PROPOSED REMEDIAL ACTION PLAN

Kingsbury Landfill
Operable Unit Number 01: On-Site Contamination
State Superfund Project
Kingsbury, Washington County
Site No. 558008
March 2023

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

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SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the above referenced site. The disposal of hazardous wastes at the site resulted in threats to public health and the environment that were addressed by actions known as interim remedial measures (IRMs), which were undertaken at the site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or feasibility study (FS). The IRMs undertaken at this site are discussed in Section 6.2.

Based on the implementation of the IRMs and continued site management, the findings of the RI indicate that the site does not pose a threat to human health or the environment. The IRMs conducted at the site attained the remediation objectives identified for this site, which are presented in Section 6.5, for the protection of public health and the environment. No Further Action is the remedy proposed by this Proposed Remedial Action Plan (PRAP). A No Further Action remedy may include site management, which will include continued operation of any remedial system installed during the IRM and the implementation of any prescribed institutional controls/engineering controls (ICs/ECs) that have been identified as being part of the proposed remedy for the site. This PRAP identifies the IRMs conducted and discusses the basis for No Further Action.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this document in accordance with the requirements of 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 375. This document is a summary of the information that can be found in the site-related reports and documents in the document repository identified below.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all PRAPs. This is an opportunity for

public participation in the remedy selection process. The public is encouraged to review the reports and documents, which are available at the following repositories:

Hudson Falls Free Library
220 Main Street
Hudson Falls, NY 12839
Phone: (518) 747-6406

DECInfo Locator - Web Application:
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=558008

A public comment period has been set from:

03/1/2023 to 03/30/2023

A public meeting is scheduled for the following date:

03/13/2023 at 6:00 PM

At the meeting, the findings of the remedial investigation (RI) will be presented along with a summary of the proposed remedy. If interested in attending the virtual public meeting click the link to register: https://meetny.webex.com/weblink/register/rfae754aea8559d1334aab126e5cf48fe

A phone number will be provided upon registration.

After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP.

Written comments may also be sent through 03/29/2023 to:

Jenelle Gaylord
NYS Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233
jenelle.gaylord@dec.ny.gov

The Department may modify the proposed remedy presented in this PRAP based on new information or public comments. Therefore, the public is encouraged to review and comment on the proposed remedy identified herein. Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

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 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 9.8-acre Kingsbury Landfill site is located on Burgoyne Avenue near the intersection of Pine Street in the Town of Kingsbury, Washington County, New York. The Glens Falls Feeder Canal Trail bike path and the Feeder Canal border the site to the south.

Site Features:
The site is a closed landfill. The former landfill was capped in 1989 and is now covered with grass. A treatment building is located on-site which houses the leachate collection and treatment system (LCTS). The landfill is surrounded by woods, grasses and two ponds.

Current Zoning and Land Use:
The landfill is currently inactive and is zoned commercial. The parcels surrounding the landfill are zoned agricultural. The nearest residence is approximately 600 feet west of the site on Burgoyne Avenue.

Past Use of the Site:
The Kingsbury Landfill operated as a municipal landfill from 1930 to 1985 and received both solid and hazardous wastes. Between 1930 and 1980, the General Electric Company (GE) disposed of an estimated 1,900 tons of hazardous waste at the landfill. The primary contaminants of concern are polychlorinated biphenyl (PCBs), volatile organic compounds (VOCs) and metals. PCB contamination was evaluated off-site in Cutters Pond and Brown Pond. Contamination was discovered in Brown Pond and subsequently remediated via sediment excavation in October 2011.

Complaints by an adjacent landowner of leachate migrating into a surface water body resulted in legal action between 1967 and 1972. The Kingsbury Landfill operator, Town of Kingsbury, attempted to divert leachate and surface water runoff into the Feeder Tow Canal but was unsuccessful. During hearings before the Department, GE acknowledged that they had disposed of 1,900 tons of industrial waste material at the landfill, including PCBs in the form of scrap capacitors.

The Department and NYSDOH initiated a sampling program at the Site between 1977 and 1979 with follow-up sampling in 1980 and 1981. The results of these investigations found: elevated levels of PCBs and other contaminants prompting the closure of the landfill; PCB soil contamination did not extend much beyond the immediate perimeter of the landfill; and groundwater beneath the landfill was found to contain significant levels of PCBs.

On September 24, 1980, GE entered into an agreement with the Department (referred to as the Seven Sites Agreement) which established requirements for actions to be completed at the Site to remediate the identified environmental impacts as well as mitigate the potential for ongoing and future environmental degradation.

Landfill closure activities were completed in 1989. These activities included: the construction of a slurry wall; a low permeability clay cap and cover system; a passive landfill gas venting system; a leachate collection and treatment system; and the installation of groundwater monitoring wells. When initially constructed, the landfill gas was treated through activated carbon units integrated into the vent risers. In 2016, the carbon drums were replaced with turbine vents as the drums had deteriorated.

Following closure activities, a leachate stream, estimated to be flowing at up to 30 gallons per minute, continued to drain from the site. The Department designed and installed the leachate collection and treatment system in 1988 and 1989. After a 1990 full-scale treatability study, renovations to the treatment system were completed in 1991 and the system was fully operational.

The ILCTS has been treating leachate collected by the underdrain system from March 1989 to the 2019. The system was inactive from 1992 to 2002 due to low leachate levels. In August 2002, the system was re-started due to rising leachate levels and was operated seasonally through 2009. The system has run continuously from June 2009 to September 2019 when the treatment system was turned off to monitor the rise in leachate level inside the slurry wall. A series of upgrades were performed in 1995, 2008 and 2013.

In 2014, a remedial systems optimization report introduced remedial alternatives to address the continued generation of leachate. These alternatives were further evaluated in the Remedial Investigation – Focused Feasibility Study before the Department selected the upgradient drain for Interim Remedial Measure (IRM) implementation.

Operable Units:
The site was divided into two 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. Operable Unit 1 (OU1) is the on-site landfill area and impacted groundwater. OU2 consists of off-site soil and sediment. The off-site portions consist of a feeder/tow canal for the Champlain Canal (located to the south/southwest of the landfill), Cutter Pond (located to the east), and a small unnamed pond, referred to here as Brown Pond (located to the north).

Site Geology and Hydrogeology:
The site lies within the Hudson-Champlain Lowland, a broad bedrock depression formed in the Middle Ordovician Snake Hill Formation. The bedrock depression became a depositional outlet for retreating Wisconsinan Stages glaciers. The area was occupied by a series of lakes where sand, silt and clay were deposited in broad deltas formed by Glacial Lake Hudson.

Groundwater flow is to the east-southeast through the sand aquifer. Depth to groundwater ranges from 2 to 10 feet below ground surface (bgs) across the site.

Operable Unit (OU) Number 01 is the subject of this document.

A Record of Decision was issued previously for OU 02 which addressed offsite soil and sediment. As PCB-contaminated sediment was removed from Brown's Pond in 2011, a No Further Action Record of Decision was released in March 2014.

A site location map is attached as Figure 1. A site boundary map is shown in Figure 2.

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.

A comparison of the results of the investigation to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The PRPs for the site, documented to date, include:

General Electric

United Merchants and Manufacturers, Inc.

Town of Kingsbury

The Department entered into a Consent Order with the General Electric Corporation (GE) in 1980; with the Town of Kingsbury (Town) in 1985; and with United Merchants and Manufacturers, Inc. (UMM) in 1985. The Orders obligate the Town, UMM, and GE to provide a financial contribution toward a full remedial program to be implemented by the Department.

If the Department incurs costs under the State Superfund for implementation of the remedial program or continued operation and maintenance at the site, the Department will seek cost recovery from all appropriate PRPs to the extent costs are recoverable under the Orders or applicable law.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- groundwater
- surface water
- soil
- sediment

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 selection of a 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 RI 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. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI 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 in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminants of concern identified for this Operable Unit at this site are:

polychlorinated biphenyls (PCB)
trichloroethene (TCE)
benzene
vinyl chloride
chlorobenzene
1,4-dioxane
Per- and polyfluoroalkyl substances (PFAS)
cis-1,2-dichloroethene
1,4-dichlorobenzene
1,3-dichlorobenzene
1,1-dichloroethane
1,1-dichloroethene
methylene chloride
dichlorodifluoromethane
xylene (mixed)
naphthalene
phenol
antimony
arsenic
chromium
lead

Based on the investigation results, comparison to the SCGs, and the potential public health and environmental exposure routes, certain media and areas of the site required remediation. These media were addressed by the IRMs described in Section 6.2. More complete information can be found in the RI Report.

6.2: Interim Remedial Measures

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

The following IRMs have been completed at this site based on conditions observed during the RI.

Capping/Slurry Wall

Installed in 1989, the soil-bentonite groundwater cut-off wall (slurry wall) and the low permeability clay cap and cover system are meant to effectively cut off the waste mass and leachate from the surrounding environment. The slurry wall is constructed of a soil bentonite mixture and surrounds the waste mass forming a barrier to leachate escaping into permeable soils. The wall elevation and depth of construction varies to match the geologic conditions encountered. The depth of slurry wall placement is controlled by the underlying clay surface, with trenching terminating six feet into the underlying clay to create a low permeability seal. The slurry was placed without failing any required quality control testing, but was required to be extended deeper in areas to address localized permeable soils. A soil cap was installed at the site consisting of a 42-inch layer of compacted clay, a 12-inch layer of silty loam, and a 6-inch layer of topsoil. The cap was designed to restrict infiltration of precipitation into the landfill. The compacted soil cap depends on a vegetative cover to maintain the cohesion of the soil. Rip-rip filled drainage ditches channel runoff away from the landfill towards the east.

Leachate Treatment System

In 1988 and 1989, the Interim Leachate Collection and Treatment System (ILCTS) was installed to evacuate and treat leachate from the landfill in response to leachate seeps appearing along the junction of the cap and cut-off wall. The ILCTS was designed to reduce the leachate head in the landfill thereby protecting the integrity of the engineered cap and cover system and mitigating the potential for leachate release into the environment. The ILCTS was designed for a maximum capacity of 30 gallons per minute (gpm), which was estimated to be sufficient to maintain the leachate elevation at or below the 202-foot action level to prevent seeps. In the treatment system, leachate from the landfill is first aerated to oxidize the iron, then chemically treated with sodium aluminate and a polymer to remove the precipitated iron, and finally polished by activated carbon to remove PCBs. The ILCTS was first operated in 1991, removing and treating almost two million gallons of leachate. The leachate collection system was renovated in response to operational problems in 1995 and again in 2008. The ILTS was operated by Earth Tech and IEG in 2002, 2003 and 2005, removing and treating approximately two million gallons of leachate in each 3-month operating season.

The ILCTS operated continuously from 2009 until 2019. In April 2011, an inspection indicated that both the shallow and deep drains lines were partially to completely blocked with sediment. An effort was made in 2011 to draw down the leachate level in the landfill in order to access the drain lines which had become clogged. The pumping rate was increased from approximately 3 gpm to almost 10 gpm in August 2011, but further discussions on drain lancing with NYSDEC resulted in the postponement of the operation pending a review of other alternatives. The treatment system was shut off on September 9, 2019 to conduct a rising head test and install an upgradient drain to alleviate leachate mounding within the slurry wall. The system is currently offline and, as discussed below, may be decommissioned based on performance monitoring.

Upgradient Drain

In October 2022, an 8-inch upgradient gravity drain was installed to decrease the volume of water entering the landfill, alleviate leachate mounding within the landfill, and reduce slurry wall leaks down and side gradient of the landfill. Groundwater flow upgradient of the landfill is redirected to Cutter's Pond and regulated under a State Pollutant Discharge Elimination System (SPDES) permit equivalent. The recently installed upgradient drain has significantly lowered groundwater elevations upgradient of the waste mass, thereby reducing the groundwater mounding pressure behind the slurry wall as intended. Groundwater level reductions also have begun within the waste mass and will take time for the aquifer to equilibrate. Monitoring will continue to ensure the IRM remains effective and the need to restart the ILCTS is alleviated.

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.

Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary for OU 01.

This site is a closed landfill. The primary contaminants of concern are polychlorinated biphenyls (PCBs) in Brown's Pond sediments and volatile organic compounds (VOCs) and PCBs in on-site soil and groundwater. Per- and Polyfluoroalkyl Substances (PFAS), perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were also reported in groundwater. Unless otherwise noted, concentrations described below are from the post-IRM sampling event.

Groundwater: Total PCBs in site groundwater were detected at concentrations up to 97 parts per billion (ppb), exceeding the groundwater standard of 0.09 ppb. Several VOCs, including but not limited to, chlorobenzene (CB) and trichloroethene (TCE) and associated breakdown products exceeded the groundwater standard of 5 ppb, with CB detected up to 100 ppb and TCE up to 270 ppb. PFOA and PFOS were detected at concentrations of up to 1500 and 680 parts per trillion (ppt), respectively, both exceeding the 10 ppt screening levels for groundwater. The highest individual PFAS compound that exceeded the 100 ppt screening level was Perfluorohexanesulfonic acid (PFHxS) at 500 ppt. The total concentration of PFAS, including PFOA and PFOS, were reported at concentrations up to 3,283.6 ppt, exceeding the 500 ppt screening level for groundwater. 1,4-Dioxane was reported at a concentration of up to 140 ppb, exceeding the 1 ppb screening level for groundwater. The highest exceedances for PFAS and 1,4-dioxane occur inside the slurry wall within the waste mass. Groundwater at the site is not used as a source of drinking water. While there is evidence of contaminated groundwater just downgradient of the slurry wall over standards, there are no known downgradient wells used as sources of drinking water within at least one-half mile of the site and the IRMs are expected to limit further migration of contaminated groundwater.

Soil: During an additional investigation in 2019, PCBs and VOCs were detected in site soils that have been sequestered under the landfill cover system. Total PCBs were detected in site soils up to 162 parts per million (ppm) compared to the unrestricted use soil cleanup objective (UUSCO) of 0.1 ppm. Acetone was detected at 0.13 ppm (UUSCO – 0.05 ppm). Acetone and PCB soil exceedances above the commercial use SCO were found within the slurry wall.

Off-Site Surface Water: Four samples were collected from nearby Cutter Pond and two from the Feeder Canal. Samples were analyzed for VOCs, SVOCs, PCBs, and Target Analyte List (TAL) metals. There were no exceedances of VOCs, SVOCs, or PCBs in any of the six samples. Iron, manganese, and sodium exceedances are similar to concentrations present upgradient of the landfill, indicating iron, manganese, and sodium are naturally high in the underlying aquifer.

Off-Site Sediment: Sediment samples were collected from Cutters Pond, co-located with surface water samples noted above, following completion of the IRMs. The results indicate that sediment in Cutter's Pond slightly exceed the Department's Class A standards, criteria or guidance (SCGs) chromium, copper, and nickel as follows: chromium up to 43 ppm (SCG <43 ppm), copper up to 35 ppm (SCG <32 ppm); nickel up to 49 ppm (SCG <23 ppm). There were no exceedances of VOCs, SVOCs, PCBs or pesticides. Sediment in Brown's Pond that exceeded PCB standards was removed in 2011. Removal activities are summarized in the OU2 Record of Decision.

Residual contamination in the soil, groundwater, and sediment is being managed under a Site Management Plan.

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.*

Remedial activities undertaken at the site have effectively reduced the potential for exposure to site-related contaminants and measures are in place to ensure that these measures remain protective in the future.

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:

Groundwater

RAOs for Public Health Protection

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

RAOs for Environmental Protection

- Prevent the discharge of contaminants to surface water.

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.

SECTION 7: SUMMARY OF PROPOSED REMEDY

Based on the past site investigations and completion of multiple IRMs consisting of a cutoff wall, impermeable cap, and upgradient drain, the Department is proposing No Further Action

with Site Management as the remedy for Operable Unit 01. The recent investigation data indicate this Operable Unit does not pose a significant threat to human health or the environment and satisfies the remedial objectives described in Section 6.5. To ensure the remedy remains effective in protecting human health and the environment and complies with the New York State standards, criteria, and guidance, site management activities shall continue in accordance with the current Site Management Plan.

The elements of the IRM already completed and the institutional controls are listed below:

1. Green remediation principles and techniques will be implemented to the extent feasible in the 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 gas and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials; and
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;

2. Imposition of an institutional control in the form of an environmental easement for the controlled property.

3. A Site Management Plan is required, which includes the following:

a) an Institutional Control Plan that identifies all use restrictions for the site and details the steps and media-specific requirements necessary to ensure the following institutional controls remain in place and effective:

Institutional Controls:
The Environmental Easement discussed above.

This plan includes, but may not be limited to:

- descriptions of the provisions of the environmental easement including the restriction of groundwater use as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;
- allow the use and development of the controlled property for commercial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- a provision for evaluation of the potential for soil vapor intrusion for any new buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision that should the owners of properties where water supply sampling was previously offered request to have their properties sampled in the future, the NYSDEC, in consultation with the NYSDOH, shall assess the need for sampling and take appropriate action;

- maintaining site access controls and Department notification;
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls; and
- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional controls in accordance with Part 375-1.8 (h)(3).

b) Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- a schedule of monitoring and frequency of submittals to the Department; and
- monitoring for vapor intrusion for any new buildings developed on the site, as may be required by the Institutional and Engineering Control Plan described above.

c) an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the remedial systems, in the event the treatment system is turned back on. The plan includes, but is not limited to:

- procedures for operating and maintaining the system; and
- compliance inspection of the systems to ensure proper O&M as well as providing the data for any necessary reporting.

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation (RI) 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 four categories: volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics (metals and cyanide). 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.

Waste/Source Areas

As described in the RI report, waste/source materials were identified at the site and are impacting groundwater.

Wastes are defined in 6 NYCRR Part 375-1.2 (aw) and include solid, industrial and/or hazardous wastes. Source Areas are defined in 6 NYCRR Part 375 (au). 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, the area bounded by the slurry wall, which contains the waste disposal area (Figure 2). The landfill is primarily composed of municipal solid waste; however, it also contains hazardous waste along with 1,900 tons of waste capacitors containing PCBs. The landfill cap restricts precipitation infiltration into the waste mass, preventing the accumulation of leachate. The slurry wall that was installed around the waste was keyed into the underlying clay but was being overtopped and bypassed by incoming groundwater. The recently installed upgradient drain has significantly lowered groundwater elevations upgradient of the waste mass, demonstrating the IRM's effectiveness. Water level reductions have begun within the waste mass and will take time for the aquifer to equilibrate. The waste/source areas identified at the site were addressed by the IRMs described in Section 6.2.

Groundwater

Groundwater samples were collected from monitoring wells upgradient, sidegradient, and downgradient of the landfill that were installed both inside and outside of the current slurry wall. Samples were collected to assess groundwater conditions on-site. The results from the RI indicated that contamination of the groundwater exceeded the SCGs for VOCs, SVOCs, PCBs, and metals. One round of post IRM groundwater samples have been collected to date and are presented in Table 1 and Figures 3 through 5. Groundwater exceeded SCGs for VOCs (Figure 3), SVOCS (Figure 3), PCBs (Figure 4) and metals (Figure 5); the highest concentrations occur within the slurry wall. The focus of the RI and subsequent Feasibility Study (FS) was to evaluate the control of the upgradient groundwater. Controlling groundwater entering the site will limit, or eliminate, the migration of contaminants from the site. Since the installation of the upgradient drain, the upgradient groundwater elevation has been significantly reduced, demonstrating the drain is functioning as designed. Contaminant levels of VOCs, SVOCs, PCBs, and

metals are being monitored outside of the slurry wall to confirm the IRM effectiveness. Concentrations outside of the slurry wall are expected to decrease below the associated SCGs as the aquifer stabilizes.

Currently, VOC and SVOC exceedances occur mainly within the slurry wall. Minor exceedances are also present outside of the slurry wall in select locations sidegradient (both east and west) and downgradient of the landfill. The highest PCB exceedances in groundwater are located within the slurry wall in the southern portion of the landfill. Four locations outside of the slurry wall on the eastern side of the landfill exceed the SCG for PCBs. Various metals exceed their corresponding SCGs both within and outside of the slurry wall. Although antimony, selenium, and sodium occur upgradient of the landfill, these metals are also present in groundwater within the slurry wall. Antimony, iron, manganese, magnesium, and sodium are the most frequent metals to exceed their respective SCGs within the slurry wall. The highest emerging contaminant concentrations occur within the slurry wall.

Table 1 - Groundwater

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
VOCs			
1,1-Dichloroethane	ND - 11	5	2/33
1,1-Dichloroethene	ND - 7	5	2/33
1,2,4-Trimethylbenzene	ND 6.9	5	2/33
1,2-Dichlorobenzene	ND - 3.1	3	1/33
1,2-Dichloroethane	ND - 0.88	0.6	2/33
1,3-Dichlorobenzene	ND - 12	3	2/33
1,4-Dichlorobenzene	ND - 45	3	3/33
Acetone	ND - 120	50	1/33
Benzene	ND - 16	1	8/33
Chlorobenzene	ND - 100	5	5/33
cis-1,2-Dichloroethene	ND - 180	5	8/33
Dichlorodifluoromethane	ND - 8.1	5	1/33
m&p-Xylene	ND - 16	5	2/33
N-Butylbenzene	ND - 8.4	5	1/33
Trichloroethene (TCE)	ND - 270	5	5/33
Vinyl Chloride	ND - 12	2	7/33
Xylene	ND - 16	1	2/33
SVOCs			
Phenol	ND - 48	1	3/33
Inorganics			
Antimony	ND - 22	3	26/33
Barium	15 - 1,100	1,000	1/33
Iron	25 - 62,000	300	26/33
Magnesium	87 - 92,000	35,000	12/33
Manganese	3.8 - 6,700	300	18/33
Selenium	ND - 21	10	11/33
Sodium	3,900 - 200,000	20,000	27/33
Pesticides/PCBs			
Total PCB	ND - 97	0.09	15/33
Aroclor-1221	ND - 28	0.09	1/33
Aroclor-1242	ND - 97	0.09	13/33
Aroclor-1260	ND - 0.33	0.09	1/33

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
Aroclor-1248	ND - 0.46	0.09	1/33
Emerging Contaminants			
1,4-Dioxane	0.27 - 89	1	3/5
Perfluorooctanesulfonic acid (PFOS)	0.00042 - 0.54	0.01	4/5
Perfluorooctanoic acid (PFOA)	0.0032 - 1.1	0.01	3/5

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), and PFAS Guidance: Sampling, Analysis, and Assessment of PFAS (revised November 2022).

Groundwater contamination identified during the RI was addressed during the IRMs described in Section 6.2. As groundwater contamination is present within the landfill waste mass, continued monitoring through site management is required.

Soil

Five soil samples were collected during the installation of the new triplet monitoring wells in June and July 2019 both inside and outside the slurry wall. Samples were collected from depths between 17 and 72 feet below ground surface to assess soil contamination impacts to groundwater in the three aquifer units present below the site. Soil samples were analyzed for VOCs and PCBs. The results indicate that soil at the site exceed the unrestricted soil cleanup objective (SCO) for VOCs and PCBs (Figure 6; Table 2). Acetone exceeded the unrestricted soil cleanup objective (SCO) in one sample located inside the slurry wall but did not exceed the commercial use SCO. PCBs were detected above the unrestricted soil cleanup objectives in all five samples at concentrations ranging from 0.28 mg/kg to 162 mg/kg. However, only two samples exceeded the commercial use SCO; both samples were located within the slurry wall.

Table 2 - Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
VOCs					
Acetone	ND-0.13	0.05	1/5	500	0/5
Pesticides/PCBs					
PCB-1232	ND-150	0.1	4/5	1	2/5
PCB-1254	ND-12	0.1	2/5	1	1/5
Total PCBs	0.28-162	0.1	5/5	1	2/5

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(a), Unrestricted 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 Groundwater.

Based on the findings of the Remedial Investigation, the past disposal of hazardous waste has resulted in the contamination of soil by VOCs and PCBs and has been addressed during the IRM described in Section 6.2. Soil exceedances above the commercial use SCO occur within the slurry wall and at depth, limiting the exposure pathway. Therefore, continued site management is required to monitor impacts, if any, to groundwater.

Surface Water

Four surface water samples were collected from Cutter Pond and two surface water samples from Feeder Canal (Figure 7). Samples were analyzed for VOCs, SVOCs, PCBs, and TAL metals (Table 3). There were no exceedances of VOCs, SVOCs, or PCBs in any of the six samples. Iron, manganese, and sodium exceedances are similar to concentrations present upgradient of the landfill, indicating iron, manganese, and sodium are naturally high in the underlying aquifer.

Table 3 - Surface Water

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
VOCs			
No exceedances for VOCs			
SVOCs			
No exceedances for SVOCs			
Inorganics			
Iron	210 - 1400	300	4/6
Manganese	14 - 540	300	2/6
Sodium	23,000 - 33,000	20,000	6/6
Pesticides/PCBs			
No exceedances for Pesticides/PCBs			

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b-SCG: Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1) and 6 NYCRR Part 703: Surface Water and Groundwater Quality Standards.

Based on the findings of the RI, the past disposal of hazardous waste has resulted in the contamination of sediments by iron, manganese, and sodium and are associated with landfill disposal activities. However, no remedial alternatives were evaluated for surface water, since contamination in surface water at the site only slightly exceeds the SCGs for metals and are naturally occurring.

Sediments

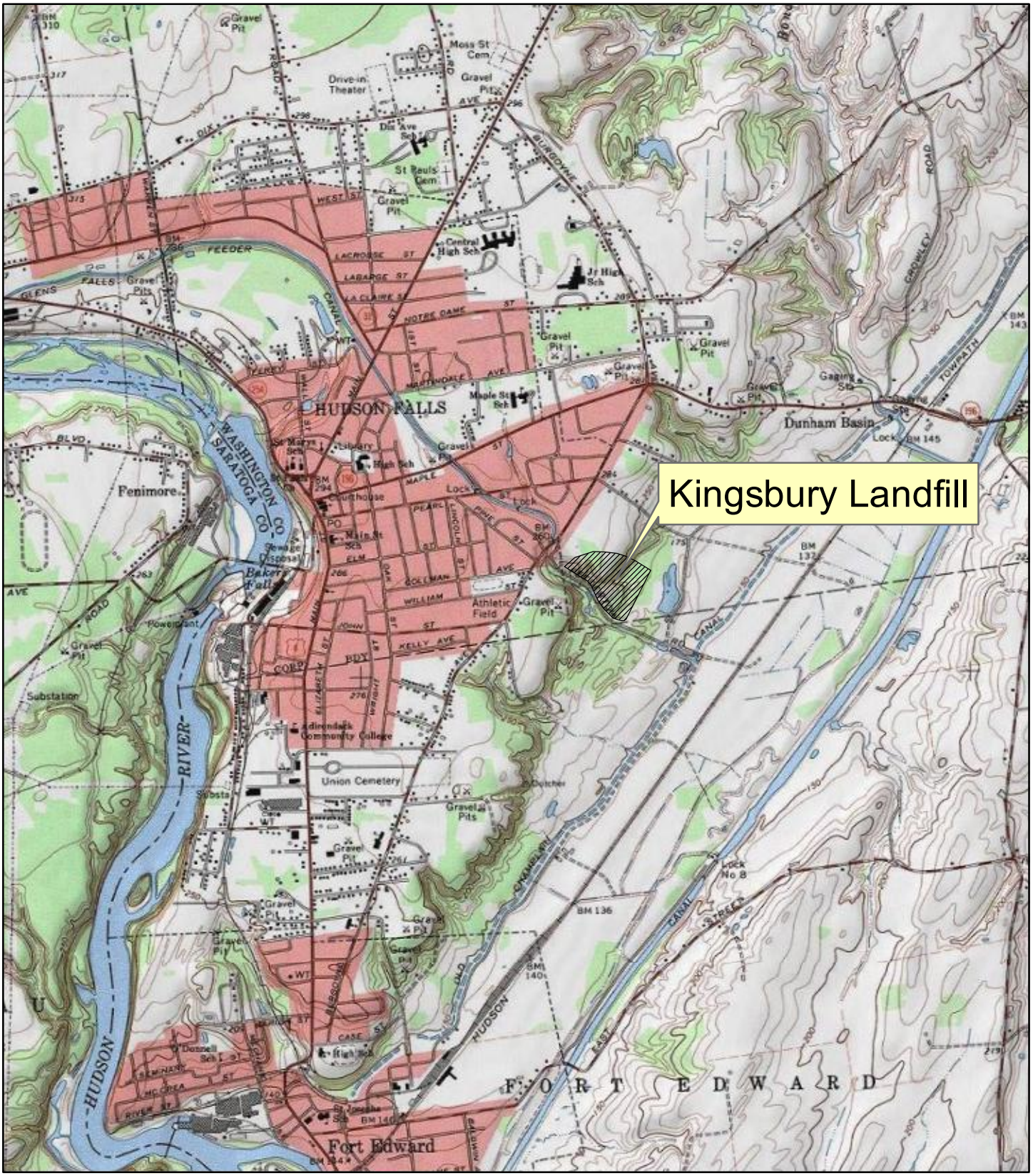
Sediment samples were collected in Cutters Pond co-located with surface water samples (Figure 7). Samples were collected to access the potential for impacts to pond from the site after the completion of the IRMs. The results indicate that sediment in Cutter's Pond slightly exceed the Department's SCGs for sediments for chromium, copper, and nickel (Table 4).

Table 4 - Sediments

Detected Constituents	Concentration Range Detected (ppm)[a]	SCG[b] Class A (ppm)	Frequency Exceeding SCG
VOCs			
No Exceedances for VOCs			
SVOCs			
No Exceedances for SVOCs			
Inorganics			
Chromium	3 - 43	<43	1/4
Copper	2.1 - 35	<32	1/4
Nickel	2.9 - 49	<23	2/4
Pesticides/PCBs			
No Exceedances for Pesticides/PCBs			

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in sediment;
b - SCG: Class A: The Department's "Technical Guidance for Screening Contaminated Sediments."

Based on the findings of the RI, the past disposal of hazardous waste has resulted in the contamination of sediments by chromium, copper, and nickel which are associated with landfill disposal activities. However, no remedial alternatives were evaluated for sediment, since contamination in sediment at the site only slightly exceeds the SCGs for metals.



USGS Hudson Falls Quadrangle

U.S.G.S. 1:24 000 SCALE TOPOGRAPHIC MAP

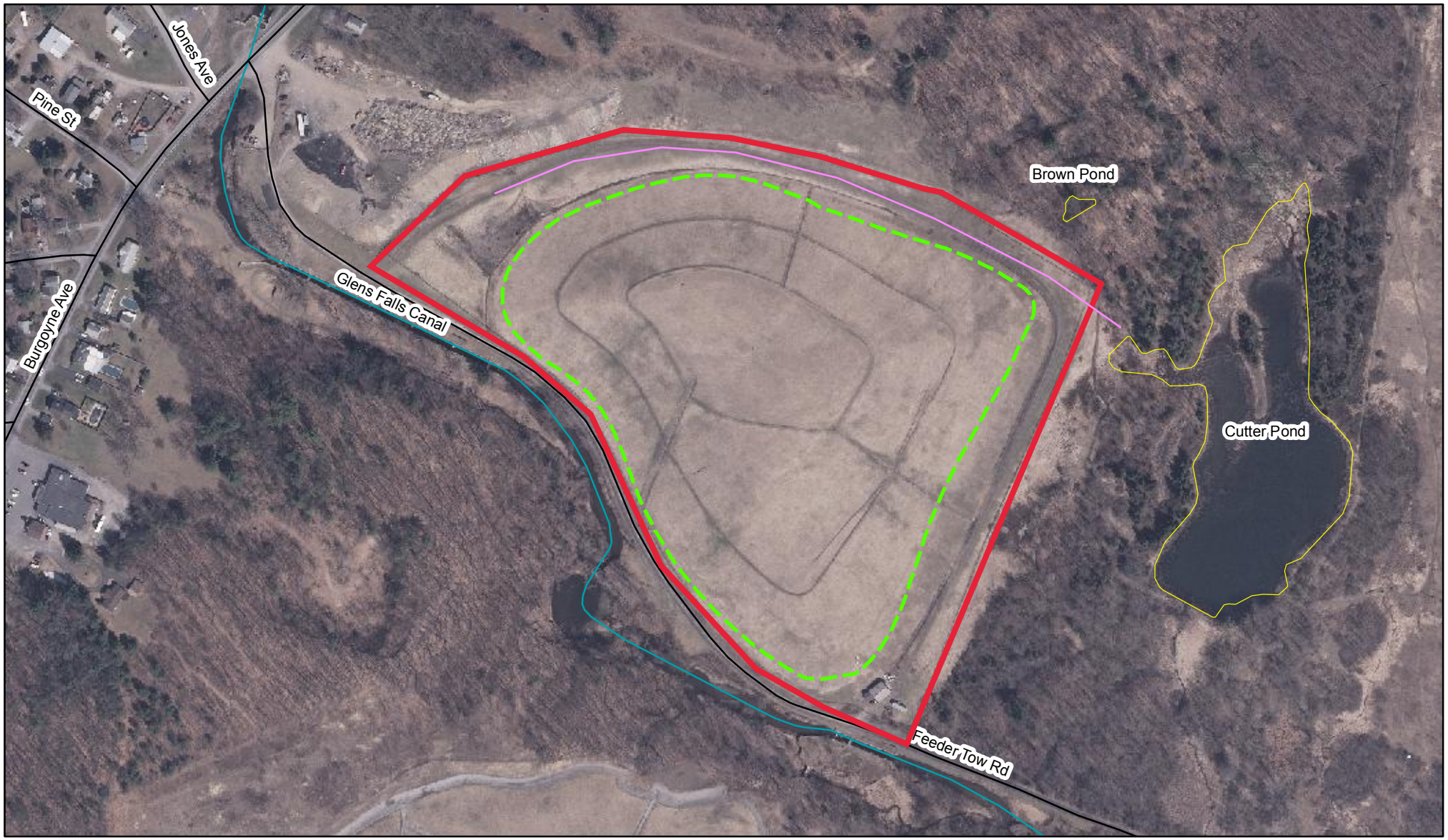
Prepared by: AECOM

Prepared for: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Kingsbury Landfill
NYSDEC SIte #5-58-008
Village of Hudson Falls, Washington County

Site Location

Date:	Scale:	Figure No. :
August 2013	1 inch = 2,500 feet	1



Legend:

- Canal
- Pond
- Approx. Location of Slurry Wall Site (including cap)
- Boundary
- Drain Location

0 75 150 300 450 600 Feet

Reference:
2008 One Foot 4 Band East Zone Index
New York Statewide Digital Orthoimagery Program

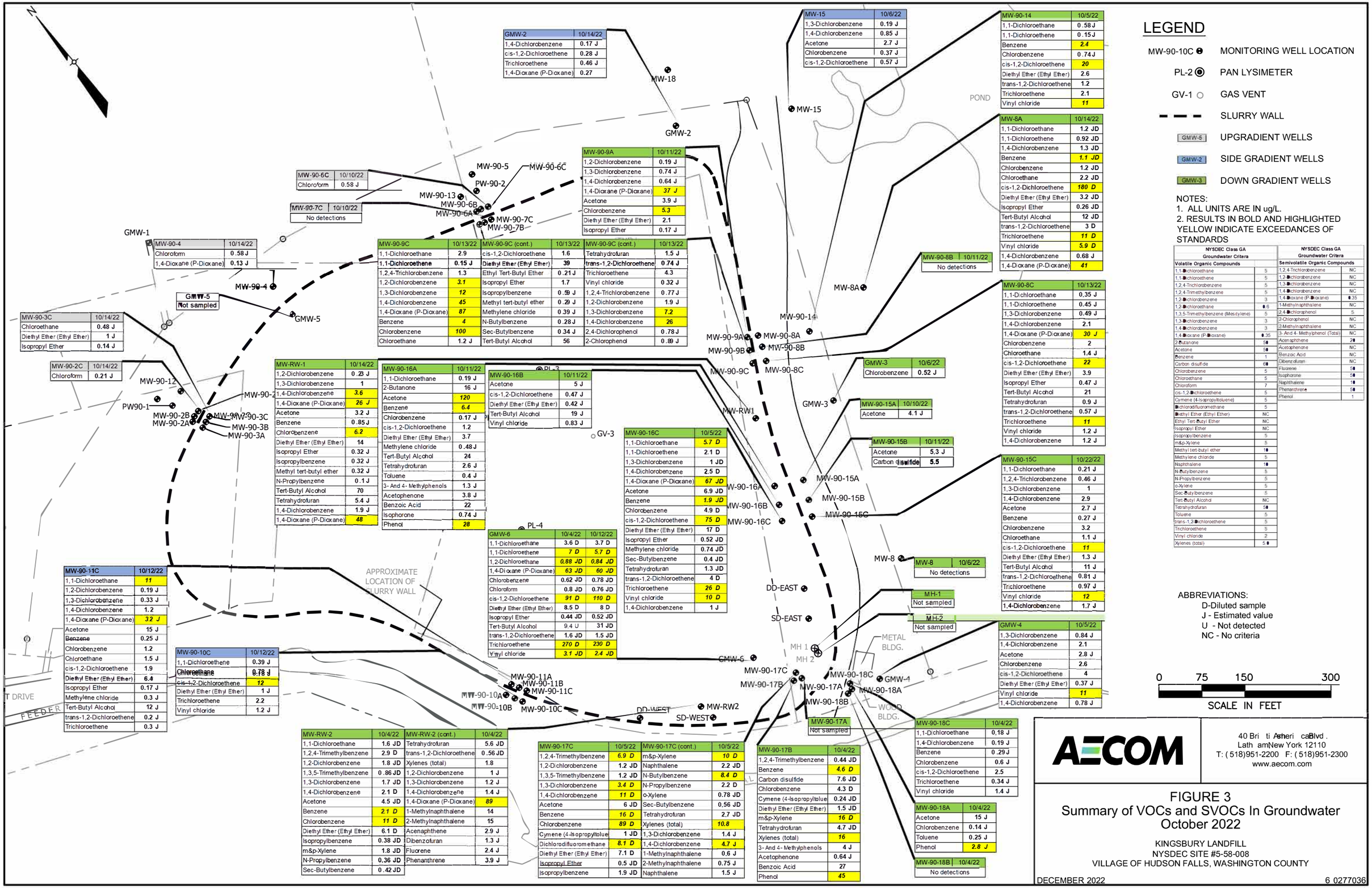
Prepared by: AECOM

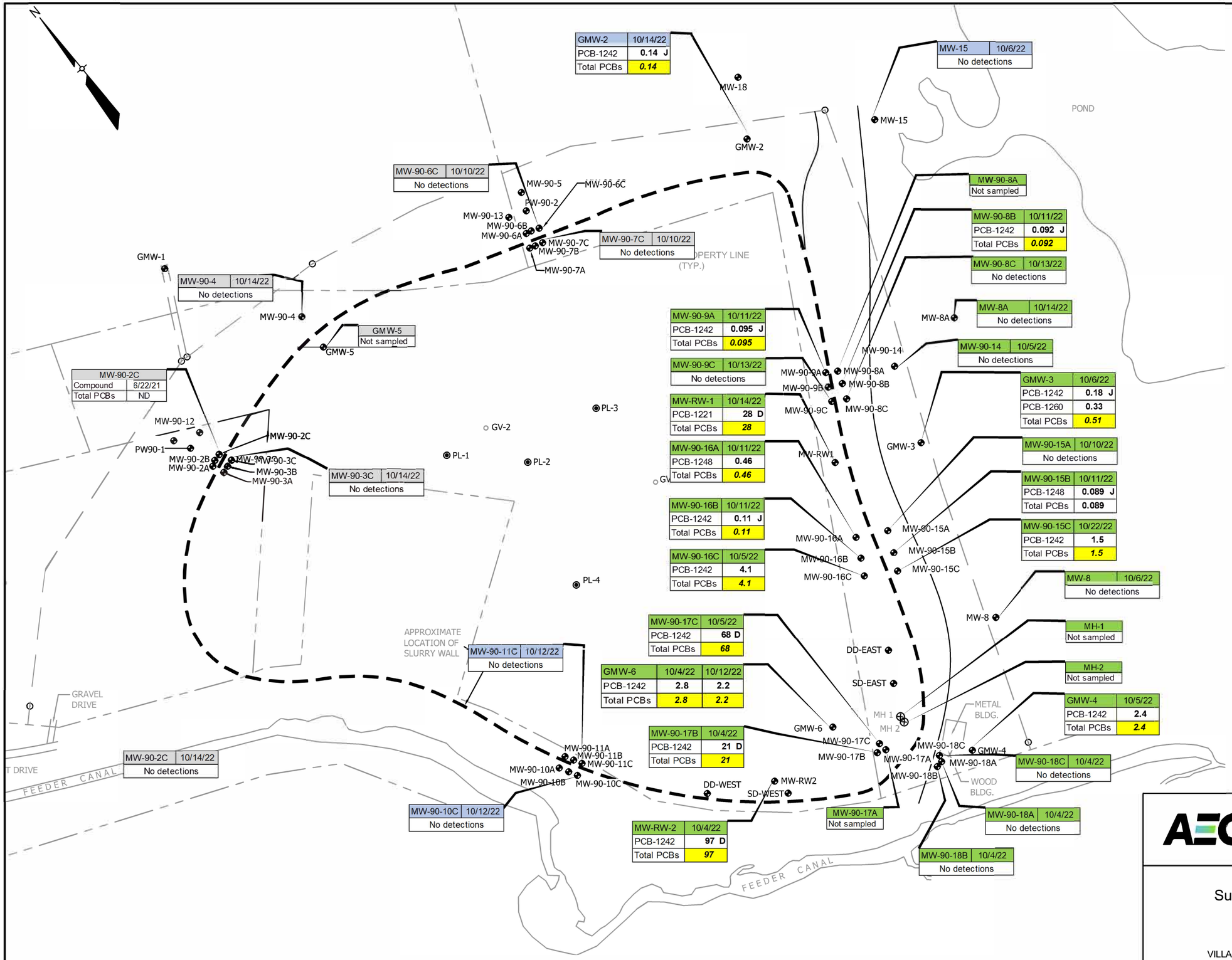
Prepared for: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Kingsbury Landfill
NYSDEC SIte #5-58-008
Village of Hudson Falls, Washington County

Kingsbury Landfill Site

Date:	Scale:	Figure No. :
September 2015	1 inch = 300 feet	2


N
GMW-2 | 10/14/22
1,4-Dichlorobenzene | 0.17 J
cis-1,2-Dichloroethene | 0.28 J
Trichloroethene | 0.46 J
1,4-Dioxane (P-Dioxane) | 0.27
MW-18
GMW-2
MW-15 | 10/6/22
1,3-Dichlorobenzene | 0.19 J
1,4-Dichlorobenzene | 0.85 J
Acetone | 2.7 J
Chlorobenzene | 0.37 J
cis-1,2-Dichloroethene | 0.57 J
MW-15
POND
MW-90-14 | 10/5/22
1,1-Dichloroethane | 0.58 J
1,1-Dichloroethene | 0.15 J
Benzene | 2.4
Chlorobenzene | 0.74 J
cis-1,2-Dichloroethene | 20
Diethyl Ether (Ethyl Ether) | 2.6
trans-1,2-Dichloroethene | 1.2
Trichloroethene | 2.1
Vinyl chloride | 11
MW-8A | 10/14/22
1,1-Dichloroethane | 1.2 JD
1,1-Dichloroethene | 0.92 JD
1,4-Dichlorobenzene | 1.3 JD
Benzene | 1.1 JD
Chlorobenzene | 1.2 JD
Chloroethane | 2.2 JD
cis-1,2-Dichloroethene | 180 D
Diethyl Ether (Ethyl Ether) | 3.2 JD
Isopropyl Ether | 0.26 JD
Tert-Butyl Alcohol | 12 JD
trans-1,2-Dichloroethene | 3 D
Trichloroethene | 11 D
Vinyl chloride | 5.9 D
1,4-Dichlorobenzene | 0.68 J
1,4-Dioxane (P-Dioxane) | 41
MW-8A
MW-90-5
MW-90-6C
PW-90-2
MW-90-13
MW-90-6B
MW-90-6A
MW-90-7C
MW-90-7B
MW-90-6C | 10/10/22
Chloroform | 0.58 J
MW-90-7C | 10/10/22
No detections
MW-90-9A | 10/11/22
1,2-Dichlorobenzene | 0.19 J
1,3-Dichlorobenzene | 0.74 J
1,4-Dichlorobenzene | 0.64 J
1,4-Dioxane (P-Dioxane) | 37 J
Acetone | 3.9 J
Chlorobenzene | 5.3
Diethyl Ether (Ethyl Ether) | 2.1
Isopropyl Ether | 0.17 J
MW-90-9C | 10/13/22
1,1-Dichloroethane | 2.9
1,1-Dichloroethene | 0.15 J
1,2,4-Trichlorobenzene | 1.3
1,2-Dichlorobenzene | 3.1
1,3-Dichlorobenzene | 12
1,4-Dichlorobenzene | 45
1,4-Dioxane (P-Dioxane) | 87
Benzene | 4
Chlorobenzene | 100
Chloroethane | 1.2 J
MW-90-9C (cont.) | 10/13/22
cis-1,2-Dichloroethene | 1.6
Diethyl Ether (Ethyl Ether) | 39
Ethyl Tert-Butyl Ether | 0.21 J
Isopropyl Ether | 1.7
Isopropylbenzene | 0.59 J
Methyl tert-butyl ether | 0.29 J
Methylene chloride | 0.39 J
N-Butylbenzene | 0.28 J
Sec-Butylbenzene | 0.34 J
Tert-Butyl Alcohol | 56
MW-90-9C (cont.) | 10/13/22
Tetrahydrofuran | 1.5 J
trans-1,2-Dichloroethene | 0.74 J
Trichloroethene | 4.3
Vinyl chloride | 0.32 J
1,2,4-Trichlorobenzene | 0.77 J
1,2-Dichlorobenzene | 1.9 J
1,3-Dichlorobenzene | 7.2
1,4-Dichlorobenzene | 26
2,4-Dichlorophenol | 0.78 J
2-Chlorophenol | 0.89 J
MW-90-8B | 10/11/22
No detections
MW-8A
MW-90-14
MW-90-9A
MW-90-8A
MW-90-9B
MW-90-8B
MW-90-9C
MW-90-8C
GMW-1
MW-90-4 | 10/14/22
Chloroform | 0.58 J
1,4-Dioxane (P-Dioxane) | 0.13 J
GMW-5
Not sampled
GMW-5
MW-90-3C | 10/14/22
Chloroethane | 0.48 J
Diethyl Ether (Ethyl Ether) | 1 J
Isopropyl Ether | 0.14 J
MW-90-2C | 10/14/22
Chloroform | 0.21 J
MW-90-1Z
PW90-1
MW-90-2
MW-90-2B
MW-90-2A
MW-90-3C
MW-90-3B
MW-90-3A
MW-RW-1 | 10/14/22
1,2-Dichlorobenzene | 0.23 J
1,3-Dichlorobenzene | 1
1,4-Dichlorobenzene | 3.6
1,4-Dioxane (P-Dioxane) | 26 J
Acetone | 3.2 J
Benzene | 0.85 J
Chlorobenzene | 6.2
Diethyl Ether (Ethyl Ether) | 14
Isopropyl Ether | 0.32 J
Isopropylbenzene | 0.32 J
Methyl tert-butyl ether | 0.32 J
N-Propylbenzene | 0.1 J
Tert-Butyl Alcohol | 70
Tetrahydrofuran | 5.4 J
1,4-Dichlorobenzene | 1.9 J
1,4-Dioxane (P-Dioxane) | 48
MW-90-16A | 10/11/22
1,1-Dichloroethane | 0.19 J
2-Butanone | 16 J
Acetone | 120
Benzene | 6.4
Chlorobenzene | 0.17 J
cis-1,2-Dichloroethene | 1.2
Diethyl Ether (Ethyl Ether) | 3.7
Methylene chloride | 0.48 J
Tert-Butyl Alcohol | 24
Tetrahydrofuran | 2.6 J
Toluene | 0.4 J
3- And 4- Methylphenols | 1.3 J
Acetophenone | 3.8 J
Benzoic Acid | 22
Isophorone | 0.74 J
Phenol | 28
MW-90-16B | 10/11/22
Acetone | 5 J
cis-1,2-Dichloroethene | 0.47 J
Diethyl Ether (Ethyl Ether) | 0.42 J
Tert-Butyl Alcohol | 19 J
Vinyl chloride | 0.83 J
PL-3
GV-3
MW-90-16C | 10/5/22
1,1-Dichloroethane | 5.7 D
1,1-Dichloroethene | 2.1 D
1,3-Dichlorobenzene | 1 JD
1,4-Dichlorobenzene | 2.5 D
1,4-Dioxane (P-Dioxane) | 67 JD
Acetone | 6.9 JD
Benzene | 1.9 JD
Chlorobenzene | 4.9 D
cis-1,2-Dichloroethene | 75 D
Diethyl Ether (Ethyl Ether) | 17 D
Isopropyl Ether | 0.52 JD
Methylene chloride | 0.74 JD
Sec-Butylbenzene | 0.4 JD
Tetrahydrofuran | 1.3 JD
trans-1,2-Dichloroethene | 4 D
Trichloroethene | 26 D
Vinyl chloride | 10 D
1,4-Dichlorobenzene | 1 J
MW-90-16A
MW-90-16B
MW-90-16C
MW-90-15A
MW-90-15B
MW-90-15C
GMW-3 | 10/6/22
Chlorobenzene | 0.52 J
MW-90-15A | 10/10/22
Acetone | 4.1 J
MW-90-15B | 10/11/22
Acetone | 5.3 J
Carbon disulfide | 5.5
MW-90-15C | 10/22/22
1,1-Dichloroethane | 0.21 J
1,2,4-Trichlorobenzene | 0.46 J
1,3-Dichlorobenzene | 1
1,4-Dichlorobenzene | 2.9
Acetone | 2.7 J
Benzene | 0.27 J
Chlorobenzene | 3.2
Chloroethane | 1.1 J
cis-1,2-Dichloroethene | 11
Diethyl Ether (Ethyl Ether) | 1.3 J
Tert-Butyl Alcohol | 11 J
trans-1,2-Dichloroethene | 0.81 J
Trichloroethene | 0.97 J
Vinyl chloride | 12
1,4-Dichlorobenzene | 1.7 J
MW-8 | 10/6/22
No detections
MH-1
Not sampled
MH-2
Not sampled
MW-8
DD-EAST
SD-EAST
MH 1
MH 2
METAL BLDG.
WOOD BLDG.
GMW-4 | 10/5/22
1,3-Dichlorobenzene | 0.84 J
1,4-Dichlorobenzene | 2.1
Acetone | 2.8 J
Chlorobenzene | 2.6
cis-1,2-Dichloroethene | 4
Diethyl Ether (Ethyl Ether) | 0.37 J
Vinyl chloride | 11
1,4-Dichlorobenzene | 0.78 J
GMW-4
MW-90-11C | 10/12/22
1,1-Dichloroethane | 11
1,2-Dichlorobenzene | 0.19 J
1,3-Dichlorobenzene | 0.33 J
1,4-Dichlorobenzene | 1.2
1,4-Dioxane (P-Dioxane) | 32 J
Acetone | 15 J
Benzene | 0.25 J
Chlorobenzene | 1.2
Chloroethane | 1.5 J
cis-1,2-Dichloroethene | 1.9
Diethyl Ether (Ethyl Ether) | 6.4
Isopropyl Ether | 0.17 J
Methylene chloride | 0.3 J
Tert-Butyl Alcohol | 12 J
trans-1,2-Dichloroethene | 0.2 J
Trichloroethene | 0.3 J
MW-90-10C | 10/12/22
1,1-Dichloroethene | 0.39 J
Chloroethane | 0.78 J
cis-1,2-Dichloroethene | 12
Diethyl Ether (Ethyl Ether) | 1 J
Trichloroethene | 2.2
Vinyl chloride | 1.2 J
MW-90-11A
MW-90-11B
MW-90-11C
MW-90-10A
MW-90-10B
MW-90-10C
PL-4
GMW-6 | 10/4/22 | 10/12/22
1,1-Dichloroethane | 3.6 D | 3.7 D
1,1-Dichloroethene | 7 D | 5.7 D
1,2-Dichloroethane | 0.88 JD | 0.84 JD
1,4-Dioxane (P-Dioxane) | 63 JD | 60 JD
Chlorobenzene | 0.62 JD | 0.78 JD
Chloroform | 0.8 JD | 0.76 JD
cis-1,2-Dichloroethene | 91 D | 110 D
Diethyl Ether (Ethyl Ether) | 8.5 D | 8 D
Isopropyl Ether | 0.44 JD | 0.52 JD
Tert-Butyl Alcohol | 9.4 U | 31 JD
trans-1,2-Dichloroethene | 1.6 JD | 1.5 JD
Trichloroethene | 270 D | 230 D
Vinyl chloride | 3.1 JD | 2.4 JD
CMW-6
MW-90-17C
MW-90-17B
MW-90-17A
MW-90-18C
MW-90-18B
MW-90-18A
MW-RW1
MW-RW2
DD-WEST
SD-WEST
MW-RW-2 | 10/4/22 | MW-RW-2 (cont.) | 10/4/22
1,1-Dichloroethane | 1.6 JD | Tetrahydrofuran | 5.6 JD
1,2,4-Trimethylbenzene | 2.9 D | trans-1,2-Dichloroethene | 0.56 JD
1,2-Dichlorobenzene | 1.8 JD | Xylenes (total) | 1.8
1,3,5-Trimethylbenzene | 0.86 JD | 1,2-Dichlorobenzene | 1 J
1,3-Dichlorobenzene | 1.7 JD | 1,3-Dichlorobenzene | 1.2 J
1,4-Dichlorobenzene | 2.1 D | 1,4-Dichlorobenzene | 1.4 J
Acetone | 4.5 JD | 1,4-Dioxane (P-Dioxane) | 89
Benzene | 2.1 D | 1-Methylnaphthalene | 14
Chlorobenzene | 11 D | 2-Methylnaphthalene | 15
Diethyl Ether (Ethyl Ether) | 6.1 D | Acenaphthene | 2.9 J
Isopropylbenzene | 0.38 JD | Dibenzofuran | 1.3 J
m&p-Xylene | 1.8 JD | Fluorene | 2.4 J
N-Propylbenzene | 0.36 JD | Phenanthrene | 3.9 J
Sec-Butylbenzene | 0.42 JD
MW-90-17C | 10/5/22 | MW-90-17C (cont.) | 10/5/22
1,2,4-Trimethylbenzene | 6.9 D | m&p-Xylene | 10 D
1,2-Dichlorobenzene | 1.2 JD | Naphthalene | 2.2 JD
1,3,5-Trimethylbenzene | 1.2 JD | N-Butylbenzene | 8.4 D
1,3-Dichlorobenzene | 3.4 D | N-Propylbenzene | 2.2 D
1,4-Dichlorobenzene | 11 D | o-Xylene | 0.78 JD
Acetone | 6 JD | Sec-Butylbenzene | 0.56 JD
Benzene | 16 D | Tetrahydrofuran | 2.7 JD
Chlorobenzene | 89 D | Xylenes (total) | 10.8
Cymene (4-Isopropyltolue | 1 JD | 1,3-Dichlorobenzene | 1.4 J
Dichlorodifluoromethane | 8.1 D | 1,4-Dichlorobenzene | 4.7 J
Diethyl Ether (Ethyl Ether) | 7.1 D | 1-Methylnaphthalene | 0.6 J
Isopropyl Ether | 0.5 JD | 2-Methylnaphthalene | 0.75 J
Isopropylbenzene | 1.9 JD | Naphthalene | 1.5 J
MW-90-17B | 10/4/22
1,2,4-Trimethylbenzene | 0.44 JD
Benzene | 4.6 D
Carbon disulfide | 7.6 JD
Chlorobenzene | 4.3 D
Cymene (4-Isopropyltolue | 0.24 JD
Diethyl Ether (Ethyl Ether) | 1.5 JD
m&p-Xylene | 16 D
Tetrahydrofuran | 4.7 JD
Xylenes (total) | 16
3- And 4- Methylphenols | 4 J
Acetophenone | 0.64 J
Benzoic Acid | 27
Phenol | 45
MW-90-17A
Not sampled
MW-90-18C | 10/4/22
1,1-Dichloroethane | 0.18 J
1,4-Dichlorobenzene | 0.19 J
Benzene | 0.29 J
Chlorobenzene | 0.6 J
cis-1,2-Dichloroethene | 2.5
Trichloroethene | 0.34 J
Vinyl chloride | 1.4 J
MW-90-18A | 10/4/22
Acetone | 15 J
Chlorobenzene | 0.14 J
Toluene | 0.25 J
Phenol | 2.8 J
MW-90-18B | 10/4/22
No detections
APPROXIMATE LOCATION OF SLURRY WALL
T DRIVE
FEEDER
LEGEND
MW-90-10C — MONITORING WELL LOCATION
PL-2 — PAN LYSIMETER
GV-1 — GAS VENT
SLURRY WALL
GMW-5 — UPGRADIENT WELLS
GMW-2 — SIDE GRADIENT WELLS
GMW-3 — DOWN GRADIENT WELLS
NOTES:
1. ALL UNITS ARE IN ug/L.
2. RESULTS IN BOLD AND HIGHLIGHTED YELLOW INDICATE EXCEEDANCES OF STANDARDS
NYSDEC Class GA Groundwater Criteria
Volatile Organic Compounds
1,1-Dichloroethane 5
1,1-Dichloroethene 5
1,2,4-Trichlorobenzene 5
1,2,4-Trimethylbenzene 5
1,2-Dichlorobenzene 3
1,2-Dichloroethane 0.6
1,3,5-Trimethylbenzene (Mesitylene) 5
1,3-Dichlorobenzene 3
1,4-Dichlorobenzene 3
1,4-Dioxane (P-Dioxane) 0.35
2-Butanone 50
Acetone 50
Benzene 1
Carbon disulfide 60
Chlorobenzene 5
Chloroethane 5
Chloroform 7
cis-1,2-Dichloroethene 5
Cymene (4-Isopropyltoluene) 5
Dichlorodifluoromethane 5
Diethyl Ether (Ethyl Ether) NC
Ethyl Tert-Butyl Ether NC
Isopropyl Ether NC
Isopropylbenzene 5
m&p-Xylene 5
Methyl tert-butyl ether 10
Methylene chloride 5
Naphthalene 10
N-Butylbenzene 5
N-Propylbenzene 5
o-Xylene 5
Sec-Butylbenzene 5
Tert-Butyl Alcohol NC
Tetrahydrofuran 50
Toluene 5
trans-1,2-Dichloroethene 5
Trichloroethene 5
Vinyl chloride 2
Xylenes (total) 50
NYSDEC Class GA Groundwater Criteria
Semivolatile Organic Compounds
1,2,4-Trichlorobenzene NC
1,2-Dichlorobenzene NC
1,3-Dichlorobenzene NC
1,4-Dichlorobenzene NC
1,4-Dioxane (P-Dioxane) 0.35
1-Methylnaphthalene NC
2,4-Dichlorophenol 5
2-Chlorophenol NC
2-Methylnaphthalene NC
3- And 4- Methylphenol (Total) NC
Acenaphthene 20
Acetophenone NC
Benzoic Acid NC
Dibenzofuran NC
Fluorene 50
Isophorone 50
Naphthalene 10
Phenanthrene 50
Phenol 1
ABBREVIATIONS:
D-Diluted sample
J - Estimated value
U - Not detected
NC - No criteria
0 75 150 300
SCALE IN FEET
AECOM
40 British American Blvd.
Latham, New York 12110
T: (518)951-2200 F: (518)951-2300
www.aecom.com
FIGURE 3
Summary of VOCs and SVOCs In Groundwater
October 2022
KINGSBURY LANDFILL
NYSDEC SITE #5-58-008
VILLAGE OF HUDSON FALLS, WASHINGTON COUNTY
DECEMBER 2022
6 0277036



LEGEND

- MW-90-10C — MONITORING WELL LOCATION
- PL-2 — PAN LYSIMETER
- GV-1 — GAS VENT
- SLURRY WALL
- GMW-5 — UPGRADIENT WELLS
- GMW-2 — SIDE GRADIENT WELLS
- GMW-3 — DOWN GRADIENT WELLS

NOTES:
1. ALL UNITS ARE IN ug/L.
2. RESULTS IN BOLD AND HIGHLIGHTED YELLOW INDICATE EXCEEDANCES OF TOTAL PCBs STANDARD OF 0.09 ug/L.

AECOM
40 British American Blvd.
Latham, New York 12110
T: (518) 951-2200 F: (518) 951-2300
www.aecom.com

FIGURE 4
Summary of PCBs In Groundwater
October 2022

KINGSBURY LANDFILL
NYSDEC SITE #5-58-008
VILLAGE OF HUDSON FALLS, WASHINGTON COUNTY

DECEMBER 2022 60277036

MW-90-6C	10/10/22
Antimony	0.012 J
Barium	0.015 J
Iron	0.15
Magnesium	8.5
Manganese	0.0038 J
Selenium	0.015 J
Sodium	44

GMW-2	10/14/22
Antimony	0.014 J
Barium	0.053
Iron	8.8
Magnesium	13
Manganese	0.83
Selenium	0.016 J
Sodium	16

MW-15	10/6/22
Antimony	0.014 J
Barium	0.052
Iron	29
Magnesium	21
Manganese	3.4
Selenium	0.011 U
Sodium	4.9

MW-90-14	10/5/22
Antimony	0.016 J
Barium	0.12
Iron	14
Magnesium	26 D
Manganese	0.86
Selenium	0.011 U
Sodium	39

MW-8A	10/14/22
Antimony	0.015 J
Barium	0.038 J
Iron	3.1
Magnesium	36 D
Manganese	0.93
Selenium	0.011 J
Sodium	80

MW-90-7C	10/10/22
Antimony	0.0089 U
Barium	0.038 J
Iron	0.17
Magnesium	4.6
Manganese	0.011
Selenium	0.012 J
Sodium	40

MW-90-4	10/14/22
Antimony	0.012 J
Barium	0.017 J
Iron	0.025 J
Magnesium	12
Manganese	0.013
Selenium	0.013 J
Sodium	29

MW-90-9A	10/11/22
Antimony	0.016 J
Barium	0.09
Iron	1.9
Magnesium	46
Manganese	0.83
Selenium	0.014 J
Sodium	98

MW-90-8B	10/11/22
Antimony	0.013 J
Barium	0.048 J
Iron	0.76
Magnesium	13
Manganese	0.024
Selenium	0.011 U
Sodium	3.9

GMW-5
Not sampled

MW-90-9C	10/13/22
Antimony	0.014 J
Barium	0.17
Iron	23
Magnesium	49
Manganese	4.6
Selenium	0.011 U
Sodium	100

MW-90-16C	10/5/22
Antimony	0.013 J
Barium	0.22
Iron	4.9
Magnesium	69 D
Manganese	6.7
Selenium	0.011 U
Sodium	110

MW-90-8C	10/13/22
Antimony	0.015 J
Barium	0.13
Iron	4.7
Magnesium	43
Manganese	2.5
Selenium	0.011 U
Sodium	82

MW-90-3C	10/14/22
Antimony	0.0089 U
Barium	0.11
Iron	1.7
Magnesium	57 D
Manganese	1.6
Selenium	0.017 J
Sodium	66

MW-RW-1	10/14/22
Antimony	0.014 J
Barium	0.2
Iron	14
Magnesium	63 D
Manganese	0.61
Selenium	0.011 U
Sodium	97

GMW-3	10/6/22
Antimony	0.011 J
Barium	0.035 J
Iron	9.2
Magnesium	16
Manganese	0.28
Selenium	0.011 U
Sodium	4.1

MW-90-15A	10/10/22
Antimony	0.0089 U
Barium	0.027 J
Iron	0.38
Magnesium	2.4
Manganese	0.011
Selenium	0.011 U
Sodium	93

MW-90-2C	10/14/22
Antimony	0.015 J
Barium	0.022 J
Iron	0.11
Magnesium	16
Manganese	0.014
Selenium	0.013 J
Sodium	39

MW-90-16A	10/11/22
Antimony	0.0089 U
Barium	0.33
Iron	0.43
Magnesium	0.14
Manganese	0.0067 J
Selenium	0.016 J
Sodium	200

MW-90-16B	10/11/22
Antimony	0.012 J
Barium	0.091
Iron	0.3
Magnesium	0.099
Manganese	0.0046 J
Selenium	0.021 J
Sodium	69

MW-90-15C	10/22/22
Antimony	0.015 J
Barium	0.09
Iron	13
Magnesium	36
Manganese	1.3
Selenium	0.011 U
Sodium	39

MW-90-15B	10/11/22
Antimony	0.0089 U
Barium	0.069
Iron	4.3
Magnesium	1.9
Manganese	0.07
Selenium	0.011 U
Sodium	95

GMW-6	10/4/22	10/12/22
Antimony	0.016 J	0.01 J
Barium	0.058	0.059
Iron	0.77	0.87
Magnesium	64 D	63
Manganese	1.3	1.6
Selenium	0.011 U	0.011 U
Sodium	50	59

MW-8	10/6/22
Antimony	0.012 J
Barium	0.043 J
Iron	0.93
Magnesium	22
Manganese	0.11
Selenium	0.011 U
Sodium	11

MW-90-11C	10/12/22
Antimony	0.016 J
Barium	0.043 J
Iron	4.6
Magnesium	22
Manganese	6.4
Selenium	0.012 J
Sodium	28

MW-RW-2	10/4/22
Antimony	0.0095 J
Barium	0.97
Iron	43
Magnesium	88
Manganese	3.2
Selenium	0.011 U
Sodium	190

GMW-4	10/5/22
Antimony	0.015 J
Barium	0.041 J
Iron	4.8
Magnesium	19
Manganese	0.89
Selenium	0.011 U
Sodium	16

MW-90-10C	10/12/22
Antimony	0.016 J
Barium	0.057
Iron	0.56
Magnesium	22
Manganese	1
Selenium	0.011 U
Sodium	35

MW-90-17C	10/5/22
Antimony	0.022 J
Barium	1.1
Iron	62
Magnesium	92 D
Manganese	0.75
Selenium	0.011 U
Sodium	130

MW-90-17B	10/4/22
Antimony	0.015 J
Barium	0.58
Iron	0.96
Magnesium	0.61
Manganese	0.016
Selenium	0.011 U
Sodium	110

MW-90-18B	10/4/22
Antimony	0.0089 U
Barium	0.033 J
Iron	0.28
Magnesium	0.78
Manganese	0.011
Selenium	0.011 U
Sodium	54

MW-90-18A	10/4/22
Antimony	0.011 J
Barium	0.31
Iron	0.3
Magnesium	0.087
Manganese	0.0042 J
Selenium	0.011 U
Sodium	24

MW-90-18C	10/4/22
Antimony	0.0089 U
Barium	0.2
Iron	1.2
Magnesium	1.3
Manganese	0.049
Selenium	0.011 U
Sodium	32

MW-18
GMW-2
MW-15
MW-8A
MW-90-5
MW-90-6C
PW-90-2
MW-90-13
MW-90-6B
MW-90-6A
MW-90-7C
MW-90-7B
MW-90-7A
MW-90-4
GMW-5
MW-90-14
MW-8A
MW-90-9A
MW-90-8A
MW-90-9B
MW-90-8B
MW-90-9C
MW-90-8C
MW-90-12
MW-90-2C
MW-90-2B
MW-90-2A
MW-90-3C
MW-90-3B
MW-90-3A
GV-1
GV-2
PL-1
PL-2
MW-RW1
GMW-3
MW-90-16A
MW-90-16B
MW-90-16C
MW-90-15A
MW-90-15B
MW-90-15C
MW-8
APPROXIMATE LOCATION OF SLURRY WALL
DD-EAST
SD-EAST
SD-WEST
MW-RW2
GMW-6
MW-90-17C
MW-90-17B
MW-90-17A
MW-90-18C
MW-90-18A
MW-90-18B
GMW-4
MW-90-11A
MW-90-11B
MW-90-11C
MW-90-10A
MW-90-10B
MW-90-10C
MH 1
MH 2
METAL BLDG.
WOOD BLDG.
GRAVEL DRIVE
FEEDER CANAL

LEGEND

- MW-90-10C — MONITORING WELL LOCATION
- PL-2 — PAN LYSIMETER
- GV-1 — GAS VENT
- SLURRY WALL
- GMW-5 — UPGRADIENT WELLS
- GMW-2 — SIDE GRADIENT WELLS
- GMW-3 — DOWN GRADIENT WELLS

NOTES:
1 · ALL VALUES ARE IN mg/L.
2 · RESULTS IN BOLD AND HIGHLIGHTED YELLOW INDICATE EXCEEDANCES OF IRON STANDARD OF 300 ug/L.

NYSDEC Class GA Groundwater Critera	
Antimony	0.003
Barium	1
Iron	0.3
Magnesium	35
Manganese	0.3
Selenium	0.01
Sodium	20

ABBREVIATIONS:
J - Estimated value
U - Not detected
NL - Not Listed
T - MS and/or MSD recovery is outside acceptable limits

0 75 150 300
SCALE IN FEET

AECOM
40 British American Blvd.
Latham, New York 12110
T: (518) 951-2200 F: (518) 951-2300
www.aecom.com

FIGURE 5
Summary of Metals In Groundwater
October 2022

KINGSBURY LANDFILL
NYSDEC SITE #5-58-008
VILLAGE OF HUDSON FALLS, WASHINGTON COUNTY

DECEMBER 2021 60277036

Project Management Initials: Designer: KAM Checked:MTT Approved:MTT ANSI B 11" x 17"

Last saved by: FOSTERC2 (2019-02-02) Last Plotted: 2019-09-05
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AECOM

FIGURE 6

2019 Soil Exceedances

Notes:
1-all results are in ug/L
2- all highlighted results exceed applicable standards

NYSDEC Unrestricted Soil Cleanup Objective	
Acetone	0.05
PCBs (Total)	0.1

MW-90-16A 17 ft bgs	6/12/19
PCBs (total)	26

MW-90-17A 22 ft bgs	6/27/19
Acetone	0.13
PCBs (total)	162

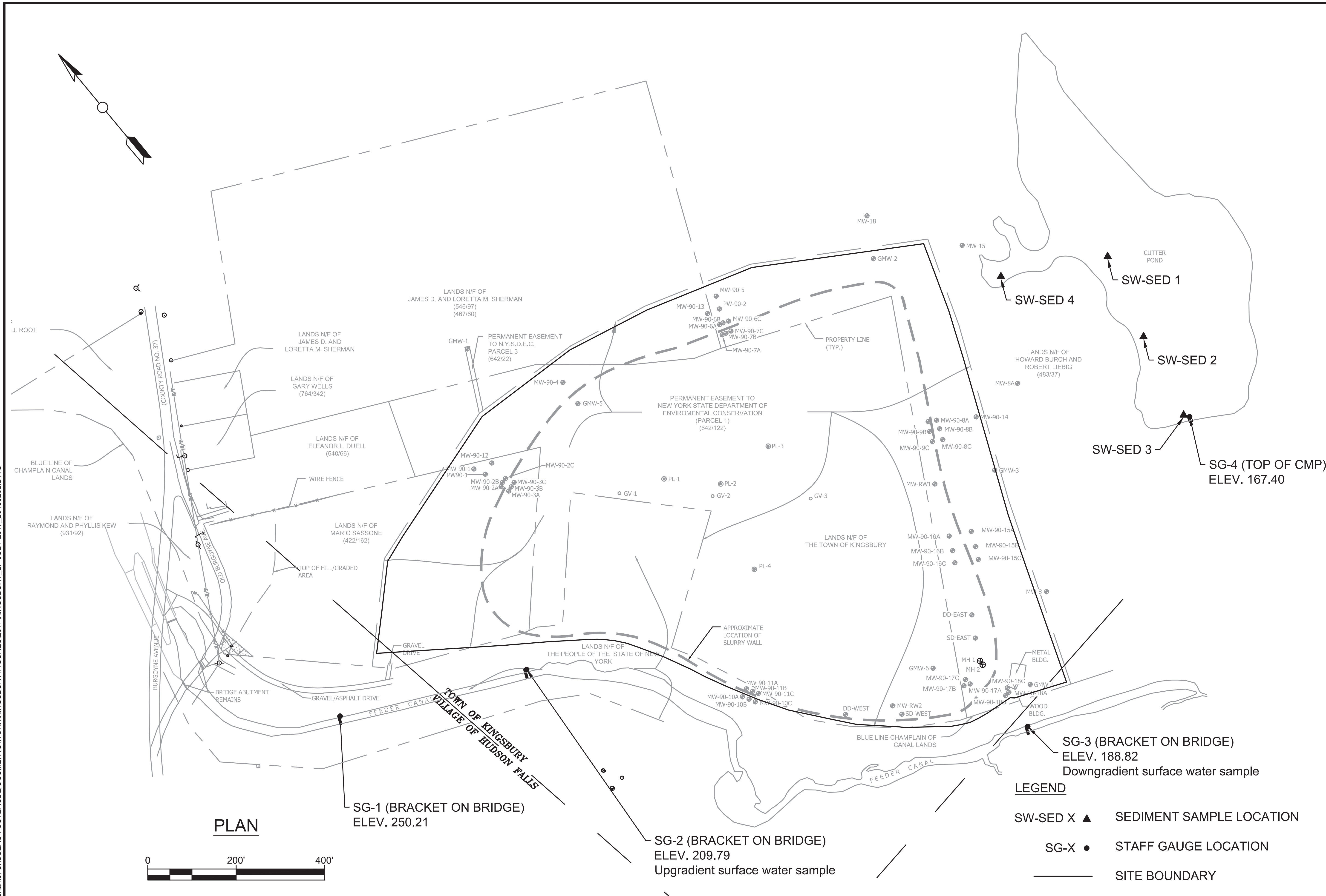
MW-90-18A 28 ft bgs	6/12/19
PCBs (total)	0.28

SW-SED 1
SW-SED 2
SW-SED 3
SW-SED 4
SG-1 (BRACKET ON BRIDGE) ELEV. 250.21
SG-2 (BRACKET ON BRIDGE) ELEV. 209.79 Upgradient surface water sample
SG-3 (BRACKET ON BRIDGE) ELEV. 188.82 Downgradient surface water sample
SG-4 (TOP OF CMP) ELEV. 167.40

LEGEND
SW-SED X ▲ SEDIMENT SAMPLE LOCATION
SG-X ● STAFF GAUGE LOCATION
——— SITE BOUNDARY

PLAN
0 200' 400'

KINGSBURY LANDFILL
NYSDEC SITE #5-58-008
Village of Hudson Falls, Washington County, NY
Project No.: 60277036 Date: 02-02-2018



PLAN
0
200'
400'
SG-1 (BRACKET ON BRIDGE)
ELEV. 250.21
SG-2 (BRACKET ON BRIDGE)
ELEV. 209.79
Upgradient surface water sample
SG-3 (BRACKET ON BRIDGE)
ELEV. 188.82
Downgradient surface water sample
SG-4 (TOP OF CMP)
ELEV. 167.40
SW-SED 1
SW-SED 2
SW-SED 3
SW-SED 4
CUTTER POND
TOWN OF KINGSBURY
VILLAGE OF HUDSON FALLS
FEEDER CANAL
LANDS N/F OF JAMES D. AND LORETTA M. SHERMAN (546/97) (467/60)
LANDS N/F OF JAMES D. AND LORETTA M. SHERMAN
LANDS N/F OF GARY WELLS (764/342)
LANDS N/F OF ELEANOR L. DUELL (540/66)
LANDS N/F OF MARIO SASSONE (422/162)
LANDS N/F OF RAYMOND AND PHYLLIS KEW (931/92)
LANDS N/F OF HOWARD BURCH AND ROBERT LIEBIG (483/37)
LANDS N/F OF THE TOWN OF KINGSBURY
LANDS N/F OF THE PEOPLE OF THE STATE OF NEW YORK
PERMANENT EASEMENT TO NEW YORK STATE DEPARTMENT OF ENVIROMENTAL CONSERVATION (PARCEL 1) (642/122)
PERMANENT EASEMENT TO N.Y.S.D.E.C. PARCEL 3 (642/22)
BLUE LINE OF CHAMPLAIN CANAL LANDS
BLUE LINE CHAMPLAIN OF CANAL LANDS
PROPERTY LINE (TYP.)
APPROXIMATE LOCATION OF SLURRY WALL
TOP OF FILL/GRADED AREA
WIRE FENCE
GRAVEL DRIVE
GRAVEL/ASPHALT DRIVE
BRIDGE ABUTMENT REMAINS
BURGOYNE AVENUE
OLD BURGOYNE AVE
(COUNTY ROAD NO. 37)
J. ROOT
METAL BLDG.
WOOD BLDG.
LEGEND
SW-SED X ▲ SEDIMENT SAMPLE LOCATION
SG-X ● STAFF GAUGE LOCATION
SITE BOUNDARY

FIGURE 7

AECOM

Surface and Sediment Sample Locations

KINGSBURY LANDFILL
NYSDEC SITE #5-58-008
Village of Hudson Falls, Washington County, NY
Project No.: 60277036 Date: 02-02-2018

ANSI B 11" x 17" Approved:MTT Checked:MTT Designer: KAM Project Management Initials:

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