface. The text of section 6.4 has been modified to read "...or contact soil from the historic outfall ditches."

Comment 9: Section 7: Elements of the Proposed Remedy - The subsection on OU 1, part 2 – Soil Vapor Intrusion Mitigation, states that "*All on-site buildings will be required to have a sub-slab depressurization system, or other acceptable measures, to address migration of vapors into the building from soil and/or groundwater.*" This section should be revised to state that monitoring data presented in the Corrective Measures Study indicate that a soil vapor intrusion pathway is not present in Building 12, and that the potential for soil vapor intrusion in Buildings 13 and 13A is limited. Thus, soil vapor intrusion mitigation is not planned in Buildings 12, 13, and 13A.

Response 9: The text of Section 7, #2 has been modified to reflect the comment.

Comment 10: The subsection on OU 1, part 3 – In-Situ Thermal Treatment, suggests that electrical resistance heating (ERH) will be the method used to treat soils at the site. This section should be expanded to include a description of thermal conductive heating (TCH), and state that a decision regarding the thermal remediation method (e.g., ERH or TCH) will be made after pre-design engineering data are collected and evaluated.

Response 10: The text of the statement of Basis has been amended to reflect the comment.

Comment 11: The subsection OU 2, part 1 – Limited Soil Excavation, states that "*AOC 5 soils that exist in drainage ditches beyond the limits of the former plant property will be remediated to residential cleanup objectives.*" No drainage ditches extend beyond the plant property boundary in the areas of historic outfalls HO2 through HO5. The presence of drainage ditches outside the property boundary near historic outfalls HO1, HO6, and HO7 will be evaluated and if found, soil will be sampled to determine if remediation is necessary.

Response 11: The outfall ditches referred to as beyond the limits of the former plant property are HOs 1,6 and 7. No changes have been made to the Statement of Basis.

Comment 12: The subsection on OU 2, part 2, states that "*Sediments in the canal at the point where the outfall ravines enter the canal will be sampled and all sediments exceeding sediment criteria for the contaminants of concern will be removed up to the edge of the navigation canal.*" This section should be clarified to define the edge of the navigation canal as the 100-year floodplain boundary.

Response 12: Text was added to clarify that 6 NYCRR Part 373 Hazardous Waste Management Permits include requirements for corrective action. Owners of RCRA facilities must investigate and, when appropriate, remediate releases of hazardous wastes and/or constituents to the environment. G.T.E. Products Corporation does not operate site #850003 under a RCRA permit. Corrective action activities will be performed under the authority of an order that the Department hopes they can negotiate upon the finalization and signing of this Statement of Basis.

Text was also added to identify the 100 year flood plain as the limit for the application of sediment criteria.

Comment 13: Project Manager received a list of compounds titled "CHEMICALS USED IN PROCESSING AT PHILIPS ECG" via the US Postal Service from an unidentified party.

Response 13: This information will be taken into consideration during the upcoming Remedial Design.

APPENDIX B

Administrative Record

Administrative Record

G.T.E. Products Corporation
Operable Units No. 01 and 02
On-site RCRA corrective actions, historic waste water outfalls and the canal sediments.
Resource Conservation and Recovery Act (RCRA)
Seneca Falls, Seneca County, New York
Site No. 850003

1. NYSDEC 02/14/2018 Draft Statement of Basis.

2. Arcadis 10/11/2016 Corrective Measures Study Report Addendum.

3. Arcadis. 2013. Corrective Measures Study Report. Former Philips Display Components Facility, Seneca Falls, New York. June, 2013.

4. Public Audit 01/15/2004 Examination of Title Report.

5. URS Corporation (URS) 01/29/2003 RCRA Facility Investigation Report Addendum Parts 1 & 2.

6. URS Corporation (URS). 2002. RCRA Facility Investigation, Former Phillips Display Components Facility, Seneca Falls, New York for GTE Operations Support Incorporated, Volume 1. June 2002.

7. O'Brien & Gere engineers Inc. 01/08/2002 Historical Chain of Title Report.

8. Chester Environmental 02/28/1995 Supplemental Sampling Visit Investigation Report.

9. Chester Environmental. 1994. Interim Sampling Visit Investigation. Former Philips Display Components Facility, Seneca Falls, New York. March, 1994.