Brian M. Stearns, P.E.
Manager - Site Investigation and Remediation
Upstate New York

October 16, 2017

Mr. Joshua G. Haugh
Engineering Geologist 2
NYSDEC Region 4
1130 North Westcott Road
Schenectady, New York 12306-2014

Re: Erie Boulevard Hydropower, L.P.
(former Niagara Mohawk Power Corporation)
School Street Hydroelectric Station
Former Fire Training Area
NYSDEC Site No. 401044
Final Engineering Report

Dear Mr. Haugh:

On behalf of Erie Boulevard Hydropower, L.P. and National Grid, please find the enclosed Final Engineering Report (FER) for the former fire training area at the School Street Hydroelectric Station in the Town of Colonie, New York (the Site). The FER summarizes the investigation and remediation work performed at the Site pursuant to the March 31, 2000 Order of Consent (Index No. A4-0416-003) between Niagara Mohawk (now known as National Grid) and the New York State Department of Environmental Conservation (NYSDEC).

Arcadis submitted an initial "draft" version of the FER to the NYSDEC in September 2010. The NYSDEC requested in March 2015 that the FER be updated to include as-built drawings and any additional items needed to fulfill NYSDEC's FER checklist requirements. Arcadis submitted a revised "draft" version of the FER (redline format) to the NYSDEC on June 22, 2016, and the NYSDEC sent an August 9, 2016 letter providing comments on the revised "draft" FER.

On August 11, 2017, the NYSDEC requested that additional investigation be performed, consisting of a perfluoroalkyl substances (PFAS) groundwater investigation. Further work on the FER was put on-hold pending the outcome of the PFAS groundwater investigation. Following work plan approval by the NYSDEC, Arcadis implemented the PFAS groundwater investigation in December 2016. Arcadis submitted the PFAS Groundwater Investigation Report to the NYSDEC on February 22, 2017. The report concluded that PFAS are not an issue at the Site and recommended decommissioning the existing monitoring wells. The NYSDEC approved the report on March 27, 2017.

Additional NYSDEC comments on the FER were provided in an April 10, 2017 letter to Arcadis. National Grid's and Erie Boulevard Hydropower's response to the comments and a revised version of the FER were submitted to the NYSDEC on August 24, 2017. The NYSDEC sent September 26, 2017 e-mail correspondence to Arcadis requesting that the FER be finalized, pending two minor additional changes. The enclosed finalized FER incorporates the requested final changes and has been stamped and signed by a professional engineer licensed to practice in New York State.

We understand that with this FER submittal, all submittals necessary for the NYSDEC to issue a Certificate of Completion and initiate site reclassification have been provided to and accepted by the NYSDEC. Previous submittals and associated milestone dates include: (1) the Site Management Plan (SMP) that was approved by the NYSDEC on June 21, 2016; (2) the EQuIS electronic data deliverable (EDD) that was accepted by the NYSDEC on September 7, 2016, updated to incorporate the PFAS groundwater investigation data, and

accepted by the NYSDEC on July 18, 2017; and (3) the Environmental Easement (EE) that was fully executed on June 19, 2017.

With the site investigation and remedial phase of the project now complete and the project transitioning into the monitoring phase, National Grid requests that the NYSDEC issue a "Release and Covenant Not to Sue" for this Site.

If you have any questions or need additional information, feel free to contact me at (315) 428-5731 or John Brussel of Arcadis at (315) 671-9441.

Sincerely,

Brian M. Stearns /jlc

Brian M. Stearns, P.E.
Manager

Enclosure:
Final Engineering Report

cc: Richard A. Mustico, P.E., New York State Department of Environmental Conservation (via e-mail)
Julia Kenney, New York State Department of Health (via e-mail)
Cohoes Public Library (via U.S. Mail)
Joseph S. Giordano, National Grid (via e-mail)
Ian Borlang, Brookfield Renewable (via e-mail)
Matthew Johnson, Brookfield Renewable (via e-mail)
Jason Zehr, Brookfield Renewable (via e-mail)
John C. Brussel, P.E., Arcadis of New York, Inc. (via e-mail)

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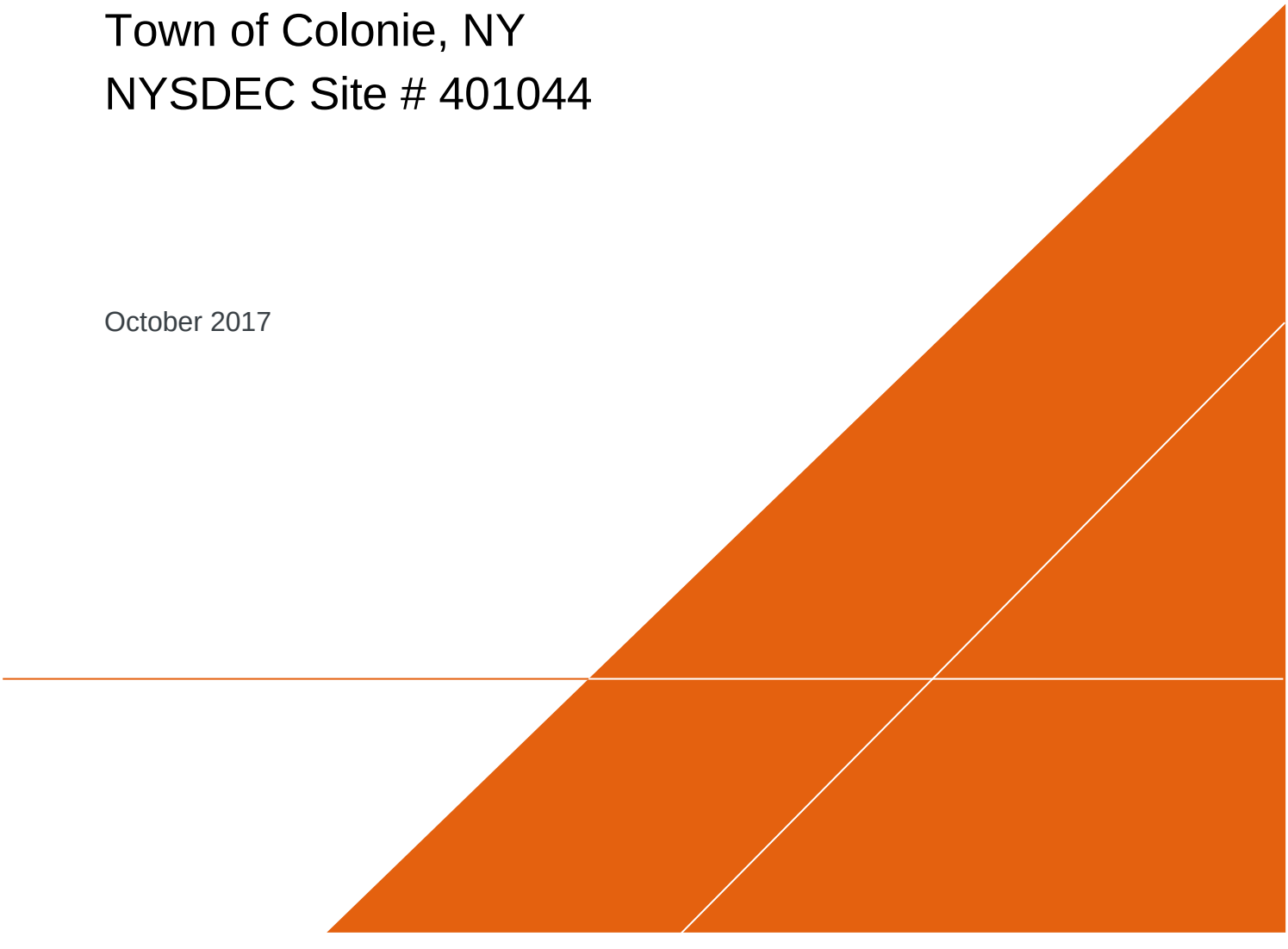
ARCADIS Design & Consultancy for natural and built assets

Erie Boulevard Hydropower, L.P.

FINAL ENGINEERING REPORT

Former Fire Training Area
School Street Hydroelectric Station
Town of Colonie, NY
NYSDEC Site # 401044

October 2017



FINAL ENGINEERING REPORT

Former Fire Training Area
School Street Hydroelectric Station
Town of Colonie, New York

Prepared for:

Erie Boulevard Hydropower, L.P.

Prepared by:

Arcadis of New York, Inc.
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New York 13202
Tel 315 446 9120
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Our Ref.:

B0036643.0001 #10

Date:

October 2017

CERTIFICATION PAGE

I, John C. Brussel, P.E., certify that I am currently a New York State registered professional engineer and I had primary direct responsibility for the implementation of the remedial activities performed at the former fire training area of the Erie Boulevard Hydropower, L.P., School Street Hydroelectric Station (New York State Department of Environmental Conservation [NYSDEC] Site #401044) (the Site) during the following periods: July through October 2002 and January through February 2008. Based on my inquiry of the persons under my direction and involved in coordinating and observing the remedial activities summarized herein, I certify that the remedial activities were implemented in substantial conformance with the March 31, 2000 Order of Consent (Index No. A4-0416-003) between Niagara Mohawk (now known as National Grid) and the NYSDEC and subsequent documents prepared in accordance with the Order of Consent, including the Interim Remedial Measures Work Plan (BBL, October 2001), the Remedial Design (Arcadis BBL, October 2007), and related design documents.

I certify that the data submitted to the NYSDEC in support of this Final Engineering Report demonstrate that the remediation requirements set forth in the above-referenced documents and applicable statutes and regulations have been achieved in general accordance with the timeframes established in these documents.

I certify that the use restrictions, institutional controls, and engineering controls applicable to the Site are contained in an Environmental Easement created and recorded pursuant to Environmental Conservation Law (ECL) 71-3605. Affected local governments, as defined in ECL 71-3603, have been notified that the Environmental Easement has been recorded.

I certify that a Site Management Plan has been submitted for the continual and proper operation, maintenance, and monitoring of the engineering controls (soil cover system) employed at the Site, including the proper maintenance of remaining monitoring wells, and such plan has been approved by the NYSDEC.

I certify that all documents generated in support of this report have been submitted in accordance with the NYSDEC Department of Environmental Remediation's (DER's) electronic submission protocols and have been accepted by the NYSDEC.

I certify that all data generated in support of this report have been submitted in accordance with the NYSDEC DER's electronic data deliverable requirements and have been accepted by the NYSDEC.

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, John C. Brussel P.E., of Arcadis of New York, Inc., One Lincoln Center, 110 West Fayette Street, Suite 300, Syracuse, New York, am certifying as Owner's Designated Site Representative for the site.

John C. Brussel 10-16-17

John C. Brussel, P.E.
NYS PE License No. 075208

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Annual Post-IRM Groundwater Monitoring Letter Reports (NMPC, dated July 25, 2003; September 9, 2004; and August 10, 2005)

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1 INTRODUCTION

1.1 General

This Final Engineering Report (FER) summarizes remedial activities that have been completed to address: (1) upland soil in the former fire training area at the School Street Hydroelectric Station (hydroelectric station); and (2) near shore sediment in the Mohawk River adjacent to the former fire training area. The generating station is in the City of Cohoes, New York at the downstream end of an approximately 0.9-mile-long canal (the "power canal") that diverts water from the Mohawk River for hydroelectric power generation. The former fire training area (the "Site") is located in the Town of Colonie, New York, just beyond the upstream end of the power canal.

The hydroelectric station has been owned and operated by the following companies:

Owner	Year(s)
National Grid (formerly Niagara Mohawk Power Corporation)	Prior to July 1999
Erie Boulevard Hydropower, L.P. (a subsidiary of Orion Power Holdings)	July 1999 - February 2002
Erie Boulevard Hydropower, L.P. (a subsidiary of Reliant Energy)	February 2002 - September 2004
Erie Boulevard Hydropower, L.P. (a subsidiary of Brookfield Renewable Energy Group; formerly known as Brascan Power prior to January 2006)	September 2004 - Current

Results of site investigations completed between 1998 and 2001 indicated the presence of visibly oil-impacted soil and soil containing polychlorinated biphenyls (PCBs) and semi-volatile organic compounds (SVOCs) in the former fire training area at concentrations greater than applicable New York State Department of Environmental Conservation (NYSDEC) cleanup objectives. PCBs were also identified in near shore sediment adjacent to the former fire training area. Remedial activities completed to address these impacted media consisted of the following:

- Removing approximately 3,925 cubic yards (CY) of impacted soil in the vicinity of the former fire training area and approximately 25 CY of impacted sediment along the riverbank east of the former fire training area. This work was performed as an interim remedial measure (IRM) between July 2002 and October 2002 ("the 2002 IRM").
- Removing approximately 100 CY of impacted near shore sediment from January 2008 to April 2008 in the Mohawk River immediately adjacent to the fire training area.

This FER provides a record of the remedial measures that were completed to address the impacted materials identified at the Site. Detailed accounts of the remedial activities completed at this Site were presented in the Interim Remedial Measure Summary Report (Blasland, Bouck & Lee, Inc. [BBL], March 2003), and the Remedial Action Summary Report (Arcadis, July 2008), which are included in the electronic attachments provided with this report.

Project-related regulatory guidance and approvals were provided in the following documents:

- An Order on Consent (Index No. A4-0416-003) between National Grid (formerly Niagara Mohawk) and the NYSDEC, effective date March 31, 2000 (the "Consent Order")
- The Record of Decision (ROD) (NYSDEC, August 2007)
- Interim Remedial Measure Work Plan prepared by Arcadis (formerly BBL, October 2001), which was conditionally approved by the NYSDEC in a January 9, 2002 letter to National Grid
- The NYSDEC-approved Remedial Design (Arcadis BBL, October 2007)
- An Excavation and Fill permit (DEC# 4-0126-00656) and Part 401 Water Quality Certificate (WQC) (DEC#: 4-0726-00656/00001), which were issued on October 25, 2007, and modified on January 28, 2008.

The organization of the FER is presented below, followed by a brief summary of relevant background information.

1.2 Final Engineering Report Organization

The FER has been organized into the following sections.

Section		Purpose
Section 1	Introduction	Provides relevant background information; a summary of previous site investigations; remedial action objectives, and remediation cleanup levels.
Section 2	Summary of Remedial Activities	Presents a description of the remedial activities conducted at the Site.
Section 3	Waste Handling, Treatment and Disposal	Summarizes the handling, treatment and disposal of waste streams generated during implementation of the remedial activities.
Section 4	Institutional/Engineering Controls	Describes controls that were established to protect public health.
Section 5	References	Lists the sources referenced throughout the FER.

1.3 Background Information

This section summarizes relevant background information that was used as the basis for the remedial activities implemented at the Site. A description of the Site is presented below followed by a summary of site operational history and a summary of previous investigations conducted to characterize the site conditions.

1.3.1 Site Description

The hydroelectric station is located on School Street in Cohoes, New York (Figure 1). The generating station is located along the western bank of the Mohawk River, which flows southeasterly through the City of Cohoes.

A dam extends approximately 1,280 feet across the Mohawk River, approximately 0.9 miles north of the hydroelectric station. The dam diverts flow in the river through an approximately 0.9-mile-long power canal that leads to the hydroelectric station. The water level in the canal is controlled by two gatehouses, consisting of an upper gatehouse adjacent to the western abutment of the dam and a lower gatehouse at the downstream end of the power canal. A 375-foot-long concrete ice fender located north of the upper gatehouse prevents winter ice flow in the river from entering the power canal. The locations of the ice fender, upper and lower gatehouses, dam, and power canal are shown on Figure 2.

Public drinking water supply intakes and a pump house for the City of Cohoes are located in the power canal approximately 4,500 feet downstream from the upper gatehouse (approximately 200 feet upstream from the lower gatehouse). Water withdrawn from the power canal for public water supply is treated at the City of Cohoes Water Treatment Plant.

An upland area located on the western side of the Mohawk River approximately 150 feet northwest of the ice fender was formerly used by Niagara Mohawk for fire training activities. The location of the former fire training area is shown on Figure 2. Access to the former fire training area is restricted by a chain-link fence located parallel to Crescent Road and locked gates that block the access road to the north and south of the former fire training area.

1.3.2 Site History

Fire training activities were conducted at the Site during the summer and fall from approximately 1968 to 1980. The fire training activities consisted of igniting oil (including transformer oil) that was piped to or poured over training props and then extinguishing the flames using a combination of dry chemical fire extinguishers and water pumped from the river. The training props, an oil storage tank, and piping were removed following discontinuation of the fire training activities at the Site. The layout of the former fire training area is shown on Figure 3.

1.3.3 Previous Investigations/Site Characterization

Previous investigations conducted at and in the vicinity of the Site consist of the following:

- Phase I Environmental Site Assessment (ESA) conducted by the Chazen Companies during April 1998.
- Phase II ESA conducted by Fluor Daniel GTI completed in August 1998.
- Preliminary Site Assessment (PSA) completed by Arcadis (then BBL) in 1999.
- Remedial Investigation (RI) conducted by Arcadis in 2000 and 2001.
- Pre-remediation PCB sediment sampling conducted by Arcadis in 2007.
- Perfluoroalkyl substances (PFAS) groundwater investigation conducted by Arcadis in 2016.

The results of the Phase II ESA and PSA indicated the presence of PCBs in surface and subsurface soil samples at concentrations greater than the 50 parts per million (ppm) regulatory criteria for disposal as a

Toxic Substances Control Act- (TSCA-) regulated/New York State hazardous waste. PCBs were also detected in sediment samples at concentrations greater than applicable NYSDEC sediment screening guidance values. Based on the PSA results, the NYSDEC listed the former fire training area in the New York State Registry of Inactive Hazardous Waste Disposal Sites (Site No. 401044) and National Grid entered into the Consent Order to develop and implement remedial measures for the Site.

Additional sediment sampling was conducted during the IRM to delineate the extent of visibly oil-stained material encountered along the base of the riverbank east of the former fire training area. Laboratory analytical reports associated with this data are available in the Interim Remedial Measure Summary Report (BBL, March 2003). Further sediment sampling was performed in support of the final remedial activities. Laboratory analytical reports associated with this data are available in the Remedial Design/Remedial Action (RD/RA) Pre-Construction Activities Summary contained in a September 27, 2007 letter from National Grid to the NYSDEC.

An analytical sample summary that identifies soil, groundwater, sediment, and surface water samples collected as part of the previous investigations and remedial activities is presented in Table 1. The analytical data from each phase of the project were originally submitted to the NYSDEC's Electronic Information Management System (EIMS) team for upload into EQuIS on August 15, 2016 and resubmitted with minor revisions on September 2, 2016. NYSDEC EIMS indicated in September 7, 2016 e-mail correspondence to Arcadis that the data were successfully uploaded into the NYSDEC's EQuIS database. The analytical data from the 2016 PFAS groundwater investigation were submitted to the NYSDEC's EIMS team for upload into EQuIS on March 13, 2017 and resubmitted with minor revisions on March 23, 2017. NYSDEC EIMS indicated in March 28, 2017 e-mail correspondence to Arcadis that the data were successfully uploaded into the NYSDEC's EQuIS database.

A summary of investigation activities and results by media is presented below. The summary includes findings from each phase of the project. (i.e., the Phase II PSA, RI, 2002 IRM, 2008 remedial action, and 2016 PFAS groundwater investigation). The results of the investigation activities performed through 2008 served as the basis for the remedial activities conducted at the Site. Based on the results of these investigation activities, the extent of impacted soil, groundwater, and sediment was sufficiently characterized to implement remedial measures. The PFAS groundwater investigation performed in 2016 (following completion of the earlier soil and groundwater remedial activities) determined that PFAS are not a concern for groundwater at the Site.

Soil Characterization

A total of 67 surface soil samples and 50 subsurface soil samples were collected from the former fire training area and an area immediately north of the former fire training area referred to as the sediment dredge spoil area during the site investigations. Samples were visually characterized for the presence of oil staining and submitted for laboratory analysis for PCBs. Select samples were also submitted for analysis for SVOCs.

PCBs were identified in 36 surface soil samples at concentrations exceeding the 1 ppm NYSDEC commercial use soil cleanup objective (SCO) presented in 6 New York Codes, Rules, and Regulations (6 NYCRR Part 375-6.8(b); NYSDEC 2006). PCBs were identified in 17 subsurface soil samples at concentrations exceeding the 10 ppm subsurface soil cleanup level presented in the NYSDEC Final Commissioner Policy CP-51/Soil Cleanup Guidance, issued October 2010 (CP-51; NYSDEC 2010b).

Three surface soil samples and one subsurface soil sample contained PCBs at concentrations greater than the 50 ppm criteria for regulation as a TSCA-regulated/New York State hazardous waste.

VOCs, SVOCs, and inorganics were not detected in any of the soil samples at concentrations exceeding NYSDEC commercial use SCOs. However, SVOCs were identified at concentrations exceeding the antecedent soil guidance values presented in the NYSDEC Technical and Administrative Guidance Memorandum titled, "Determination of Soil Cleanup Objectives and Cleanup Levels," HWR-94-4046, dated January 24, 1994 (TAGM 4046). During the time of remediation, TAGM 4046 guidance values were used as the comparison criteria for data screening. Locations where SVOCs were detected at elevated concentrations (exceeding the antecedent TAGM 4046 soil guidance values) generally coincided with locations where PCBs were identified at concentrations exceeding the 1 ppm commercial SCO or 10 ppm subsurface soil cleanup level.

PCB analytical results for soil samples collected from the former fire training area and the sediment dredge spoil area are shown on Figures 4 and 5 (respectively) and presented in Table 2. Soil sample analytical results for VOCs, SVOCs, pesticides and inorganics are presented in Table 3.

Groundwater Characterization

One overburden monitoring well (MW-2S) and three bedrock monitoring wells (MW-1, MW-2D, and MW-3) were installed as part of the PSA to facilitate groundwater characterization at the Site. Groundwater samples were collected as part of the PSA and submitted for laboratory analysis for PCBs, VOCs, SVOCs, and inorganics. The groundwater analytical results are summarized below:

- VOCs were not identified in any of the groundwater samples at concentrations greater than laboratory detections limits.
- Bis(2-ethylhexyl)phthalate, a common laboratory artifact, was the only SVOC detected in the groundwater samples. The bis(2-ethylhexyl)phthalate concentrations identified in the samples were all less than the 5 parts per billion (ppb) groundwater standard presented in the NYSDEC Division of Water, Technical and Operational Guidance Series document entitled "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (TOGS 1.1.1), dated June 1998 (last revised June 2004).
- Iron, magnesium, manganese, and sodium were the only inorganics detected in groundwater at concentrations exceeding the groundwater quality standards and guidance values presented in TOGS 1.1.1. However, these inorganics are naturally occurring minerals and attributed to suspended particulates in groundwater. These inorganics were identified at similar concentrations (above groundwater quality standards) in upgradient monitoring well MW-1 and downgradient monitoring wells MW-2D and MW-3.
- PCBs were detected in a groundwater sample collected from monitoring well MW-3 as part of the PSA at a concentration of 0.98 ppb, which exceeded the groundwater standard of 0.09 ppb as presented in TOGS 1.1.1.

An additional bedrock groundwater monitoring well (monitoring well MW-4) was installed and additional groundwater samples were collected to monitor the groundwater quality at the Site. These additional samples were submitted for laboratory analysis for PCBs and indicated that PCB levels in groundwater were strongly associated with turbidity levels (suspended particulates) in the groundwater samples.

Analytical results for PCBs detected in groundwater samples collected during the site investigations and annual groundwater monitoring completed following the implementation of soil removal activities within the former fire training area (as described in Section 2) are presented in Table 4. Groundwater analytical results for VOCs, SVOCs, and inorganics are presented in Table 5.

Pursuant to the NYSDEC's request, National Grid performed groundwater sampling in 2016 to assess the potential presence of PFASs in groundwater within the former fire training area. PFASs are an emerging contaminant group that were used in a wide variety of products, including certain firefighting foams. Perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) are PFASs commonly associated with firefighting foam. The United States Environmental Protection Agency (USEPA) has established a health advisory level of 70 parts per trillion (ppt) for PFOS and PFOA combined in groundwater. PFOS and PFOA were not identified above laboratory detection limits in any of the December 2016 groundwater samples, and the reporting limits were well below the 70 ppt USEPA health advisory value. Based on the investigation results, it was concluded that the Site does not have a PFAS issue. The PFAS groundwater sampling activities and results are detailed in the NYSDEC-approved PFAS Groundwater Investigation Report and Proposed Monitoring Well Decommissioning Plan, which is contained in a February 22, 2017 letter from Arcadis to the NYSDEC (included as an electronic attachment).

With the PFAS groundwater investigation completed and several years of post-IRM groundwater monitoring data showing that groundwater in the former fire training area meets groundwater quality standards for site-related constituents, National Grid and Erie Boulevard Hydropower proposed in the above-referenced report to decommission the existing groundwater monitoring wells at the Site. Groundwater monitoring well decommissioning is scheduled for October 2017. Pursuant to the NYSDEC's request during a July 7, 2017 telephone conversation with Arcadis, the monitoring well decommissioning records will be provided under separate cover.

Sediment Characterization

Sediment investigations were completed as part of the PSA and RI and during the IRM to evaluate the potential presence of site-related impacts to sediment in the Mohawk River and in the power canal.

Sediment investigation activities consisted of the following:

- Conducting sediment probing along 12 transects (transects T-1 through T-12) to determine the thickness of accumulated sediment and the depth of water above the sediment in the Mohawk River and the power canal.
- Collecting sediment samples at 19 sampling locations (SD-1 through SD-18 and SD-24) within the Mohawk River and power canal during the PSA/RI. A total of 19 surface sediment samples and 48 sediment core samples were submitted for laboratory analysis for PCBs using USEPA SW-846 Method 8082. Selected surface sediment and sediment core samples were submitted for laboratory analysis for total organic carbon (TOC) using the Lloyd Kahn method. Surface sediment samples from sampling locations SD-18 and SD-24 were also submitted for laboratory analysis for VOCs, SVOCs, TOC, and total petroleum hydrocarbons (TPH) to characterize sediment adjacent to an apparent sheen seeping from the west bank of the power canal.
- Collecting samples from eight additional near shore sediment sampling locations (SD-101 through SD-108) during implementation of the IRM.

The analytical results indicated the following:

- PCBs were present in near shore sediment east of the former fire training area at concentrations exceeding NYSDEC sediment screening levels.
- PCBs were present at and below background concentrations in sediment samples collected upstream of the former fire training area and within the power canal.
- PCB concentrations diminished quickly with distance from the shoreline and downstream from the fire training area, and in general, the concentrations also diminished quickly with depth, as indicated below.

PCBs were identified in near shore sediment (within approximately 10 feet from the shoreline) opposite the former fire training area at concentrations up to 14 ppm, and average PCB concentrations within this area were as follows:

- 4.7 ppm in sediment within approximately 4 feet from the shoreline.
- 2.4 ppm in sediment between approximately 4 feet and 10 feet from the shoreline.

Outside that area (between 10 feet and 60 feet from shoreline), the average PCB concentration identified in sediment was 0.032 ppm, and concentrations ranged from an estimated 0.013 ppm to 0.50 ppm. At each sediment sampling location within 10 feet from the shoreline where surface sediment and sediment core samples were collected, PCB concentrations were highest in the surface interval (0 to 0.5 feet below the sediment surface) and PCB concentrations decreased with depth.

Sediment sample analytical results are presented in Table 6 and shown on Figures 6 and 7.

1.4 Remedial Goals

The NYSDEC outlined remedial action objectives (RAOs) for the Site's remedial program in ROD. The RAOs for the Site are presented in Table 1-1 below. The remedy was selected to eliminate or mitigate significant threats to public health and/or the environment presented by the PCBs at the Site through the proper application of scientific and engineering principles. The RAOs were accomplished by the remedial activities described in Section 3 and the institutional controls described in Section 4.

Table 1-1
Remedial Action Objectives

Medium	Constituent of Concern	Remedial Action Objectives
Soil	PCBs	**RAOs for Human Health Protection**: – Prevent the potential exposures of persons at or around the Site to PCB-impacted soil
		RAO for Environmental Protection: – Prevent potential future migration of PCBs to groundwater beneath the Site and sediment within the Mohawk River
Sediment	PCBs	**RAOs for Human Health Protection**: – Eliminate or reduce to the extent practicable the potential for exposure of persons at or around the Site to PCB-impacted sediment – Eliminate or reduce to the extent practicable sediment containing PCBs at concentrations greater than NYSDEC guideline values
		RAOs for Environmental Protection: – Eliminate or reduce to the extent practicable the potential for environmental exposure of flora or fauna to PCB-impacted sediment

No RAOs were presented in the ROD for groundwater or surface water because no constituents were identified in these media at concentrations greater than corresponding groundwater or surface water quality standards/guidance values by the time the ROD was prepared in August 2007. Annual post-IRM groundwater monitoring data from 2003 through 2005 demonstrated that groundwater quality standards/guidance values had been achieved, and no PCBs were detected above laboratory detection limits in surface water samples collected as part of quarterly monitoring in the power canal between March 2002 and April 2003.

1.5 Remediation Cleanup Levels

Cleanup levels were established to evaluate the need for remediation and to track the progress and completion of the IRM and remedial action to achieve the RAOs above. The cleanup levels are specified below.

1.5.1 Soil Cleanup Levels

Soil was remediated to the PCB soil guidance values in TAGM 4046, which consisted of 1 ppm for surface soil (0 to 1 foot below ground surface [bgs]) and 10 ppm for subsurface soil (more than 1 foot bgs). The TAGM 4046 soil guidance values for PCBs are the same as those presented in CP-51, which replaced TAGM 4046.

The soil excavation performed as part of the IRM resulted in the removal of all soil found to contain SVOCs at concentrations exceeding TAGM 4046 soil guidance values, except at one sampling location.

However, when the soil analytical results are compared to the commercial SCOs presented in 6 NYCRR Part 375-6.8(b), it is evident that the IRM achieved the commercial SCOs for SVOCs.
As indicated in Section 1.3.3, the IRM achieved the commercial SCOs for VOCs and inorganics. VOCs and inorganics were not detected in any of the soil samples collected from the former fire training area at concentrations exceeding NYSDEC commercial use SCOs presented in 6 NYCRR Part 375-6.8(b).

1.5.2 Groundwater Cleanup Levels

The cleanup levels established for groundwater at the Site are the Class GA standards and guidance values presented in TOGS 1.1.1. Groundwater at the Site meets these standards and guidance values for PCBs, VOCs, SVOCs, and inorganics (except for selected typical mineral constituents). In addition, groundwater at the Site meets the 70 ppt groundwater health advisory value established by USEPA for PFOS and PFOA.

1.5.3 Surface Water Cleanup Level

The cleanup level used for PCBs in surface waters of the Mohawk River during the quarterly monitoring (March 2002 to April 2003) and the 2008 sediment remedial activities was the laboratory detection limit (approximately 0.05 ppb). PCBs were not detected above laboratory detection limits in any of the surface water samples collected as part of the quarterly monitoring activities.

Per the NYSDEC-approved Remedial Design (Arcadis BBL, October 2007), if PCBs were to be detected in a water column sample from downstream of the sediment dredge area, dredging would have been halted unless PCBs were identified at similar levels in the background sample from an upstream location. PCBs were not detected above laboratory detection limits in any of the water column samples collected during the dredging.

1.5.4 Sediment Cleanup Levels

Specific cleanup levels for sediment were not established in the ROD. The focus of the 2008 sediment remedial activities was PCB-containing sediment in the near shore area of the Mohawk River east of the former fire training area. The sediment removal area was approximately 15 feet wide, spanning an approximately 200-foot distance parallel to the shoreline. The sediment remediation resulted in the removal of all sediment found to contain PCBs at concentrations greater than 1 ppm. Outside the removal area, the average PCB concentration identified in sediment was 0.032 ppm (concentration range of 0.013 ppm to 0.50 ppm).

1.6 Description of Selected Remedy

The final remedy implemented at the Site (sediment removal) was consistent with that selected by the NYSDEC in the ROD. The final remedy was implemented between January and April 2008 in accordance with the NYSDEC-approved Remedial Design (Arcadis BBL, October 2007) and was a follow-up to the IRM performed in 2002, as summarized in Section 2.2. The IRM and final remedy achieved the cleanup levels outlined in Section 1.5.

The factors considered during the selection of the final remedy are those listed in 6 NYCRR 375-1.8. The final remedy consisted of the following components:

1. Mechanically dredging approximately 100 CY of sediment located in the near shore area containing the highest concentration of PCBs. The sediment removal area extended approximately 15 feet outward from the shoreline to depths of between 1.0 and 1.5 feet below the sediment surface, depending on location.
2. Transferring excavated sediment to a dewatering pad constructed in the upland portion of the Site. River water drained to a lined collection sump where it was collected, transferred to a storage tank, characterized, and transported for offsite treatment. Following dewatering/stabilization, the excavated sediment was characterized and transported for offsite disposal. Measures to control sediment migration included the installation of silt curtains to section off the sediment removal area from the rest of the river.
3. Restoring the dredged area with similar materials to provide habitat for benthic invertebrate colonization.
4. Developing and implementing a Site Management Plan (SMP) that includes the institutional and engineering controls to address residual impacted soil that may be excavated from the Site during future redevelopment. The plan requires soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations.
5. Establishing an institutional control in the form of an Environmental Easement (EE) that requires compliance with the approved SMP, limits the use and development of the property to commercial or industrial uses only, and requires the property owner to complete and submit to the NYSDEC a periodic certification of institutional and engineering controls. The SMP requires the property owner to provide an Institutional Control and Engineering Control (IC/EC) certification, prepared and submitted by a professional engineer or environmental professional acceptable to the NYSDEC periodically certifying that the institutional and engineering controls put in place, are unchanged from the previous certification and nothing has occurred that would impair the ability of the control to protect public health or the environment or constitute a violation or failure to comply with the SMP.

2 SUMMARY OF REMEDIAL ACTIVITIES

2.1 General

This section summarizes the remedial activities completed at the Site to address PCB-impacted soil and sediment. Refer to the as-built drawings for the pre-remediation site layout and topography, surveyed limits of the remedial activities, the post-remediation topography and area subject to institutional controls, and a cross-section extending through the remediation area.

2.2 2002 Interim Remedial Measure

As described in the Interim Remedial Measure Summary Report (BBL, March 2003), included in the electronic attachments with this report, an IRM was completed between July 2002 and October 2002 to remove surface and subsurface soil containing PCBs and SVOCs from the former fire training area. The IRM activities were performed in accordance with the following:

- The IRM Work Plan (BBL, October 2001), which was conditionally approved by the NYSDEC in a January 9, 2002 letter to National Grid.
- A February 14, 2002 letter from National Grid that addressed NYSDEC comments on the proposed IRM activities.

The IRM activities were performed by SLC Environmental Services, Inc. (SLC) of Rochester, New York with full-time onsite observation of the remedial activities by Arcadis.

2.2.1 IRM Soil and Sediment Removal

The initial extent of soil excavation was based on the limits of PCB-impacted soil exceeding the soil guidance values of 1 and 10 ppm for surface and subsurface soil (respectively) as delineated based on the results of the Phase II ESA, PSA and RI. The initial excavation within the former fire training area consisted of:

- Removal of the top one foot of soil across an approximately 0.9-acre area
- Removal of soil to between 2 and 4 feet bgs over an approximately 0.4-acre area
- Removal of soil to the top of bedrock (up to 5 feet bgs) over an approximately 0.2-acre area

Following completion of the initial excavation, the bottom and sidewalls of the excavation were visually inspected for the presence of staining. After it was confirmed that visually stained soil did not remain at the limits of the excavation, soil samples were collected to facilitate jar testing and PCB field screening (where applicable), and verification soil samples were collected for laboratory analysis for PCBs to evaluate whether soil at the excavation limits met the remedial goals established for the IRM. Based on the verification soil sampling results, additional soil was excavated in upland areas (where necessary), and additional verification soil samples were collected to confirm that the remedial goals were achieved.

Visibly oil stained soil was encountered during the additional excavation activities near verification soil sample location VF-26 (refer to Figure 8). A total of seven test pits were excavated and near shore

sediment samples were collected and submitted for laboratory analysis to delineate the extent of impacted material.
Following delineation of the visually impacted material, additional soil/sediment was removed from an area along the riverbank measuring approximately 120 feet long and up to 15 feet wide down to the top of bedrock (up to 5 feet bgs). The excavation area was backfilled at the end of each work day with washed stone.

Additional test pits were excavated to the west of the backfilled riverbank excavation to delineate the extent of visibly oil-stained soil encountered above bedrock. Visually impacted soil was identified within an area measuring approximately 40 feet long by 12 feet wide. The visually impacted material was excavated to the top of bedrock.

In total, IRM activities resulted in the removal of approximately 3,925 in-place CY of soil from the former fire training area and approximately 25 CY of sediment immediately adjacent to the river bank. Upon completion of the removal activities, PCBs remained at concentrations exceeding NYSDEC sediment screening levels in near shore sediment east of the IRM excavation area. Verification sediment sampling results are presented in Table 6. The IRM soil removal area and verification soil sampling results are shown on Figure 8. Laboratory analytical reports for the verification sampling results are available in the Interim Remedial Measure Summary Report (BBL, March 2003), and the laboratory analytical data were uploaded to NYSDEC EIMS EQuIS database, as discussed in Section 1.3.3.

The IRM addressed a significant portion of the chemical constituents within the former fire training area. However, residual PCBs remain in surface and subsurface soil at concentrations less than the 1 ppm NYSDEC commercial use SCO. Additionally, di-n-butylphthalate remains in subsurface soil at one isolated location (S-36) within the former fire training at an elevated concentration (i.e., 20 ppm) which exceeded the soil guidance value presented in the antecedent TAGM 4046. However, di-n-butylphthalate is not in the current NYSDEC list of commercial use SCOs presented in 6 NYCRR Part 375.6(b).

Photographs taken during the IRM are included in the PowerPoint presentation from the NYSDEC's May 2, 2007 public meeting for the Proposed Remedial Action Plan (PRAP). A copy of the PowerPoint presentation is included in the electronic attachments to this FER.

2.2.2 IRM Monitoring Activities

A description of airborne particulate monitoring and surface water quality monitoring conducted during implementation of the IRM is presented below.

2.2.2.1 Air Monitoring

Airborne particulate (i.e., dust) monitoring was conducted during the IRM activities in accordance with the New York State Department of Health's (NYSDOH's) Community Air Monitoring Plan, dated June 2000. Particulate monitoring was conducted using a Real-Time Aerosol Monitor (mini-RAM), which was calibrated at least once daily, prior to the start of work activities. Monitoring activities were recorded at a frequency of once per hour during implementation of site activities that had the potential to generate dust.

Dust control measures implemented during the implementation of the IRM consisted of spraying water onto the gravel access road and excavated materials (as needed) in an effort to prevent visible dust migration and maintain particulate levels below 150 micrograms per cubic meter (ug/m3). Based on the monitoring results, particulate levels within the work area occasionally exceeded the 150 ug/m3 level for brief periods. However, visible dust migration was not noted during the IRM and particulate levels at the downwind perimeter did not exceed the 150 ug/m3 threshold.

2.2.2.2 Surface Water Monitoring

The NYSDEC and NYSDOH requested surface water monitoring activities during the implementation of the IRM to evaluate the potential presence of PCBs in the raw drinking water source for the City of Cohoes Water Treatment Plant. As presented in a February 14, 2002 letter to the NYSDEC (included in Appendix A), National Grid agreed to implement surface water monitoring during the IRM activities and to continue quarterly surface water monitoring for two additional quarters following completion of the IRM. Surface water monitoring was conducted in March, June, and September 2002 (prior to the IRM implementation), as well as in December 2002 and April 2003 (following IRM implementation). Monitoring activities consisted of measuring and recording surface water turbidity at the City of Cohoes water intake within the power canal and collecting surface water samples for laboratory analysis from the water intake within the power canal, the raw water reservoir located in the City of Cohoes, and a clear well at the municipal treatment building (Figure 9). Turbidity measurements were taken daily during the week prior to collection of the water samples. Surface water samples were submitted for laboratory analysis for PCBs. The validated analytical results indicate that no individual PCBs were detected in the quarterly water monitoring samples at concentrations exceeding the laboratory detection limits, consistent with the results obtained for previous monthly monitoring conducted by the City of Cohoes. Surface water sample results for PCBs are presented in Table 7, and were uploaded to the NYSDEC EIMS EQuIS database, as indicated in Section 1.3.3.

2.2.3 Backfilling/Site Restoration

Various materials were utilized to backfill excavations in the former fire training area and along the river bottom (where accessible near shore sediment was removed as part of the IRM). Prior to importing backfill to the Site, samples of proposed backfill materials were analyzed for PCBs, pesticides, VOCs, SVOCs, and inorganic constituents. The validated backfill sample results are presented in Table 3. Additional information on the backfill samples is presented in the Interim Remedial Measure Summary Report (BBL, March 2003). The backfill analytical data were uploaded to the NYSDEC EIMS EQuIS database. Backfilling activities completed as part of the IRM consisted of the following:

- Placing, compacting, and grading 1,710 CY of run-of-bank gravel and up to 4 inches of topsoil (totaling 890 CY) in the former fire training area to promote drainage. Grade stakes were used during backfilling to verify that a minimum of 12 inches of imported clean backfill was placed over excavated areas where verification soil sample analytical results indicated the presence of low level residual PCBs at concentrations between 1 and 10 ppm and at locations where SVOCs remain in soil at concentrations exceeding the antecedent TAGM 4046 soil guidance values. Before the backfill was placed, geotextile fabric was placed along the excavation sidewalls (where possible) and bottom to

provide a visual indication (demarcation) of the horizontal limits of the excavation. Backfill material was not placed on steep sections of the riverbank, including sections where bedrock was exposed.

- Creating a new 15-foot-wide roadway along the length of the original access road through the former fire training area using approximately 12 inches of crusher-run stone base course (totaling 417 CY). The stone base course was placed on top of an 8-ounce non-woven geotextile fabric. An approximately 20-foot-long, 8-inch-diameter high-density polyethylene (HDPE) drainage pipe was installed under the new access road to replace a plugged vitrified clay pipe that was removed during the excavation activities.

- Placing 314 CY of washed stone in the near shore sediment excavation area along the base of the riverbank at the end of each day. The stone was installed to restore the approximate original lines and grades in the area. Prior to placing the stone, SLC installed a geotextile fabric along the northern, eastern, and southern sidewalls to designate the horizontal limits of the excavation.

- Placing 140 CY of rip-rap along the portion of the riverbank extending north from the ice fender for a distance of approximately 130 feet. The rip-rap material extended approximately 5 to 7 feet up the riverbank from the shoreline. The rip-rap material was installed to help stabilize the backfill placed along the riverbank and to minimize erosion during periods of high flow in the river.

Following backfilling, site restoration activities were completed including:

- Installing a seed mat (Sure Turf Seeded Blanket) over an approximately 1,000-square-foot area of the riverbank, north of the ice fender. The seed mat was installed from the top of the riverbank down to the top of the rip-rap material. The purpose for the seed mat was to provide a stable seed bed to facilitate vegetation growth for erosion control on the riverbank.

- Hydroseeding the topsoil placed in the former fire training area with a grass seed mixture containing equal portions of Perennial Rye Grass, Kentucky Bluegrass, and Fescue, by weight. The seed mixture was selected to encourage seed germination/ growth prior to the onset of winter weather.

2.2.4 Post-IRM Annual Groundwater Monitoring

PCBs were detected in groundwater samples collected from monitoring well MW-3 during the April 1999 and November 2000 sampling events (i.e., prior to the implementation of the IRM) at concentrations that exceeded the NYSDEC TOGS 1.1.1 groundwater quality standard. Following completion of the IRM, annual groundwater monitoring was conducted at the Site from 2003 through 2005 to evaluate the potential presence of PCBs in groundwater. Samples were collected from existing monitoring wells MW-1, MW-2D, MW-3 and MW-4 and submitted for laboratory analysis for PCBs.

The results of the annual groundwater monitoring activities are presented in Table 4 and were summarized in letter reports from National Grid to the NYSDEC dated July 25, 2003, September 9, 2004 and August 10, 2005, which are included in the electronic attachments to this report. The post-IRM groundwater data were uploaded to the NYSDEC EIMS EQuIS database, as discussed in Section 1.3.3.

Results obtained for the analysis of the groundwater samples collected during these monitoring events indicated that PCBs were not present at concentrations greater than NYSDEC TOGS 1.1.1 groundwater quality standard in any of the groundwater samples.

2.3 2008 Sediment Remedial Activities

As described in the Remedial Action Summary Report (Arcadis, July 2008), the 2008 sediment remedial activities were implemented to remove PCB-impacted near shore sediment. The remedial action was conducted in accordance with the following:

- The Remedial Design (Arcadis BBL, October 2007), as approved by the NYSDEC in an October 22, 2007 letter to National Grid.
- A December 7, 2007 letter from National Grid presenting proposed modifications to the Remedial Design. The proposed modifications were approved by the NYSDEC in a December 12, 2007 letter from the NYSDEC.

These documents are included in the electronic attachments with this report.
The remedial action was performed by D.A. Collins Environmental Services, Inc. (DAC) of Mechanicville, New York with full-time onsite observation by Arcadis.

2.3.1 Sediment Removal

Prior to initiation of sediment removal activities, turbidity barriers were installed to section off the sediment removal area from the remainder of the river and minimize potential sediment migration during removal. Based on high flow conditions experienced during remedial activities, flow deflection barriers were installed to deflect river flow and reduce the force of the current on turbidity barriers installed downstream from the removal area, as described in Section 2.3.2.

Arcadis conducted a baseline survey within the proposed sediment removal area to record pre-excavation top of sediment elevations. Following removal, surveying was performed at the same locations and additional sediment was removed as necessary until the target removal depths were achieved. Approximately, 100 CY of sediment located in the near shore area were removed via mechanical means during the period from January 24, 2008 to February 5, 2008. The extent of the sediment removal area is shown on Figure 10. The sediment removal area extended along the shoreline from just north of sediment sampling location SD-3 to just south of sediment sampling location SD-6. The removal area extended outward for a distance of approximately 15 feet from the shoreline. Sediment within this area was generally removed to a depth of 1-foot below the top of sediment or to bedrock, whichever was encountered first. One exception was in the vicinity of sediment sampling location SD-5 where sediment was removed to a depth of approximately 1.5 feet below the top of sediment based on sediment sampling results.

In response to a request made by Erie Boulevard Hydropower, L.P., the City of Cohoes temporarily stopped withdrawing water from the power canal during the sediment removal activities (i.e., the water supply intakes at the downstream end of the power canal were closed while sediment removal was ongoing). Erie Boulevard Hydropower, L.P. coordinated with the City of Cohoes to open or close the

intake gates based on the activities being performed at the Site each day. No sediment removal was performed prior to confirming that the intake gates were closed.

Sediment removal was performed using a crane that was operated from two setup pads in the upland area, including one pad aligned near the northern end of the removal area and a second pad aligned with the approximate center of the removal area. Based on the use of the two pads, the sediment removal and site restoration (backfilling) was conducted in two phases. In the first phase, removal was performed in the northern half of the sediment removal area (the upstream section) with the crane operating from the northern pad. After removal and backfilling in the northern half of the sediment removal area were completed, the crane was repositioned on the second crane pad, and removal and backfilling in the southern half of the removal area were completed. The two removal areas overlapped each other by approximately 2 to 3 feet.

Sediment removal was initially performed using a closed environmental bucket attached to the crane. However, due to the dense nature of the sand in the removal area and the presence of large cobbles, a conventional clamshell bucket was approved for use, as described in Section 2.3.2. Photographs of the 2008 sediment remedial activities are provided in Appendix C of the Remedial Action Summary Report (Arcadis, 2008), which is included as an electronic attachment for the FER.

2.3.2 Modifications to Remedial Design

The following modifications were made to the NYSDEC-approved Remedial Design based on field conditions encountered during remedial implementation:

- Before mobilization, increased in flow in the Mohawk River (particularly in the near shore sediment removal area) was observed. The NYSDEC was notified of the change in flow conditions in e-mail correspondence from Arcadis dated November 26, 2007. Due to flow conditions, it was determined that the drawdown of the river level described in the Remedial Design would not be possible. Proposed modifications to the Remedial Design to facilitate installation of a turbidity barrier were developed in coordination with Erie Boulevard Hydropower, L.P., National Grid, and DAC, and presented in a letter from National Grid to the NYSDEC dated December 7, 2007. The NYSDEC approved the proposed modifications in a letter to National Grid dated December 12, 2007. Related correspondence is included in Appendix A. The following approved remedial design modifications were subsequently implemented:
    - Seven gates at the upper gatehouse nearest the shore were closed during the turbidity barrier installation and sediment removal activities. The gate closure resulted in a reduction in the total flow through the ice fender and into the power canal, which coincided with reduced hydroelectric power generation.
    - The outer turbidity barrier was constructed with a semi-permeable 6-ounce woven geotextile instead of the 18-ounce (minimum) PVC coated fabric identified in the Remedial Design. The inner turbidity barrier was constructed as a 22-ounce PVC coated fabric, which exceeded the material specification presented in the Remedial Design.

- Due to high flow conditions in the Mohawk River, the turbidity barrier system was modified as described in e-mail correspondence from Arcadis to the NYSDEC dated December 18, 2007. Deflection barriers were installed between the inner and outer turbidity barriers immediately upstream of the sediment removal area and at other critical locations as determined by DAC. This e-mail correspondence is included in Appendix A.
- Per the remedial design, sediment removal was initially performed using a crane equipped with a closed environmental bucket operating from the shoreline. As indicated above, due to the dense nature of the sand in the sediment removal area and the presence of large cobbles, the environmental bucket was generally not able to remove greater than 0.1 CY of sediment per attempt. In an e-mail correspondence to the NYSDEC dated January 25, 2008 (included in Appendix A), National Grid requested a modification to the 401 WQC permit to allow for the use of a conventional clamshell bucket. The NYSDEC issued a modification to the 401 WQC on January 28, 2008 allowing the use of a conventional clamshell bucket. Pursuant to the modification, surface water monitoring samples were collected and analyzed for PCBs on a 24-hour turnaround time for laboratory reporting of preliminary results.

2.3.3 Monitoring Activities

Airborne particulate and surface water monitoring activities conducted during implementation of the 2008 sediment remedial activities are presented below.

2.3.3.1 Air Monitoring

Monitoring for airborne particulates (dust) was conducted continuously for the duration of the remedial activities in accordance with the NYSDOH's Community Air Monitoring Program, dated June 2000. Air monitoring was conducted continuously at the upwind and downwind perimeters of the work area at temporary particulate monitoring stations, except during periods of precipitation or wet conditions. Minimal or no visible dust was generated during the remedial activities because: (1) all sediment was removed from below the water surface; (2) work was generally performed in wet weather conditions; (3) work was sequenced such that loading of dewatered sediment was not conducted during high wind events; and (4) polyethylene sheeting was used to cover stockpiled materials. No visible dust was observed leaving the work area and there were no detected exceedances of dust monitoring action levels during the implementation of the remedial action. Therefore, no dust suppression activities or work stoppages were needed during sediment removal, handling, and loading.

2.3.3.2 Surface Water Monitoring

Surface water monitoring was conducted during implementation of the sediment removal activities. The monitoring was conducted to confirm the effectiveness of the turbidity barriers that were installed to section off the sediment removal area from the remainder of the river and minimize potential sediment migration during removal. The surface water monitoring included measurement of water turbidity and collection of water column samples for laboratory analysis for PCBs and total suspended solids (TSS). During active sediment removal, hourly surface water turbidity measurements were obtained approximately 100 feet upstream and approximately 500 feet downstream from the removal area using a turbidity meter. Sediment removal activities were to be modified (e.g., slowed or halted) or additional

measures implemented (e.g., placement of additional turbidity barrier) if the downstream turbidity measurement was 10 nephelometric turbidity units (NTU) higher than the upstream measurement. However, no differences of 10 NTU or greater were measured during the sediment removal, and no work stoppages (or modifications) were required.
Two daily water column samples were collected for PCB and TSS analysis as follows: (1) one day prior to the start of scheduled sediment removal activities; (2) during each day of active sediment removal; and (3) two days immediately following completion of the removal activities. Additional water column samples were also collected based on the sequencing of removal activities to provide additional data for documentation purposes. The daily water column samples were collected at the same location as the turbidity measurements noted above (i.e., approximately 100 feet upstream and 500 feet downstream from the removal area). PCBs were not detected at concentrations greater than the laboratory detection limit in any of the samples collected prior to, during, or following the sediment removal activities. Surface water monitoring sample results for PCBs and TSS are presented in Table 7, and were uploaded to the NYSDEC EIMS EQuIS database, as discussed in Section 1.3.3.

2.3.4 Backfilling/Site Restoration

After achieving the target sediment removal depths (as verified by survey), the sediment removal area was backfilled (restored) by placing an imported washed sand backfill material to achieve the approximate pre-remediation lines and grades. The sediment dredge depths and backfill thicknesses achieved throughout the sediment remediation area are presented in Table 7 of the NYSDEC-approved Remedial Action Summary Report (Arcadis, July 2008). Slightly more backfill was placed in the sediment dredge area than the 100 CY of material removed from the area for offsite disposal.

Before the sand backfill was brought onsite, samples were collected from the proposed backfill source to verify that the proposed sand did not exhibit constituents at concentrations exceeding the Class A Sediment Threshold Values presented in the NYSDEC Division of Water Technical & Operational Guidance Series document titled “In-Water and Riparian Management of Sediment and Dredged Material” (TOGS 5.1.9), dated November 2004. The validated backfill sample results are presented in Table 3. Additional information on the backfill samples is presented in the Remedial Action Summary Report. The backfill analytical data were included in a previous NYSDEC EIMS submittal that has been accepted by the NYSDEC. Arcadis surveyed final backfill grades and compared them to the pre-removal baseline to confirm that restoration was consistent with pre-removal conditions, and documented the results in Table 7 of the Remedial Action Summary Report.

3 WASTE HANDLING, TREATMENT, AND DISPOSAL

3.1 General

This section summarizes handling, treatment, and disposal information for waste materials generated during implementation of the investigation and remedial activities at the Site. Associated waste manifests for wastes generated during the remedial activities are included in the corresponding IRM and RA summary reports. Waste characterization results were uploaded to the NYSDEC EIMS's EQuIS database, as discussed in Section 1.3.3.

3.2 Investigation-Derived Wastes

Wastes generated as part of the investigation activities at the Site were transported for offsite treatment/disposal based on characterization sampling results, except for one 55-gallon drum of development and purge water generated as part of the PFAS groundwater investigation. The purge water from the PFAS groundwater investigation was released onto the ground surface per provisions in Section 3.3(e)5.ii(2)(A) of DER-10/Technical Guidance for Site Investigation and Remediation following receipt of the PFAS groundwater analytical results, the laboratory analytical results for a development/purge water characterization sample (summarized in Table 13), and NYSDEC's April 3, 2017 approval.

3.3 2002 Soil and Sediment Removal IRM

In-situ waste characterization soil samples were collected from the proposed excavation area before the start of the IRM excavation activities. Following completion of soil removal activities, additional waste characterization soil, sediment, and waste water samples were collected and submitted for laboratory analysis to characterize the materials for disposal purposes. Waste characterization results obtained for in-situ soil samples, post-excavation soil samples, and one waste water sample are presented in Tables 8 through 10, respectively.

A waste disposal summary identifying quantities of wastes generated by the IRM activities, waste transporters, and the disposal location for each waste stream, is presented below in Table 3-1.

Table 3-1
2002 IRM Waste Disposal Summary

Waste Stream	Total Weight/Volume	Representative Samples	Transporter	Treatment/Disposal Facility
Non-DOT Regulated Soil/Debris	3,791 tons	WC-1, WC-2, WC-4, WC-5, WC-6, WC-8, WC-11, WC-12, WC-13	Mangiardi Brothers Trucking, Inc.	Seneca Meadows Landfill, Waterloo, NY

Waste Stream	Total Weight/Volume	Representative Samples	Transporter	Treatment/Disposal Facility
TSCA-Regulated Soil/Debris (Waste Code B007)	2,150 tons	WC-3, WC-7, WC-9	Mangiardi Brothers Trucking, Inc.	CWM Model City, Model City, NY
Non-DOT Regulated Wastewater	3,295 gallons	WW-1	Industrial Oil Tank Service Corporation	Industrial Oil Tank Service Corporation, Oriskany, NY

3.4 2008 Sediment Remedial Activities

An in-situ waste characterization sediment sample was collected from the proposed near shore sediment removal area before the start of the sediment removal activities. Following completion of the sediment removal activities, a sample of the wastewater generated by excavated sediment dewatering and equipment decontamination was collected and submitted for laboratory analysis to characterize the water for offsite treatment/disposal purposes. Analytical results for the in-situ waste characterization sediment sample and the waste water characterization sample are presented in Tables 11 and 12, respectively. A waste disposal summary, listing quantities of wastes generated by the removal activities, waste transporters, and the disposal location for each waste stream, is presented below in Table 3-2.

Table 3-2
2008 Sediment Remediation Waste Disposal Summary

Waste Stream	Total Weight/Volume	Representative Samples	Transporter	Treatment/Disposal Facility
Non-DOT Regulated Soil/Debris	311 tons	SED-WC-1	Mangiardi Brothers Trucking, Inc.	Seneca Meadows Landfill, Waterloo, NY
Non-DOT Regulated Wastewater	4,530 gallons	WA-CHAR-02062008	United Industrial Services	Norlite Corporation, Cohoes, NY

4 INSTITUTIONAL AND ENGINEERING CONTROLS

4.1 General

Because residual concentrations of PCBs remain at the Site, institutional and engineering controls are included as part of the site remedy. Details of the institutional and engineering controls are provided in the sections below. The area subject to the Institutional Controls is shown on Drawing 4.

4.2 Institutional Controls

The site remedy requires that an EE be placed on the property to: (1) implement, maintain and monitor the Engineering Controls (soil cover as detailed in Section 4.3); (2) prevent future exposure to remaining residuals by controlling disturbances of the subsurface soil; (3) limit the use and development of the Site to commercial or industrial uses only; (4) prevent groundwater underlying the Site from being used without necessary water quality treatment (as determined by the NYSDOH or the Albany County Department of Health to render it safe for use as drinking water or for industrial purposes) or without written approval from NYSDEC; and (5) report data and information pertinent to site management to the NYSDEC. The EE is supported by an SMP.

The EE is the legal instrument which sets forth the land use restrictions and prohibits development of the Site in a manner inconsistent with the soil and groundwater quality following remedial implementation. The property deed includes a reference to the existence of the EE, which in turn identifies the SMP that describes the nature and concentrations of the site-related constituents that remain at the Site.

The EE for the Site was executed by the NYSDEC on June 19, 2017 and filed with the Albany County Clerk on July 12, 2017. The County Recording Identifier number for this filing is R2017-16092. A copy of the EE and associated survey map is included in Appendix B.

The SMP is referenced in the EE and it serves the following purposes:

- Presents guidelines for conducting future intrusive activities within the portion of the Site that may contain residual site-related impacts.
- Identifies the extent of materials remaining at the Site that contain residual quantities of site-related impacts.
- Identifies protocols for handling, managing and properly disposing of waste materials that may be generated during potential future intrusive activities.
- Establishes requirements for managing, inspecting, maintaining and repairing (as necessary) the soil cover installed at the Site.
- Describes notification requirements for annual inspection and monitoring.

Revisions to the SMP may be proposed based on future changes to site conditions or regulatory changes and will be subject to NYSDEC approval. Reference to the existence of the SMP is provided in the EE to indicate that the obligations under the SMP will pass from owner to each subsequent owner upon any transfer of title for the Site.

4.3 Engineering Control

Exposure to remaining residuals at the Site is prevented by an engineering control that is a cover system meeting the requirements of 6 NYCRR Part 375-3.8(e)(4)(iii)(b)(1). The cover system may consist of either a minimum of 12 inches of clean soil or structures such as buildings, pavement or sidewalk. The SMP outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and underlying remaining impacts are disturbed. The cover system is a permanent control, and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with the SMP.

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NYSDEC. 2007. Record of Decision, School Street Former Fire Training Area, Town of Colonie, Albany County, New York, Site No. 4-01-044. NYSDEC Division of Environmental Remediation. (August 2007).

TABLES

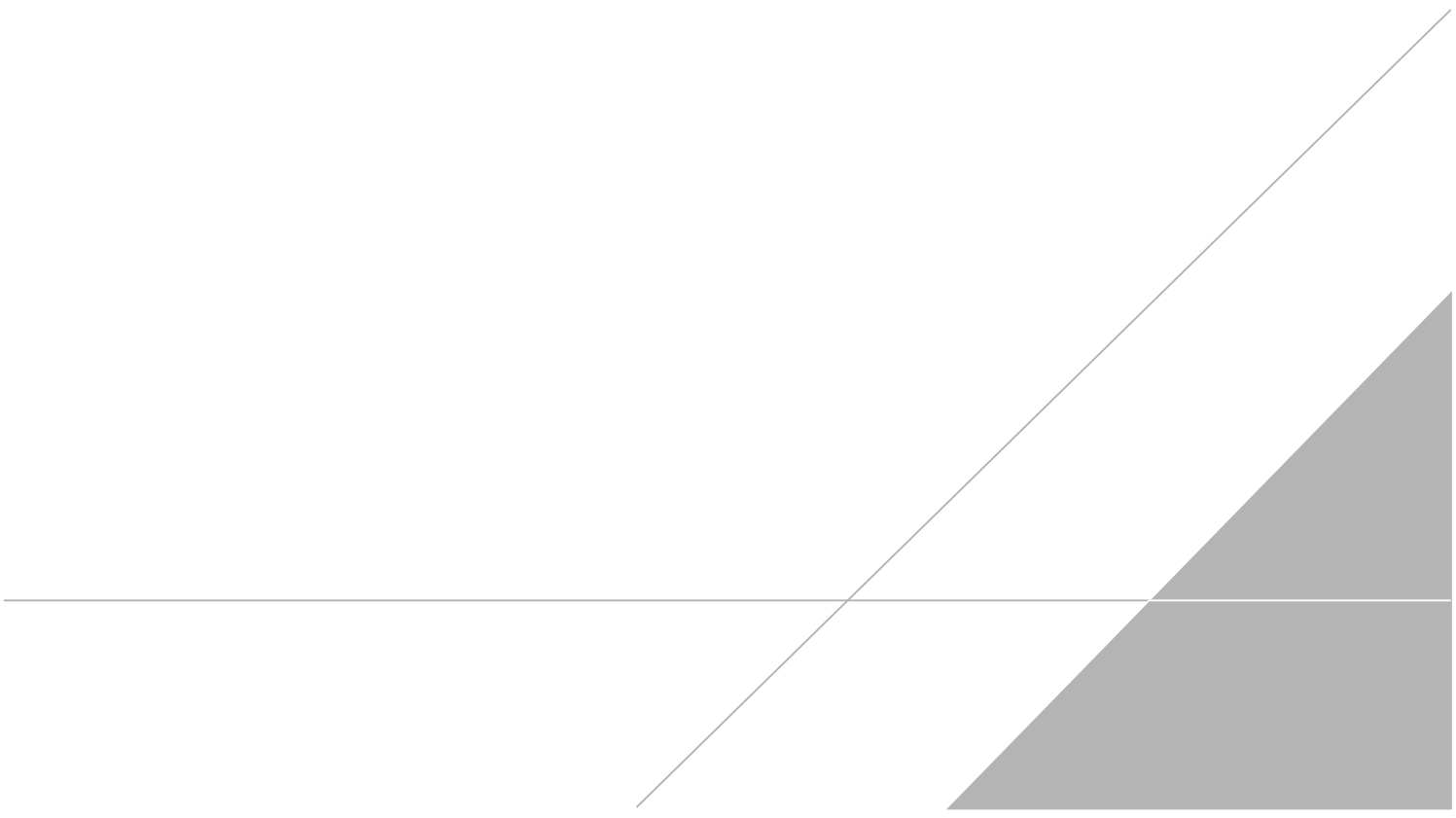

TABLE 1

SUMMARY OF SAMPLING LOCATIONS AND LABORATORY ANALYSES

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Sample ID	Sample Depth (feet)	Date Sampled	Study/ Investigatoin	Media Removed During Previous Remedial Measure	Analyses													
					Field Screening PCBs	PCBs	TOC	TSS	VOCs	SVOCs	Inorganics	Pesticides	PFAS	TCLP VOCs	TCLP SVOCs	TCLP Metals	I/C/R	Flashpoint and pH
Surface Soil Samples																		
S-1	0-0.5	3/30/1999	PSA	X		X				X	X							
S-2	0-0.5	3/30/1999	PSA	X		X				X	X							
S-3	0-0.5	3/29/1999	PSA	X		X				X	X							
S-4	0-0.5	3/30/1999	PSA	X		X												
S-5	0-0.5	3/29/1999	PSA	X		X												
S-6	0-0.5	3/29/1999	PSA	X		X				X	X							
S-6D [S-6]	0-0.5	3/29/1999	PSA	X		X				X	X							
S-7	0-0.5	3/30/1999	PSA	X		X				X	X							
S-8	0-0.5	3/30/1999	PSA	X		X												
S-9	0-0.5	3/30/1999	PSA	X		X												
S-15	0-0.5	11/22/1999	PSA	X		X												
S-16	0-0.5	11/22/1999	PSA	X		X												
S-17	0-0.5	11/22/1999	PSA	X		X												
S-18	0-0.5	11/22/1999	PSA	X		X												
S-19	0-0.5	11/22/1999	PSA	X		X												
S-20	0-0.5	11/22/1999	PSA	X		X												
S-21	0-0.5	11/22/1999	PSA	X		X												
S-22	0-0.5	11/22/1999	PSA	X		X												
S-23	0-0.5	11/22/1999	PSA			X												
S-24	0-0.5	11/22/1999	PSA	X		X												
S-25	0-0.5	11/22/1999	PSA	X		X												
DUP-1 [S-25]	0-0.5	11/22/1999	PSA	X		X												
S-26	0-0.5	11/22/1999	PSA	X		X												
S-27	0-0.5	11/22/1999	PSA	X		X												
S-28	0-0.5	11/22/1999	PSA	X		X												
S-29	0-0.5	10/23/2000	RI	X		X												
S-30	0-0.5	10/23/2000	RI	X		X												
S-31	0-0.5	10/23/2000	RI	X		X												
S-32	0-0.5	10/23/2000	RI	X		X												
S-33	0-0.5	10/23/2000	RI	X		X				X								
S-34	0-0.5	10/23/2000	RI			X												
S-35	0-0.5	10/23/2000	RI			X												
S-36	0-0.5	10/23/2000	RI	X		X												
S-37	0-0.5	10/24/2000	RI	X		X												
S-38	0-0.5	10/24/2000	RI	X		X												
S-39	0-0.5	10/23/2000	RI			X												
S-40	0-0.5	10/23/2000	RI	X		X												
S-41	0-0.5	10/23/2000	RI	X		X												
S-42	0-0.5	10/24/2000	RI	X		X												
S-43	0-0.5	10/24/2000	RI	X		X												
S-44	0-0.5	10/24/2000	RI	X		X				X								
S-45	0-0.5	10/24/2000	RI	X		X												
S-46	0-0.5	10/24/2000	RI			X												
S-47	0-0.5	10/24/2000	RI			X				X	X							
S-48	0-0.5	10/24/2000	RI			X				X	X							
S-50	0-0.5	10/23/2000	RI			X				X	X							
S-51	0-0.5	10/23/2000	RI			X				X	X							
S-54	0-0.5	1/30/2001	RI			X												
S-55	0-0.5	1/30/2001	RI	X		X												
S-56	0-0.5	1/30/2001	RI	X		X												
S-57	0-0.5	1/30/2001	RI			X												
S-58	0-0.5	1/30/2001	RI			X												
S-59	0-0.5	1/30/2001	RI	X		X												
S-60	0-0.5	1/30/2001	RI	X		X												
DUP-3 [S-60]	0-0.5	1/30/2001	RI	X		X												
S-61	0-0.5	1/30/2001	RI	X		X												
S-62	0-0.5	1/30/2001	RI	X		X												
S-63	0-0.5	1/30/2001	RI	X		X												
S-64	0-0.5	1/30/2001	RI	X		X												
S-65	0-0.5	1/30/2001	RI	X		X												
S-66	0-0.5	1/30/2001	RI	X		X												
S-67	0-0.5	2/13/2001	RI	X		X												
S-68	0-0.5	2/13/2001	RI	X		X												

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SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Sample ID	Sample Depth (feet)	Date Sampled	Study/ Investigatoin	Media Removed During Previous Remedial Measure	Analyses														
					Field Screening PCBs	PCBs	TOC	TSS	VOCs	SVOCs	Inorganics	Pesticides	PFAS	TCLP			I/C/R	Flashpoint and pH
														VOCs	SVOCs	Metals		
Surface Soil Samples (con't)																		
S-69	0-0.5	2/13/2001	RI	X		X												
DUP-4 [S-69]	0-0.5	2/13/2001	RI	X		X												
S-70	0-0.5	2/13/2001	RI	X		X												
S-71	0-0.5	2/13/2001	RI	X		X												
S-72	0-0.5	2/13/2001	RI	X		X												
VF-1	1	9/10/2002	IRM		X	X												
VF-2	1	9/4/2002	IRM		X	X												
VF-3	1	9/5/2002	IRM		X	X												
VF-4	1	9/10/2002	IRM	X	X													
VF-5	1	9/5/2002	IRM	X	X													
VF-6	1	8/27/2002	IRM		X	X												
VF-7	1	9/4/2002	IRM		X	X												
VF-8	1	9/4/2002	IRM		X	X												
VF-9	1	9/4/2002	IRM		X	X												
DUP-3 [VF-9]	1	9/4/2002	IRM			X												
VF-10	1	9/4/2002	IRM		X	X												
DUP-4 [VF-10]	1	9/5/2002	IRM			X												
VF-11	1	9/5/2002	IRM	X	X													
VF-12	1	8/27/2002	IRM		X	X												
DUP-2 [VF-12]	1	8/27/2002	IRM			X												
VF-13	1	8/27/2002	IRM	X	X	X												
VF-14	1	8/23/2002	IRM	X	X	X												
DUP-1 [VF-14]	1	8/23/2002	IRM	X		X												
VF-18	1	9/4/2002	IRM		X	X												
VF-19	1	8/23/2002	IRM		X	X												
VF-20	1	9/5/2002	IRM	X	X	X												
VF-25	1	8/23/2002	IRM		X	X												
VF-26	1	9/5/2002	IRM	X	X													
VF-27	1	9/5/2002	IRM	X	X	X												
VF-28	1	9/5/2002	IRM	X	X	X												
VF-30	1	9/10/2002	IRM	X	X	X												
DUP-5 [VF-30]	1	9/10/2002	IRM	X		X												
VF-31	1	9/5/2002	IRM	X	X	X												
VF-32	1	9/10/2002	IRM	X	X													
VS-1	0.5	8/27/2002	IRM		X	X												
VS-2	0.5	8/27/2002	IRM		X	X												
IW-2	1	6/4/2002	IRM	X										X	X	X	X	
IW-3	1	6/4/2002	IRM	X										X	X	X	X	
IW-4	1	6/4/2002	IRM	X										X	X	X	X	
IW-5	1	6/4/2002	IRM	X										X	X	X	X	
Subsurface Soil Samples																		
Sch-SB4	0-4	8/10/1998	ESA			X				X	X							
Sch-SB5	0-4	8/10/1998	ESA			X				X	X							
Sch-SB6	3	8/10/1998	ESA	X		X			X	X								
Sch-SB9	4-8	8/10/1998	ESA			X				X	X							
Sch-TP1	3	8/10/1998	ESA	X		X			X	X								
Sch-TP2	1.8	8/10/1998	ESA	X		X			X	X								
S-1	1-2	3/30/1999	PSA	X		X			X	X	X							
S-2	0.5-1.5	3/30/1999	PSA	X		X			X	X	X							
S-3	2-3	3/29/1999	PSA	X		X			X	X	X							
S-3D [S-3]	2-3	3/29/1999	PSA	X					X									
S-4	0.5-1.5	3/30/1999	PSA	X		X												
S-5	0.5-1.5	3/29/1999	PSA	X		X												
S-6	0.5-1.5	3/29/1999	PSA	X		X			X	X	X							
S-7	0.5-1.5	3/30/1999	PSA	X		X			X	X	X							
S-8	0.5-1.5	3/30/1999	PSA	X		X												
S-9	0.5-1.5	3/30/1999	PSA	X		X												
S-10	0.5-1.5	3/30/1999	PSA	X		X												
S-11	0.5-1.0	3/30/1999	PSA	X		X												
S-12	0.5-1.5	3/30/1999	PSA	X		X												
S-15	0.5-1.5	11/22/1999	PSA	X		X												
S-16	0.5-1.5	11/22/1999	PSA	X		X												
S-17	0.5-1.5	11/22/1999	PSA	X		X												
S-18	1-2	11/22/1999	PSA	X		X												
DUP-2 [S-18]	1-2	11/22/1999	PSA	X		X												

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					Field Screening PCBs	PCBs	TOC	TSS	VOCs	SVOCs	Inorganics	Pesticides	PFAS	TCLP			I/C/R	Flashpoint and pH
														VOCs	SVOCs	Metals		
Subsurface Soil Samples (con't)																		
S-21	0.5-1.5	11/22/1999	PSA	X		X												
S-26	0.5-1.5	11/22/1999	PSA	X		X												
S-36	0.5-1.5	10/23/2000	RI	X		X				X								
S-37	0.5-1.5	10/24/2000	RI			X				X								
DUP-1 [S-37]	0.5-1.5	10/24/2000	RI			X				X								
S-38	0.5-1.5	10/24/2000	RI			X												
S-40	0.5-1.5	10/23/2000	RI	X		X												
S-41	0.5-1.5	10/23/2000	RI	X		X												
S-48	1.5-2.5	10/24/2000	RI			X			X	X	X							
DUP-2 [S-48]	1.5-2.5	10/24/2000	RI			X			X	X	X							
S-53	1-2	10/24/2000	RI			X			X	X	X							
VF-4A	2	9/12/2002	IRM		X	X												
VF-5A	2	9/17/2002	IRM	X	X													
VF-5B-1	3	9/18/2002	IRM		X	X												
VF-5B-2	3	9/18/2002	IRM	X	X													
VF-5C-2	5	9/24/2002	IRM		X	X												
DUP-9 [VF-5C-2]	5	9/24/2002	IRM			X												
VF-11A	2	9/17/2002	IRM		X	X												
DUP-7 [VF-11A]	2	9/17/2002	IRM			X												
VF-13A	2	9/4/2002	IRM		X	X												
VF-22	4	10/2/2002	IRM	X	X													
VF-24	4	10/2/2002	IRM		X	X												
DUP-10 [VF-24]	4	10/2/2002	IRM			X												
VF-29	4	9/10/2002	IRM		X	X												
VF-30A	2	9/20/2002	IRM		X	X												
DUP-8 [VF-30A]	2	9/20/2002	IRM			X												
VF-32A	2	10/4/2002	IRM		X	X												
VF-36	4	8/23/2002	IRM		X	X												
VF-37	1.5	8/23/2002	IRM		X	X												
VS-10	2	10/2/2002	IRM		X	X												
VS-11	2.5	10/2/2002	IRM		X	X												
VS-15N	3.5	9/24/2002	IRM		X													
VS-15S	3	9/24/2002	IRM		X													
VS-15E	3.5	9/24/2002	IRM		X													
VS-15W	4	9/24/2002	IRM		X													
VS-15	Note 13	9/24/2002	IRM			X												
RB-N	3	10/3/2002	IRM		X	X												
RB-S	3	10/4/2002	IRM		X	X												
DUP-11 [RB-S]	3	10/4/2002	IRM			X												
RB-S-2	4.5	10/8/2002	IRM		X	X												
DUP-12 [RB-S-2]	4.5	10/8/2002	IRM			X												
BACKFILL-01	- -	7/16/2002	IRM			X			X	X	X	X						
DUP-1 [BACKFILL-01]	- -	7/16/2002	IRM			X			X	X	X	X						
BACKFILL-03 [BACKFILL-01]	- -	7/16/2002	IRM			X			X	X	X	X						
BACKFILL-02	- -	7/16/2002	IRM			X			X	X	X	X						
S-100	Note 7	9/6/2002	IRM	X		X												
S-101	Note 8	10/5/2002	IRM	X		X												
IW-1	Note 9	6/4/2002	IRM	X										X	X	X	X	
WC-1	Note 10	8/19/2002	IRM	X		X												
WC-2	Note 10	8/19/2002	IRM	X		X												
WC-3	Note 10	8/22/2002	IRM	X		X												
WC-4	Note 10	8/23/2002	IRM	X		X												
WC-5	Note 10	8/30/2002	IRM	X		X												
WC-6	Note 10	9/4/2002	IRM	X		X												
WC-7	Note 10	9/5/2002	IRM	X		X												
WC-8	Note 10	9/5/2002	IRM	X		X												
WC-9	Note 10	9/6/2002	IRM	X		X												
WC-11	Note 10	9/19/2002	IRM	X		X												
WC-12	Note 10	10/3/2002	IRM	X		X												
WC-13	Note 10	10/8/2002	IRM	X		X												
Fill-1	- -	8/16/2007	RA			X			X	X	X	X						

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Sample ID	Sample Depth (feet)	Date Sampled	Study/ Investigatoin	Media Removed During Previous Remedial Measure	Analyses														
					Field Screening PCBs	PCBs	TOC	TSS	VOCs	SVOCs	Inorganics	Pesticides	PFAS	TCLP			I/C/R	Flashpoint and pH
														VOCs	SVOCs	Metals		
Groundwater Samples																		
MW-1	- -	4/9/1999	PSA			X			X	X	X							
	- -	11/23/1999	PSA			X												
	- -	12/7/2000	RI			X												
	- -	5/14/2003	A-GWM			X												
	- -	5/12/2004	A-GWM			X												
	- -	5/24/2005	A-GWM			X												
	- -	12/14/2016	PFA-GW										X					
DUP-1 [MW-1]	- -	12/7/2000	RI			X												
MW-2D	- -	4/9/1999	PSA			X			X	X	X							
	- -	11/22/1999	PSA			X												
	- -	11/8/2000	RI			X												
	- -	5/13/2003	A-GWM			X												
	- -	5/11/2004	A-GWM			X												
	- -	5/25/2005	A-GWM			X												
	- -	12/14/2016	PFA-GW										X					
Blind Duplicate MW-2D	- -	4/9/1999	PSA			X			X	X	X							
	- -	12/14/2016	PFA-GW										X					
MW-3	- -	4/9/1999	PSA			X			X	X	X							
	- -	6/4/1999	PSA			X												
	- -	6/4/1999*	PSA			X												
	- -	11/23/1999	PSA			X												
	- -	11/8/2000	RI			X												
	- -	5/14/2003	A-GWM			X												
	- -	5/12/2004	A-GWM			X												
	- -	5/24/2005	A-GWM			X												
	- -	12/14/2016	PFA-GW										X					
DUP-1 [MW-3]	- -	6/4/1999	PSA			X												
DUP-1 [MW-3]	- -	11/23/1999	PSA			X												
DUP-1 [MW-3]	- -	11/8/2000	RI			X												
MW-DUP-1 [MW-3]	- -	5/14/2003	A-GWM			X												
DUP-1 [MW-3]	- -	5/12/2004	A-GWM			X												
DUP-1 [MW-3]	- -	5/24/2005	A-GWM			X												
MW-4	- -	12/7/2000	RI			X												
	- -	5/14/2003	A-GWM			X												
	- -	5/12/2004	A-GWM			X												
	- -	5/25/2005	A-GWM			X												
Sediment Samples																		
SD-1	0-0.5	11/23/1999	PSA			X	X											
	0.5-1	11/23/1999	PSA			X	X											
	1-1.5	11/23/1999	PSA			X	X											
	1.5-2	11/23/1999	PSA			X												
	2-3	11/23/1999	PSA			X												
	3-4	11/23/1999	PSA			X												
	4-5	11/23/1999	PSA			X												
	5-6	11/23/1999	PSA			X												
SD-2	0-0.5	11/23/1999	PSA			X	X											
	0.5-1	11/23/1999	PSA			X	X											
	1-1.5	11/23/1999	PSA			X	X											
	1.5-2	11/23/1999	PSA			X												
	2-3	11/23/1999	PSA			X												
	3-4	11/23/1999	PSA			X												
	4-5	11/23/1999	PSA			X												
SD-3	0-0.5	11/23/1999	PSA	**X**		X	X											
	0.5-1	11/23/1999	PSA	**X**		X	X											
	1-1.5	11/23/1999	PSA			X	X											
	1.5-2	11/23/1999	PSA			X												
SD-4	0-0.5	11/23/1999	PSA	**X**		X	X											
	0.5-1	11/23/1999	PSA	**X**		X	X											
SD-D1 [SD-4]	0.5-1	11/23/1999	PSA	**X**		X	X											
SD-5	0-0.5	11/23/1999	PSA	**X**		X	X											
	0.5-1	11/23/1999	PSA	**X**		X	X											
	1-1.5	11/23/1999	PSA	**X**		X	X											
SD-6	0-0.7	11/23/1999	PSA	**X**		X	X											

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					Field Screening PCBs	PCBs	TOC	TSS	VOCs	SVOCs	Inorganics	Pesticides	PFAS	TCLP			I/C/R	Flashpoint and pH
														VOCs	SVOCs	Metals		
Sediment Samples (con't)																		
SD-7	0-0.5	11/23/1999	PSA			X												
	0.5-1	11/23/1999	PSA			X												
	1-1.5	11/23/1999	PSA			X												
	1.5-2	11/23/1999	PSA			X												
	2-3	11/23/1999	PSA			X												
SD-8	0-0.5	10/24/2000	RI			X	X											
	0.5-1	10/24/2000	RI			X	X											
	1-1.5	10/24/2000	RI			X	X											
SD-9	0-0.5	10/24/2000	RI			X	X											
	0.5-1	10/24/2000	RI			X	X											
	1-1.5	10/24/2000	RI			X	X											
SD-10	0-0.5	10/24/2000	RI			X	X											
	0.5-1	10/24/2000	RI			X	X											
	1-1.5	10/24/2000	RI			X	X											
	1.5-2	10/24/2000	RI			X	X											
	2-2.6	10/24/2000	RI			X	X											
SD-DUP-1 [SD-10]	0.5-1	10/24/2000	RI			X	X											
DUP [SD-10]	1-1.5	10/24/2000	RI				X											
SD-11	0-0.5	10/24/2000	RI			X	X											
	0.5-1	10/24/2000	RI			X	X											
	1-1.5	10/24/2000	RI			X	X											
	1.5-2	10/24/2000	RI			X	X											
	2-3	10/24/2000	RI			X	X											
SD-12	0-0.5	10/24/2000	RI			X	X											
	0.5-1	10/24/2000	RI			X	X											
SD-13	0-0.5	10/25/2000	RI	X		X	X											
	0.5-1	10/25/2000	RI	X		X	X											
	1-1.5	10/25/2000	RI	X		X	X											
	1.5-2	10/25/2000	RI	X		X	X											
SD-14	0-0.5	10/25/2000	RI	X		X	X											
	0.5-1	10/25/2000	RI	X		X	X											
SD-15	0-1.5	10/25/2000	RI	X		X	X											
	1.5-3	10/25/2000	RI	X		X	X											
	3-3.5	10/25/2000	RI	X		X	X											
	3.5-4	10/25/2000	RI	X		X	X											
	4-4.5	10/25/2000	RI	X		X	X											
	4.5-5	10/25/2000	RI	X		X												
SD-DUP-2 [SD-15]	3.5-4	10/25/2000	RI	X		X	X											
DUP [SD-15]	4-4.5	10/25/2000	RI	X			X											
SD-16	0-0.5	10/25/2000	RI	X		X	X											
	0.5-1	10/25/2000	RI	X		X	X											
	1-1.5	10/25/2000	RI	X		X	X											
SD-17	0-0.5	10/25/2000	RI	X		X	X											
	0.5-1	10/25/2000	RI	X		X	X											
SD-18	0-0.5	12/8/2000	RI	X		X												
SD-18 DUP	0-0.5	12/8/2000	RI	X		X	X											
SD-24	0-0.5	12/8/2000	RI	X		X												
SD-101	1.5-2.0	9/11/2002	IRM	X		X	X											
SD-102	0.5-1.0	9/11/2002	IRM	X		X	X											
SD-103	0-0.5	9/11/2002	IRM	X		X	X											
SD-104	0.5-1.0	9/11/2002	IRM	X		X	X											
SD-105	2.2-2.7	9/11/2002	IRM			X	X											
SD-106	1.2-1.7	9/11/2002	IRM	X		X	X											
DUP-SD-1 [SD-106]	1.2-1.7	9/11/2002	IRM	X		X	X											
SD-107	0-0.5	9/11/2002	IRM	X		X	X											
SD-108	0.5-1.0	9/11/2002	IRM	X		X	X											
V1-2_0-0.5	0-0.5	8/16/2007	RA	X		X	X											
V2-2_0-0.5	0-0.5	8/16/2007	RA	X		X	X											
V3-2_0-0.5	0-0.5	8/16/2007	RA	X		X	X											
V4-1_1-1.5	1-1.5	8/15/2007	RA			X	X											
V4-2_0-0.5	0-0.5	8/15/2007	RA	X		X	X											
DUP-1 [V4-2_0-0.5]	0-0.5	8/15/2007	RA	X		X	X											
V-US_0-0.5	0-0.5	8/15/2007	RA	X		X	X											
SED-WC-1	Note 14	8/16/2007	RA	X		X								X	X	X	X	

TABLE 1

SUMMARY OF SAMPLING LOCATIONS AND LABORATORY ANALYSES

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Sample ID	Sample Depth (feet)	Date Sampled	Study/ Investigatoin	Media Removed During Previous Remedial Measure	Analyses														
					Field Screening PCBs	PCBs	TOC	TSS	VOCs	SVOCs	Inorganics	Pesticides	PFAS	TCLP					
														VOCs	SVOCs	Metals	I/C/R	Flashpoint and pH
Wastewater Sample																			
WW-1	- -	10/8/2002	IRM			X								X	X	X	X	
WA-CHAR-02062008	- -	2/6/2008	RA			X			X	X	X							X
Surface Water Samples																			
CW-1	- -	3/14/2002	Q-SWM			X													
	- -	6/18/2002	Q-SWM			X													
	- -	9/13/2002	Q-SWM			X													
	- -	12/5/2002	Q-SWM			X													
	- -	4/2/2003	Q-SWM			X													
PC-1	- -	3/14/2002	Q-SWM			X													
	- -	6/18/2002	Q-SWM			X													
	- -	9/13/2002	Q-SWM			X													
	- -	12/5/2002	Q-SWM			X													
	- -	4/2/2003	Q-SWM			X													
DUP [PC-1]	- -	3/14/2002	Q-SWM			X													
	- -	6/18/2002	Q-SWM			X													
	- -	9/13/2002	Q-SWM			X													
	- -	12/5/2002	Q-SWM			X													
	- -	4/2/2003	Q-SWM			X													
RWR-1	- -	3/14/2002	Q-SWM			X													
	- -	6/18/2002	Q-SWM			X													
	- -	9/13/2002	Q-SWM			X													
	- -	12/5/2002	Q-SWM			X													
	- -	4/2/2003	Q-SWM			X													
RWR-2	- -	3/14/2002	Q-SWM			X													
	- -	6/18/2002	Q-SWM			X													
	- -	9/13/2002	Q-SWM			X													
	- -	12/5/2002	Q-SWM			X													
	- -	4/2/2003	Q-SWM			X													
SW-US	- -	1/23/2008	RA-DS			X		X											
	- -	1/24/2008	RA-DS			X		X											
	- -	1/25/2008	RA-DS			X		X											
	- -	1/29/2008	RA-DS			X		X											
	- -	1/30/2008	RA-DS			X		X											
	- -	1/31/2008	RA-DS			X		X											
	- -	2/1/2008	RA-DS			X		X											
	- -	2/1/2008**	RA-DS			X		X											
	- -	2/2/2008	RA-DS			X		X											
	- -	2/4/2008	RA-DS			X		X											
	- -	2/5/2008	RA-DS			X		X											
	- -	2/6/2008	RA-DS			X		X											
	- -	2/7/2008	RA-DS			X		X											
SW-DS	- -	1/23/2008	RA-DS			X		X											
	- -	1/24/2008	RA-DS			X		X											
	- -	1/25/2008	RA-DS			X		X											
	- -	1/29/2008	RA-DS			X		X											
	- -	1/30/2008	RA-DS			X		X											
	- -	1/31/2008	RA-DS			X		X											
	- -	2/1/2008	RA-DS			X		X											
	- -	2/1/2008**	RA-DS			X		X											
	- -	2/2/2008	RA-DS			X		X											
	- -	2/4/2008	RA-DS			X		X											
	- -	2/5/2008	RA-DS			X		X											
	- -	2/6/2008	RA-DS			X		X											
	- -	2/7/2008	RA-DS			X		X											
SW-DUP [SW-DS]	- -	1/24/2008	RA-DS			X		X											
	- -	2/1/2008**	RA-DS			X		X											
	- -	2/7/2008	RA-DS			X		X											

TABLE 1

SUMMARY OF SAMPLING LOCATIONS AND LABORATORY ANALYSES

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Notes:

1. Samples were collected by the following:
   - Fluor Daniel GTI in August 1998.
   - Arcadis (formerly known as Blasland, Bouck & Lee, Inc.) from March 1999 to present.
2. Blind duplicate [corresponding sampling location is identified in brackets].
3. The following laboratories were used during site investigations:
   - Laboratory analysis of the Phase II Environmental Site Assessment (August 1998) samples was performed by Scilab Albany, Inc. of Latham, New York using the methods as referenced in the New York State Department of Environmental Conservation (NYSDEC) 1995 Analytical Service Protocol (ASP).
   - Laboratory analysis for the Preliminary Site Assessment (March 1999 to November 1999) and Remedial Investigation (October 2000 to February 2001) was performed by Galson Laboratories, Inc. of East Syracuse, New York and H2M Laboratories, Inc. of Melville, New York using methods as referenced in the NYSDEC 1995 ASP.
   - Laboratory analysis for the Interim Remedial Measure (September to October 2002) was performed by Columbia Analytical Services, Inc. of Rochester, New York using methods as referenced in the NYSDEC 2000 ASP.
   - Laboratory analysis for the Quarterly Water Monitoring (March 2002) was performed by TestAmerica of Newburgh, New York (formerly Severn Trent Laboratories, Inc.) using methods as referenced in the NYSDEC 2000 ASP.
   - Laboratory analysis for the Quarterly Water Monitoring (June 2002 to April 2003) and Post-IRM Groundwater Monitoring (May 2003 to May 2005) was performed by Adirondack Environmental Services, Inc. of Albany, New York using methods as referenced in the NYSDEC 2000 ASP.
   - Laboratory analysis for the Remedial Action backfill samples (August 2007) was performed by TestAmerica of Edison, New Jersey using methods as referenced in NYSDEC 2000 ASP.
   - Laboratory analysis for the Remedial Action surface water samples (January to February 2008) was performed by Northeast Analytical, Inc. of Schenectady, NY using methods as referenced in NYSDEC 2000 ASP.
   - Laboratory analysis for the Remedial Action (February 2008) wastewater waste characterization sample was performed by TestAmerica of Buffalo, New York using methods as referenced in NYSDEC 2000 ASP.
   - Laboratory analysis for the December 2016 groundwater samples was performed by Test America located in Sacramento, California.
4. Laboratory analysis was performed by the following methods:
   - Polychlorinated biphenyls (PCBs) using USEPA SW-846 Method 8080 (August 1998).
   - PCBs using USEPA SW-846 Method 8082 (March 1999 to October 2002, May 2003 to August 2007, and August 2007 to February 2008).
   - PCBs using USEPA SW-846 Method 508 (March 2002 to January 2008).
   - PCBs using USEPA SW-846 Method 608 (January 2008 to February 2008).
   - Volatile organic compounds (VOCs) using USEPA Method 502.2 (with methyl-tert-butyl-ether added as a supplemental parameter to the analysis; April 1999).
   - VOCs using USEPA SW-846 Method 8260 (August 1998 to November 1999), including the following supplemental parameters: n-butylbenzene; sec-butylbenzene; tert-butylbenzene; isopropylbenzene; p-isopropyltouene; n-propylbenzene; 1,2,4-trimethylbenzene; and 1,3,5-trimethylbenzene.
   - Target Compound List (TCL) VOCs using USEPA SW-846 Method 8260 (September 2002 to February 2008).
   - Semi-volatile organic compounds (SVOCs) using USEPA SW-846 Method 8270 (August 1998 to August 2007).
   - Target analyte list (TAL) inorganics using USEPA SW-846 Method 6010, 7470/7471, and 9010 (August 1998 and August 2007).
   - Toxicity Characteristic Leaching Procedure (TCLP) Parameters using Method 1311 for extraction and (September 2002 to August 2007):
     - VOCs using USEPA Method 8260.
     - SVOCs using USEPA Method 8270.
     - Metals using USEPA Method series 6010 and 7471.
   - Pesticides using USEPA SW-846 Method 8081 (September 2002 to August 2007).
   - Perfluoroalkyl substances (PFAS) using USEPA Method 537 Modified for Groundwater (December 2016).
   - Total organic carbon (TOC) using the Lloyd Kahn Method (October 2000 to August 2007).
   - Ignitability using USEPA SW-846 Method 1010 (August 2007 to February 2008).
   - Corrosivity using USEPA SW-846 Method 9045C (August 2007).
   - Reactive Cyanide using USEPA SW-846 Method 7.3.3 (August 2007).
   - Reactive Sulfide using USEPA SW-846 Method 7.3.4 (August 2007).
   - pH using USEPA SW-846 Method 9040 (August 2008).
   - Total suspended solids (TSS) using USEPA SW-846 Method 160.2 (January to February 2008).
5. Sample designations indicate the following:
   - BACKFILL = Backfill sample.
   - D, DUP = Blind duplicate sample.
   - IW = In-situ waste characterization sample.
   - MW = Groundwater sample.
   - RB = Verification soil sample collected from the riverbank.
   - S = Soil sample.
   - SB = Soil boring sample.
   - SD = Sediment sample.
   - TP = Test pit.
   - V = Verification Sample.
   - VF = Verification soil sample collected from excavation floor.
   - VS = Verification soil sample collected from excavation sidewall.
   - WC = Post-excavation waste characterization sample.
   - WW = Wastewater sample.
6. bgs = below ground surface.
7. Sample S-100 was collected between 1.5 and 5 feet bgs.
8. Sample S-101 was collected between 3 and 4.5 feet bgs.
9. Sample IW-1 was a composite of samples S-6 (0-0.5), S-19 (0-0.5), and S-17 (0.5-1.5).
10. Samples WC-1 through WC-9 and WC-11 and WC-13 were composites of 6 to 8 grab samples from the stockpiled soil.
11. * = A second sample from MW-3 (MW-3F) was collected on 6/4/1999 and filtered in the field prior to submittal for laboratory analysis for PCBs.
12. ** = A second sample from SW-DS was collected on 2/1/2008 during the afternoon.
13. Sample VS-15 was a composite of samples VS-15N (3.5), VS-15S(3), VS-15E(3.5), and VS-15W(4).
14. Sample SED-WC-1 was a composite of samples V1-1 (0-0.5), V2-1(0-0.5), V3-1 (0-0.2), and V4-1 (0-1).
15. Pre-construction in-situ waste characterization sample was a composite of samples V1-1 (0-0.8), V2-1(0-0.5), V3-1 (0-0.2), and V4-1 (0-1).
16. Groundwater samples with ID MW-2D were collected from the deep (bedrock) well at location MW-2. A groundwater sample was not collected from the shallow well at location MW-2 (designated as MW-2S).
17. Due to a laboratory error in the analysis of groundwater samples MW-1 & MW-4 (collected on November 9, 2000), additional groundwater samples were collected from the wells on December 7, 2000.
18. I/C/R = Ignitability, corrosivity, and reactivity.
19. A-GWM = Annual groundwater monitoring.
20. ESA = Phase II - Environmental Site Assessment.
21. IRM = Interim Remedial Measure.
22. PSA = Preliminary Site Assessment.
23. Q-SWM = Quarterly surface water monitoring.
24. RA = Remedial Action.
25. RA-DS = Remedial activities documentation sampling.
26. RI = Remedial Investigation.
27. PFA-GW = December 2016 PFAS groundwater sampling.
28. An X indicates analysis was conducted.
29. An **X** indicates that the media at this location was removed as part of a previous remedial measure.
30. - - = A depth is not appropriate for the sample.

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TABLE 2

DELINEATION, VERIFICATION, AND BACKFILL SOIL ANALYTICAL RESULTS FOR PCBs (ppm)

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Sample ID	Depth (feet bgs)	Media Removed During Previous Remedial Measure	Field Screening Results for Total PCBs			Laboratory Analytical Results
			<1	1-10	>10	Total PCBs
Phase II - Environmental Site Assessment						
Soil Boring Samples						
Sch-SB4	0-4					< 0.6
Sch-SB5	0-4					< 0.5
Sch-SB6	3	X				42
Sch-SB9	4-8					< 0.5
Test Pit Samples						
Sch-TP1	3	X				29
Sch-TP2	1.8	X				33
Preliminary Site Assessment						
Soil Boring Samples						
S-1	0-0.5	X				2.4
	1-2	X				4.8 J
S-2	0-0.5	X				2.7
	0.5-1.5	X				2.8 J
S-3	0-0.5	X				1.7
	2-3	X				22 J
S-4	0-0.5	X				1.9
	0.5-1.5	X				0.17 J
S-5	0-0.5	X				0.078
	0.5-1.5	X				< 0.018
S-6	0-0.5	X				130 [120]
	0.5-1.5	X				14 J
S-7	0-0.5	X				7.8
	0.5-1.5	X				2.0 J
S-8	0-0.5	X				11
	0.5-1.5	X				8.6 J
S-9	0-0.5	X				8.1
	0.5-1.5	X				16 J
S-10	0.5-1.5	X				0.006 J
S-11	0.5-1.0	X				0.56 J
S-12	0.5-1.5	X				0.13 J
S-15	0-0.5	X				670
	0.5-1.5	X				0.46 J
S-16	0-0.5	X				0.64
	0.5-1.5	X				0.34 J
S-17	0-0.5	X				16
	0.5-1.5	X				66 J
S-18	0-0.5	X				8.6
	1-2	X				0.098 J [0.085 J]
S-19	0-0.5	X				74 D
S-20	0-0.5	X				0.1
S-21	0-0.5	X				4.7 D
	0.5-1.5	X				0.96 D
S-22	0-0.5	X				0.54 D
S-23	0-0.5					0.043
S-24	0-0.5	X				2.6 D
S-25	0-0.5	X				8.0 D [7.0 D]
S-26	0-0.5	X				4.1
	0.5-1.5	X				23 J
S-27	0-0.5	X				5.7 D
S-28	0-0.5	X				9.3 D
Remedial Investigation						
S-29	0-0.5	X				0.12
S-30	0-0.5	X				1.8
S-31	0-0.5	X				4.8
S-32	0-0.5	X				4.3
S-33	0-0.5	X				3.7 J
S-34	0-0.5					0.057
S-35	0-0.5					0.69
S-36	0-0.5	X				3.1 J
	0.5-1.5	X				0.046 J

TABLE 2

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Sample ID	Depth (feet bgs)	Media Removed During Previous Remedial Measure	Field Screening Results for Total PCBs			Laboratory Analytical Results
			<1	1-10	>10	Total PCBs
S-37	0-0.5	X				0.4
	0.5-1.5					0.16 [0.14]
S-38	0-0.5	X				1.3
	0.5-1.5					0.036
S-39	0-0.5					0.4
S-40	0-0.5	X				7.2
	0.5-1.5	X				9.3
S-41	0-0.5	X				8.1
	0.5-1.5	X				18
S-42	0-0.5	X				3.4
S-43	0-0.5	X				1.6
S-44	0-0.5	X				0.43 J
S-45	0-0.5	X				1.9
S-46	0-0.5					0.074
S-47	0-0.5					0.55 J
S-48	0-0.5					0.27 J
	1.5-2.5					0.095 J [0.49 J]
S-50	0-0.5					0.029 J
S-51	0-0.5					0.23 J
S-53	1-2					0.34 J
S-54	0-0.5					0.44 J
S-55	0-0.5	X				3.8 J
S-56	0-0.5	X				0.054 J
S-57	0-0.5					0.16 J
S-58	0-0.5					< 0.019
S-59	0-0.5	X				2.6
S-60	0-0.5	X				3.4 [1.9]
S-61	0-0.5	X				0.85
S-62	0-0.5	X				4.1
S-63	0-0.5	X				2.5
S-64	0-0.5	X				0.98
S-65	0-0.5	X				1.6
S-66	0-0.5	X				1.2
S-67	0-0.5	X				0.66
S-68	0-0.5	X				0.2
S-69	0-0.5	X				0.091 [0.083 J]
S-70	0-0.5	X				0.065
S-71	0-0.5	X				< 0.026
S-72	0-0.5	X				0.13
Interim Remedial Measure						
Vertical Verification and Delineation Samples						
VF-1	1		X			0.47 D
VF-2	1			X		0.62
VF-3	1		X			0.15
VF-4	1	X			X	NA
VF-4A	2		X			0.22
VF-5	1	X			X	NA
VF-5A	2	X			X	NA
VF-5B-1	3			X		0.57
VF-5B-2	3	X			X	NA
VF-5C-2	5		X			0.192 [0.35]
VF-6	1			X		1.7 D
VF-7	1		X			0.17
VF-8	1		X			1.6 D
VF-9	1			X		0.85 D [0.62]
VF-10	1			X		2.7 D [3.1 D]
VF-11	1	X			X	NA
VF-11A	2			X		5.1 D [5.6 D]
VF-12	1			X		1.1 D [0.61 D]
VF-13	1	X	X			1.3 D
VF-13A	2		X			<0.04
VF-14	1	X	X			1.6 D [1.4 D]
VF-18	1		X			0.06
VF-19	1		X			<0.04

TABLE 2

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Sample ID	Depth (feet bgs)	Media Removed During Previous Remedial Measure	Field Screening Results for Total PCBs			Laboratory Analytical Results
			<1	1-10	>10	Total PCBs
VF-20	1	X	X			0.85 D
VF-22	4	X			X	NA
VF-24	4			X		3.7 D [4.5 D]
VF-25	1			X		0.79 D
VF-26	1	X			X	NA
VF-27	1	X		X		3.8 D
VF-28	1	X	X			0.19
VF-29	4		X			0.2
VF-30	1	X		X		29 D [27 D]
VF-30A	2			X		2.7 D [1.8 D]
VF-31	1	X		X		1.3 D
VF-32	1	X			X	NA
VF-32A	2		X			0.63 D
VF-36	4		X			0.15
VF-37	1.5		X			0.19
Horizontal Verification and Delineation Samples						
VS-1	0.5		X			0.11
VS-2	0.5		X			0.15
VS-10	2			X		1.3 D
VS-11	2.5		X			<0.04
VS-15N	3.5		X			NA
VS-15S	3		X			NA
VS-15E	3.5		X			NA
VS-15W	4		X			NA
VS-15	~3					1.1 D
Riverbank Verification and Delineation Samples						
RB-N	3		X			0.069
RB-S	3		X			0.58 D [0.81 D]
RB-S-2	4.5		X			0.94 D [1.6 D]
Soil Characterization Samples						
S-100	Note 16	X				1,200
S-101	Note 17	X				36
Backfill Samples						
BACKFILL-01	- -					<0.038 [<0.038 & <0.038]
BACKFILL-02	- -					<0.034
Final Remedial Action						
Backfill Sample						
Fill-1	- -					<0.072

TABLE 2

DELINEATION, VERIFICATION, AND BACKFILL SOIL ANALYTICAL RESULTS FOR PCBs (ppm)

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FORMER FIRE TRAINING AREA
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Notes:

1. Samples were collected by the following:
   - Fluor Daniel GTI in August 1998.
   - Arcadis (formerly known as Blasland, Bouck & Lee, Inc.) from March 1999 to present.
2. bgs = below ground surface.
3. Field duplicate sample results are presented in brackets.
4. Samples field screened by Arcadis using EnSys immunoassay test kits.
5. Laboratory analysis of the Phase II Environmental Site Assessment (August 1998) samples was performed by Scilab Albany, Inc. of Latham, New York for Polychlorinated biphenyls (PCBs) using United States Environmental Protection Agency (USEPA) SW-846 Method 8080 as referenced in the New York State Department of Environmental Conservation (NYSDEC) 1995 Analytical Service Protocol (ASP).
6. Laboratory analysis for the Preliminary Site Assessment (March 1999 to November 1999) and Remedial Investigation (October 2000 to February 2001) was performed by Galson Laboratories, Inc. of East Syracuse, New York for PCBs using USEPA SW-846 Method 8082 methods as referenced in the NYSDEC 1995 ASP.
7. Laboratory analysis for the Remedial Action (August 2007) was performed by TestAmerica of Edison, New Jersey for PCBs using USEPA SW-846 Method 8082 as referenced in NYSDEC 2000 ASP.
8. Concentrations are reported in parts per million (ppm), which are equivalent to milligrams per kilogram (mg/kg).
9. Sample designations indicate the following:
   - BACKFILL and Fill = Backfill sample.
   - DUP = Duplicate sample.
   - RB = Verification soil sample collected from the riverbank excavation sidewall.
   - S = Soil sample.
   - SB = Soil boring sample.
   - TP = Test pit.
   - VF = Verification soil sample collected from excavation floor.
   - VS = Verification soil sample collected from excavation sidewall.
10. Data qualifiers are defined as follows:
    < - Constituent not detected at a concentration above the reported detection limit.
    D - Compound quantitated using a secondary dilution. Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis.
    J - Indicates that the associated numerical value is an estimated concentration.
11. * = Sample consisted of four subsamples collected from each sidewall of the excavation in the vicinity of VF-5C-2 (field screening location VS-15N, VS-15S, VS-15E, and VS-15W).
12. NA = Not analyzed.
13. Shading indicates the concentration of total PCBs for soil samples exceeded the NYSDEC-recommended soil cleanup objectives of 1 ppm for surface soil or 10 ppm for subsurface soil as presented in the NYSDEC Final Commissioner Policy CP-51 / Soil Cleanup Guidance, issued October 2010.
14. Sample S-100 was collected between 1.5 and 5 feet bgs.
15. Sample S-101 was collected between 3 and 4.5 feet bgs.
16. - - = A depth is not appropriate for the sample.
17. An X indicates field screening of PCBs was performed and the approximate concentration (i.e., <1, 1-10, or >10 ppm).
18. An **X** indicates that the media at this location was removed as part of a previous remedial measure.

TABLE 3

DELINEATION AND VERIFICATION SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, PESTICIDES, AND INORGANICS (ppm)

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Study/Investigation:			Phase II - Environmental Site Assessment						Preliminary Site Assessment			
Location ID:			Sch-SB4	Sch-SB5	Sch-SB6	Sch-SB9	Sch-TP1	Sch-TP2	S-1		S-2	
Sample Depth (feet):			0-4	0-4	3	4-8	3	1.8	0-0.5	1-2	0-0.5	0.5-1.5
Date:	Antecedent TAGM 4046 Cleanup Levels	Part 375 Restricted Use SCOs Commercial	8/10/1998	8/10/1998	8/10/1998	8/10/1998	8/10/1998	8/10/1998	3/30/1999	3/30/1999	3/30/1999	3/30/1999
X = Media Removed During Previous Remedial Measure:					X		X	X	X	X	X	X
Detected VOCs												
Acetone	0.2	500	NA	NA	< 0.011	NA	< 0.010	< 0.010	NA	< 0.010	NA	< 0.012
Benzene	0.06	44	NA	NA	< 0.005	NA	< 0.005	< 0.005	NA	0.002 J	NA	< 0.012
Methylene chloride	0.1	500	NA	NA	< 0.005	NA	< 0.005	< 0.005	NA	< 0.010	NA	< 0.012
Toluene	1.5	500	NA	NA	< 0.005	NA	< 0.005	< 0.005	NA	0.10 J	NA	0.004 J
Xylene (Total)	1.2	500.0	NA	NA	< 0.005	NA	< 0.005	< 0.005	NA	0.008 J	NA	< 0.012
Total TICs	NR	NR	NA	NA	NC	NA	NC	NC	NA	NC	NA	NC
Detected SVOCs												
1,2,4-Trichlorobenzene	3.4	NR	NA	NA	NA	NA	NA	NA	< 0.35	< 0.35	< 0.37	< 0.37
1,2-Dichlorobenzene	7.9	500	NA	NA	NA	NA	NA	NA	< 0.35	< 0.35	< 0.37	< 0.37
1,3-Dichlorobenzene	1.6	280	NA	NA	NA	NA	NA	NA	< 0.35	< 0.35	< 0.37	< 0.37
1,4-Dichlorobenzene	8.5	130	NA	NA	NA	NA	NA	NA	< 0.35	< 0.35	< 0.37	< 0.37
2-Methylnaphthalene	36.4	NR	NA	NA	NA	NA	NA	NA	< 0.35	< 0.35	< 0.37	< 0.37
3,3' Dichlorobenzidine	NR	NR	NA	NA	NA	NA	NA	NA	< 0.70	<0.69	< 0.74	< 0.73
4-Methylphenol	0.9	500	NA	NA	NA	NA	NA	NA	< 0.35	< 0.35	< 0.37	< 0.37
Acenaphthene	50	500	<0.19	<0.18	< 0.18	< 0.18	< 0.17	< 0.17	< 0.35	< 0.35	< 0.37	< 0.37
Acenaphthylene	41	500	NA	NA	NA	NA	NA	NA	< 0.35	< 0.35	< 0.37	< 0.37
Anthracene	50	500	<0.19	< 0.18	< 0.18	< 0.18	< 0.17	< 0.17	< 0.35	< 0.35	0.091 J	< 0.37
Benzo(a)anthracene	0.224 or MDL	5.6	<0.19	< 0.18	< 0.18	< 0.18	< 0.17	< 0.17	< 0.35	< 0.35	< 0.37	< 0.37
Benzo(a)pyrene	0.061 or MDL	1	< 0.19	< 0.18	< 0.18	< 0.18	< 0.17	< 0.17	< 0.35	< 0.35	< 0.37	< 0.37
Benzo(b)fluoranthene	1.1	5.6	< 0.19	< 0.18	< 0.18	< 0.18	< 0.17	< 0.17	< 0.35	< 0.35	< 0.37	< 0.37
Benzo(g,h,i)perylene	50	500	< 0.19	< 0.18	< 0.18	< 0.18	< 0.17	< 0.17	< 0.35	< 0.35	< 0.37	< 0.37
Benzo(k)fluoranthene	1.1	56	< 0.19	< 0.18	< 0.18	< 0.18	< 0.17	< 0.17	< 0.35	< 0.35	< 0.37	< 0.37
bis(2-Ethylhexyl)phthalate	NR	NR	NA	NA	NA	NA	NA	NA	< 0.35	< 0.35	< 0.37	< 0.37
Chrysene	0.4	56	< 0.19	< 0.18	< 0.18	< 0.18	< 0.17	< 0.17	< 0.35	< 0.35	0.063 J	< 0.37
Dibenzo(a,h)anthracene	0.014 or MDL	0.56	<0.19	<0.18	< 0.18	< 0.18	< 0.17	< 0.17	< 0.35	< 0.35	< 0.37	< 0.37
Dibenzofuran	6.2	350	NA	NA	NA	NA	NA	NA	< 0.35	< 0.35	< 0.37	< 0.37
Di-n-butylphthalate	8.1	NR	NA	NA	NA	NA	NA	NA	< 0.35	< 0.35	0.15 J	< 0.37
Di-n-octylphthalate	50	NR	NA	NA	NA	NA	NA	NA	< 0.35	< 0.35	< 0.37	< 0.37
Fluoranthene	50	500	< 0.19	< 0.18	< 0.18	< 0.18	< 0.17	< 0.17	< 0.35	< 0.35	0.13 J	0.071 J
Fluorene	50	500	< 0.19	< 0.18	< 0.18	< 0.18	< 0.17	< 0.17	< 0.35	< 0.35	< 0.37	< 0.37
Indeno(1,2,3-cd)pyrene	3.2	5.6	< 0.19	< 0.18	< 0.18	< 0.18	< 0.17	< 0.17	< 0.35	< 0.35	< 0.37	< 0.37
Naphthalene	13	500	< 0.19	< 0.18	< 0.18	< 0.18	< 0.17	< 0.17	< 0.35	< 0.35	< 0.37	< 0.37
n-Nitrosodiphenylamine	NR	NR	NA	NA	NA	NA	NA	NA	< 0.35	< 0.35	< 0.37	< 0.37
Phenanthrene	50	500	< 0.19	< 0.18	< 0.18	< 0.18	< 0.17	< 0.17	< 0.35	< 0.35	0.092 J	< 0.37
Pyrene	50	500	< 0.19	< 0.18	< 0.18	< 0.18	< 0.17	< 0.17	< 0.35	< 0.35	0.12 J	0.070 J
Total TICs	NR	NR	NC	NC	NC	NC	NC	NC	0.42 J	ND	0.30 J	0.32 J

TABLE 3

DELINEATION AND VERIFICATION SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, PESTICIDES, AND INORGANICS (ppm)

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Study/Investigation:			Phase II - Environmental Site Assessment						Preliminary Site Assessment			
Location ID:			Sch-SB4	Sch-SB5	Sch-SB6	Sch-SB9	Sch-TP1	Sch-TP2	S-1		S-2	
Sample Depth (feet):			0-4	0-4	3	4-8	3	1.8	0-0.5	1-2	0-0.5	0.5-1.5
Date:	Antecedent TAGM 4046 Cleanup Levels	Part 375 Restricted Use SCOs Commercial	8/10/1998	8/10/1998	8/10/1998	8/10/1998	8/10/1998	8/10/1998	3/30/1999	3/30/1999	3/30/1999	3/30/1999
X = Media Removed During Previous Remedial Measure:					X		X	X	X	X	X	X
Pesticides												
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Detected Inorganics												
Aluminum	SB	NR	8,360	8,540	NA	11,200	NA	NA	12,300	18,600	20,400	21,200
Antimony	SB	NR	< 6.4	< 6.5	NA	< 6.4	NA	NA	< 0.65	< 0.63	< 0.70	< 0.70
Arsenic	7.5 or SB	16	5.4	1.2	NA	1.2	NA	NA	**8.6**	**8.0**	**11.7**	**11.7**
Barium	300 or SB	400	68.8	67.1	NA	83.0	NA	NA	81.0 J	118 J	**357 J**	**382 J**
Beryllium	0.16 or SB	590	**0.59**	**0.61**	NA	**0.56**	NA	NA	**0.73**	**0.99**	**2.7**	**3.0**
Cadmium	1.0 or SB	9.3	**3.6**	**2.5**	NA	**3.3**	NA	NA	0.55	0.51 B	0.91	0.87
Calcium	SB	NR	6,860	9,340	NA	15,800	NA	NA	17,700	2,600	55,300	71,600
Chromium	10 or SB	400	**12.7**	**12.8**	NA	**17.2**	NA	NA	**18.3**	**27.8**	**19.4**	**15.3**
Cobalt	30 or SB	NR	9.4	8.0	NA	14.9	NA	NA	11.2	18.8	11.6	9.8
Copper	25 or SB	270	**26.9**	**43.4**	NA	**44.5**	NA	NA	**34.3**	**45.9**	**31.6**	**33.6**
Cyanide	Site Specific	27	NA	NA	NA	NA	NA	NA	0.84	< 0.48	< 0.54	0.88
Iron	2,000 or SB	NR	**30,700**	**24,600**	NA	**32,800**	NA	NA	**34,300**	**39,700**	**45,400**	**39,500**
Lead	SB	1,000	78.1	16.8	NA	15.3	NA	NA	41.9 J	21.2 J	47.6 J	44.7 J
Magnesium	SB	NR	3,890	4,520	NA	12,800	NA	NA	7,360	9,510	9,890	9,730
Manganese	SB	10,000	525	509	NA	1,300	NA	NA	801	1,420	1,710	1,950
Mercury	0.1	2.8	**0.2**	< 0.1	NA	< 0.1	NA	NA	0.06 B	< 0.05	0.06 B	0.08 B
Nickel	13 or SB	310	**15.7**	**15.2**	NA	**24.6**	NA	NA	**25.3**	**38.8**	**24.1**	**21.7**
Potassium	SB	NR	570	590	NA	550	NA	NA	1,400 J	2,090 J	1,640 J	1,720 J
Selenium	2.0 or SB	1,500	< 0.95	< 1.1	NA	< 1.1	NA	NA	< 0.33	< 0.31	< 0.35	< 0.35
Sodium	SB	NR	190	150	NA	150	NA	NA	188 B	158 B	1,100	1,340
Thallium	SB	NR	< 0.95	< 1.1	NA	< 1.1	NA	NA	< 0.65	< 0.63	< 0.70	< 0.70
Vanadium	150 or SB	NR	17.5	17.2	NA	18.4	NA	NA	21.6	27.4	34.7	27.5
Zinc	20 or SB	10,000	**356**	**57**	NA	**79**	NA	NA	**108 J**	**77.7 J**	**243 J**	**131 J**

TABLE 3

DELINEATION, VERIFICATION, AND BACKFILL SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, PESTICIDES, AND INORGANICS (ppm)

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Study/Investigation:			Preliminary Site Assessment						Remedial Investigation		
Location ID:			S-3		S-6		S-7		S-33	S-36	S-37
Sample Depth (feet):	Antecedent TAGM 4046 Cleanup Levels	Part 375 Restricted Use SCOs Commercial	0-0.5	2-3	0-0.5	0.5-1.5	0-0.5	0.5-1.5	0-0.5	0.5-1.5	0.5-1.5
Date:			3/29/1999	3/29/1999	3/29/1999	3/29/1999	3/30/1999	3/30/1999	10/23/2000	10/23/2000	10/24/2000
X = Media Removed During Previous Remedial Measure:			X	X	X	X	X	X	X	X	
Detected VOCs											
Acetone	0.2	500	NA	< 0.011 [< 0.011]	NA	< 0.011	NA	< 0.011	NA	NA	NA
Benzene	0.06	44	NA	< 0.011 [< 0.011]	NA	< 0.011	NA	< 0.011	NA	NA	NA
Methylene chloride	0.1	500	NA	0.002 J [0.001 J]	NA	< 0.011	NA	< 0.011	NA	NA	NA
Toluene	1.5	500	NA	0.003 J [0.018]	NA	0.001 J	NA	0.006 J	NA	NA	NA
Xylene (Total)	1.2	500.0	NA	< 0.011 [< 0.011]	NA	< 0.011	NA	< 0.011	NA	NA	NA
Total TICs	NR	NR	NA	NC [NC]	NA	NC	NA	NC	NA	NA	NA
Detected SVOCs											
1,2,4-Trichlorobenzene	3.4	NR	< 0.37	< 0.38	**15.0 D [12]**	0.76	< 0.38	< 0.38	< 0.44	< 0.36	< 0.37 [< 0.37]
1,2-Dichlorobenzene	7.9	500	< 0.37	< 0.38	0.15 J [< 3.7]	< 0.36	< 0.38	< 0.38	< 0.44	< 0.36	< 0.37 [< 0.37]
1,3-Dichlorobenzene	1.6	280	< 0.37	< 0.38	0.99 [0.80 J]	0.084 J	< 0.38	< 0.38	< 0.44	< 0.36	< 0.37 [< 0.37]
1,4-Dichlorobenzene	8.5	130	< 0.37	< 0.38	1 [0.72 J]	< 0.36	< 0.38	< 0.38	< 0.44	< 0.36	< 0.37 [< 0.37]
2-Methylnaphthalene	36.4	NR	< 0.37	< 0.38	1.2 [1.0 J]	0.17 J	< 0.38	< 0.38	< 0.44	0.1 J	< 0.37 [< 0.37]
3,3' Dichlorobenzidine	NR	NR	< 0.74	< 0.76	0.32 J [< 7.5]	< 0.72	< 0.76	< 0.75	< 0.89	< 0.72	<0.74 [<0.74]
4-Methylphenol	0.9	500	< 0.37	< 0.38	0.078 J [< 3.7]	< 0.36	< 0.38	< 0.38	< 0.44	< 0.36	< 0.37 [< 0.37]
Acenaphthene	50	500	< 0.37	< 0.38	0.10 J [< 3.7]	< 0.36	< 0.38	< 0.38	0.2 J	< 0.36	< 0.37 [< 0.37]
Acenaphthylene	41	500	< 0.37	< 0.38	0.10 J [< 3.7]	< 0.36	< 0.38	< 0.38	0.047 J	< 0.36	< 0.37 [< 0.37]
Anthracene	50	500	0.048 J	< 0.38	0.19 J [< 3.7]	< 0.36	0.054 J	< 0.38	0.52	< 0.36	< 0.37 [< 0.37]
Benzo(a)anthracene	0.224 or MDL	5.6	0.12 J	< 0.38	**0.35 J [< 3.7]**	< 0.079	0.20 J	< 0.38	**0.78 J**	< 0.36	< 0.37 [< 0.37]
Benzo(a)pyrene	0.061 or MDL	1	< 0.37	< 0.38	< 0.74 [< 3.7]	< 0.36	**0.19 J**	< 0.38	**0.57 J**	< 0.36	< 0.37 [< 0.37]
Benzo(b)fluoranthene	1.1	5.6	< 0.37	< 0.38	0.12 J [< 3.7]	0.079 J	0.19 J	< 0.38	0.84 J	< 0.36	< 0.37 [< 0.37]
Benzo(g,h,i)perylene	50	500	< 0.37	< 0.38	< 0.74 [< 3.7]	< 0.36	< 0.38	< 0.38	0.25 J	< 0.36	< 0.37 [< 0.37]
Benzo(k)fluoranthene	1.1	56	< 0.37	< 0.38	< 0.74 [< 3.7]	< 0.36	0.20 J	< 0.38	0.32 J	< 0.36	< 0.37 [< 0.37]
bis(2-Ethylhexyl)phthalate	NR	NR	< 2.0	< 0.59	< 0.74 [< 3.7]	< 0.36	< 0.38	< 0.38	< 0.44	< 0.36	< 0.37 [< 0.37]
Chrysene	0.4	56	0.12 J	< 0.38	**0.87 J [0.70 J]**	0.14 J	0.24 J	< 0.38	**0.82 J**	0.069 J	< 0.37 [< 0.37]
Dibenzo(a,h)anthracene	0.014 or MDL	0.56	< 0.37	< 0.38	< 0.74 [< 3.7]	< 0.36	< 0.38	< 0.38	**0.094 J**	<0.36	< 0.37 [< 0.37]
Dibenzofuran	6.2	350	< 0.37	< 0.38	0.49 J [0.42 J]	< 0.36	< 0.38	< 0.38	0.095 J	0.044 J	< 0.37 [< 0.37]
Di-n-butylphthalate	8.1	NR	< 0.54	< 0.38	< 0.74 [< 3.7]	< 0.36	< 0.38	< 0.38	**20 D**	**20 D**	< 1.2 [< 0.76]
Di-n-octylphthalate	50	NR	< 0.37	< 0.38	< 0.74 [< 3.7]	< 0.36	< 0.38	< 0.38	R	< 0.36	0.12 J [< 0.37]
Fluoranthene	50	500	0.24 J	0.043 J	< 0.74 [< 3.7]	< 3.6	0.50	0.048 J	1.4	0.048 J	< 0.37 [< 0.37]
Fluorene	50	500	< 0.37	< 0.38	< 0.74 [< 3.7]	< 0.36	< 0.38	< 0.38	0.28 J	< 0.36	< 0.37 [< 0.37]
Indeno(1,2,3-cd)pyrene	3.2	5.6	< 0.37	< 0.38	< 0.74 [< 3.7]	< 0.36	0.044 J	< 0.38	0.28 J	< 0.36	< 0.37 [< 0.37]
Naphthalene	13	500	< 0.37	< 0.38	0.50 J [0.40 J]	0.077 J	< 0.38	< 0.38	0.045 J	0.097 J	< 0.37 [< 0.37]
n-Nitrosodiphenylamine	NR	NR	< 0.37	< 0.38	0.70 J [0.86 J]	< 0.36	< 0.38	< 0.38	< 0.44	< 0.36	< 0.37 [< 0.37]
Phenanthrene	50	500	0.22 J	0.054 J	2.1 [2.3 J]	0.42	0.52	< 0.38	1.7	0.16 J	< 0.37 [< 0.37]
Pyrene	50	500	0.20 J	< 0.38	0.56 J [0.54 J]	0.17 J	0.43	0.047 J	2.5 J	0.063 J	< 0.37 [< 0.37]
Total TICs	NR	NR	1.13 J	4.2 J	47 J [37.6 J]	3.9 J	1.2 J	0.36 J	9.84 JB	3.11 J	4.98 J [3.68 JB]

TABLE 3

DELINEATION, VERIFICATION, AND BACKFILL SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, PESTICIDES, AND INORGANICS (ppm)

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Study/Investigation:			Preliminary Site Assessment						Remedial Investigation		
Location ID:			S-3		S-6		S-7		S-33	S-36	S-37
Sample Depth (feet):	Antecedent	Part 375 Restricted Use	0-0.5	2-3	0-0.5	0.5-1.5	0-0.5	0.5-1.5	0-0.5	0.5-1.5	0.5-1.5
Date:	TAGM 4046	SCOs	3/29/1999	3/29/1999	3/29/1999	3/29/1999	3/30/1999	3/30/1999	10/23/2000	10/23/2000	10/24/2000
X = Media Removed During Previous Remedial Measure:	Cleanup Levels	Commercial	X	X	X	X	X	X	X	X	
Pesticides											
None Detected	- -	- -	NA	NA	NA [NA]	NA	NA	NA	NA	NA	NA
Detected Inorganics											
Aluminum	SB	NR	18,100	15,300	6,110 [8,580]	15,400	13,400	13,600	NA	NA	NA
Antimony	SB	NR	< 0.67	< 0.69	< 0.67 [< 0.68]	< 0.65	< 0.70	< 0.70	NA	NA	NA
Arsenic	7.5 or SB	16	**9.9**	**9.8**	**9.8 [10.1]**	**8.0**	**8.5**	7.1	NA	NA	NA
Barium	300 or SB	400	300 J	271 J	64.8 J [78.0 J]	84.2 J	123 J	71.6 J	NA	NA	NA
Beryllium	0.16 or SB	590	**2.3**	**1.7**	**0.73 [0.68]**	**0.98**	**0.89**	**0.75**	NA	NA	NA
Cadmium	1.0 or SB	9.3	0.65	0.72	0.37 B [0.48 B]	0.35 B	0.70	0.31 B	NA	NA	NA
Calcium	SB	NR	44,800	28,600	17,600 [12,300]	3,230	12,400	8,630	NA	NA	NA
Chromium	10 or SB	400	**15.2**	**17.0**	**12.1 [14.8]**	**22.5**	**20.8**	**19.0**	NA	NA	NA
Cobalt	30 or SB	NR	8.9	12.3	6.7 [9.2]	18.1	11.5	10.9	NA	NA	NA
Copper	25 or SB	270	**28.8**	**33.4**	**22.3 [27.5]**	**43.8**	**35.3**	**26.1**	NA	NA	NA
Cyanide	Site Specific	27	< 0.54	< 0.54	< 0.52 [< 0.56]	< 0.50	< 0.58	< 0.53	NA	NA	NA
Iron	2,000 or SB	NR	**33,400**	**32,500**	**20,200 [24,800]**	**34,200**	**29,500**	**27,100**	NA	NA	NA
Lead	SB	1,000	32.3 J	62.7 J	26.6 J [36.6 J]	25.7 J	117 J	80.8 J	NA	NA	NA
Magnesium	SB	NR	8,440	7,010	6,570 [4,990]	7,240	7,260	5,610	NA	NA	NA
Manganese	SB	10,000	1,500	1,290	393 [527]	758	690	528	NA	NA	NA
Mercury	0.1	2.8	< 0.06	0.08 B	0.09 B [0.12]	0.11	0.12	0.21	NA	NA	NA
Nickel	13 or SB	310	**19.5**	**22.2**	**15.2 [19.2]**	**34.6**	**25.7**	**22.8**	NA	NA	NA
Potassium	SB	NR	1,790 J	1,590 J	1,080 J [1,470 J]	2,400 J	1,910 J	1,600 J	NA	NA	NA
Selenium	2.0 or SB	1,500	< 0.34	0.53 B	0.59 [0.85]	< 0.32	< 0.35	< 0.35	NA	NA	NA
Sodium	SB	NR	939	514 B	189 B [243 B]	426 B	171 B	118 B	NA	NA	NA
Thallium	SB	NR	< 0.67	< 0.69	< 0.67 [< 0.68]	< 0.65	< 0.70	< 0.70	NA	NA	NA
Vanadium	150 or SB	NR	23.1	27.9	17.4 [19.3]	24.7	23.1	22.3	NA	NA	NA
Zinc	20 or SB	10,000	**235 J**	**235 J**	**87.2 J [111 J]**	**95.2 J**	**181 J**	**77.7 J**	NA	NA	NA

TABLE 3

DELINEATION, VERIFICATION, AND BACKFILL SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, PESTICIDES, AND INORGANICS (ppm)

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Study/Investigation:			Remedial Investigation						
Location ID:			S-44	S-47	S-48		S-50	S-51	S-53
Sample Depth (feet):		Part 375 Restricted Use SCOs Commercial	0-0.5	0-0.5	0-0.5	1.5-2.5	0-0.5	0-0.5	1-2
Date:	Antecedent TAGM 4046 Cleanup Levels		10/24/2000	10/24/2000	10/24/2000	10/24/2000	10/23/2000	10/23/2000	10/24/2000
X = Media Removed During Previous Remedial Measure:			X						
Detected VOCs									
Acetone	0.2	500	NA	NA	NA	0.051 [0.035]	NA	NA	0.011
Benzene	0.06	44	NA	NA	NA	<0.022 [<0.012]	NA	NA	<0.011
Methylene chloride	0.1	500	NA	NA	NA	<0.022 [<0.012]	NA	NA	<0.011
Toluene	1.5	500	NA	NA	NA	<0.022 [0.002 J]	NA	NA	<0.011
Xylene (Total)	1.2	500.0	NA	NA	NA	<0.022 [<0.012]	NA	NA	<0.011
Total TICs	NR	NR	NA	NA	NA	ND [0.277]	NA	NA	ND
Detected SVOCs									
1,2,4-Trichlorobenzene	3.4	NR	< 0.42	< 0.36	< 0.37	< 3.6 [< 3.8]	< 0.34	< 0.34	< 3.6
1,2-Dichlorobenzene	7.9	500	< 0.42	< 0.36	< 0.37	< 3.6 [< 3.8]	< 0.34	< 0.34	< 3.6
1,3-Dichlorobenzene	1.6	280	< 0.42	< 0.36	< 0.37	< 3.6 [< 3.8]	< 0.34	< 0.34	< 3.6
1,4-Dichlorobenzene	8.5	130	< 0.42	< 0.36	< 0.37	< 3.6 [< 3.8]	< 0.34	< 0.34	< 3.6
2-Methylnaphthalene	36.4	NR	< 0.42	< 0.36	< 0.37	< 3.6 [< 3.8]	< 0.34	< 0.34	< 3.6
3,3' Dichlorobenzidine	NR	NR	< 0.83	< 0.73	< 0.74	< 7.3 [< 7.6]	< 0.68	< 0.68	< 7.2
4-Methylphenol	0.9	500	< 0.42	< 0.36	< 0.37	< 3.6 [< 3.8]	< 0.34	< 0.34	< 3.6
Acenaphthene	50	500	< 0.42	< 0.36	< 0.37	< 3.6 [< 3.8]	< 0.34	< 0.34	< 3.6
Acenaphthylene	41	500	< 0.42	0.048 J	< 0.37	< 3.6 [< 3.8]	< 0.34	< 0.34	< 3.6
Anthracene	50	500	< 0.42	< 0.36	< 0.37	< 3.6 [< 3.8]	< 0.34	< 0.34	< 3.6
Benzo(a)anthracene	0.224 or MDL	5.6	0.12 J	< 0.36	< 0.37	< 3.6 [< 3.8]	< 0.34	< 0.34	< 3.6
Benzo(a)pyrene	0.061 or MDL	1	**0.16 J**	R	< 0.37	**R [0.42 J]**	< 0.34	< 0.34	R
Benzo(b)fluoranthene	1.1	5.6	0.24 J	0.092 J	< 0.37	0.52 J [0.70 J]	< 0.34	< 0.34	R
Benzo(g,h,i)perylene	50	500	0.076 J	R	< 0.37	R [< 3.8]	< 0.34	< 0.34	R
Benzo(k)fluoranthene	1.1	56	0.099 J	R	< 0.37	R [< 3.8]	< 0.34	< 0.34	R
bis(2-Ethylhexyl)phthalate	NR	NR	< 0.42	< 0.36	< 0.37	< 3.6 [< 3.8]	< 0.34	< 0.34	< 3.6
Chrysene	0.4	56	0.18 J	0.059 J	< 0.37	< 3.6 [< 3.8]	< 0.34	< 0.34	< 3.6
Dibenzo(a,h)anthracene	0.014 or MDL	0.56	R	R	< 0.37	R [< 3.8]	< 0.34	< 0.34	R
Dibenzofuran	6.2	350	< 0.42	< 0.36	< 0.37	< 3.6 [< 3.8]	< 0.34	< 0.34	< 3.6
Di-n-butylphthalate	8.1	NR	< 1.8	<1.0	< 0.38	< 3.6 [< 3.8]	< 1.1	3.0 D	< 3.6
Di-n-octylphthalate	50	NR	R	R	< 0.37	R [< 3.8]	< 0.34	< 0.34	R
Fluoranthene	50	500	0.25 J	0.065 J	< 0.37	<3.6 [0.42 J]	< 0.34	< 0.34	< 3.6
Fluorene	50	500	< 0.42	< 0.36	< 0.37	< 3.6 [< 3.8]	< 0.34	< 0.34	< 3.6
Indeno(1,2,3-cd)pyrene	3.2	5.6	0.072 J	R	< 0.37	R [< 3.8]	< 0.34	< 0.34	R
Naphthalene	13	500	< 0.42	< 0.36	< 0.37	< 3.6 [< 3.8]	< 0.34	< 0.34	< 3.6
n-Nitrosodiphenylamine	NR	NR	< 0.42	< 0.36	< 0.37	< 3.6 [< 3.8]	< 0.34	< 0.34	< 3.6
Phenanthrene	50	500	0.20 J	0.054 J	< 0.37	< 3.6 [< 3.8]	< 0.34	0.036 J	< 3.6
Pyrene	50	500	0.49 J	0.12 J	< 0.37	0.54 J [0.54 J]	< 0.34	< 0.34	< 3.6
Total TICs	NR	NR	8.77 J	11.04 J	3.35 J	10.72 J [9.91 J]	2.64 J	2.23 J	2.4 J

TABLE 3

DELINEATION, VERIFICATION, AND BACKFILL SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, PESTICIDES, AND INORGANICS (ppm)

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Study/Investigation:			Remedial Investigation						
Location ID:			S-44	S-47	S-48		S-50	S-51	S-53
Sample Depth (feet):			0-0.5	0-0.5	0-0.5	1.5-2.5	0-0.5	0-0.5	1-2
Date:	Antecedent TAGM 4046 Cleanup Levels	Part 375 Restricted Use SCOs Commercial	10/24/2000	10/24/2000	10/24/2000	10/24/2000	10/23/2000	10/23/2000	10/24/2000
X = Media Removed During Previous Remedial Measure:			X						
Pesticides									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Detected Inorganics									
Aluminum	SB	NR	NA	15,500	13,500	12,500 [13,500]	12,300	12,300	12,700
Antimony	SB	NR	NA	1.9 JB	1.0 JB	1.6 JB [1.3 JB]	0.91 JB	1.1 JB	1.4 JB
Arsenic	7.5 or SB	16	NA	**8.8 J**	7.1 J	**9.5 J [7.5 J]**	7.3 J	6.9 J	**8.3 J**
Barium	300 or SB	400	NA	160	199	161 [170]	112	121	171
Beryllium	0.16 or SB	590	NA	**1.1**	**1.2**	**0.79 [0.78]**	**1.1**	**0.92**	**1.0**
Cadmium	1.0 or SB	9.3	NA	< 0.22	< 0.22	< 0.22 [< 0.23]	< 0.21	< 0.21	< 0.22
Calcium	SB	NR	NA	23,300 J	32,300 J	44,700 J [10,100 J]	31,500 J	30,600 J	16,100 J
Chromium	10 or SB	400	NA	**21.8**	**14.7**	**19.8 [21.3]**	**14.7**	**15.9**	**15.7**
Cobalt	30 or SB	NR	NA	15.1	8.9	14.1 [12.3]	8.6	9.3	10.6
Copper	25 or SB	270	NA	**38.6**	**30.3**	**43.2 [40.8]**	**30.5**	**30.3**	**32.0**
Cyanide	Site Specific	27	NA	< 0.51	2.3	< 0.53 [< 0.58]	< 0.51	< 0.53	0.77
Iron	2,000 or SB	NR	NA	**36,000**	**33,800**	**31,100 [32,300]**	**28,400**	**29,100**	**29,200**
Lead	SB	1,000	NA	125	24.4	138 [138]	13.2	20.7	56.8
Magnesium	SB	NR	NA	9,210	7,020	6,800 [7,360]	7,300	7,540	6,940
Manganese	SB	10,000	NA	945	1,530	856 [759]	794	742	963
Mercury	0.1	2.8	NA	< 0.055	< 0.056	0.062 B [0.075 B]	< 0.053	0.074 B	< 0.056
Nickel	13 or SB	310	NA	**30.8**	**21.7**	**27.7 [28.7]**	**20.9**	**22.1**	**24.3**
Potassium	SB	NR	NA	1,650	1,570	1,710 [1,710]	1,110	1,260	1,280
Selenium	2.0 or SB	1,500	NA	2.0 J	**2.3 J**	1.9 J [1.9 J]	1.4 J	1.8 J	1.8 J
Sodium	SB	NR	NA	364 B	538 B	97 B [67.4 B]	279 B	311 B	235 B
Thallium	SB	NR	NA	1.5	0.94 B	< 0.66 [< 0.70]	1.2	< 0.64	0.70 B
Vanadium	150 or SB	NR	NA	27.1	23.2	23.8 [24.6]	17.5	19.7	20
Zinc	20 or SB	10,000	NA	**105 J**	**146 J**	**137 J [155 J]**	**72.4 J**	**216 J**	**111 J**

TABLE 3

DELINEATION, VERIFICATION, AND BACKFILL SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, PESTICIDES, AND INORGANICS (ppm)

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Study/Investigation:			Interim Remedial Measure		Final Remedial Action
Location ID:			BACKFILL-01	BACKFILL-02	Fill-1
Sample Depth (feet):	Antecedent TAGM 4046 Cleanup Levels	Part 375 Restricted Use SCOs Commercial	- -	- -	- -
Date:			7/16/2002	7/16/2002	8/16/2007
X = Media Removed During Previous Remedial Measure:					
Detected VOCs					
Acetone	0.2	500	< 0.023 [< 0.023 & < 0.023]	< 0.021	0.017
Benzene	0.06	44	< 0.0058 [< 0.0058 & < 0.0058]	< 0.0052	< 0.0011
Methylene chloride	0.1	500	< 0.0058 [< 0.0058 & < 0.0058]	< 0.0052	0.0044
Toluene	1.5	500	< 0.0058 [< 0.0058 & < 0.0058]	< 0.0052	0.0032 J
Xylene (Total)	1.2	500.0	0.0017 J [< 0.0058 & < 0.0058]	< 0.0052	< 0.0053
Total TICs	NR	NR	ND [ND & ND]	ND	NC
Detected SVOCs					
1,2,4-Trichlorobenzene	3.4	NR	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.036
1,2-Dichlorobenzene	7.9	500	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.36
1,3-Dichlorobenzene	1.6	280	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.36
1,4-Dichlorobenzene	8.5	130	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.36
2-Methylnaphthalene	36.4	NR	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.36
3,3' Dichlorobenzidine	NR	NR	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.72
4-Methylphenol	0.9	500	< 0.38* [< 0.38* & < 0.38*]	< 0.34*	< 0.36
Acenaphthene	50	500	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.36
Acenaphthylene	41	500	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.36
Anthracene	50	500	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.36
Benzo(a)anthracene	0.224 or MDL	5.6	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.036
Benzo(a)pyrene	0.061 or MDL	1	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.036
Benzo(b)fluoranthene	1.1	5.6	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.036
Benzo(g,h,i)perylene	50	500	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.36
Benzo(k)fluoranthene	1.1	56	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.036
bis(2-Ethylhexyl)phthalate	NR	NR	0.27 J [0.37 J & 0.35 J]	< 0.34	< 0.36
Chrysene	0.4	56	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.36
Dibenzo(a,h)anthracene	0.014 or MDL	0.56	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.036
Dibenzofuran	6.2	350	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.36
Di-n-butylphthalate	8.1	NR	0.09 J [0.47 & 0.28 J]	< 0.34	< 0.36
Di-n-octylphthalate	50	NR	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.36
Fluoranthene	50	500	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.36
Fluorene	50	500	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.36
Indeno(1,2,3-cd)pyrene	3.2	5.6	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.036
Naphthalene	13	500	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.36
n-Nitrosodiphenylamine	NR	NR	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.36
Phenanthrene	50	500	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.36
Pyrene	50	500	< 0.38 [< 0.38 & < 0.38]	< 0.34	< 0.36
Total TICs	NR	NR	5.2 J [14 JN & 9.5 J]	ND	NC

TABLE 3

DELINEATION, VERIFICATION, AND BACKFILL SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, PESTICIDES, AND INORGANICS (ppm)

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Study/Investigation:			Interim Remedial Measure		Final Remedial Action
Location ID:			BACKFILL-01	BACKFILL-02	Fill-1
Sample Depth (feet):	Antecedent TAGM 4046 Cleanup Levels	Part 375 Restricted Use SCOs Commercial	- -	- -	- -
Date:			7/16/2002	7/16/2002	8/16/2007
X = Media Removed During Previous Remedial Measure:					
Pesticides					
None Detected	- -	- -	- - [- - & - -]	- -	- -
Detected Inorganics					
Aluminum	SB	NR	10,400 [9,580 & 11,300]	8,710	5,410
Antimony	SB	NR	< 6.7 J [< 6.6 J & < 6.9 J]	< 6.2 J	< 1.2
Arsenic	7.5 or SB	16	**7.0 [7.8 & 7.7]**	6.0	3.3
Barium	300 or SB	400	76.5 [77.3 & 79]	104	24.5 B
Beryllium	0.16 or SB	590	< 0.56 [< 0.55 & < 0.58]	< 0.51	0.16 B
Cadmium	1.0 or SB	9.3	< 0.56 [< 0.55 & < 0.58]	< 0.51	0.29 B
Calcium	SB	NR	6,690 [7,180 & 6,250]	21,700	24,900
Chromium	10 or SB	400	**13.4 [12.2 & 14.4]**	**12**	8.8
Cobalt	30 or SB	NR	13.2 [12.6 & 11.9]	8.8	5 B
Copper	25 or SB	270	**40.9 [40.8 & 38.6]**	24	14.4
Cyanide	Site Specific	27	< 1.15 [< 1.15 & < 1.15]	< 1.04	< 0.5
Iron	2,000 or SB	NR	**23,300 [21,700 & 23,900]**	**21,000**	**14,600**
Lead	SB	1,000	15.7 [17 & 16]	15	6.6
Magnesium	SB	NR	5,610 [5,350 & 5,870]	6,360	9,250
Manganese	SB	10,000	748 [889 & 768]	986	250
Mercury	0.1	2.8	0.06 [0.06 & < 0.05]	< 0.03	< 0.018
Nickel	13 or SB	310	**22.5 [22.0 & 22.8]**	**19.2**	**13.1**
Potassium	SB	NR	778 [710 & 989]	853	518 B
Selenium	2.0 or SB	1,500	< 1.1 [< 1.1 & < 1.2]	< 1.0	< 0.9
Sodium	SB	NR	< 111 [< 111 & < 115]	< 103	86.8 B
Thallium	SB	NR	< 1.2 [< 1.2 & < 1.1]	< 0.99	< 1
Vanadium	150 or SB	NR	16 [15.2 & 18.2]	12	10.3 B
Zinc	20 or SB	10,000	**77.2 [80.6 & 78.4]**	**64**	**32.2**

TABLE 3

DELINEATION AND VERIFICATION SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, PESTICIDES, AND INORGANICS (ppm)

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Notes:

1. Samples were collected by the following:
   - Fluor Daniel GTI in August 1998.
   - Arcadis (formerly known as Blasland, Bouck & Lee, Inc.) from March 1999 to present.
2. Concentrations reported in parts per million (ppm) or milligrams per kilogram (mg/kg).
3. Laboratory analysis of the Phase II Environmental Site Assessment (August 1998) samples was performed by Scilab Albany, Inc. of Latham, New York using the following methods as referenced in the New York State Department of Environmental Conservation (NYSDEC) 1995 Analytical Service Protocol (ASP):
   - Volatile organic compounds (VOCs) using United State Environmental Protection Agency (USEPA) SW-846 Method 8260 (including the following supplemental parameters n-butylbenzene; sec-butylbenzene; tert-butylbenzene; isopropylbenzene; p-isopropyltouene; n-propylbenzene; 1,2,4-trimethylbenzene; and 1,3,5-trimethylbenzene).
   - Semi-volatile organic compounds (SVOCs) using USEPA SW-846 Method 8270.
   - Target analyte list (TAL) inorganics using USEPA SW-846 Method 6010, 7470/7471, and 9010.
4. Laboratory analysis for the Preliminary Site Assessment (March 1999 to November 1999) and Remedial Investigation (October 2000 to February 2001) was performed by Galson Laboratories, Inc. of East Syracuse, New York using the following methods as referenced in the NYSDEC 1995 ASP:
   - VOCs using USEPA SW-846 Method 8260 (including the following supplemental parameters: n-butylbenzene; sec-butylbenzene; tert-butylbenzene; isopropylbenzene; p-isopropyltouene; n-propylbenzene; 1,2,4-trimethylbenzene; and 1,3,5-trimethylbenzene).
   - SVOCs using USEPA SW-846 Method 8270.
   - TAL inorganics using USEPA SW-846 Method 6010, 7470/7471, and 9010.
5. Laboratory analysis for the Interim Remedial Measure (September to October 2002) was performed by Columbia Analytical Services, Inc. of Rochester, New York using the following methods as referenced in the NYSDEC 2000 ASP:
   - Target Compound List (TCL) VOCs using USEPA SW-846 Method 8260.
   - SVOCs using USEPA SW-846 Method 8270.
   - TAL inorganics using USEPA SW-846 Method 6010, 7470/7471, and 9010.
   - Pesticides using USEPA SW-846 Method 8081.
6. Laboratory analysis for the Remedial Action (August 2007) backfill sample were performed by TestAmerica of Edison, New Jersey using the following methods as referenced in NYSDEC 20
   - TCL VOC using USEPA SW-846 Method 8260.
   - SVOCs using USEPA SW-846 Method 8270.
   - TAL inorganic constituents using USEPA SW-846 Method 6010, 7470, and 9010.
   - Pesticides using USEPA SW-846 Method 8081.
7. Field duplicate sample results are presented in brackets.
8. Data qualifiers are defined as follows:
   < - Compound was not detected at a concentration exceeding the laboratory detection limit.
   B (Organic) - Compound was detected in the sample and its associated blank.
   B (Inorganic) - Indicates a value which is less than the contract required detection limit, but greater than or equal to the instrument detection limit.
   D - Concentration is based on analysis of a diluted sample.
   J - Indicates the associated numerical value is an estimated value.
   N - Presumptive evidence of a tentatively identified compound (TIC).
   R - Indicates that the analytical results were rejected during data validation.
9. Sample results for S-48 are based on a sample re-analysis.
10. MDL = Method detection limit.
11. Commercial Use Soil Cleanup Objectives (SCOs) are from Title 6 of the Official Compilation of Codes, Rules, and Regulations of the State of New York (6 NYCRR) Part 375-6.8(b).
12. Bolded value indicates that the compound was detected at a concentration exceeding the antecedent recommended soil cleanup objective as presented in the NYSDEC document entitled, "Technical and Administrative Guidance Memorandum (TAGM): Determination of Soil Cleanup Objectives and Cleanup Levels", HWR-94-4046 (TAGM 4046) dated January 24, 1994.
13. SB = Site background.
14. NC = TICs were not calculated.
15. ND = TICs were not detected.
16. NR = Indicates that no recommended soil cleanup objective was listed for this compound.
17. * = The sum of 3-methylphenol & 4-methylphenol were reported by the laboratory in the data package.
18. **X** = Soil was removed during previous remedial measures.
19. Laboratory analytical results have been validated by Arcadis.

TABLE 4

GROUNDWATER ANALYTICAL RESULTS FOR PCBs (ppb)

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Sample ID	Date	Total PCBs
MW-1	4/9/1999	< 0.5
	11/23/1999	< 0.05
	12/7/2000	< 0.05 [< 0.05]
	5/14/2003	< 0.050
	5/12/2004	< 0.050
	5/24/2005	< 0.050
MW-2D	4/9/1999	< 0.5 [< 0.5]
	11/22/1999	< 0.05
	11/8/2000	< 0.05
	5/13/2003	< 0.050
	5/11/2004	< 0.050
	5/25/2005	< 0.050
MW-3	4/9/1999	0.98
	6/4/1999	< 0.5 [< 0.5]
	6/4/1999*	< 0.5
	11/23/1999	< 0.05 [< 0.05]
	11/8/2000	0.13 [0.12]
	5/14/2003	0.044 J [0.040 J]
	5/12/2004	0.027 J [0.040 J]
	5/24/2005	0.041 J [< 0.050]
MW-4	12/7/2000	< 0.05
	5/14/2003	0.021 J
	5/12/2004	< 0.050
	5/25/2005	< 0.050

Notes:

1. Samples were collected by Arcadis (formerly known as Blasland, Bouck & Lee, Inc.) on the dates indicated.
2. Field duplicate sample results are presented in brackets.
3. Concentrations are reported in parts per billion (ppb), which are equivalent to micrograms per liter (ug/L).
4. Laboratory analysis for the Preliminary Site Assessment (March 1999 to November 1999) and Remedial Investigation (October 2000 to February 2001) was performed by Galson Laboratories, Inc. of East Syracuse, New York for polychlorinated biphenyls (PCBs) using United States Environmental Protection Agency (USEPA) SW-846 Method 8082 as referenced in the New York State Department of Environmental Conservation (NYSDEC) 1995 Analytical Service Protocol (ASP).
5. Laboratory analysis for the Post-IRM Groundwater Monitoring (May 2003 to May 2005) was performed by Adirondack Environmental Services, Inc. of Albany, New York for PCBs using USEPA SW-846 Method 8082 as referenced in the NYSDEC 2000 ASP.
6. Laboratory analysis for the Remedial Action (August 2007) was performed by TestAmerica of Edison, New Jersey for PCBs using USEPA SW-846 Method 8082 as referenced in NYSDEC 2000 ASP.
7. Data qualifiers are defined as follows:
   < - Constituent not detected at a concentration above the reported detection limit.
   J - Indicates that the associated numerical value is an estimated concentration.
8. * = A second sample from MW-3 (MW-3F) was collected on 6/4/1999 and filtered in the field prior to submittal for laboratory analysis for PCBs.
9. Groundwater samples with ID MW-2D were collected from the deep (bedrock) well at location MW-2. A groundwater sample was not collected from the shallow well at location MW-2 (designated as MW-2S).
10. Due to a laboratory error in the analysis of groundwater samples MW-1 and MW-4 (collected on November 9, 2000), additional groundwater samples were collected from the wells on December 7, 2000.
11. Laboratory analytical results have been validated by Arcadis.

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TABLE 5

GROUNDWATER ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, AND INORGANICS

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Constituent	NYS Groundwater Standards/Guidance Values	MW-1	MW-2D	MW-3
VOCs				
None Detected	- -	- -	- -	- -
Detected SVOCs				
bis(2-Ethylhexyl)phthalate	5	4 J	R [R]	2 J
Detected Inorganics				
Aluminum	NA	5,190	240 [202]	3,740
Barium	1,000	83.5 B	51.3 B [50.1 B]	126 B
Cadmium	5	2.8 B	< 1.0 [< 1.0]	2.4 B
Calcium	NA	251,000	150,000 [150,000]	150,000
Chromium	50	7.8 B	< 4.0 [< 4.0]	7.1 B
Cobalt	NA	2.6 B	< 1.0 [< 1.0]	3.3 B
Copper	200	22.0 B	3.2 B [2.3 B]	22.5 B
Iron	300	7,390	480 [408]	6,390
Lead	25	2.7 B	< 2.0 [< 2.0]	3.1
Magnesium	35,000*	92,000	111,000 [111,000]	80,100
Manganese	300	454	637 [629]	773
Nickel	100	6.3 B	< 3.0 [< 3.0]	4.8 B
Potassium	NA	18,000	7,790 [7,720]	7,280
Sodium	20,000	91,000	122,000 [131,000]	48,400
Vanadium	NA	8.1 B	< 1.0 [< 1.0]	6.6 B
Zinc	2,000*	17.2 B	< 11.0 [< 11.0]	11.4 B

Notes:

1. Samples were collected by Arcadis (formerly known as Blasland, Bouck & Lee, Inc.) on April 9, 1999.
2. Field duplicate sample results are presented in brackets.
3. Concentrations reported in parts per billion (ppb) or micrograms per liter (ug/L).
4. Samples analyzed by Galson Laboratories, Inc. of East Syracuse, New York using the following methods as referenced in the New York State Department of Environmental Conservation (NYSDEC) 1995 Analytical Service Protocol (ASP):
   - Volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method 502.2 (with methyl-tert-butyl-ether added as a supplemental parameter to the analysis).
   - Semi-volatile organic compounds (SVOCs) using USEPA Method 8270.
   - Metals using USEPA Method series 6010, 7470/7471, and 9010.
5. Data qualifiers are defined as follows:
   < - Constituent not detected at a concentration above the reported detection limit.
   B (Inorganic) - Indicates a value which is less than the contract required detection limit, but greater than or equal to the instrument detection limit.
   J - Indicates that the associated numerical value is an estimated concentration.
   R - Indicates that the analytical results were rejected during data validation.
6. Groundwater standards and guidance values presented in the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS 1.1.1) document entitled "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (June 1998).
7. Shading indicates that the concentration exceeds the groundwater standard/guidance value.
8. Groundwater sample with ID MW-2D were collected from the deep (bedrock) well at location MW-2. A groundwater sample was not collected from the shallow well at location MW-2 (designated as MW-2S)
9. NA = Class GA groundwater standard/guidance value was not listed for this constituent in TOGS 1.1.1.
10. * = Indicates a NYSDEC ambient water quality guidance value.
11. Analytical results have been validated by Arcadis.

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TABLE 6

DELINEATION AND VERIFICATION SEDIMENT ANALYTICAL RESULTS FOR PCBs (ppm)

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Sample ID	Depth (feet bgs)	Media Removed During Previous Remedial Measure	Laboratory Analytical Results	
			Total PCBs	TOC
Preliminary Site Assessment				
SD-1	0-0.5		0.13	12,800 J
	0.5-1		<0.023	15,300 J
	1-1.5		0.013 J	14,600 J
	1.5-2		0.013 J	NA
	2-3		<0.022	NA
	3-4		<0.022	NA
	4-5		<0.022	NA
	5-6		<0.017	NA
SD-2	0-0.5		0.24	21,300 J
	0.5-1		0.085	17,800 J
	1-1.5		<0.023	6,740 J
	1.5-2		<0.021	NA
	2-3		<0.022	NA
	3-4		<0.021	NA
	4-5		<0.023	NA
SD-3	0-0.5	X	7.3	30,700 J
	0.5-1	X	0.32	10,800 J
	1-1.5		<0.021	8,430 J
	1.5-2		<0.024	NA
SD-4	0-0.5	X	3.0	6,980 J
	0.5-1	X	1.9 [2.6]	14,800 J [14,900 J]
SD-5	0-0.5	X	1.9	17,400 J
	0.5-1	X	1.0	6,250 J
	1-1.5	X	1.5	13,400 J
SD-6	0-0.7	X	1.6	19,200 J
SD-7	0-0.5		0.045 J	NA
	0.5-1		0.021	NA
	1-1.5		<0.020	NA
	1.5-2		<0.019	NA
	2-3		<0.020	NA
Remedial Investigation				
SD-8	0-0.5		0.085	24,800
	0.5-1		0.046	26,000
	1-1.5		0.019 J	14,600
SD-9	0-0.5		0.073	11,300
	0.5-1		< 0.021	11,100
	1-1.5		< 0.020	8,080
SD-10	0-0.5		0.030	14,200
	0.5-1		< 0.019 [< 0.020]	5,230 [5,440]
	1-1.5		< 0.019 [NA]	8,690 [8,230]
	1.5-2		<0.019	2,210
	2-2.6		<0.019	1,600
SD-11	0-0.5		< 0.019	4,460
	0.5-1		< 0.019	4,400
	1-1.5		0.050	1,700
	1.5-2		0.025 J	3,850
	2-3		<0.019	8,230
SD-12	0-0.5		< 0.019	6,930
	0.5-1		< 0.021	17,400
SD-13	0-0.5	X	0.015 J	5,530
	0.5-1	X	0.45	17,500
	1-1.5	X	0.025	3,930
	1.5-2	X	<0.021	7,860

TABLE 6

DELINEATION AND VERIFICATION SEDIMENT ANALYTICAL RESULTS FOR PCBs (ppm)

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Sample ID	Depth (feet bgs)	Media Removed During Previous Remedial Measure	Laboratory Analytical Results	
			Total PCBs	TOC
SD-14	0-0.5	X	0.048	5,380
	0.5-1	X	< 0.020	12,600
SD-15	0-1.5	X	0.016 J	3,680
	1.5-3	X	< 0.022	115,000
	3-3.5	X	0.013 J	83,100
	3.5-4	X	0.015 J [0.048]	10,800 [13,500]
	4-4.5	X	0.040	11,300 [11,900]
	4.5-5	X	0.047 J	NA
SD-16	0-0.5	X	< 0.020	10,200
	0.5-1	X	< 0.020	2,550
	1-1.5	X	< 0.021	3,460
SD-17	0-0.5	X	0.143	38,700
	0.5-1	X	0.076	7,380
SD-18	0-0.5	X	0.126 [0.105]	NA [24,000]
SD-24	0-0.5	X	0.092	NA
Interim Remedial Measure				
SD-101	1.5-2.0	X	<0.04	11,800
SD-102	0.5-1.0	X	0.18	7,730
SD-103	0-0.5	X	14 D	5,550
SD-104	0.5-1.0	X	1.6 D	10,200
SD-105	2.2-2.7		<0.04	4,820
SD-106	1.2-1.7	X	<0.04 [<0.04]	5,440 [12,500]
SD-107	0-0.5	X	6.1 D	8,640
SD-108	0.5-1.0	X	2.0 D	7,860
Final Remedial Action				
V1-2_0-0.5	0-0.5	X	<0.21	73,100
V2-2_0-0.5	0-0.5	X	0.14	25,800
V3-2_0-0.5	0-0.5	X	0.5	15,900
V4-1_1-1.5	1.0-1.5		<0.093	15,700
V4-2_0-0.5	0-0.5	X	<0.11 [<0.1]	23,900 [24,700]
V-US_0-0.5	0-0.5	X	0.15	21,200
SED-WC-1	Note 12	X	0.26	NA

TABLE 6

DELINEATION AND VERIFICATION SEDIMENT ANALYTICAL RESULTS FOR PCBs (ppm)

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Notes:

1. Samples were collected by Arcadis (formerly known as Blasland, Bouck & Lee, Inc.).
2. bgs = below ground surface.
3. Field duplicate sample results are presented in brackets.
4. Samples field screened by Arcadis using EnSys immunoassay test kits.
5. Concentrations are reported in parts per million (ppm), which are equivalent to milligrams per kilogram (mg/kg).
6. Laboratory analysis for the Preliminary Site Assessment (March 1999 to November 1999) and Remedial Investigation (October 2000 to February 2001) was performed by Galson Laboratories, Inc. of East Syracuse, New York for polychlorinated biphenyls (PCBs) using United States Environmental Protection Agencey (USEPA) SW-846 Method 8082 as referenced in the New York State Department of Environmental Conservation (NYSDEC) 1995 Analytical Service Protocol (ASP).
7. Laboratory analysis for the Preliminary Site Assessment (March 1999 to November 1999) and Remedial Investigation (October 2000 to February 2001) was performed by H2M Laboratories, Inc. of Melville, New York for total organic carbon (TOC) using the Lloyd Kahn Method as referenced in the NYSDEC 1995 ASP.
8. Laboratory analysis for the Interim Remedial Measure (September to October 2002) was performed by Columbia Analytical Services, Inc. of Rochester, New York using the following methods as referenced in the NYSDEC 2000 ASP:
   - PCBs using USEPA SW-846 Method 8082.
   - TOC using the Lloyd Kahn Method.
9. Laboratory analysis for the Remedial Action (August 2007) was performed by TestAmerica of Edison, New Jersey using the following methods as referenced in NYSDEC 2000 ASP:
   - PCBs using USEPA SW-846 Method 8082.
   - TOC using the Lloyd Kahn Method.
10. Data qualifiers are defined as follows:
    < - Constituent not detected at a concentration above the reported detection limit.
    D - Compound quantitated using a secondary dilution. Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis.
    J - Indicates that the associated numerical value is an estimated concentration.
11. NA = Not analyzed.
12. Sample SED-WC-1 was a composite of samples V1-1 (0-0.5), V2-1(0-0.5), V3-1 (0-0.2), and V4-1 (0-1).
13. Laboratory analytical results have been validated by Arcadis.

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TABLE 7

SURFACE WATER ANALYTICAL RESULTS FOR PCBs AND TSS (ppb)

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Sample ID	Date	Total PCBs	TSS
Surface Water Samples			
CW-1	3/14/2002	<0.030 J	NA
	6/18/2002	<0.050	NA
	9/13/2002	<0.050	NA
	12/5/2002	<0.050	NA
	4/2/2003	<0.050	NA
PC-1	3/14/2002	<0.031 J [<0.034 J]	NA
	6/18/2002	<0.050 [<0.050]	NA
	9/13/2002	<0.050 [<0.050]	NA
	12/5/2002	<0.053 [<0.056]	NA
	4/2/2003	<0.050 [<0.050]	NA
RWR-1	3/14/2002	<0.030 J	NA
	6/18/2002	<0.050	NA
	9/13/2002	<0.050	NA
	12/5/2002	<0.053	NA
	4/2/2003	<0.050 J	NA
RWR-2	3/14/2002	<0.030 J	NA
	6/18/2002	<0.056	NA
	9/13/2002	<0.050	NA
	12/5/2002	<0.053	NA
	4/2/2003	<0.050	NA
SW-US	1/23/2008	< 0.05	< 2,000
	1/24/2008	< 0.05	5,600
	1/25/2008	< 0.05	2,400
	1/29/2008	< 0.05	3,600
	1/30/2008	< 0.05	3,710
	1/31/2008	< 0.05	2,600
	2/1/2008	< 0.05	< 1,800
	2/1/2008*	< 0.05	3,130
	2/2/2008	< 0.05	3,300
	2/4/2008	< 0.05	6,490
	2/5/2008	< 0.05	< 1,040
	2/6/2008	< 0.05	14,600
	2/7/2008	< 0.05	151,000
SW-DS	1/23/2008	< 0.05	< 2,000
	1/24/2008	< 0.05 [< 0.05]	2,400 [2,200]
	1/25/2008	< 0.05 J	4,350
	1/29/2008	< 0.05	< 2,000
	1/30/2008	< 0.05	2,400
	1/31/2008	< 0.05	< 1,000
	2/1/2008	< 0.05	4,400
	2/1/2008*	< 0.05 [< 0.05]	3,900 [3,800]
	2/2/2008	< 0.05	2,700
	2/4/2008	< 0.05	2,210
	2/5/2008	< 0.05	4,480
	2/6/2008	< 0.05	12,600
	2/7/2008	< 0.05 [< 0.05]	186,000 [192,000]

Notes:

1. Samples were collected by Arcadis (formerly known as Blasland, Bouck & Lee, Inc.) on the dates indicated.
2. Field duplicate sample results are presented in brackets.
3. Concentrations are reported in parts per billion (ppb), which are equivalent to micrograms per liter (ug/L).
4. Laboratory analysis for the Remedial Action surface water samples were performed by Northeast Analytical, Inc. of Schenectady, NY using the following methods as referenced in New York State Department of Environmental Conservation (NYSDEC) 2000 Analytical Service Protocol (ASP):
   - Polychlorinated biphenyls (PCBs) using United States Environmental Protection Agency (USEPA) Method 508 for samples collected on 1/23/2008 through 1/25/2008.
   - PCBs using USEPA Method 608 for samples collected after 1/25/2008.
   - Total suspended solids (TSS) using USEPA SW-846 Method 160.2.
5. * = A second sample from SW-DS was collected on 2/1/2008 during the afternoon.
6. Data qualifiers are defined as follows:
   < - Constituent not detected at a concentration above the reported detection limit.
   J - Indicates that the associated numerical value is an estimated concentration.
7. NA = Not analyzed.
8. CW = Canal water.
9. PC = Power canal intake.
10. RWR-1 = Resevoir water approximately 1 to 2 feet below water surface.
11. RWR-2 = Resevoir water/sediment approximately 3 feet below water surface, which was collected by disturbing sediment at the bottom of the resevoir.
12. SW-US = Surface water-up stream.
13. SW-DS = Surface water-down stream.
14. Laboratory analytical results have been validated by Arcadis.

TABLE 8

IN-SITU WASTE CHARACTERIZATION SOIL ANALYTICAL RESULTS

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Constituent	Regulatory Level for Hazardous Waste Characteristic	IW-1	IW-2	IW-3	IW-4	IW-5
TCLP VOCs (ppm)						
1,1-Dichloroethene	0.7	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichloroethane	0.5	<0.05	<0.05	<0.05	<0.05	<0.05
2-Butanone	200	<0.1	<0.1	<0.1	<0.1	<0.1
Benzene	0.5	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	0.5	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	100	<0.05	<0.05	<0.05	<0.05	<0.05
Chloroform	6	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethene	0.7	<0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethene	0.5	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	0.2	<0.05	<0.05	<0.05	<0.05	<0.05
TCLP SVOCs (ppm)						
1,4-Dichlorobenzene	7.5	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylphenol (o-Cresol)	200	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrotoluene	0.13	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,5-Trichlorophenol	400	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,6-Trichlorophenol	2	<0.1	<0.1	<0.1	<0.1	<0.1
3 & 4-Methylphenol	200	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene	0.13	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	0.5	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachloroethane	3	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrobenzene	2	<0.1	<0.1	<0.1	<0.1	<0.1
Pentachlorophenol	100	<0.5	<0.5	<0.5	<0.5	<0.5
Pyridine	5	<0.5	<0.5	<0.5	<0.5	<0.5
TCLP Metals (ppm)						
Arsenic	5	<0.5	<0.5	<0.5	<0.5	<0.5
Barium	100	<1.0	1.52	<1.0	<1.0	<1.0
Cadmium	1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	5	<0.1	<0.1	<0.1	<0.1	<0.1
Lead	5	<0.1	<0.1	<0.1	<0.1	<0.1
Mercury	0.2	<0.003	<0.003	<0.003	<0.003	<0.003
Selenium	1	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	5	<0.1	<0.1	<0.1	<0.1	<0.1
Other Hazardous Waste Characteristic Information						
Ignitability (deg C)	-	>100	>100	>100	>100	>100
Corrosivity/pH (S.U.)	*	7.9	8.3	7.9	8.1	7.8
Reactivity Cyanide (ppm)	**	<5.0	<5.0	<5.0	<5.0	<5.0
Reactivity Sulfide (ppm)	**	<20.0	<20.0	<20.0	<20.0	<20.0

TABLE 8

IN-SITU WASTE CHARACTERIZATION SOIL ANALYTICAL RESULTS

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Notes:

1. Samples were collected by Arcadis (formerly known as Blasland, Bouck & Lee, Inc.) on 6/4/2002.
2. Concentrations are reported in parts per million (ppm), which are equivalent to milligrams per kilogram (mg/kg) for reactive cyanide and sulfide or milligrams per liter (mg/L) for Toxicity Characteristic Leaching Procedure (TCLP).
3. Laboratory analysis for the Interim Remedial Measure (September to October 2002) was performed by Columbia Analytical Services, Inc. of Rochester, New York using the following methods as referenced in the New York State Department of Environmental Conservation (NYSDEC) 2000 Analytical Services Protocol (ASP):
   - TCLP Parameters using Method 1311 for extraction and:
     - Volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method 8260.
     - Semi-volatile organic compounds (SVOCs) using USEPA Method 8270.
     - Metals using USEPA Method series 6010 and 7471.
   - Ignitability using USEPA SW-846 Method 1010.
   - Corrosivity using USEPA SW-846 Method 9045.
   - Reactivity using methods specified in USEPA SW-846 Section 7.3.
4. deg. C = Degrees Celsius.
5. S.U. = Standard units.
6. Data qualifiers are defined as follows:
   < - Constituent not detected at a concentration above the reported detection limit.
   > - Sample ignited at a temperature greater than 100 ^{o}C.
   J - Indicates that the associated numerical value is an estimated concentration.
7. NA = Not analyzed.
8. - = Sample which does not ignite or support combustion, therefore under these conditions the sample is non-ignitable.
9. * = Sample is corrosive if pH is less than or equal to 2 S.U., or greater than or equal to 12.5 S.U.
10. ** = Sample which does not exceed the USEPA action levels of 250 mg HCN/kg waste and 500 mg H2S/kg waste in accordance with SW-846, is not reactive.
11. Regulatory limits for characteristic hazardous waste are from the following sources:
    - TCLP VOCs, TCLP SVOCs, and TCLP Metals - 40 Code of Federal Regulations (CFR) 261.24.
    - Ignitability - 40 CFR 261.21.
    - Corrosivity - 40 CFR 261.22.
    - Reactivity - In accordance with an April 2, 1998 memorandum from the USEPA's Office of Solid Waste and Emergency Response (OSWER), the USEPA has withdrawn the guidance levels for evaluating potentially reactive cyanide-bearing and sulfide-bearing wastes (i.e., 250 ppm and 500 ppm, respectively).
12. Analytical results have not been validated.

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TABLE 9

POST-EXCAVATION WASTE CHARACTERIZATION SOIL ANALYTICAL RESULTS (ppm)

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Sample ID	Media Removed During Previous Remedial Measure	Total PCBs
WC-1	X	3.1
WC-2	X	1.9
WC-3	X	17
WC-4	X	1.8
WC-5	X	10 D
WC-6	X	3.9
WC-7	X	150 D
WC-8	X	5.3
WC-9	X	29
WC-11	X	14 D
WC-12	X	14 D
WC-13	X	18 D

Notes:

1. Samples were collected by Arcadis (formerly known as Blasland, Bouck & Lee, Inc.).
2. Laboratory analysis for the Interim Remedial Measure was performed by Columbia Analytical Services, Inc. of Rochester, New York for polychlorinated biphenyls (PCBs) using United States Environmental Protection Agency (USEPA) SW-846 Method 8082 as referenced in the New York State Department of Environmental Conservation (NYSDEC) 2000 Analytical Service Protocol (ASP).
3. Concentrations are reported in parts per million (ppm), which are equivalent to milligrams per kilogram (mg/kg).
4. WC = Post-excavation waste characterization sample.
5. D = Compound quantitated using a secondary dilution. Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis.
6. Shading indicates the concentration of total PCBs for waste characterization sample exceeded the 50 ppm criteria for regulated by New York State in accordance with 6 NYCRR Part 371.4(e).
7. Samples were composites of 6 to 8 grab samples from the stockpiled soil.
8. An **X** indicates that the media at this location was removed as part of a previous remedial measure.
9. Analytical results have not been validated.

TABLE 10

INTERIM REMEDIAL MEASURE WASTEWATER ANALYTICAL RESULTS

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Constituent	Regulatory Level for Hazardous Waste Characteristic	WW-1
PCBs (ppm)		
Total PCBs	50	0.014
TCLP VOCs (ppm)		
1,1-Dichloroethene	0.7	<0.05
1,2-Dichloroethane	0.5	<0.05
2-Butanone	200	<0.1
Benzene	0.5	<0.05
Carbon Tetrachloride	0.5	<0.05
Chlorobenzene	100	<0.05
Chloroform	6	<0.05
Tetrachloroethene	0.7	<0.05
Trichloroethene	0.5	<0.05
Vinyl Chloride	0.2	<0.05
TCLP SVOCs (ppm)		
1,4-Dichlorobenzene	7.5	<0.1
2-Methylphenol (o-Cresol)	200	<0.1
2,4-Dinitrotoluene	0.13	<0.1
2,4,5-Trichlorophenol	400	<0.1
2,4,6-Trichlorophenol	2	<0.1
3 & 4-Methylphenol	200	<0.1
Hexachlorobenzene	0.13	<0.1
Hexachlorobutadiene	0.5	<0.1
Hexachloroethane	3	<0.1
Nitrobenzene	2	<0.1
Pentachlorophenol	100	<0.5
Pyridine	5	<0.5
TCLP Metals (ppm)		
Arsenic	5	<0.5
Barium	100	<1.0
Cadmium	1	<0.1
Chromium	5	<0.1
Lead	5	<0.1
Mercury	0.2	<0.003
Selenium	1	<0.5
Silver	5	<0.1
Other Hazardous Waste Characteristic Information		
Ignitability (deg C)	-	>100
Corrosivity/pH (S.U.)	*	7.4
Reactivity Cyanide (ppm)	**	<0.05
Reactivity Sulfide (ppm)	**	1.8

TABLE 10

INTERIM REMEDIAL MEASURE WASTEWATER ANALYTICAL RESULTS

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Notes:

1. Samples were collected by Arcadis (formerly known as Blasland, Bouck & Lee, Inc.) on October 8, 2002.
2. Concentrations are reported in parts per million (ppm), which are equivalent to milligrams per liter (mg/L).
3. Sample was analyzed by TestAmerica of Edison, New Jersey using the following methods as referenced in the New York State Department of Environmental Conservation (NYSDEC) 2000 Analytical Services Protocol (ASP):
   - Polychlorinated biphenyls (PCBs) using United States Environmental Protection Agency (USEPA) SW-846 Method 8082.
   - Toxicity Charactistic Leaching Procedure (TCLP) Parameters using Method 1311 for extraction and:
     - Volatile organic compounds (VOCs) using USEPA Method 8260.
     - Semi-volatile organic compounds (SVOCs) using USEPA Method 8270.
     - Metals using USEPA Method series 6010.
   - Ignitability using USEPA SW-846 Method 1010.
   - Corrosivity using USEPA SW-846 Method 9045C.
   - Reactive Cyanide using USEPA SW-846 Method 7.3.3.
   - Reactive Sulfide using USEPA SW-846 Method 7.3.4.
4. deg. C = Degrees Celsius.
5. S.U. = Standard units.
6. Data qualifiers are defined as follows:
   < - Constituent not detected at a concentration above the reported detection limit.
   > - Sample ignited at a temperature greater than 100 ^{o}C.
7. NA = Not analyzed.
8. - = Sample is not ignitable if it does not ignite at less than 60 ^{o}C.
9. * = Sample is corrosive if pH is less than or equal to 2 or greater than or equal to 12.5 S.U.
10. ** = Sample which does not exceed the USEPA action level of 250 mg cyanide/kg waste and/or 500 mg sulfide/kg waste in accordance with SW-846, is not reactive.
11. Regulatory limits for characteristic hazardous waste are from the following sources:
    - PCBs - Regulated by New York State in accordance with 6 NYCRR Part 371.4(e).
    - TCLP VOCs, TCLP SVOCs, and TCLP Metals - 40 Code of Federal Regulations (CFR) 261.24.
    - Ignitability - 40 CFR 261.21.
    - Corrosivity - 40 CFR 261.22.
    - Reactivity - In accordance with an April 2, 1998 memorandum from the USEPA's Office of Solid Waste and Emergency Response (OSWER), the USEPA has withdrawn the guidance levels for evaluating potentially reactive cyanide-bearing and sulfide-bearing wastes (i.e., 250 ppm and 500 ppm, respectively).
12. Analytical results have not been validated.

TABLE 11

IN-SITU WASTE CHARACTERIZATION SEDIMENT ANALYTICAL RESULTS

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Constituent	Regulatory Level for Hazardous Waste Characteristic	SED-WC-1
PCBs (ppm)		
Total PCBs	50	0.26
TCLP VOCs (ppm)		
1,1-Dichloroethene	0.7	<0.002
1,2-Dichloroethane	0.5	<0.002
2-Butanone	200	<0.005
Benzene	0.5	<0.001
Carbon Tetrachloride	0.5	<0.002
Chlorobenzene	100	<0.005
Chloroform	6	<0.005
Tetrachloroethene	0.7	<0.001
Trichloroethene	0.5	<0.001
Vinyl Chloride	0.2	<0.005
TCLP SVOCs (ppm)		
1,4-Dichlorobenzene	7.5	<0.04
2-Methylphenol (o-Cresol)	200	<0.04
2,4-Dinitrotoluene	0.13	<0.008
2,4,5-Trichlorophenol	400	<0.04
2,4,6-Trichlorophenol	2	<0.04
4-Methylphenol	200	<0.04
Hexachlorobenzene	0.13	<0.008
Hexachlorobutadiene	0.5	<0.008
Hexachloroethane	3	<0.004
Nitrobenzene	2	<0.004
Pentachlorophenol	100	<0.12
Pyridine	5	<0.04
TCLP Metals (ppm)		
Arsenic	5	<0.016
Barium	100	0.61 B
Cadmium	1	<0.002
Chromium	5	<0.008
Lead	5	0.02 B
Mercury	0.2	<0.0001
Selenium	1	<0.021
Silver	5	<0.007
Other Hazardous Waste Characteristic Information		
Ignitability (deg C)	-	> 60
Corrosivity/pH (S.U.)	*	7.89
Reactivity Cyanide (mg/kg)	**	< 25
Reactivity Sulfide (mg/kg)	**	< 20

TABLE 11

IN-SITU WASTE CHARACTERIZATION SEDIMENT ANALYTICAL RESULTS

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Notes:

1. Samples were collected by Arcadis (formerly known as Blasland, Bouck & Lee, Inc.) on August 16, 2007.
2. Concentrations are reported in parts per million (ppm), which are equivalent to milligrams per kilogram (mg/kg) for PCBs, reactive cyanide, and sulfide or milligrams per liter (mg/L) for Toxicity Characteristic Toxicity Characteristic Leaching Procedure (TCLP).
3. Sample was analyzed by TestAmerica of Edison, New Jersey using the following methods as referenced in the New York State Department of Environmental Conservation (NYSDEC) 2000 Analytical Services Protocol (ASP):
   - Polychlorinated biphenyls (PCBs) using United States Environmental Protection Agency (USEPA) SW-846 Method 8082.
   - Toxicity Characteristic Leaching Procedure (TCLP) Parameters using Method 1311 for extraction and:
     - Volatile organic compounds (VOCs) using USEPA Method 8260.
     - Semi-volatile organic compounds (SVOCs) using USEPA Method 8270.
     - Metals using USEPA Method series 6010 and 7471.
   - Ignitability using USEPA SW-846 Method 1010.
   - Corrosivity using USEPA SW-846 Method 9045C.
   - Reactive Cyanide using USEPA SW-846 Method 7.3.3.
   - Reactive Sulfide using USEPA SW-846 Method 7.3.4.
4. Sample SED-WC-1 was a composite of samples V1-1 (0-0.5), V2-1(0-0.5), V3-1 (0-0.2), and V4-1 (0-1).
5. deg. C = Degrees Celsius.
6. S.U. = Standard units.
7. Data qualifiers are defined as follows:
   < - Constituent not detected at a concentration above the reported detection limit.
   > - Sample ignited at a temperature greater than 60 ^{o}C.
   B - Reported value is less than the Reporting Limit but greater than the Instrument Detection Limit.
8. NA = Not analyzed.
9. - = Sample is not ignitable if it does not ignite at less than 60 ^{o}C.
10. * = Sample is corrosive if pH is less than or equal to 2 or greater than or equal to 12.5 S.U.
11. ** = Sample which does not exceed the USEPA action level of 250 mg cyanide/kg waste and/or 500 mg sulfide/kg waste in accordance with SW-846, is not reactive.
12. Regulatory limits for characteristic hazardous waste are from the following sources:
    - PCBs - Regulated by New York State in accordance with 6 NYCRR Part 371.4(e).
    - TCLP VOCs, TCLP SVOCs, and TCLP Metals - 40 Code of Federal Regulations (CFR) 261.24.
    - Ignitability - 40 CFR 261.21.
    - Corrosivity - 40 CFR 261.22.
    - Reactivity - In accordance with an April 2, 1998 memorandum from the USEPA's Office of Solid Waste and Emergency Response (OSWER), the USEPA has withdrawn the guidance levels for evaluating potentially reactive cyanide-bearing and sulfide-bearing wastes (i.e., 250 ppm and 500 ppm, respectively).
13. Analytical results have not been validated.

TABLE 12

FINAL REMEDIAL MEASURE WASTEWATER ANALYTICAL RESULTS

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Constituent	NYS Groundwater Standards/Guidance Values	Sample ID WA-CHAR-02062008 2/6/2008
PCBs (ppb)		
Total PCBs	0.09	0.27 J
Detected VOCs (ppb)		
1,1,1-Trichloroethane	5	0.74 J
1,1-Dichloroethene	5	0.56 J
Bromoform	50	24 J
Methyl Ethyl Ketone	50	2.6
Detected SVOCs (ppb)		
4-methylphenol (p-Cresol)	- -	0.5 J
Di-n-butyl phthalate	50	0.3 J
Detected Metals (ppb)		
Aluminum	- -	6,940
Barium	1,000	110
Calcium	- -	266,000
Chromium	50	13.9
Cobalt	- -	5.4
Copper	200	39.2
Iron	300	8,730
Lead	25	23.4
Magnesium	- -	3,460
Manganese	300	208
Nickel	100	19.4
Potassium	- -	4,710
Sodium	- -	20,700
Vanadium	- -	20.6
Zinc	2,000	55.7
Other Hazardous Waste Characteristic Information		
Ignitability (deg C)	-	> 80
Corrosivity/pH (S.U.)	*	11.9

Notes:

1. Samples were collected by Arcadis (formerly known as Blasland, Bouck & Lee, Inc.) on February 6, 2008.
2. Sample was analyzed by TestAmerica of Buffalo, New York using the following methods as referenced in the New York State Department of Environmental Conservation (NYSDEC) 2000 Analytical Services Protocol (ASP):
   - Polychlorinated biphenyls (PCBs) using United States Environmental Protection Agency (USEPA) SW-846 Method 8082.
   - Target Compound List (TCL) volatile organic compounds (VOCs) using USEPA SW-846 Method 8260.
   - TCL semi-volatile organic compounds (SVOCs) using USEPA SW-846 Method 8270.
   - Target Analyte List (TAL) Metals using USEPA SW-846 Method 6010.
   - Ignitability using USEPA SW-846 Method 1020.
   - Corrosivity using USEPA SW-846 Method 9045C.
3. Sample WA-CHAR-02062008 was a composite sample of wastewater collected from onsite temporary storage tank.
4. Concentrations reported in parts per billion (ppb) or micrograms per liter (ug/L).
5. deg. C = Degrees Celsius.
6. S.U. = Standard units.
7. Data qualifiers are defined as follows:
   J = Indicates that the associated numerical value is an estimated concentration.
   > = Indicates the sample did not ignite at less than 80 degrees Celsius.
8. * - Sample is corrosive if pH is less than or equal to 2 or greater than or equal to 12.5 S.U.
9. - = Sample is not ignitable if it does not ignite at less than 60 °C.
10. Groundwater standard presented in the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS 1.1.1) document entitled "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (June 1998).
11. Shading indicates that the concentration exceeds TOGs 1.1.1.
12. - - = No NYSDEC groundwater standard/guidance value listed.
13. Analytical results have not been validated.

TABLE 13

2016 WASTEWATER ANALYTICAL RESULTS

FINAL ENGINEERING REPORT
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION, TOWN OF COLONIE, NEW YORK

Constituent	NYS Groundwater Standards/Guidance Values	6 NYCRR Part 371 Criteria	Sample ID DRUM-01 12/14/2016
PCBs (ppb)			
Aroclor-1016	0.09	- -	<0.5
Aroclor-1221	0.09	- -	<0.5
Aroclor-1232	0.09	- -	<0.5
Aroclor-1242	0.09	- -	<0.5
Aroclor-1248	0.09	- -	<0.5
Aroclor-1254	0.09	- -	<0.5
Aroclor-1260	0.09	- -	<0.5
Volatile Organic Compounds-TCLP (ppb)			
1,1-Dichloroethene	0.005	0.7	<0.001
1,2-Dichloroethane	0.0006	0.5	<0.001
2-Butanone (Methyl ethyl ketone)	0.05	200	<0.005
Benzene	0.001	0.5	<0.001
Carbon tetrachloride	0.005	0.5	<0.001
Chlorobenzene	0.005	100	<0.001
Chloroform	0.007	6	<0.001
Tetrachloroethene	0.005	0.7	<0.001
Trichloroethene	0.005	0.5	<0.001
Vinyl chloride	0.002	0.2	<0.001
Semivolatile Organics Compounds-TCLP (ppb)			
1,4-Dichlorobenzene	0.003	7.5	<0.01
2,4,5-Trichlorophenol	0.001	400	<0.005
2,4,6-Trichlorophenol	0.001	2	<0.005
2,4-Dinitrotoluene	0.005	0.13	<0.005
2-Methylphenol	0.001	200	<0.005
3-Methylphenol	0.001	4,200	<0.01
4-Methylphenol	0.001	200	<0.01
Hexachlorobenzene	0.00004	0.13	<0.005
Hexachlorobutadiene	0.0005	0.5	<0.005
Hexachloroethane	0.005	3	<0.005
Nitrobenzene	0.0004	2	<0.005
Pentachlorophenol	0.001	100	<0.01
Pyridine	0.05	5	<0.025
Inorganics-TCLP (ppm)			
Arsenic	0.025	5	<0.015
Barium	1	100	0.12
Cadmium	0.005	1	<0.002
Chromium	0.05	5	<0.004
Lead	0.025	5	<0.01
Mercury	0.0007	0.2	<0.0002
Selenium	0.01	1	<0.025
Silver	0.05	5	<0.006
Other Hazardous Waste Characteristic Information (S.U.)			
pH	- -	*	7.6 HF

Notes:

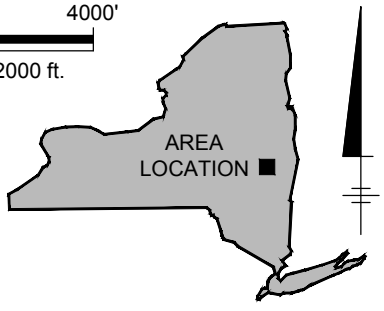
1. Sample was collected by Arcadis on December 14, 2016.
2. Sample was analyzed by Test America located in Amherst, New York using the following methods as referenced in the New York State Department of Environmental Conservation (NYSDEC) 2000 Analytical Services Protocol (ASP):
   - Polychlorinated Biphenyls (PCBs) using United States Environmental Protection Agency (USEPA) SW-846 Method 8082A.
   - Toxicity Characteristic Leaching Procedure (TCLP) volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Methods 1311 and 8260C.
   - TCLP semivolatile organic compounds (SVOCs) using USEPA SW-846 Method 1311 and 8270D.
   - TCLP metals using USEPA SW-846 Methods 1311, 6010C, and 7470A.
   - Corrosivity (pH) using USEPA SW-846 Method 9045C.
3. Sample DRUM-01 was a wastewater sample collected from a 55-gallon drum containing development and purge water generated as part of the 2016 per- and polyfluoroalkyl substances (PFAS) groundwater investigation.
4. Concentrations reported in parts per billion (ppb) or micrograms per liter (ug/L).
5. S.U. = Standard units.
6. Data qualifiers are defined as follows:
   < - Constituent not detected at a concentration above the reported detection limit.
   HF - Indicates that test was performed as a field parameter measurement that generally has a 15 minute hold time.
7. * - Sample is corrosive if pH is less than or equal to 2 or greater than or equal to 12.5 S.U.
8. Groundwater standards and guidance values obtained from the NYSDEC document titled, "Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (reissued June 1998 and revised in April 2000 and June 2004).
9. 6 NYCRR Part 371 Criteria are the thresholds for a characteristic hazardous waste from Title 6 of the Official Compilation of Codes, Rules, and Regulations of the State of New York (6 NYCRR) Parts 371.3(b) through (e), and Part 371.4(e).
10. - - = No TOGs 1.1.1 Standard/Guidance Value or 6 NYCRR Part 371 Criteria listed.
11. Analytical results have not been validated.

FIGURES

REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. □UAD., TROY NORTH, NY, 2013.

0 2000' 4000'

A□□ro□imate Scale: 1 in. = 2000 ft.



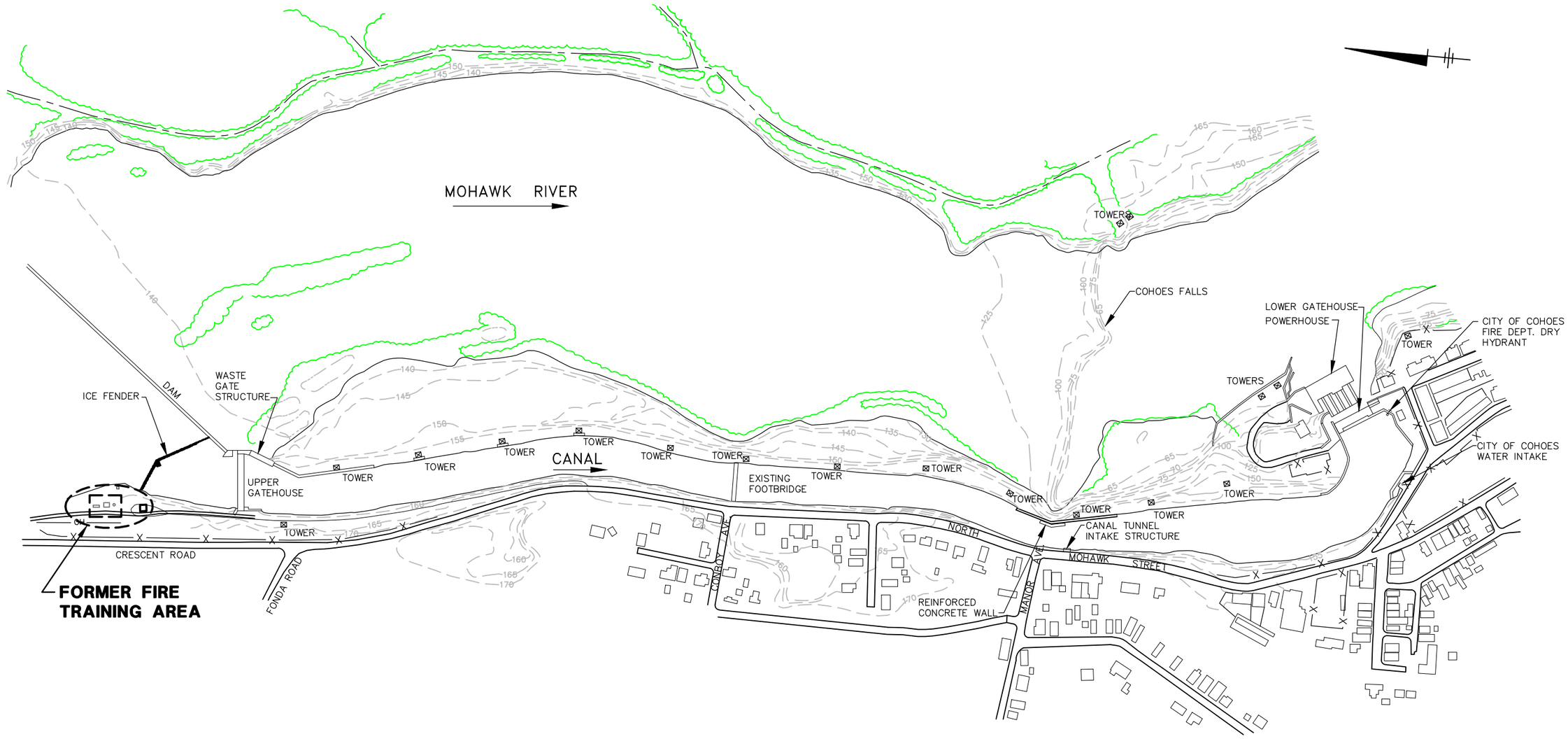
ERIE BOULEVARD HYDROPOWER, L.P.
FORMER NATIONAL GRID
SCHOOL ST. HYDROELECTRIC STATION - TOWN OF COLONIE, NY
FINAL ENGINEERING REPORT

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1

CITY: SYRACUSE NY DIV/GROUP: EnvCAD DB: E.KRAHMER PIC: PM: TM: TR: C. HEALY LYR: ON=*;OFF=*REF*
G:\ENVCAD\SYRACUSE\ACTIB0036643\0001\0001\FE-REPORT\36643N01.dwg LAYOUT: 1 SAVED: 6/22/2016 12:35 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 6/22/2016 12:36 PM BY: KRAHMER, ERIC
XREFS: IMAGES: PROJECTNAME: ---
36643XLB NY Troy North 20130129 TM geo□ng



0 400' 800'

GRAPHIC SCALE

NOTES:

1. BASE MAP DEVELOPED FROM NIAGARA MOHAWK POWER CORPORATION, ACQUIRED BY AND NOW REFERRED TO AS NATIONAL GRID, AS-BUILT DRAWING ENTITLED "SCHOOL STREET HYDRO DEVELOPMENT: CANAL WALL REPLACEMENT GENERAL PLAN, LOCATION MAP, GENERAL NOTES AND DWG. INDEX," FILE INDEX NO. 2.0-S12-H4, DRAWING NO. D-30664-E, ORIGINAL ISSUE DATE 6/30/94, AS-BUILT 9/95, AT A SCALE OF 1"=200'.

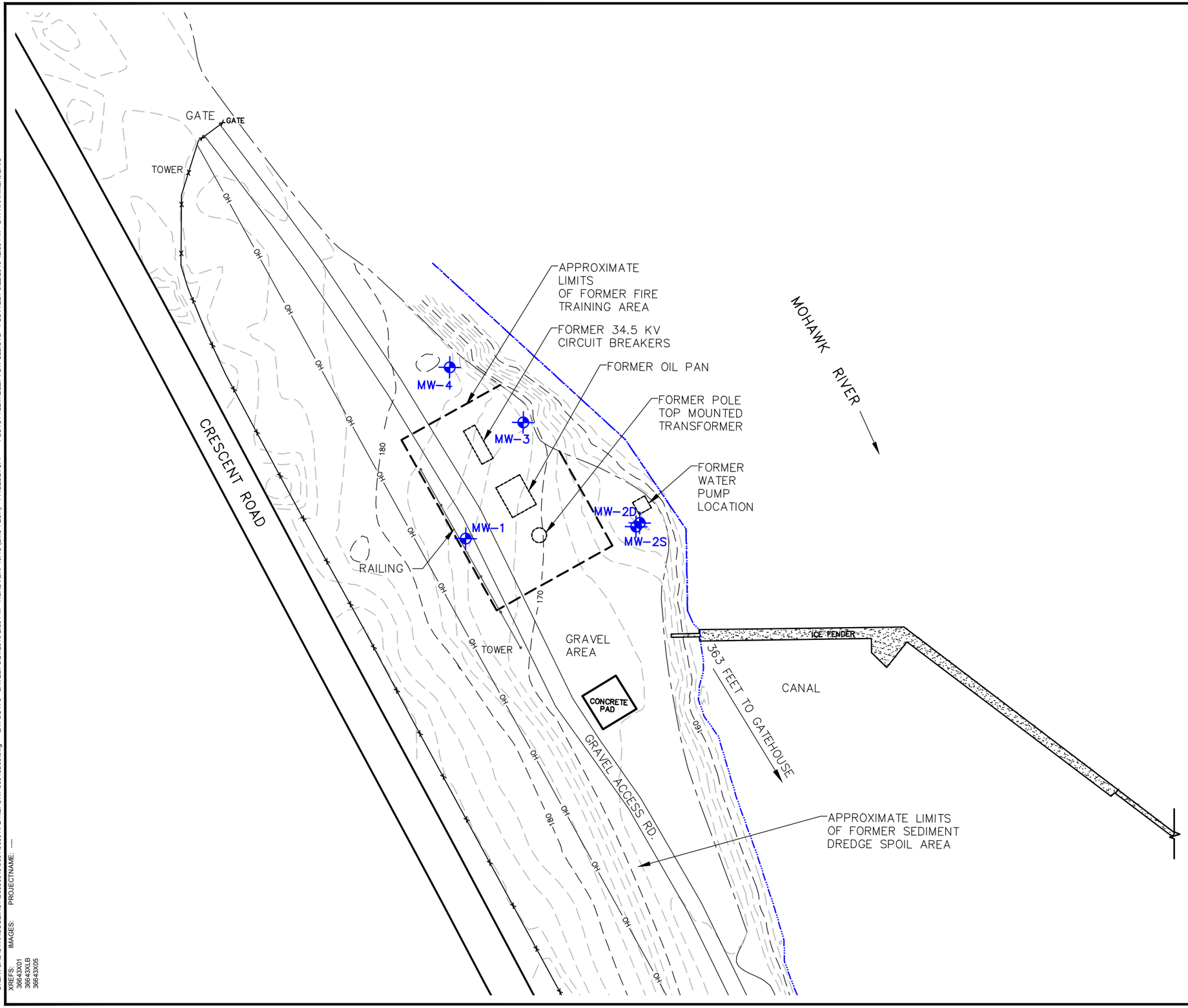
2. BASE MAP ALSO DEVELOPED FROM SITE SURVEY COMPLETED BY NATIONAL GRID (AS PRESENTED ON THE NATIONAL GRID DRAWING ENTITLED "SCHOOL STREET DEVELOPMENT SAMPLING LOCATIONS, INDEX NO. 2.0-S12-M5, DRAWING NO. B-33591-E, DATED APRIL 1999, LATEST REVISION MARCH 2001, AT A SCALE OF 1"=60'). LOCATION OF ICE FENDER IS FROM SURVEY ACTIVITIES COMPLETED ARCADIS OF NEW YORK, INC., FORMERLY KNOWN AS BLASLAND, BOUCK & LEE, INC., DURING NOVEMBER 1999.

ERIE BOULEVARD HYDROPOWER, L.P.
FORMER NATIONAL GRID
SCHOOL ST. HYDROELECTRIC STATION - TOWN OF COLONIE, NY
FINAL ENGINEERING REPORT

SITE PLAN

ARCADIS Design & Consultancy for natural and built assets

FIGURE 2



LEGEND:

- MW-1 — MONITORING WELL LOCATION
- SHORELINE
- TOP OF BANK
- FENCE
- OVERHEAD HIGH VOLTAGE ELECTRIC LINE
- GROUND SURFACE CONTOUR LINE (ELEVATION IN FEET ABOVE MEAN SEA LEVEL)

NOTES:

1. BASE MAP DEVELOPED FROM SITE SURVEY COMPLETED BY NIAGARA MOHAWK POWER CORPORATION, ACQUIRED BY AND NOW REFERRED TO AS NATIONAL GRID (AS PRESENTED ON THE NATIONAL GRID DRAWING ENTITLED "SCHOOL STREET DEVELOPMENT SAMPLING LOCATIONS, INDEX NO. 2.0-S12-M5, DRAWING NO. B-33591-E, DATED APRIL 1999, LATEST REVISION MARCH 2001, AT A SCALE OF 1"=60'). LOCATION OF ICE FENDER, TOP OF BANK, AND HIGH VOLTAGE LINE ARE FROM SURVEY ACTIVITIES COMPLETED BY ARCADIS OF NEW YORK, INC., FORMERLY KNOWN AS BLASLAND, BOUCK & LEE, INC. DURING NOVEMBER 1999.
2. GROUND SURFACE CONTOUR LINES INDICATE TOPOGRAPHY OF SITE PRIOR TO IMPLEMENTATION OF INTERIM REMEDIAL MEASURES (WHICH WAS COMPLETED DURING 2002).
3. MONITORING WELL LOCATIONS MW-1 THROUGH MW-3 WERE SURVEYED BY NATIONAL GRID.
4. MONITORING WELL MW-4 WAS SURVEYED BY ARCADIS.
5. MONITORING WELL LOCATION MW-2S IS AN OVERBURDEN MONITORING WELL WHILE MONITORING WELL MW-2D IS A BEDROCK WELL.

0 60' 120'

GRAPHIC SCALE

ERIE BOULEVARD HYDROPOWER, L.P.
FORMER NATIONAL GRID
SCHOOL ST. HYDROELECTRIC STATION - TOWN OF COLONIE, NY
FINAL ENGINEERING REPORT

FORMER FIRE TRAINING AREA FEATURES

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FIGURE 3

CITY: Syracuse DIV/GROUP: Env-141 DB: L.Posena er A.Schilling, W. Jones LD: AM: PD: TM: TR: LYR:ON=*;OFF=*REF*
G:\ENV\CADD\SYRACUSE\ACTIVE\00360643\0001\0000\1FE-REPORT\366438I03.dwg LAYOUT: 3 SAVED: 6/21/2016 2:30 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 6/22/2016 12:39 PM BY: KRAHMER, ERIC
XREFS: IMAGES: PROJECTNAME: ---
366433X01
366433XLB
366433X05

MATCHLINE – SEE FIGURE 5

S-20	
Constituent	(0–0.5')
Total PCBs	0.1

S-16		
Constituent	(0–0.5')	(0.5–1.5')
Total PCBs	0.64	0.34 J

RB–N	
Constituent	(3')
Total PCBs	0.069

S-72		
Constituent	(0–0.5')	
Total PCBs	0.13	

S-66		
Constituent	(0–0.5')	
Total PCBs	1.2	

S-30		
Constituent	(0–0.5')	
Total PCBs	1.8	

S-12		
Constituent	(0–0.5')	(0.5–1.5')
Total PCBs	0.13 J	

S-18		
Constituent	(0–0.5')	(1–2')
Total PCBs	8.6	0.098 J [0.085 J]

S-54		
Constituent	(0–0.5')	
Total PCBs	0.44 J	

S-31		
Constituent	(0–0.5')	
Total PCBs	4.8	

S-65		
Constituent	(0–0.5')	
Total PCBs	1.6	

S-64		
Constituent	(0–0.5')	
Total PCBs	0.98	

S-29		
Constituent	(0–0.5')	
Total PCBs	0.12	

S-48		
Constituent	(0–0.5')	
Total PCBs	0.074	

S-11		
Constituent	(0.5–1.0')	
Total PCBs	0.56 J	

S-19		
Constituent	(0–0.5')	
Total PCBs	74 D	

S-45		
Constituent	(0–0.5')	
Total PCBs	1.9	

S-63		
Constituent	(0–0.5')	
Total PCBs	2.5	

S-15			
Constituent	(0–0.5')	(0.5–1.5')	
Total PCBs	670	0.46 J	

S-21		
Constituent	(0–0.5')	(0.5–1.5')
Total PCBs	4.7 D	0.96 D

S-17		
Constituent	(0–0.5')	(0.5–1.5')
Total PCBs	16	66 J

S-62		
Constituent	(0–0.5')	
Total PCBs	4.1	

S-71		
Constituent	(0–0.5')	
Total PCBs	< 0.026	

S-32		
Constituent	(0–0.5')	
Total PCBs	4.3	

S-70		
Constituent	(0–0.5')	
Total PCBs	0.065	

S-61		
Constituent	(0–0.5')	
Total PCBs	0.85	

S-69		
Constituent	(0–0.5')	
Total PCBs	0.091 [0.083 J]	

S-33	
Constituent	(0–0.5')
Total PCBs	3.7 J
Detected SVOCs	
Acenaphthylene	0.047 J
Acenaphthene	0.2 J
Anthracene	0.52
Benzo(a)anthracene	0.78 J
Benzo(a)pyrene	0.57 J
Benzo(b)fluoranthene	0.84 J
Benzo(g,h,i) perylene	0.25 J
Benzo(k)fluoranthene	0.32 J
Chrysene	0.82 J
Dibenzo(a,h) anthracene	0.094 J
Dibenzofuran	0.095 J
Di-n-butylphthalate	20 D
Indeno(1,2,3-cd)pyrene	0.28 J
Fluoranthene	1.4
Fluorene	0.28 J
Naphthalene	0.045 J
Phenanthrene	1.7
Pyrene	2.5 J

S-60		
Constituent	(0–0.5')	
Total PCBs	3.4	[1.9]

S-68		
Constituent	(0–0.5')	
Total PCBs	0.2	

S-59		
Constituent	(0–0.5')	
Total PCBs	2.6	

S-67		
Constituent	(0–0.5')	
Total PCBs	0.66	

S-22		
Constituent	(0–0.5')	
Total PCBs	0.54 D	

S-5		
Constituent	(0–0.5')	(0.5–1.5')
Total PCBs	0.078	< 0.018

S-58		
Constituent	(0–0.5')	
Total PCBs	< 0.019	

S-2		
Constituent	(0–0.5')	(0.5–1.5')
Total PCBs	2.7	2.8 J
Detected VOCs		
Toluene	NA	0.004 J
Detected SVOCs		
Anthracene	0.091 J	< 0.37
Chrysene	0.063 J	< 0.37
Di-n-butylphthalate	0.15 J	< 0.37
Fluoranthene	0.13 J	0.071 J
Phenanthrene	0.092 J	< 0.37
Pyrene	0.12 J	0.070 J

S-23		
Constituent	(0–0.5')	
Total PCBs	0.043	

S-4		
Constituent	(0–0.5')	(0.5–1.5')
Total PCBs	1.9	0.17 J

S-34		
Constituent	(0–0.5')	
Total PCBs	0.057	

S-24		
Constituent	(0–0.5')	
Total PCBs	2.6 D	

S-35		
Constituent	(0–0.5')	
Total PCBs	0.69	

SCH–SB9	
Constituent	(4–8')
Total PCBs	< 0.5
Detected VOCs	
None Detected	
Detected SVOCs	
None Detected	

S-50		
Constituent	(0–0.5')	
Total PCBs	0.029 J	
Detected SVOCs		
None Detected		

SCH–SB5		
Compounds	(0–4')	
Total PCBs	< 0.5	
Detected VOCs		
None Detected		
Detected SVOCs		
None Detected		

SCH–SB4		
Constituent	(0–4')	
Total PCBs	< 0.6	
Detected VOCs		
None Detected		
Detected SVOCs		
None Detected		

S-51		
Constituent	(0–0.5')	
Total PCBs	0.23 J	
Detected SVOCs		
Di-n-butylphthalate	3.0 D	
Phenanthrene	0.036 J	

S-36		
Constituent	(0–0.5')	(0.5–1.5')
Total PCBs	3.1 J	0.046 J
Detected SVOCs		
2-Methylnaphthalene	NA	0.1 J
Chrysene	NA	0.069 J
Dibenzofuran	NA	0.044 J
Di-n-butylphthalate	NA	20 D
Fluoranthene	NA	0.048 J
Naphthalene	NA	0.097 J
Phenanthrene	NA	0.16 J
Pyrene	NA	0.063 J

S-6		
Constituent	(0–0.5')	(0.5–1.5')
Total PCBs	130 [120]	14 J
Detected VOCs		
Toluene	NA [NA]	0.001 J
Detected SVOCs		
1,2–Dichlorobenzene	0.15 J [< 3.7]	< 0.36
1,3–Dichlorobenzene	0.99 [0.80 J]	0.084 J
1,4–Dichlorobenzene	1 [0.72 J]	< 0.36
1,2,4–Trichlorobenzene	15.0 D [12]	0.76
4–Methylphenol	0.078 J [< 3.7]	< 0.36
2–Methylnaphthalene	1.2 [1.0 J]	0.17 J
3,3' Dichlorobenzidine	0.32 J [< 7.5]	< 0.72
Acenaphthylene	0.10 J [< 3.7]	< 0.36
Acenaphthene	0.10 J [< 3.7]	< 0.36
Anthracene	0.19 J [< 3.7]	< 0.36
Benzo(a)anthracene	0.35 J [< 3.7]	< 0.36
Benzo(b)fluoranthene	0.12 J [< 3.7]	0.079 J
Chrysene	0.87 J [0.70 J]	0.14 J
Dibenzofuran	0.49 J [0.42 J]	< 0.36
Naphthalene	0.50 J [0.40 J]	0.077 J
n–Nitrosodiphenylamine	0.70 J [0.86 J]	< 0.36
Phenanthrene	2.1 [2.3 J]	0.42
Pyrene	0.56 J [0.54 J]	0.17 J

S-44	
Constituent	(0–0.5')
Total PCBs	0.43 J
Detected SVOCs	
Benzo(a)anthracene	0.12 J
Benzo(a)pyrene	0.16 J
Benzo(b)fluoranthene	0.24 J
Benzo(g,h,i) perylene	0.076 J
Benzo(k)fluoranthene	0.099 J
Chrysene	0.18 J
Fluoranthene	0.25 J
Indeno(1,2,3–cd)pyrene	0.072 J
Phenanthrene	0.20 J
Pyrene	0.49 J

S-9		
Constituent	(0–0.5')	(0.5–1.5')
Total PCBs	8.1	16 J

S-10		
Constituent	(0.5–1.5')	
Total PCBs	0.006 J	

S-43		
Constituent	(0–0.5')	
Total PCBs	1.6	

S-28		
Constituent	(0–0.5')	
Total PCBs	9.3 D	

S-8		
Constituent	(0–0.5')	(0.5–1.5')
Total PCBs	11	8.6 J

RB–S	
Constituent	(3')
Total PCBs	0.58 D [0.81 D]

S-27		
Constituent	(0–0.5')	
Total PCBs	5.7 D	

RB–S–2	
Constituent	(4.5')
Total PCBs	0.94 D [1.6 D]

S-42		
Constituent	(0–0.5')	
Total PCBs	3.4	

SCH–TP1	
Constituent	(3')
Total PCBs	28.9
Detected VOCs	
None Detected	
Detected SVOCs	
None Detected	

S-55		
Constituent	(0–0.5')	
Total PCBs	3.8 J	

SCH–TP2	
Constituent	(1.8')
Total PCBs	32.8
Detected VOCs	
None Detected	
Detected SVOCs	
None Detected	

S-39		
Constituent	(0–0.5')	
Total PCBs	0.4	

S-3		
Constituent	(0–0.5')	(2–3')
Total PCBs	1.7	22 J
Detected VOCs		
Methylene Chloride	NA	0.002 J [0.001 J]
Toluene	NA	0.003 J [0.018]
Detected SVOCs		
Anthracene	0.048 J	<0.38
Benzo(a)anthracene	0.12 J	<0.38
Chrysene	0.12 J	<0.38
Fluoranthene	0.24 J	0.043 J
Phenanthrene	0.22 J	0.054 J
Pyrene	0.20 J	<0.38

S-7		
Constituents	(0–0.5')	(0.5–1.5')
Total PCBs	7.8	2.0 J
Detected VOCs		
Toluene	NA	0.006 J
Detected SVOCs		
Anthracene	0.054 J	< 0.38
Benzo(a)anthracene	0.20 J	< 0.38
Benzo(a)pyrene	0.19 J	< 0.38
Benzo(b)fluoranthene	0.19 J	< 0.38
Benzo(k)fluoranthene	0.20 J	< 0.38
Chrysene	0.24 J	< 0.38
Fluoranthene	0.5	0.048 J
Ideno(1,2,3–cd)pyrene	0.044 J	< 0.38
Phenanthrene	0.52	< 0.38
Pyrene	0.43	0.047 J

S-41		
Constituent	(0–0.5')	(0.5–1.5')
Total PCBs	8.1	18

S-26		
Constituent	(0–0.5')	(0.5–1.5')
Total PCBs	4.1	23 J

SCH–SB6	
Constituent	(3')
Total PCBs	42
Detected VOCs	
None Detected	
Detected SVOCs	
None Detected	

S-40		
Constituent	(0–0.5')	(0.5–1.5')
Total PCBs	7.2	9.3

S-25		
Constituent	(0–0.5')	
Total PCBs	8.0 D [7.0 D]	

S-1		
Constituent	(0–0.5')	(1–2')
Total PCBs	2.4	4.8 J
Detected VOCs		
Benzene	NA	0.002 J
Toluene	NA	0.10 J
Xylene (total)	NA	0.008 J
Detected SVOCs		
None Detected		

S-56		
Constituent	(0–0.5')	
Total PCBs	0.054 J	

S-57		
Constituent	(0–0.5')	
Total PCBs	0.16 J	

S-38		
Constituent	(0–0.5')	(0.5–1.5')
Total PCBs	1.3	0.036

S-37		
Constituent	(0–0.5')	(0.5–1.5')
Total PCBs	0.4	0.16 [0.14]
Detected SVOCs		
Di-n–octylphthalate	NA	0.12 J [< 0.37]

LEGEND:

- S-23 △ PSA SURFACE SOIL SAMPLING LOCATION (3/99 & 11/99)
- S-1 ▭ PSA SURFACE AND/OR SUBSURFACE SOIL SAMPLING LOCATION (3/99 & 11/99)
- RB–N ▲ APPROXIMATE RIVERBANK SOIL SAMPLING LOCATION
- S-47 △ RI/FS SURFACE SOIL SAMPLING LOCATION (10/00 – 02/01)
- S-41 ▭ RI/FS SURFACE AND SUBSURFACE SOIL SAMPLING LOCATION (10/00 – 02/01)
- SCH–SB4 ◉ PHASE II ESA SOIL BORING LOCATION (8/98)
- SHORELINE
- TOP OF BANK
- FENCE
- OHE — OVERHEAD HIGH VOLTAGE ELECTRIC LINE
- APPROXIMATE LOCATION OF 8–INCH DIAMETER HDPE REPLACEMENT DRAIN PIPE

NOTES:

1. BASE MAP DEVELOPED FROM SITE SURVEY COMPLETED BY NIAGARA MOHAWK POWER CORPORATION, ACQUIRED BY AND NOW REFERRED TO AS NATIONAL GRID (AS PRESENTED ON THE NATIONAL GRID DRAWING ENTITLED "SCHOOL STREET DEVELOPMENT SAMPLING LOCATIONS, INDEX NO. 2.0–S12–M5, DRAWING NO. B–33591–E, DATED APRIL 1999, LATEST REVISION MARCH 2001, AT A SCALE OF 1"=60'). LOCATION OF ICE FENDER, TOP OF BANK, AND HIGH VOLTAGE LINE ARE FROM SURVEY ACTIVITIES COMPLETED BY ARCADIS OF NEW YORK, INC. (ARCADIS), FORMERLY KNOWN AS BLASLAND, BOUCK & LEE, INC. DURING NOVEMBER 1999.
2. PCBs = POLYCHLORINATED BIPHENYLS.
3. ALL CONCENTRATIONS ARE REPORTED IN PARTS PER MILLION (PPM), WHICH ARE EQUIVALENT TO MILLIGRAMS PER KILOGRAM (mg/kg).
4. D = CONCENTRATION IS BASED ON A DILUTED SAMPLE ANALYSIS.
5. J = ESTIMATED CONCENTRATION.
6. < = CONSTITUENT WAS NOT DETECTED AT A CONCENTRATION ABOVE THE REPORTED LABORATORY DETECTION LIMIT.
7. ANALYTICAL RESULTS HAVE BEEN VALIDATED.
8. DUPLICATE SAMPLE RESULTS ARE PRESENTED IN BRACKETS.

0 60' 120'

GRAPHIC SCALE

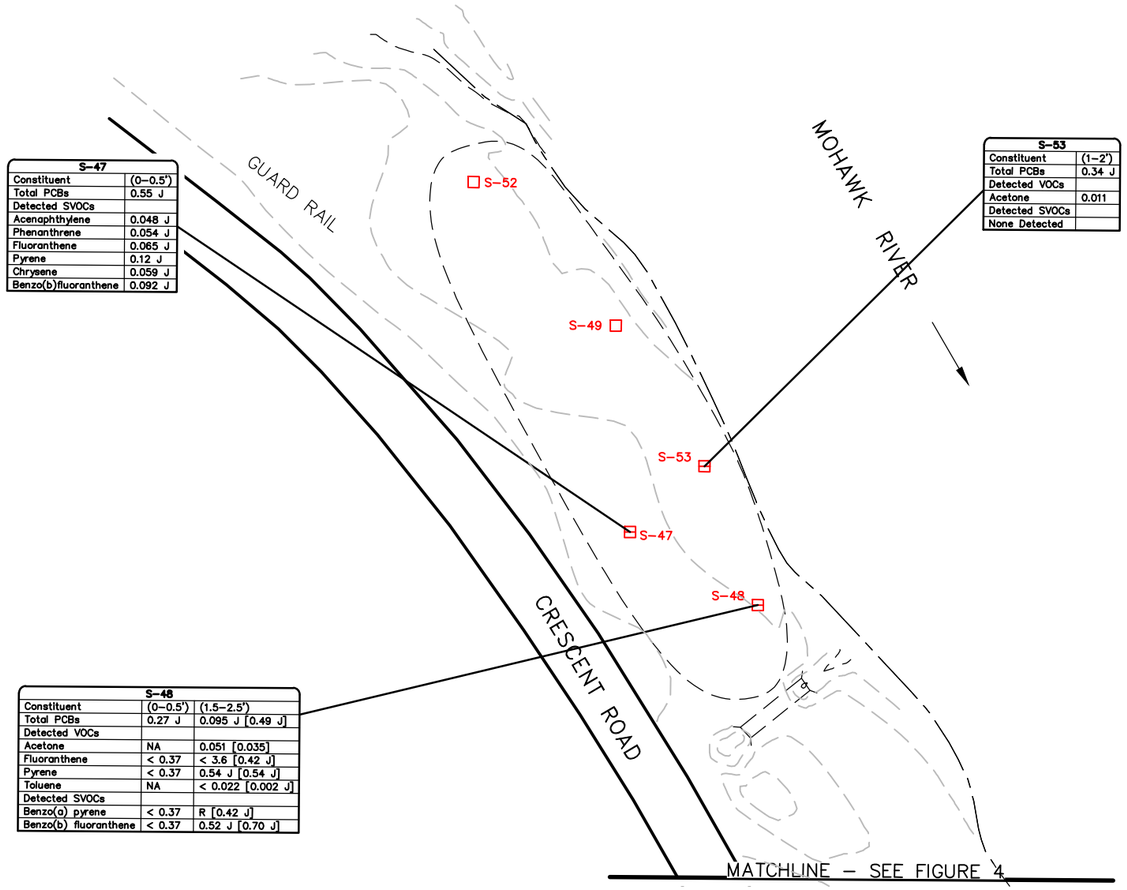
ERIE BOULEVARD HYDROPOWER, L.P.
FORMER NATIONAL GRID
SCHOOL ST. HYDROELECTRIC STATION - TOWN OF COLONIE, NY
FINAL ENGINEERING REPORT

FORMER FIRE TRAINING AREA - SOIL ANALYTICAL RESULTS

ARCADIS Design & Consultancy for natural and built assets

FIGURE 4

CITY:Syracuse DIV/GROUP:Env-141 DB:W.Jones A.Schilling LD:(O.1) PIC:(O.1) PM:(Re d) TM:(O.1) LYR:(O.1)ON=*;OFF=*REF*
G:\ENVCAD\SYRACUSE\ACT\B0036843\0001\0001\FE-REPORT\366430C01.dwg LAYOUT: 4 SAVED: 6/22/2016 12:49 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 6/22/2016 12:50 PM BY: KRAHMER, ERIC
XREFS:
366431X01
366431X05
366431XLB



S-47	
Constituent	(0–0.5')
Total PCBs	0.55 J
Detected SVOCs	
Acenaphthylene	0.048 J
Phenanthrene	0.054 J
Fluoranthene	0.065 J
Pyrene	0.12 J
Chrysene	0.059 J
Benzo(b)fluoranthene	0.092 J

S-53	
Constituent	(1–2')
Total PCBs	0.34 J
Detected VOCs	
Acetone	0.011
Detected SVOCs	
None Detected	

S-48		
Constituent	(0–0.5')	(1.5–2.5')
Total PCBs	0.27 J	0.095 J [0.49 J]
Detected VOCs		
Acetone	NA	0.051 [0.035]
Fluoranthene	< 0.37	< 3.6 [0.42 J]
Pyrene	< 0.37	0.54 J [0.54 J]
Toluene	NA	< 0.022 [0.002 J]
Detected SVOCs		
Benzo(a) pyrene	< 0.37	R [0.42 J]
Benzo(b) fluoranthene	< 0.37	0.52 J [0.70 J]

LEGEND:

- S-48 ⊟ RI/FS SURFACE AND/OR SUBSURFACE SOIL SAMPLING LOCATION (OCTOBER 2000)
- S-49 □ RI/FS OBSERVATION TEST PIT LOCATION (OCTOBER, 2000)
- TOP OF BANK
- APPROXIMATE DITCH LOCATION
- CONTOUR LINE (ELEVATION IN FEET ABOVE MEAN SEA LEVEL)

NOTES:

1. BASE MAP DEVELOPED FROM SITE SURVEY COMPLETED BY NIAGARA MOHAWK POWER CORPORATION, ACQUIRED BY AND NOW REFERRED TO AS NATIONAL GRID (AS PRESENTED ON THE NATIONAL GRID DRAWING ENTITLED "SCHOOL STREET DEVELOPMENT SAMPLING LOCATIONS, INDEX NO. 2.0–S12–M5, DRAWING NO. B–33591–E, DATED APRIL 1999, LATEST REVISION MARCH 2001, AT A SCALE OF 1"=60'). TOP OF BANK LOCATION FROM SURVEY ACTIVITIES COMPLETED BY ARCADIS OF NEW YORK INC. (ARCADIS), FORMERLY KNOWN AS BLASLAND, BOUCK & LEE, INC. DURING NOVEMBER 1999.
2. SOIL SAMPLING LOCATIONS WERE SURVEYED BY ARCADIS.
3. PCBs = POLYCHLORINATED BIPHENYLS.
4. VOCs = VOLATILE ORGANIC COMPOUNDS.
5. SVOCs = SEMI–VOLATILE ORGANIC COMPOUNDS.
6. ALL CONCENTRATIONS ARE REPORTED IN PARTS PER MILLION (PPM), WHICH IS EQUIVALENT TO MILLIGRAMS PER KILOGRAM (MG/KG).
7. < = CONSTITUENT NOT DETECTED AT A CONCENTRATION ABOVE THE REPORTED DETECTION LIMIT.
8. NA = NOT ANALYZED.
9. B = INDICATES A VALUE WHICH IS LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT, BUT GREATER THAN OR EQUAL TO THE INSTRUMENT DETECTION LIMIT.
10. J = INDICATES THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED VALUE.
11. R = INDICATES THAT THE ANALYTICAL RESULTS WERE REJECTED DURING DATA VALIDATION.
12. DUPLICATE SAMPLE RESULTS ARE PRESENTED IN BRACKETS.
13. ANALYTICAL RESULTS HAVE BEEN VALIDATED.

0 60' 120'

GRAPHIC SCALE

ERIE BOULEVARD HYDROPOWER, L.P.
FORMER NATIONAL GRID
SCHOOL ST. HYDROELECTRIC STATION - TOWN OF COLONIE, NY
FINAL ENGINEERING REPORT

SEDIMENT DREDGE SPOIL AREA - SOIL ANALYTICAL RESULTS

ARCADIS Design & Consultancy for natural and built assets

FIGURE 5

SD-14		
Constituent	(0–0.5')	(0.5–1')
Total PCBs	0.048	<0.020
TOC	5,380	12,600

SD-15						
Constituent	(0–1.5')	(1.5–3')	(3–3.5')	(3.5–4')	(4–4.5')	(4.5–5')
Total PCBs	0.016 J	<0.022	0.013 J	0.015 J [0.048]	0.040	0.047 J
TOC	3,680	115,000	83,100	10,800 [13,500]	11,300 [11,900]	NA

SD-16			
Constituent	(0–0.5')	(0.5–1')	(1–1.5')
Total PCBs	<0.020	<0.020	<0.021
TOC	10,200	2,550	3,460

SD-13				
Constituent	(0–0.5')	(0.5–1')	(1–1.5')	(1.5–2')
Total PCBs	0.015 J	0.45	0.025	<0.021
TOC	5,530	17,500	3,930	7,860

SD-24	
Constituent	(0–0.5')
Total PCBs	0.092
TOC	NA

SD-18	
Constituent	(0–0.5')
Total PCBs	0.126 [0.105]
TOC	NA [24,000]

SD-17		
Constituent	(0–0.5')	(0.5–1')
Total PCBs	0.143	0.076
TOC	38,700	7,380

MOHAWK RIVER

CANAL

SEE FIGURE 7

ICE FENDER

DAM

WASTE GATE STRUCTURE

UPPER GATEHOUSE

TOP OF BANK

CRESCENT ROAD

FONDA ROAD

EXISTING FOOTBRIDGE

REINFORCED CONCRETE WALL

CANAL TUNNEL INTAKE STRUCTURE

NORTH MANOR AVE.

MOHAWK STREET

COHOES FALLS

LOWER GATEHOUSE

POWERHOUSE

CITY OF COHOES FIRE DEPT. DRY HYDRANT

CITY OF COHOES WATER INTAKE

TOWER

LEGEND:

- T8–2 ● SEDIMENT PROBING LOCATION
- SD–8 ○ RI/FS SURFACE SEDIMENT & SEDIMENT CORE SAMPLING LOCATION
- ---T4 TRANSECT LINE

NOTES:

1. BASE MAP DEVELOPED FROM NIAGARA MOHAWK POWER CORPORATION, ACQUIRED BY AND NOW REFERRED TO AS NATIONAL GRID, AS–BUILT DRAWING ENTITLED "SCHOOL STREET HYDRO DEVELOPMENT: CANAL WALL REPLACEMENT GENERAL PLAN, LOCATION MAP, GENERAL NOTES AND DWG. INDEX," FILE INDEX NO. 2.0–S12–H4, DRAWING NO. D–30664–E, ORIGINAL ISSUE DATE 6/30/94, AS–BUILT 9/95, AT A SCALE OF 1"=200'.
2. BASE MAP ALSO DEVELOPED FROM SITE SURVEY COMPLETED BY NATIONAL GRID (AS PRESENTED ON THE NATIONAL GRID DRAWING ENTITLED "SCHOOL STREET DEVELOPMENT SAMPLING LOCATIONS, INDEX NO. 2.0–S12–M5, DRAWING NO. B–33591–E, DATED APRIL 1999, LATEST REVISION MARCH 2001, AT A SCALE OF 1"=60'). LOCATION OF ICE FENDER IS FROM SURVEY ACTIVITIES COMPLETED BY ARCADIS OF NEW YORK, INC. (ARCADIS), FORMERLY KNOWN AS BLASLAND, BOUCK & LEE, INC. DURING NOVEMBER, 1999.
3. TRANSECT LOCATIONS T1 THROUGH T7 WERE SURVEYED BY ARCADIS. TRANSECT LOCATIONS T8 THROUGH T12 WERE POSITIONED RELATIVE TO EXISTING SITE FEATURES, AS SHOWN.
4. PCBs = POLYCHLORINATED BIPHENYLS.
5. TOC = TOTAL ORGANIC CARBON.
6. ALL CONCENTRATIONS ARE REPORTED IN PARTS PER MILLION (ppm), WHICH ARE EQUIVALENT TO MILLIGRAMS PER KILOGRAM (mg/kg).
7. < = CONSTITUENT NOT DETECTED AT A CONCENTRATION ABOVE THE REPORTED DETECTION LIMIT.
8. NA = NOT ANALYZED.
9. J = INDICATES THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED VALUE.
10. DUPLICATE SAMPLE RESULTS ARE PRESENTED IN BRACKETS.
11. ANALYTICAL RESULTS HAVE BEEN VALIDATED.

0 400' 800'

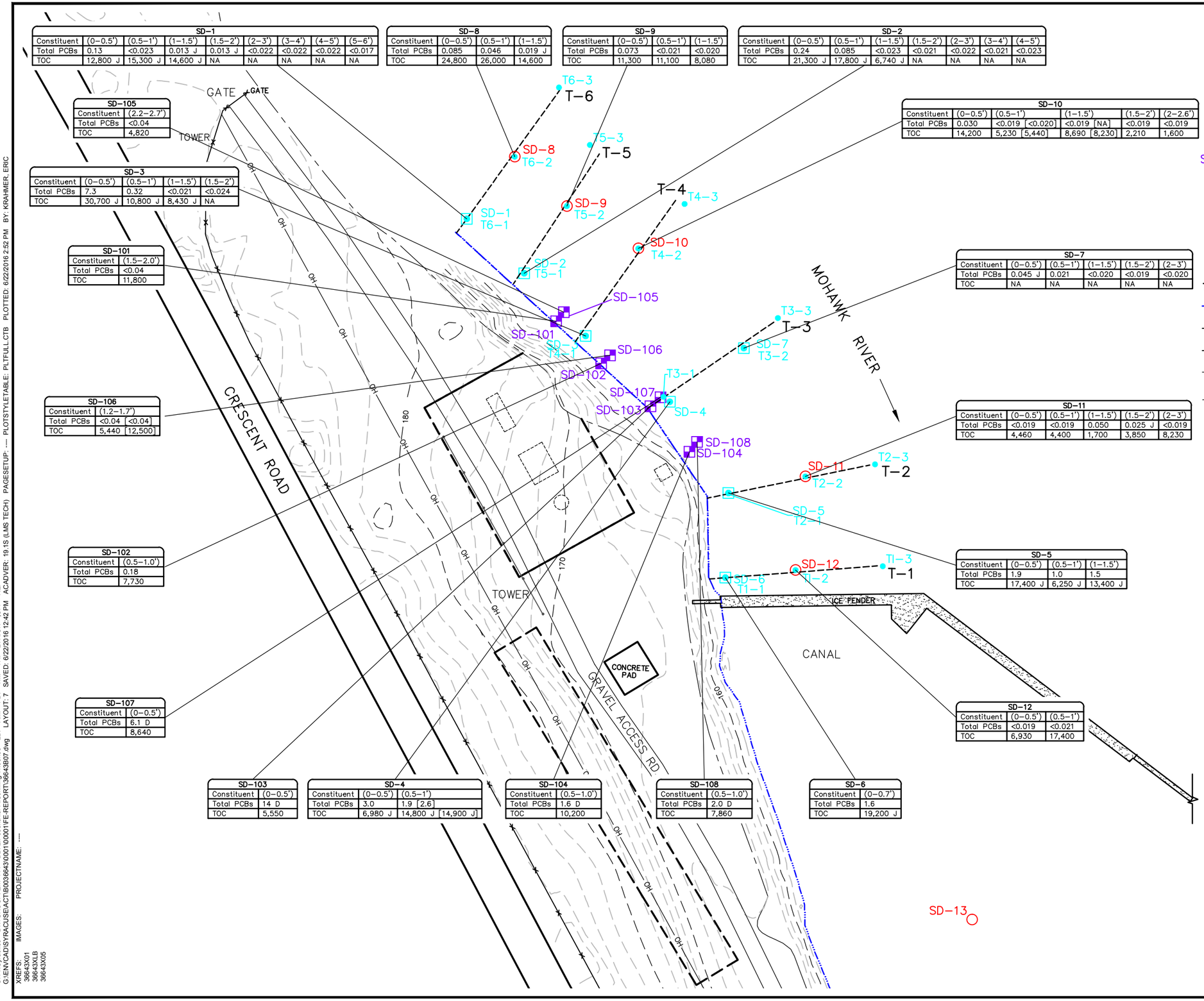
GRAPHIC SCALE

ERIE BOULEVARD HYDROPOWER, L.P.
FORMER NATIONAL GRID
SCHOOL ST. HYDROELECTRIC STATION - TOWN OF COLONIE, NY
FINAL ENGINEERING REPORT

SEDIMENT SAMPLING AND PROBING LOCATIONS WITH POWER CANAL SEDIMENT ANALYTICAL RESULTS

ARCADIS Design & Consultancy for natural and built assets

FIGURE 6



NOTES:

1. BASE MAP DEVELOPED FROM SITE SURVEY COMPLETED BY NIAGARA MOHAWK POWER CORPORATION, ACQUIRED BY AND NOW KNOWN AS NATIONAL GRID (AS PRESENTED ON THE NATIONAL GRID DRAWING ENTITLED "SCHOOL STREET DEVELOPMENT SAMPLING LOCATIONS, INDEX NO. 2.0-S12-M5, DRAWING NO. B-33591-E, DATED APRIL 1999, LATEST REVISION MARCH 2001, AT A SCALE OF 1"=60'). LOCATION OF ICE FENDER, TOP OF BANK, AND HIGH VOLTAGE LINE ARE FROM SURVEY ACTIVITIES COMPLETED BY ARCADIS OF NEW YORK, INC. (ARCADIS), FORMERLY KNOWN AS BLASLAND, BOUCK & LEE, INC. DURING NOVEMBER 1999.
2. SEDIMENT SAMPLING LOCATIONS ARE BASED ON FIELD MEASUREMENTS AND ARE APPROXIMATE.
3. PCBs = POLYCHLORINATED BIPHENYLS.
4. TOC = TOTAL ORGANIC CARBON.
5. ALL CONCENTRATIONS ARE REPORTED IN PARTS PER MILLION (ppm), WHICH ARE EQUIVALENT TO MILLIGRAMS PER KILOGRAM (mg/kg).
6. < = CONSTITUENT WAS NOT DETECTED AT A CONCENTRATION ABOVE THE REPORTED LABORATORY DETECTION LIMIT.
7. D = CONCENTRATION IS BASED ON A DILUTED SAMPLE ANALYSIS.
8. J = ESTIMATED CONCENTRATION.
9. NA = NOT ANALYZED.
10. ANALYTICAL RESULTS HAVE BEEN VALIDATED.
11. DUPLICATE SAMPLE RESULTS ARE PRESENTED IN BRACKETS.

0 60' 120'
GRAPHIC SCALE

ERIE BOULEVARD HYDROPOWER, L.P.
FORMER NATIONAL GRID
SCHOOL ST. HYDROELECTRIC STATION - TOWN OF COLONIE, NY
FINAL ENGINEERING REPORT

SEDIMENT SAMPLING AND PROBING LOCATIONS WITH NEARSHORE SEDIMENT SAMPLING RESULTS

ARCADIS Design & Consultancy for natural and built assets

FIGURE 7

CITY:Syrac se DIV/GROUP: Env-141 DB: L.Posena er A.Schilling W.Jones LD: AM: PD: TM: TR: LYR:ON=*;OFF=*REF*
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36643XLB
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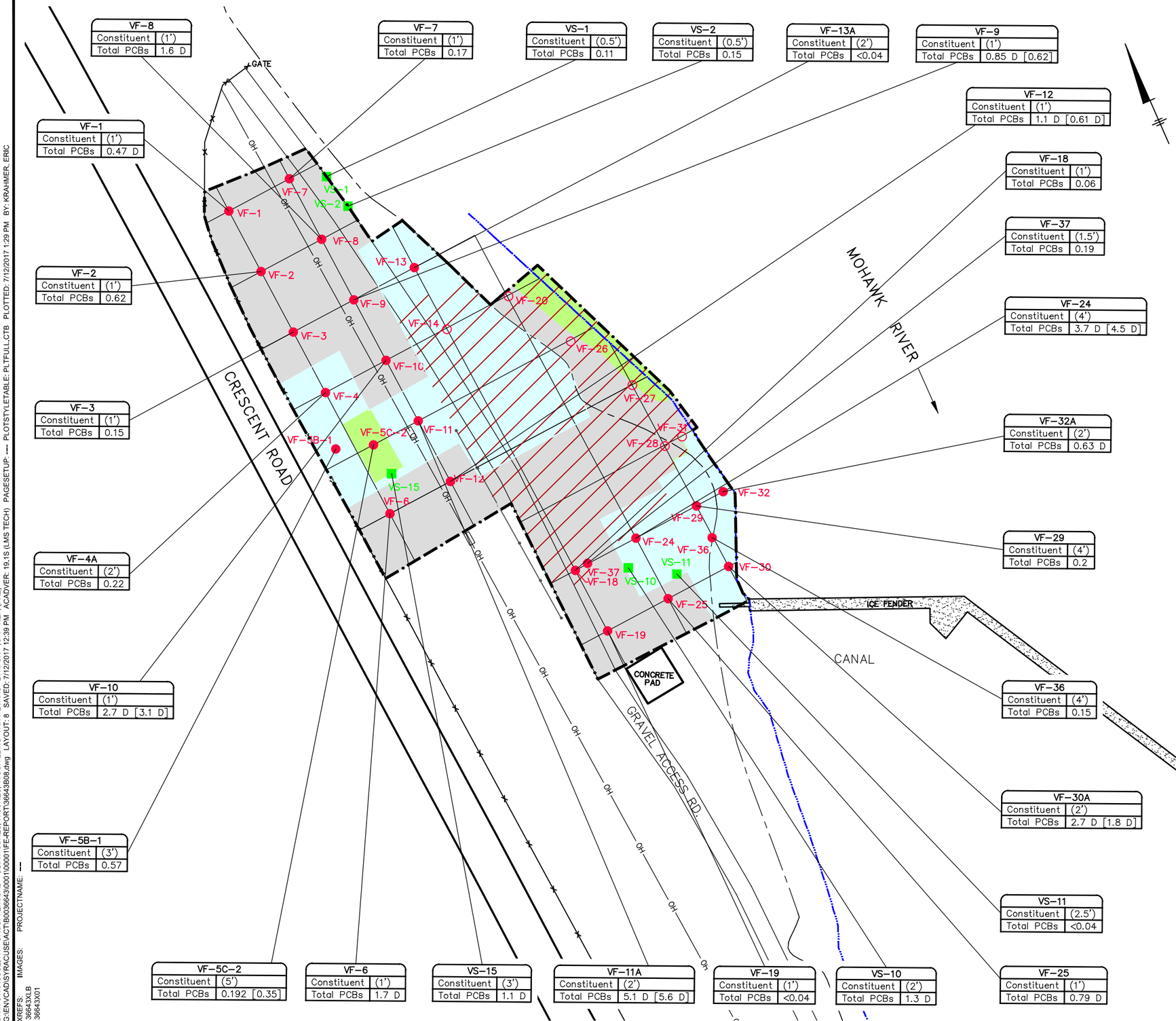


LEGEND:

- VF-1 ● APPROXIMATE FINAL VERIFICATION SOIL SAMPLING LOCATION ALONG EXCAVATION FLOOR
- VS-1 ■ APPROXIMATE VERIFICATION SOIL SAMPLING LOCATION ALONG EXCAVATION WALL
- VF-27 ○ APPROXIMATE INTERMEDIATE VERIFICATION SOIL SAMPLING LOCATION (REMOVED PRIOR TO REACHING FINAL EXCAVATION LIMITS)
- LIMITS OF MINIMUM 1 FOOT SOIL COVER SYSTEM
- APPROXIMATE LIMITS OF SURFACE SOIL REMOVAL (TO A DEPTH OF 1 FOOT)
- APPROXIMATE LIMITS OF SUBSURFACE SOIL REMOVAL (TO DEPTHS RANGING FROM 2 FEET TO 4 FEET)
- APPROXIMATE LIMITS OF SUBSURFACE SOIL REMOVAL (TO A DEPTH OF APPROXIMATELY 5 FEET)
- APPROXIMATE LIMITS OF SURFACE AND SUBSURFACE SOIL REMOVAL (TO THE TOP OF BEDROCK)
- SHORELINE
- TOP OF BANK
- FENCE
- OH — OVERHEAD HIGH VOLTAGE ELECTRIC LINE

NOTES:

1. BASE MAP DEVELOPED FROM SITE SURVEY COMPLETED BY D.A. COLLINS DURING FEBRUARY 2008 AND BANK/SHORELINE SURVEY DATA OBTAINED BY ARCADIS IN AUGUST 2007 AND JANUARY/FEBRUARY 2008. LOCATION OF ICE FENDER, TOP OF BANK, AND HIGH VOLTAGE LINE ARE FROM SURVEY ACTIVITIES COMPLETED BY ARCADIS OF NEW YORK, INC. (ARCADIS), FORMERLY KNOWN AS BLASLAND, BOUCK & LEE, INC. (BBL) DURING NOVEMBER 1999.
2. MONITORING WELL LOCATIONS MW-1 THROUGH MW-3 WERE SURVEYED BY NIAGARA MOHAWK POWER CORPORATION, ACQUIRED BY AND NOW REFERRED TO AS NATIONAL GRID. MONITORING WELL LOCATION MW-4 WAS SURVEYED BY ARCADIS.
3. RESULTS ARE ONLY SHOWN FOR FINAL VERIFICATION SAMPLING LOCATIONS. RESULTS ARE NOT SHOWN FOR INTERMEDIATE VERIFICATION SOIL SAMPLES THAT HAVE BEEN REMOVED.
4. PCBs = POLYCHLORINATED BIPHENYLS.
5. ALL CONCENTRATIONS ARE REPORTED IN PARTS PER MILLION (ppm), WHICH ARE EQUIVALENT TO MILLIGRAMS PER KILOGRAM (mg/kg).
6. < = CONSTITUENT NOT DETECTED AT A CONCENTRATION ABOVE THE REPORTED DETECTION LIMIT.
7. D = COMPOUND QUANTIFIED USING A SECONDARY DILUTION. SURROGATE OR MATRIX SPIKE RECOVERIES WERE NOT OBTAINED BECAUSE THE EXTRACT WAS DILUTED FOR ANALYSIS.
8. DUPLICATE SAMPLE RESULTS ARE PRESENTED IN BRACKETS.

0 60' 120'

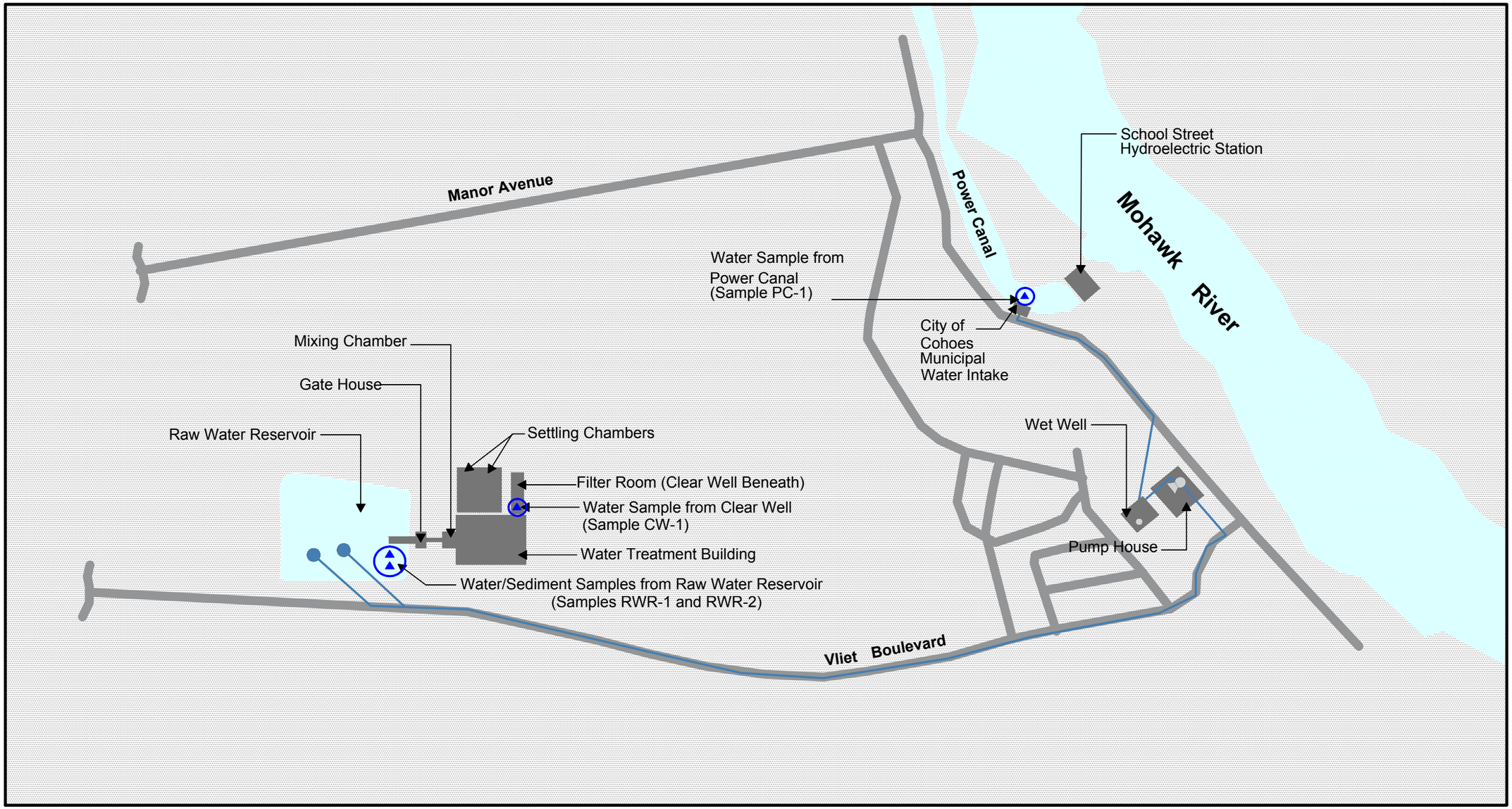
GRAPHIC SCALE

ERIE BOULEVARD HYDROPOWER, L.P.
FORMER NATIONAL GRID
SCHOOL ST. HYDROELECTRIC STATION - TOWN OF COLONIE, NY
FINAL ENGINEERING REPORT

LIMITS OF IRM SOIL REMOVAL WITH FINAL VERIFICATION SOIL SAMPLING RESULTS

ARCADIS Design & Consultancy for natural and built assets

FIGURE 8



Legend:

- Approximate Sample Locations
- Water Supply Lines

Notes:

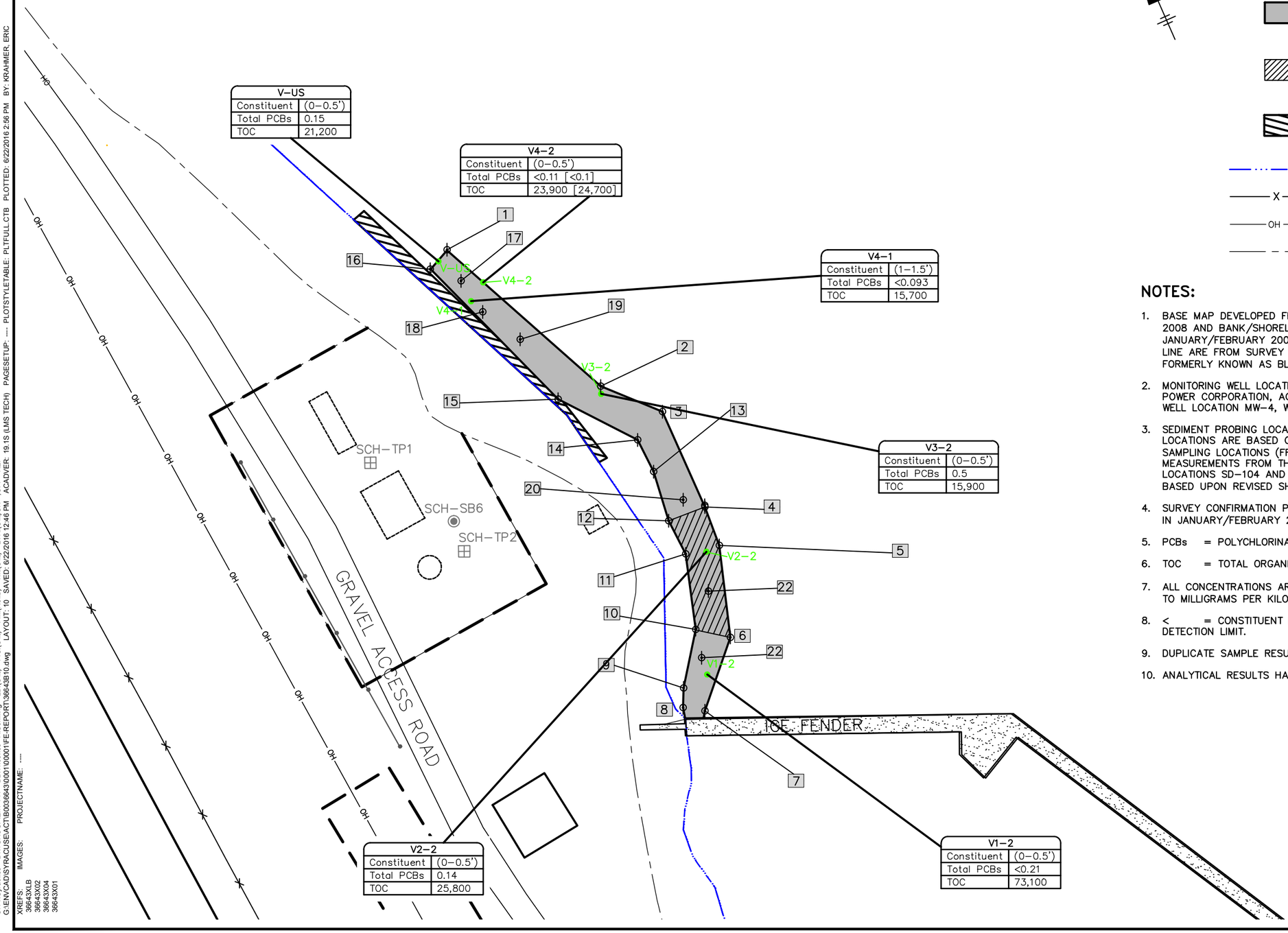
1. Drawing Not to Scale.

BROOKFIELD RENEWABLE ENERGY GROUP -
FORMER NATIONAL GRID
SCHOOL ST. HYDROELECTRIC STATION - TOWN OF COLONIE, NY
FINAL ENGINEERING REPORT

COHOES WATER TREATMENT PLAN - SURFACE WATER SAMPLING LOCATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
9



LEGEND:

- 3 ⊕ SURVEY CONFIRMATION POINT LOCATION
- V1-2 ● PRE-DREDGING VERIFICATION SAMPLING/PROBING LOCATION
- EXTENT OF REMEDIAL ACTION SEDIMENT REMOVAL TO A DEPTH OF APPROXIMATELY 1 FOOT
- EXTENT OF REMEDIAL ACTION SEDIMENT REMOVAL TO A DEPTH OF APPROXIMATELY 1.5 FEET
- APPROXIMATE EXTENT OF IRM SEDIMENT REMOVAL TO A DEPTH OF BEDROCK (UP TO APPROXIMATELY 5 FEET)
- SHORELINE
- X FENCE
- OH OVERHEAD HIGH VOLTAGE ELECTRIC LINE
- TOP OF BANK

NOTES:

1. BASE MAP DEVELOPED FROM SITE SURVEY COMPLETED BY D.A. COLLINS DURING FEBRUARY 2008 AND BANK/SHORELINE SURVEY DATA OBTAINED BY ARCADIS IN AUGUST 2007 AND JANUARY/FEBRUARY 2008. LOCATION OF ICE FENDER, TOP OF BANK, AND HIGH VOLTAGE LINE ARE FROM SURVEY ACTIVITIES COMPLETED BY ARCADIS OF NEW YORK, INC. (ARCADIS) FORMERLY KNOWN AS BLASLAND, BOUCK & LEE, INC. (BBL) DURING NOVEMBER 1999.
2. MONITORING WELL LOCATIONS MW-1 THROUGH MW-3 WERE SURVEYED BY NIAGARA MOHAWK POWER CORPORATION, ACQUIRED BY AND NOW REFERRED TO AS NATIONAL GRID. MONITORING WELL LOCATION MW-4, WAS SURVEYED BY ARCADIS.
3. SEDIMENT PROBING LOCATIONS AND PRE-DREDGING VERIFICATION SEDIMENT SAMPLING LOCATIONS ARE BASED ON SURVEY PERFORMED BY ARCADIS. THE PREVIOUS SEDIMENT SAMPLING LOCATIONS (FROM THE PSA, RI, AND IRM) ARE BASED ON DISTANCE MEASUREMENTS FROM THE SHORELINE AND ARE CONSIDERED APPROXIMATE. SAMPLE LOCATIONS SD-104 AND SD-108 REVISED FROM THOSE SHOWN IN THE REMEDIAL DESIGN BASED UPON REVISED SHORELINE SURVEY INFORMATION OBTAINED IN 2007/2008.
4. SURVEY CONFIRMATION POINT LOCATIONS ARE BASED UPON SURVEY PERFORMED BY ARCADIS IN JANUARY/FEBRUARY 2008.
5. PCBs = POLYCHLORINATED BIPHENYLS.
6. TOC = TOTAL ORGANIC CARBON.
7. ALL CONCENTRATIONS ARE REPORTED IN PARTS PER MILLION (ppm) WHICH ARE EQUIVALENT TO MILLIGRAMS PER KILOGRAM (mg/kg).
8. < = CONSTITUENT NOT DETECTED AT A CONCENRATION ABOVE THE REPORTED DETECTION LIMIT.
9. DUPLICATE SAMPLE RESULTS ARE PRESENTED IN BRACKETS.
10. ANALYTICAL RESULTS HAVE BEEN VALIDATED.

0 40' 80'

GRAPHIC SCALE

ERIE BOULEVARD HYDROPOWER, L.P.
FORMER NATIONAL GRID
SCHOOL ST. HYDROELECTRIC STATION - TOWN OF COLONIE, NY
FINAL ENGINEERING REPORT

LIMITS OF IRM AND NEAR SHORE SEDIMENT REMOVAL WITH VERIFICATION SEDIMENT ANALYTICAL RESULTS

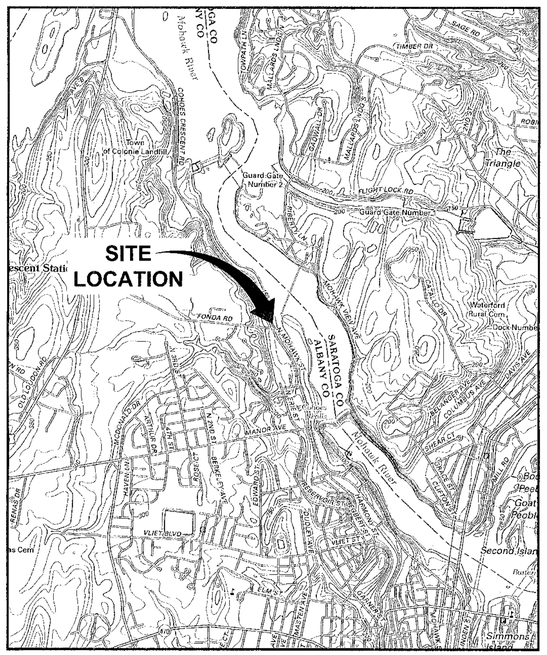
ARCADIS Design & Consultancy for natural and built assets

FIGURE 10

DRAWINGS

AS-BUILT DRAWINGS

FINAL ENGINEERING REPORT
ERIE BOULEVARD HYDROPOWER, L.P.
FORMER FIRE TRAINING AREA
SCHOOL STREET HYDROELECTRIC STATION



REFERENCE: BASE MAP USGS 7.5 MINUTE QUADRANGLE., TROY NORTH, NY, 2013.

LOCATION MAP
0 2000' 4000'
GRAPHIC SCALE

NEW YORK

SCHOOL STREET
TOWN OF COLONIE, NEW YORK 12205

DATE ISSUED
OCTOBER 2017

RECORD DRAWINGS
TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, THESE RECORD DRAWINGS SUBSTANTIALLY REPRESENT THE PROJECT AS CONSTRUCTED.

DATE 10-16-17 BY John C. Brussel

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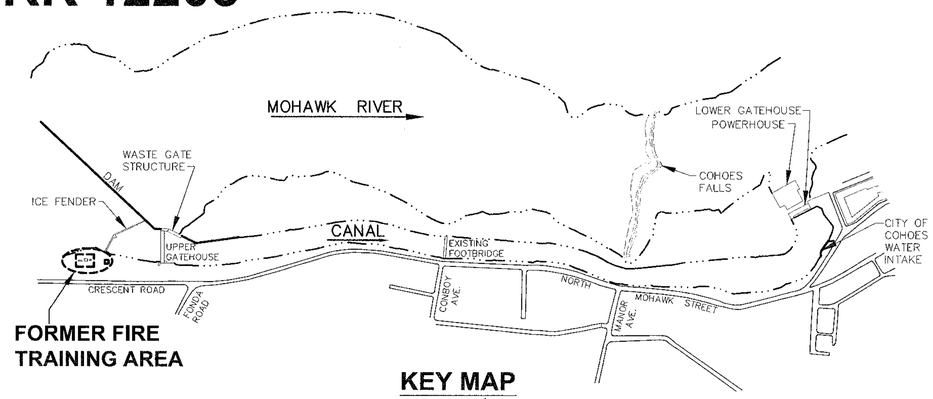
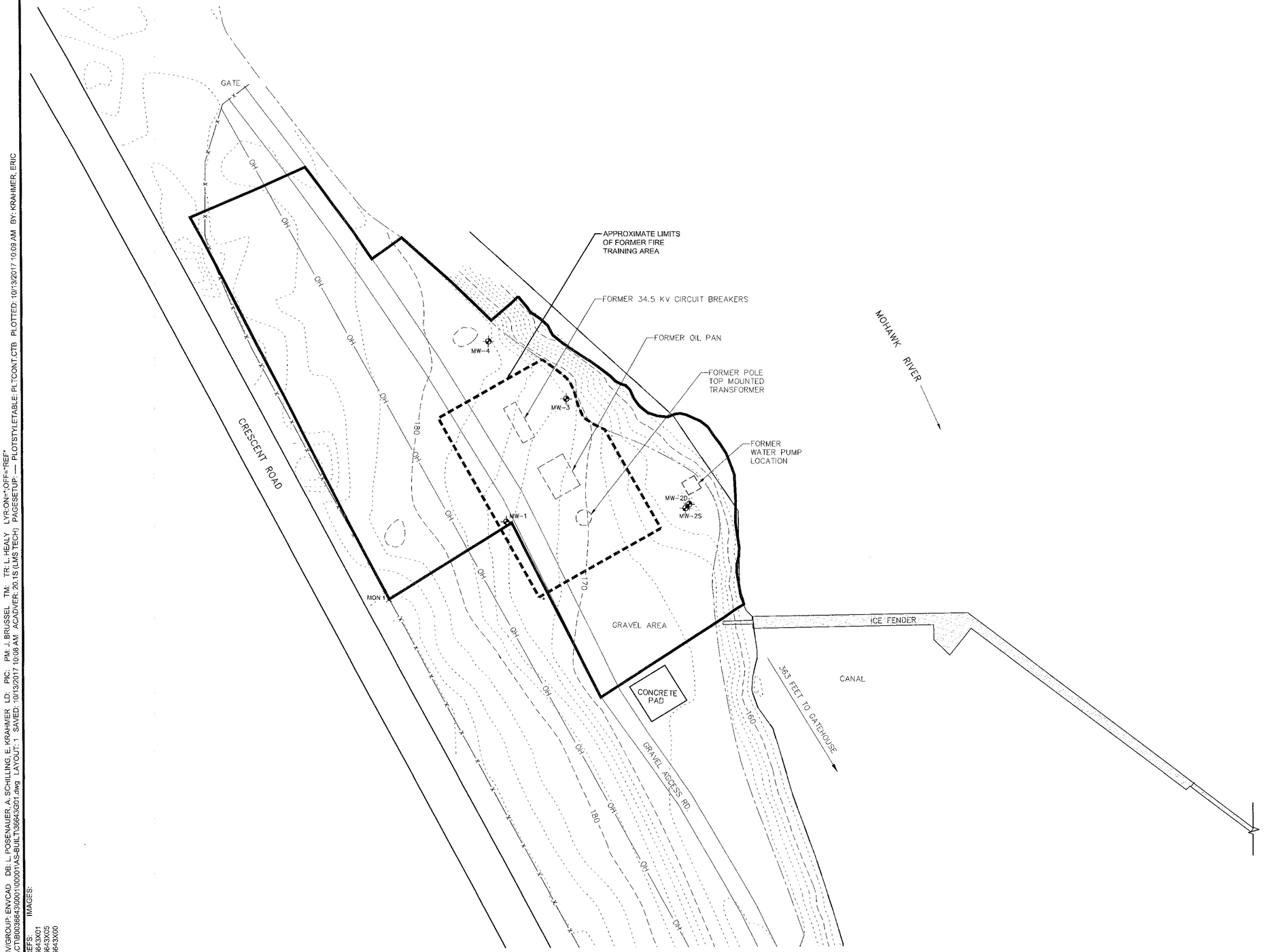
ARCADIS OF NEW YORK, INC.



KEY MAP
0 500' 1,000'
SCALE: 1"=500'

INDEX TO DRAWINGS



LEGEND:

- MW-1 — MONITORING WELL LOCATION
- APPROXIMATE LIMITS OF FORMER FIRE TRAINING AREA
- AREA REQUIRING SITE COVER AND INSTITUTIONAL CONTROL
- SHORELINE
- TOP OF BANK
- FENCE
- OVERHEAD HIGH VOLTAGE ELECTRIC LINE
- 170 — GROUND SURFACE CONTOUR LINE (ELEVATION IN FEET ABOVE MEAN SEA LEVEL)
- SURVEY CONTROL POINT

BENCHMARK LOCATION			
IDENTIFIER	NORTHING	EASTING	DESCRIPTION
MON 1	1444619.86	702531.78	NYSDEC ALUMINUM MONUMENT

NOTES:

1. BASE MAP DEVELOPED FROM SITE SURVEY COMPLETED BY NIAGARA MOHAWK POWER CORPORATION, ACQUIRED BY AND NOW REFERRED TO AS NATIONAL GRID (AS PRESENTED ON THE NATIONAL GRID DRAWING ENTITLED "SCHOOL STREET DEVELOPMENT SAMPLING LOCATIONS, INDEX NO. 2.0-S12-M5, DRAWING NO. B-33591-E, DATED APRIL 1999, LATEST REVISION MARCH 2001, AT A SCALE OF 1"=60'). LOCATION OF ICE FENDER, TOP OF BANK, AND HIGH VOLTAGE LINE ARE FROM SURVEY ACTIVITIES COMPLETED BY ARCADIS OF NEW YORK, INC., FORMERLY KNOWN AS BLASLAND, BOUCK & LEE, INC. DURING NOVEMBER 1999.
2. GROUND SURFACE CONTOUR LINES INDICATE TOPOGRAPHY OF SITE PRIOR TO IMPLEMENTATION OF INTERIM REMEDIAL MEASURE (WHICH WAS COMPLETED DURING 2002).
3. MONITORING WELL LOCATIONS MW-1 THROUGH MW-3 WERE SURVEYED BY NATIONAL GRID.
4. MONITORING WELL MW-4 WAS SURVEYED BY ARCADIS.
5. MONITORING WELL LOCATION MW-2S IS AN OVERBURDEN MONITORING WELL WHILE MONITORING WELL MW-2D IS A BEDROCK WELL.

CITY: SYRACUSE NY DIVGROUP: ENVCAD DB: L.POSENAUER, A.SCHILLING, E.KRAHMER LD: PIC: PM: J.BRUSSEL TM: TR: L.HEALY LYR:ON=*;OFF=*REF*
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XREFS:
IMAGES:
36643X01
36643X05
36643X00

30' 0 30' 60'
1"=30'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name: JOHN C. BRUSSEL
Professional Engineer's No.: 075208

State	Date Signed	Project Mgr.
NY	10-16-17	JCB
Designed by	Drawn by	Checked by
LCH	EAK	JCB

STATE OF NEW YORK JOHN C. BRUSSEL 075208 LICENSED PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets
ARCADIS OF NEW YORK, INC.

ERIE BOULEVARD HYDROPOWER, L.P. • TOWN OF COLONIE, NEW YORK
SCHOOL STREET HYDROELECTRIC STATION - OCTOBER 2017

PRE-REMEDIATION SITE LAYOUT AND TOPOGRAPHY

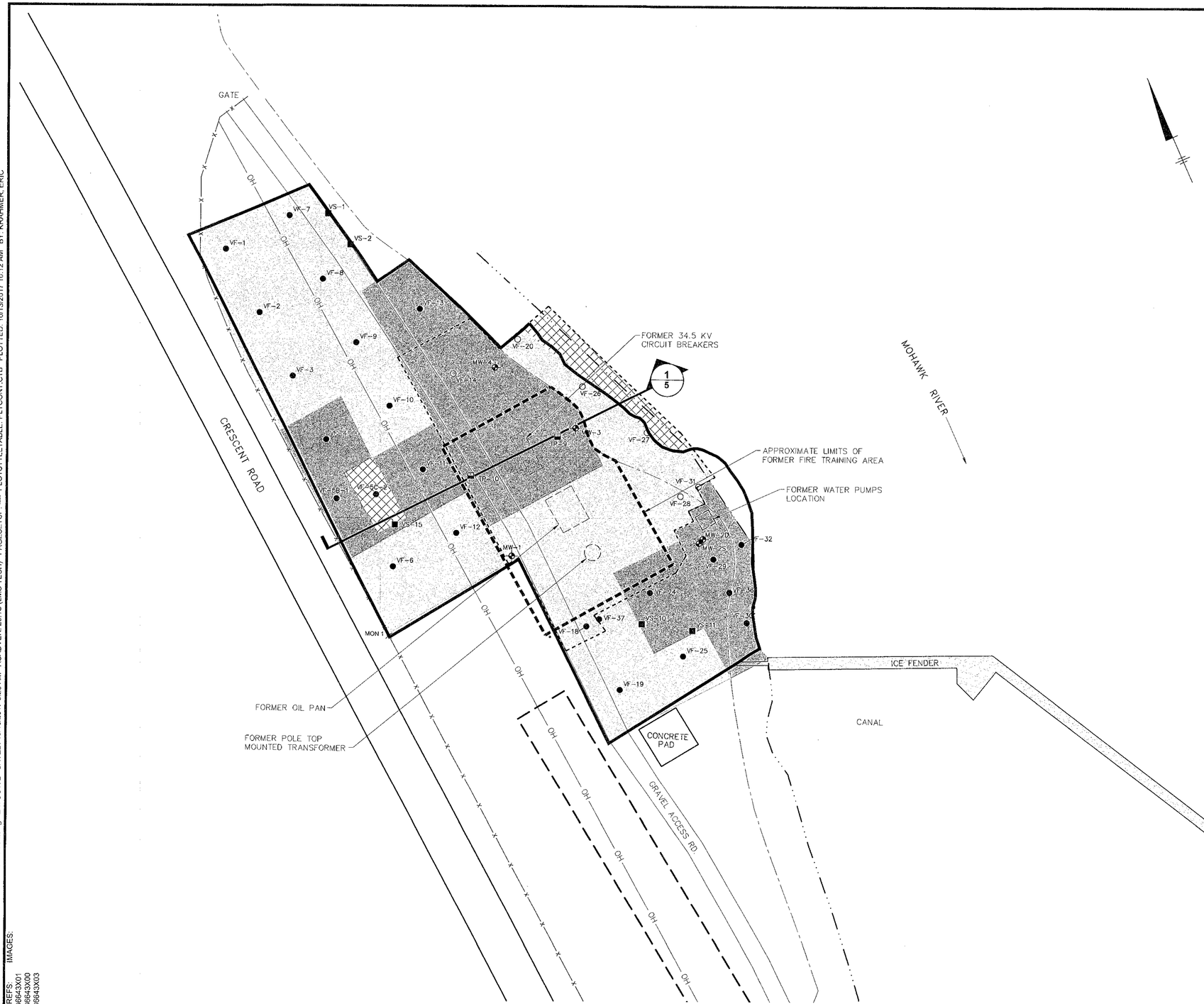
AS-BUILT DRAWINGS

ARCADIS Project No.
B0036843.0001.00001

Date
OCTOBER 2017

ARCADIS
ONE LINCOLN CENTER
110 W. FAYETTE ST., SUITE 300
SYRACUSE, NEW YORK 13202
TEL. 315.446.9120

1



LEGEND:

- APPROXIMATE FINAL VERIFICATION SOIL SAMPLING LOCATION ALONG EXCAVATION FLOOR
- APPROXIMATE VERIFICATION SOIL SAMPLING LOCATION ALONG EXCAVATION WALL
- APPROXIMATE INTERMEDIATE VERIFICATION SOIL SAMPLING LOCATION (REMOVED PRIOR TO REACHING FINAL EXCAVATION LIMITS)
- PSA TEST PIT LOCATION
- MONITORING WELL LOCATION
- APPROXIMATE LIMITS OF FORMER FIRE TRAINING AREA
- AREA REQUIRING SITE COVER AND INSTITUTIONAL CONTROL
- APPROXIMATE LIMITS OF SURFACE SOIL REMOVAL (TO A DEPTH OF 1 FOOT)
- APPROXIMATE LIMITS OF SUBSURFACE SOIL REMOVAL (TO DEPTHS RANGING FROM 2 FEET TO 4 FEET)
- APPROXIMATE LIMITS OF SUBSURFACE SOIL REMOVAL (TO A DEPTH OF APPROXIMATELY 5 FEET)
- APPROXIMATE LIMITS OF SURFACE AND SUBSURFACE SOIL REMOVAL (TO THE TOP OF BEDROCK)
- SHORELINE
- TOP OF BANK
- FENCE
- OVERHEAD HIGH VOLTAGE ELECTRIC LINE
- SURVEY CONTROL POINT

BENCHMARK LOCATION			
IDENTIFIER	NORTHING	EASTING	DESCRIPTION
MON 1	1444619.86	702531.78	NYSDEC ALUMINUM MONUMENT

NOTES:

1. BASE MAP DEVELOPED FROM SITE SURVEY COMPLETED BY NIAGARA MOHAWK POWER CORPORATION, ACQUIRED BY AND NOW REFERRED TO AS NATIONAL GRID (AS PRESENTED ON THE NATIONAL GRID DRAWING ENTITLED "SCHOOL STREET DEVELOPMENT SAMPLING LOCATIONS, INDEX NO. 2.0-S12-M5, DRAWING NO. B-33591-E, DATED APRIL 1999, LATEST REVISION MARCH 2001, AT A SCALE OF 1"=60'). LOCATION OF ICE FENDER, TOP OF BANK, AND HIGH VOLTAGE LINE ARE FROM SURVEY ACTIVITIES COMPLETED BY ARCADIS OF NEW YORK, INC. (ARCADIS), FORMERLY KNOWN AS BLASLAND, BOUCK & LEE, INC. DURING NOVEMBER 1999.
2. MONITORING WELL LOCATIONS MW-1 THROUGH MW-3 WERE SURVEYED BY NATIONAL GRID. MONITORING WELL MW-4 WAS SURVEYED BY ARCADIS.
3. EXCAVATION LIMITS ARE BASED ON SURVEY AND FIELD TIE – DISTANCE MEASUREMENTS BY ARCADIS.
4. VERIFICATION SOIL SAMPLING LOCATIONS ARE BASED ON FIELD TIE – DISTANCE MEASUREMENTS BY ARCADIS.
5. IRM = INTERIM REMEDIAL MEASURE.

CITY: SYRACUSE NY GROUP: ENVCAD DB: A.SCHILLING, E. KRAHMER PM: J. BRUSSEL TR: L. HEALY LYR: ON=*;OFF=REF, (FRZ)
C:\ENVCAD\SYRACUSE\ACT\B0036643\0001\0000\1\AS-BUILT\36643G02.dwg LAYOUT: 2 SAVED: 10/13/2017 9:20 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTCONT.CTB PLOTTED: 10/13/2017 10:12 AM BY: KRAHMER, ERIC
XREFS: 36643X01 36643X00 36643X03
IMAGES:

1"=30' (30' 0 30' 60')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name: JOHN C. BRUSSEL
Professional Engineer's No.: 075208

State	Date Signed	Project Mgr.
NY	10-16-17	JCB
Designed by	Drawn by	Checked by
LCH	EAK	JCB

STATE OF NEW YORK JOHN C. BRUSSEL No. 075208 LICENSED PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets

ARCADIS OF NEW YORK, INC.

ERIE BOULEVARD HYDROPOWER, L.P. • TOWN OF COLONIE, NEW YORK
SCHOOL STREET HYDROELECTRIC STATION - OCTOBER 2017

IRM SOIL REMOVAL LIMITS

AS-BUILT DRAWINGS

ARCADIS Project No. B0036643.0001.00001

Date OCTOBER 2017

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SYRACUSE, NEW YORK 13202
TEL. 315.446.9120

2

LEGEND:

- [3]⌀ SURVEY CONFIRMATION POINT LOCATION
- V1-2 ● PRE-DREDGING VERIFICATION SAMPLING/PROBING LOCATION
- APPROXIMATE LIMITS OF FORMER FIRE TRAINING AREA
- AREA REQUIRING SITE COVER AND INSTITUTIONAL CONTROLS
- EXTENT OF REMEDIAL ACTION SEDIMENT REMOVAL TO A DEPTH OF APPROXIMATELY 1 FOOT
- EXTENT OF REMEDIAL ACTION SEDIMENT REMOVAL TO A DEPTH OF APPROXIMATELY 1.5 FEET
- APPROXIMATE EXTENT OF IRM SEDIMENT REMOVAL TO A DEPTH OF BEDROCK (UP TO APPROXIMATELY 5 FEET)
- SHORELINE
- FENCE
- OVERHEAD HIGH VOLTAGE ELECTRIC LINE
- TOP OF BANK
- SURVEY CONTROL POINT

BENCHMARK LOCATION			
IDENTIFIER	NORTHING	EASTING	DESCRIPTION
MON 1	1444619.86	702531.78	NYSDEC ALUMINUM MONUMENT

NOTES:

1. BASE MAP DEVELOPED FROM SITE SURVEY COMPLETED BY D.A. COLLINS DURING FEBRUARY 2008 AND BANK/SHORELINE SURVEY DATA OBTAINED BY ARCADIS IN AUGUST 2007 AND JANUARY/FEBRUARY 2008. LOCATION OF ICE FENDER, TOP OF BANK, AND HIGH VOLTAGE LINE ARE FROM SURVEY ACTIVITIES COMPLETED BY ARCADIS OF NEW YORK, INC. (ARCADIS) FORMERLY KNOWN AS BLASLAND, BOUCK & LEE, INC. (BBL) DURING NOVEMBER 1999.
2. SEDIMENT PROBING LOCATIONS AND PRE-DREDGING VERIFICATION SEDIMENT SAMPLING LOCATIONS ARE BASED ON SURVEY PERFORMED BY ARCADIS.
3. SURVEY CONFIRMATION POINT LOCATIONS ARE BASED UPON SURVEY PERFORMED BY ARCADIS IN JANUARY/FEBRUARY 2008.

20' 0 20' 40'
1"=20'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING.

USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name
JOHN C. BRUSSEL
Professional Engineer's No.
075208

State	Date Signed	Project Mgr.
NY	10-16-17	JCB
Designed by	Drawn by	Checked by
LCH	EAK	JCB

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IRM AND NEAR SHORE SEDIMENT REMOVAL LIMITS

AS-BUILT DRAWINGS

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LEGEND:

- APPROXIMATE LIMITS OF FORMER FIRE TRAINING AREA
- AREA REQUIRING SITE COVER AND INSTITUTIONAL CONTROL
- APPROXIMATE LIMITS OF SURFACE SOIL REMOVAL (TO A DEPTH OF 1 FOOT)
- APPROXIMATE LIMITS OF SUBSURFACE SOIL REMOVAL (TO DEPTHS RANGING FROM 2 FEET TO 4 FEET)
- APPROXIMATE LIMITS OF SUBSURFACE SOIL REMOVAL (TO A DEPTH OF APPROXIMATELY 5 FEET)
- SHORELINE
- FENCE
- OVERHEAD HIGH VOLTAGE ELECTRIC LINE
- CONTOUR LINE (ELEVATION IN FEET ABOVE MEAN SEA LEVEL)
- SURVEY CONTROL POINT

BENCHMARK LOCATION			
IDENTIFIER	NORTHING	EASTING	DESCRIPTION
MON 1	1444619.86	702531.78	NYSDEC ALUMINUM MONUMENT

NOTES:

1. BASE MAP DEVELOPED FROM SITE SURVEY COMPLETED BY D.A. COLLINS DURING FEBRUARY 2008 AND BANK/SHORELINE SURVEY DATA OBTAINED BY ARCADIS IN AUGUST 2007 AND JANUARY/FEBRUARY 2008. LOCATION OF ICE FENDER, TOP OF BANK, AND HIGH VOLTAGE LINE ARE FROM SURVEY ACTIVITIES COMPLETED BY ARCADIS OF NEW YORK, INC. (ARCADIS), FORMERLY KNOWN AS BLASLAND, BOUCK & LEE, INC. DURING NOVEMBER 1999.

30' 0 30' 60'
1"=30'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: ——— USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name: **JOHN C. BRUSSEL**
Professional Engineer's No.: 075208

State	Date Signed	Project Mgr.
NY	10-16-17	JCB
Designed by	Drawn by	Checked by
LCH	EAK	JCB

STATE OF NEW YORK JOHN C. BRUSSEL 075208 LICENSED PROFESSIONAL ENGINEER

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SCHOOL STREET HYDROELECTRIC STATION - OCTOBER 2017

POST-REMEDIATION TOPOGRAPHY AND INSTITUTIONAL CONTROL AREA

AS-BUILT DRAWINGS

ARCADIS Project No.
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OCTOBER 2017

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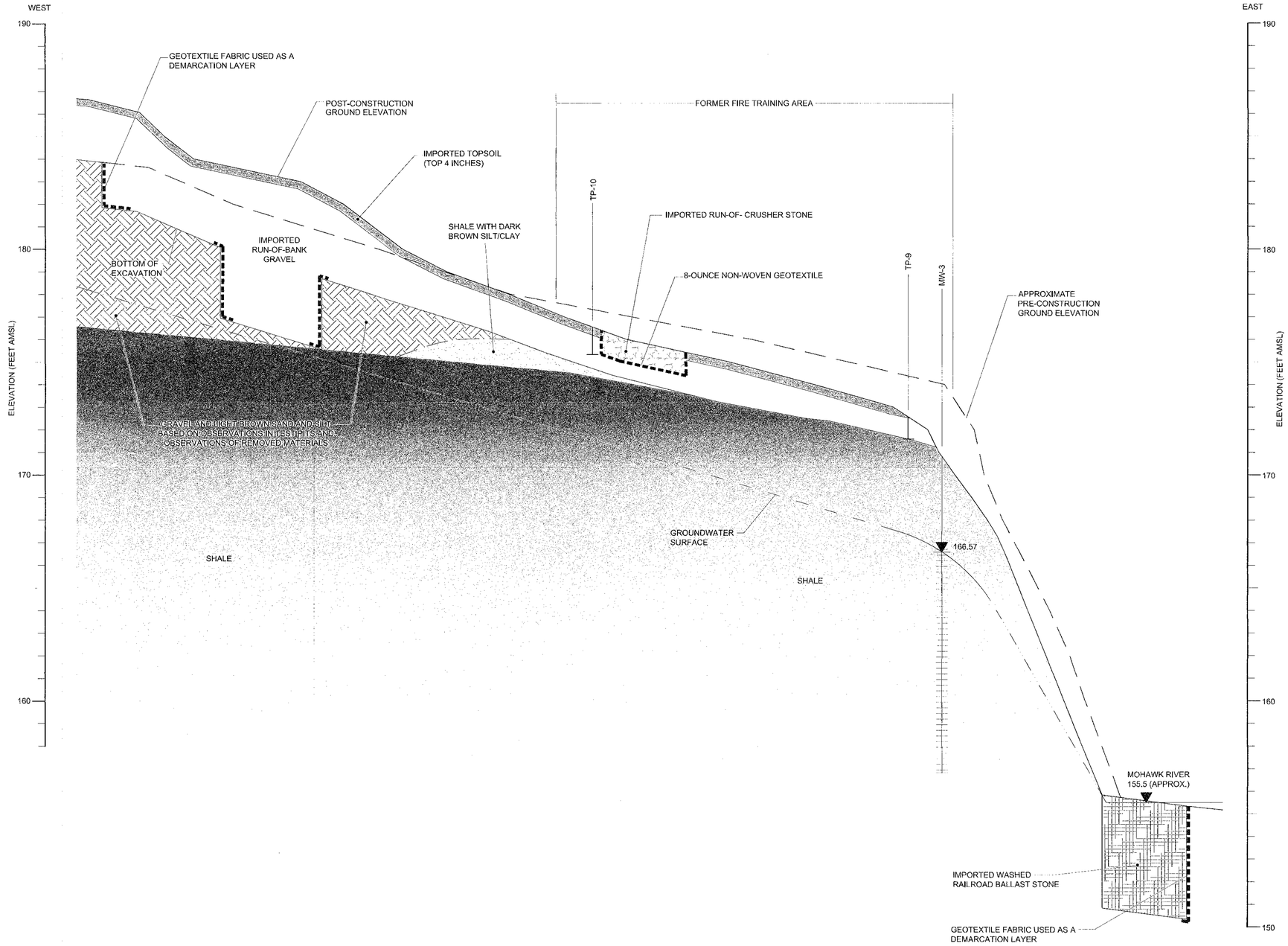

LEGEND:

- MW-3 — WELL/TEST PIT ID
- PRE-CONSTRUCTION GRADE
- POST-CONSTRUCTION GRADE
- LITHOLOGIC CONTACT (DASHED WHERE INFERRED)
- WATER TABLE ON NOVEMBER 9, 2000 (DASHED WHERE INFERRED)
- WELL SCREEN
- WELL/TEST PIT BOTTOM

NOTES:

1. CROSS SECTION IS REPRESENTATIVE OF SITE CONDITIONS DURING THE 2008 NEAR SHORE SEDIMENT REMEDIAL ACTION.
2. ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL (AMSL) AS REFERENCED TO A SITE-SPECIFIC DATUM.

10' 0 10' 20'
1"=10'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name: **JOHN C. BRUSSEL**
Professional Engineer's No.: 075208

State	Date Signed	Project Mgr.
NY	10-16-17	JCB
Designed by	Drawn by	Checked by
LCH	EAK	JCB

STATE OF NEW YORK · JOHN C. BRUSSEL · 075208 · LICENSED PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets

ARCADIS OF NEW YORK, INC.

ERIE BOULEVARD HYDROPOWER, L.P. • TOWN OF COLONIE, NEW YORK
SCHOOL STREET HYDROELECTRIC STATION - OCTOBER 2017

CROSS SECTION

AS-BUILT DRAWINGS

ARCADIS Project No.
B0036643.0001.00001

Date
OCTOBER 2017

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ONE LINCOLN CENTER
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SYRACUSE, NEW YORK 13202
TEL: 315.446.9120

5

APPENDIX A

Project Correspondence

2/14/2002
Letter to NYSDEC

Response to NYSDEC Comments on
the Remedial Investigation Report
and Remedial Measure Work Plan

Niagara Mohawk
A **National Grid** Company

Transmitted Via U.S. Mail

February 14, 2002

Mr. Eric. J. Hamilton, P.E.
Environmental Engineer
New York State Department of Environmental Conservation
Region 4 Headquarters
1150 North Westcott Road
Schenectady, NY 12306-2014

Re: Orion Power Holdings, Inc.
(Former Niagara Mohawk, a National Grid Company)
School Street Hydroelectric Station
Cohoes, New York
NYSDEC Site No. 401044

Dear Mr. Hamilton:

This letter responds to New York State Department of Environmental Conservation (NYSDEC) comments on the Remedial Investigation (RI) Report (Blasland, Bouck & Lee, Inc. [BBL], August 2001) and the Interim Remedial Measure (IRM) Work Plan (BBL, October 2001) for the Orion Power Holdings, Inc., (former Niagara Mohawk, a National Grid Company [Niagara Mohawk]) School Street Hydroelectric Station located in Cohoes, New York. This letter also responds to comments provided by the NYSDEC, the New York State Department of Health (NYSDOH), and the Albany County Department of Health (ACDH) on Niagara Mohawk's November 8, 2001 letter which presents a proposed approach for conducting additional monitoring of the influent water to the City of Cohoes Water Filtration Plant. Agency comments on the above-listed documents and Niagara Mohawk's responses are presented below.

I. RESPONSE TO COMMENTS ON THE RI REPORT

The NYSDEC provided approval of the RI Report (BBL, August 2001) in a January 10, 2002 letter from Mr. Walter F. Wintsch to Niagara Mohawk. In the letter, the NYSDEC requested that Niagara Mohawk prepare a Feasibility Study (FS) that will concentrate on impacted near-shore river sediment. Pursuant to the NYSDEC's request, Niagara Mohawk will prepare a Focused FS. Niagara Mohawk anticipates that the Focused FS will be completed during the third quarter of 2002.

II. RESPONSE TO COMMENTS ON THE IRM WORK PLAN

The NYSDEC provided conditional approval of the IRM Work Plan (BBL, October 2001) in a January 9, 2002 letter from Mr. Walter F. Wintsch to Niagara Mohawk. In the letter, the NYSDEC requested that

three additional verification soil samples be collected from the area where the highest polychlorinated biphenyl (PCB) concentrations were identified in soil samples collected during the previous investigation activities. The NYSDEC also requested that Niagara Mohawk prepare a fact sheet for the IRM (to be submitted to the local property owners and the City of Cohoes approximately 30 days prior to the start of construction).

Niagara Mohawk proposes to collect the three requested additional verification soil samples from sampling locations VF-33, VF-34, and VF-35, as shown on the attached figure. Proposed sampling locations that coincide with exposed bedrock will be adjusted, as necessary (or eliminated if exposed bedrock extends more than 10 feet in each direction from the sampling location). Each additional verification soil sample will be collected from the excavation floor (in accordance with the procedures presented in the IRM Work Plan) and submitted for laboratory analysis for PCBs.

Niagara Mohawk also plans to prepare a fact sheet for the IRM as requested by the NYSDEC. The fact sheet will inform potentially interested parties in the vicinity of the School Street Hydroelectric Station of the RI results and present a brief overview of the proposed IRM activities. Niagara Mohawk will submit a "draft" copy of the fact sheet to the NYSDEC for review prior to distribution in accordance with the Citizen Participation Plan (BBL, June 2000). Niagara Mohawk anticipates that the "draft" fact sheet will be submitted to the NYSDEC by the end of March 2002.

III. RESPONSE TO COMMENTS ON THE PROPOSED INFLUENT WATER MONITORING

The ACDH's and NYSDOH's comments on the proposed water monitoring program for the City of Cohoes Water Filtration Plant were forwarded to Niagara Mohawk in a January 10, 2002 letter from the NYSDEC. The ACDH's comments are presented in a December 7, 2001 letter from Mr. Stephen S. Lukowski, P.E., of the NYSDEC to Ms. Maureen E. Schuck of the NYSDOH. The NYSDOH's comments are presented in a December 28, 2001 letter from Ms. Maureen E. Schuck to the NYSDEC. The ACDH's and NYSDOH's comments on the proposed influent water monitoring program are presented below, followed by Niagara Mohawk's responses.

Response to ACDH Comments

Each ACDH comment on the proposed influent water monitoring program is presented below, followed by Niagara Mohawk's response to each comment.

Comment #1: *Why do the quantitative limits for detection of PCBs for both methods 508 and 508A vary over time? Some of the results indicate a PQL of 0.02 ug/l while others are 0.1 ug/l (June 13, 2001) and 0.03 ug/l (July 11, 2001). Also, on page five of the PCB monitoring report, it is mentioned that method 508A is prone to false positives for decachlorobiphenyl and susceptible to interference from several non-PCB compounds. Has it been verified that decachlorobiphenyl or non-PCB compounds were not present in the samples which showed detects for decachlorobiphenyl or that the non-PCB compounds, if they were present, were below levels of concern?*

Response #1: The analytical results summarized in Niagara Mohawk's November 8, 2001 letter are for water samples that were collected by personnel from the City of Cohoes Water Filtration Plant and analyzed by laboratories under contract to the City (or the City's consultant). The detection limits that were reported appear to differ depending on the

analytical laboratory performing the sample analyses (i.e., Eastern Laboratory Services, Inc., reported analytical detection limits of 0.02 and 0.03 parts per billion [ppb]; Life Science Laboratories, Inc., reported an analytical detection limit of 0.1 ppb; and Scilab Albany, Inc., reported an analytical detection limit of 0.5 ppb). Each laboratory reportedly conducted the sample analyses using United States Environmental Protection Agency (USEPA) Method 508. Under the proposed quarterly water monitoring program, water samples will be submitted to a NYSDOH-certified analytical laboratory that will be required to achieve a minimum analytical detection limit of 0.05 ppb using USEPA Method 508.

Niagara Mohawk is not aware whether the City of Cohoes conducted additional evaluation activities to assess the potential interference of non-PCB compounds in the monthly water samples.

♦ ♦ ♦

Comment 2: *The sketch of the Cohoes water supply & treatment facilities should also include the exact locations where the samples were taken, especially those samples taken from the raw water reservoir.*

Response 2: The locations where untreated/treated water samples are collected by the City of Cohoes from the municipal water treatment system are shown on a revised field sketch (Attachment A) and summarized below.

Municipal Water Intake: One grab water sample was collected during each monthly sampling event from the power canal at the intake for the City of Cohoes municipal water supply. The water samples from the power canal were collected at a depth of approximately 1 to 2 feet below the water surface.

Raw Water Reservoir: Two samples were collected from the raw water reservoir during each monthly sampling event, including one grab water sample and one grab sample that consisted of a mixture of water/sediment. Both monthly samples were collected in the southeastern portion of the raw water reservoir. The water/sediment sample was collected near the reservoir bottom (at a depth of approximately 3 feet below the water surface) by disturbing sediment at the bottom of the reservoir when filling the sample container with water.

Raw Water Line Into Plant: One grab water sample was collected during June 1999 from a tap in the influent water line to the water filtration plant.

Clear Water Well: One grab sample of finished (treated) water was collected during each monthly sampling event from a sampling tap attached to a clear well at the water filtration plant.

♦ ♦ ♦

Comment 3: *Are the sediments capable of being stirred up and re-suspended into the water column by the actions of the wind on the surface of the reservoir? Has the sediment in the raw water reservoir been sampled (cored) for PCB analysis?*

Response 3: Based on discussions with personnel from the City of Cohoes Water Filtration Plant, the raw water reservoir is relatively deep (the bottom of the reservoir slopes from approximately 3 to 4 feet deep at the perimeter to approximately 30 feet deep toward the middle). Given the depth of the reservoir and the presence of earthen berm walls and trees/vegetation around the reservoir, it is unlikely that sediment within the reservoir is stirred up (or re-suspended in the water column) by the action of wind on the reservoir.

Personnel from the City of Cohoes Water Filtration Plant were not aware of any previous sediment sampling within the reservoir.

♦ ♦ ♦

Comment 4: *At what depth were water/sediment samples taken from the raw water reservoir? Were these locations replicated during each monthly round of sampling? Were the sampling sites located near the discharge pipes from the pumping station or near the intake to head end of the treatment plant?*

Response 4: As mentioned above, the water/sediment samples from the raw water reservoir were reportedly collected at a depth of approximately 3 feet below the water surface (near the reservoir bottom) from the southeastern portion of the reservoir. The same approximate sampling locations within the reservoir were reportedly used for each monthly sampling event. As indicated on the revised field sketch in Attachment A, the water/sediment sampling locations within the reservoir were closer in proximity to the filtration plant intake than the discharge pipes from the pumping station.

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Comment 5: *What levels of sampling will be performed if PCBs are detected?*

Response 5: If PCBs are detected at concentrations exceeding drinking water standards in water samples collected as part of the proposed influent water monitoring program, Niagara Mohawk will immediately notify the NYSDEC and initiate a confirmatory sampling event. If PCBs are detected in the confirmatory samples at concentrations exceeding drinking water standards, Niagara Mohawk will submit an action plan within 30 days to address the sampling results, including assessing the need for additional monitoring and response measures.

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Response to NYSDOH Comments

Each NYSDOH comment on the proposed influent water monitoring program is presented below, followed by Niagara Mohawk's response to each comment.

Comment 1: *In addition to the quarterly sampling at the three locations, we suggest at least one additional sampling during a period of high turbidity likely associated with high river flows during spring runoff or a storm event. This sample would be representative of a worst case scenario in which we would expect maximum suspension of PCB contaminated sediment in the power canal. Based on historical review of the water treatment plant's data, a trigger turbidity level could be developed which would initiate the sampling event.*

Response 1: Based on historical water monitoring data provided by the City of Cohoes, the turbidity of the influent water to the treatment plant increases during high flows associated with spring runoff and storm events. The highest monthly average turbidity levels are typically recorded in March.

Throughout the year, the flow volume entering the power canal is regulated at the upper gatehouse (to maintain a surface water elevation in the canal of approximately 155.1 to 155.8 feet above mean sea level). As such, spring runoff and storm events cause little variation in the flow through the canal. Therefore, the amount of suspended sediment caused by scour in the canal (if any) is expected to remain relatively constant, independent of the flow volume in the river.

In response to the NYSDOH's request, the first quarterly monitoring activities will be scheduled for March during a period when higher flow volumes are observed in the river.

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Comment 2: *Sampling of the water supply should continue on a quarterly basis until at least the near shore contaminated soil is removed from the former fire training site as proposed in Niagara Mohawk's November 2001 Interim Remedial Measures Work Plan.*

Response 2: The proposed water monitoring activities will be conducted on a quarterly basis until the impacted soil within the former fire training area is removed. The water monitoring activities will also be conducted for two additional quarters after the soil removal activities within the former fire training area are completed.

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Comment 3: *Although sediment samples have been collected at various intervals along the power canal adjacent to the former fire training area down to the area of the water supply intake, we would be interested in knowing the levels of PCBs in sediment of the water treatment plant's reservoir. Therefore, we recommend that sediment core samples be taken from the reservoir to evaluate whether or not these sediments contain PCBs at levels needing further evaluation.*

Response 3: The existing municipal water sampling data indicates that there is currently no PCB exposure to users of the City of Cohoes public water supply. As agreed to during our February 6, 2002 telephone conference call, the potential need for collecting sediment

samples from the City's raw water reservoir will be re-evaluated after the IRM soil removal activities are completed and the Focused FS has been submitted to the NYSDEC and NYSDOH. In the meantime, Niagara Mohawk will implement the quarterly surface water monitoring activities described in the November 8, 2001 letter to the NYSDEC.

Please note that the IRM soil removal activities are scheduled to begin during May 2002. Niagara Mohawk anticipates that the Focused FS will be submitted to the NYSDEC/NYSDOH during the third quarter of 2002.

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Niagara Mohawk trusts that the above responses are acceptable to the NYSDEC, the NYSDOH, and the ACDH. Please do not hesitate to contact me at (315) 428-3101 if you have any questions or require additional information.

Sincerely,

James F. Morgan

James F. Morgan
Environmental Analyst

CEG/mbg
Attachments

cc: Mr. David Smith, New York State Department of Environmental Conservation
Mr. Walter F. Wintsch, New York State Department of Environmental Conservation
Deborah W. Christian, Esq., New York State Department of Environmental Conservation
Ms. Maureen E. Schuck, New York State Department of Health
Mr. Stephen S. Lukowski, P.E., Albany County Department of Health
Mr. Ronald L. Groves, P.E., Albany County Department of Health
Mr. David Messier, Cohoes Water Filtration Plant
William J. Holzhauer, Esq., Niagara Mohawk, a National Grid Company
Mr. Michael Sherman, Niagara Mohawk, a National Grid Company
Mr. James B. Howe, Niagara Mohawk, a National Grid Company
Mr. Jeffrey M. Auser, P.E., Orion Power Holdings, Inc.
Mr. Joseph L. Viau, P.E., Orion Power Holdings, Inc.
Richard R. Capozza, Esq., Hiscock & Barclay
Mr. Michael C. Jones, Blasland, Bouck, & Lee, Inc.
Mr. John C. Brussel, P.E., Blasland, Bouck, & Lee, Inc.

Figure

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

LEGEND:

- VF-1 ● PROPOSED VERIFICATION SOIL SAMPLING LOCATION ALONG EXCAVATION FLOOR
- VS-1 ■ PROPOSED VERIFICATION SOIL SAMPLING LOCATION ALONG EXCAVATION WALL
- PROPOSED LIMITS OF SURFACE SOIL REMOVAL (TO A DEPTH OF 1 FOOT)
- PROPOSED LIMITS OF SURFACE AND SUBSURFACE SOIL REMOVAL (TO THE DEPTH OF BEDROCK OR 4 FEET BELOW GROUND SURFACE, WHICHEVER IS ENCOUNTERED FIRST)
- MW-3 ⊕ MONITORING WELL LOCATION
- SHORELINE
- TOP OF BANK
- FENCE
- OHE OVERHEAD HIGH VOLTAGE ELECTRIC LINE

NOTES:

1. BASE MAP DEVELOPED FROM SITE SURVEY COMPLETED BY NIAGARA MOHAWK POWER CORPORATION (NMPC) (AS PRESENTED ON THE NMPC DRAWING ENTITLED "SCHOOL STREET DEVELOPMENT SAMPLING LOCATIONS, INDEX NO. 2.0-S12-M5, DRAWING NO. B-33591-E, DATED APRIL 1999, LATEST REVISION MARCH 2001, AT A SCALE OF 1"=60'). LOCATION OF ICE FENDER, TOP OF BANK, AND HIGH VOLTAGE LINE ARE FROM SURVEY ACTIVITIES COMPLETED BY BLASLAND, BOUCK & LEE, INC. (BBL) DURING NOVEMBER 1999.
2. MONITORING WELL LOCATIONS MW-1 THROUGH MW-3 WERE SURVEYED BY NMPC. MONITORING WELL LOCATION MW-4, WAS SURVEYED BY BBL.
3. SELECTED VERIFICATION SOIL SAMPLING LOCATIONS MAY BE ADJUSTED IN THE FIELD OR ELIMINATED BASED ON THE PRESENCE OF BEDROCK.
4. ADDITIONAL VERIFICATION SOIL SAMPLES MAY BE COLLECTED, AS APPROPRIATE, IF ADDITIONAL EXCAVATION ACTIVITIES ARE REQUIRED.

0 60' 120'

GRAPHIC SCALE

ORION POWER HOLDINGS, INC.
FORMER NIAGARA MOHAWK POWER CORP.
SCHOOL ST. HYDROELECTRIC STATION – COHOES, NY
INTERIM REMEDIAL MEASURES WORK PLAN

PROPOSED VERIFICATION SOIL SAMPLING LOCATIONS

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

FIGURE 8

X: 36458X01.DWG
T: NONE
L: ON=*; OFF=REF
P: PAGESET/PLT-BL
2/1/02 SYR-54-RCB
36458005/IRM/36458B11.DWG

Attachment A

Layout of City of Cohoes Water Filtration Plant

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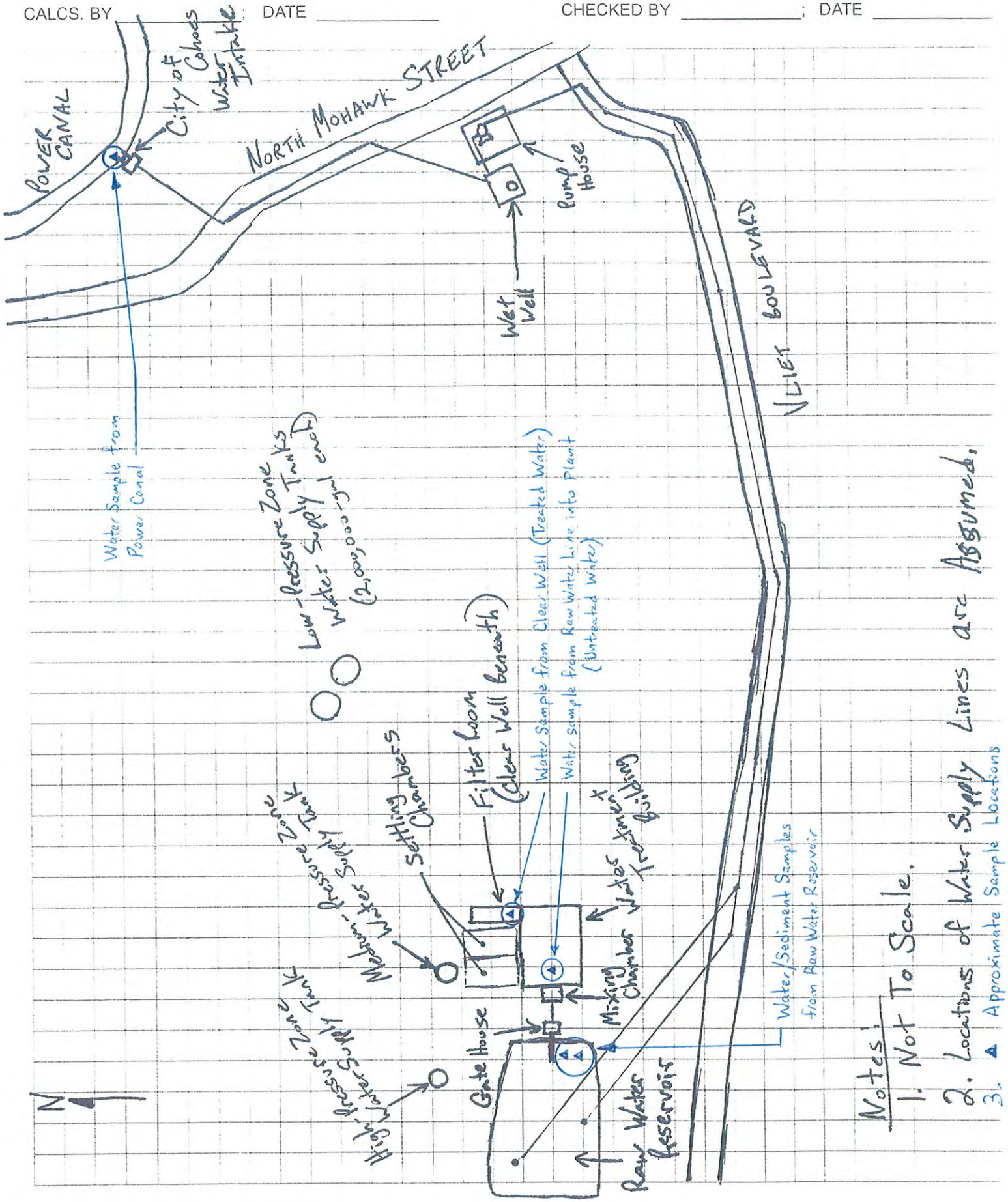
engineers & scientists

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

SUBJECT	PROJ. NO.	BY	DATE	SHEET
Cohoes Water Treatment Plant	364.58	CEG	9/14/01	1/1

CALCS. BY _____; DATE _____ CHECKED BY _____; DATE _____



Notes:
1. Not To Scale.
2. Locations of Water Supply Lines are Assumed.
3. ▲ Approximate Sample Locations

ARCADIS

Excavation and Fill Permit and Part 401 WQC

October 25, 2007

New York State Department of Environmental Conservation
Division of Environmental Permits, 4th Floor
625 Broadway, Albany, New York 12233-1750
Phone: (518) 402-9167 • **FAX:** (518) 402-9168
Website: www.dec.state.ny.us

Denise M. Sheehan
Commissioner

October 25, 2007

James Morgan
Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202-4201

RE: Cohoes Fire Training Area – Remedial Action - Section 401 Water Quality Certification & Article 15: Excavation & Fill

Dear Mr. Stoffle:

In conformance with the requirements of the State Uniform Procedures Act, Article 70 of the Environmental Conservation Law and its implementing regulations 6 NYCRR Part 621 (Uniform Procedures), enclosed is the Section 401 Water Quality Certification and Excavation and Fill permit for the remedial work to be completed at the fire training area in Cohoes.

Please read all terms and conditions carefully. If you have any questions regarding the certification please contact me at 518-402-9151.

Sincerely,

Christopher M. Hogan
Project Manager

cc: via e-mail:
A. Geisendorfer – Reg. 4
W. Little
W. Clarke
K. Kemp, Brookfield
R. Wingert
J. Brussel

PERMIT

Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:
NIAGARA MOHAWK POWER CORPORATION
300 ERIE BLVD WEST
SYRACUSE, NY 13202-4201
(315) 592-0112

Facility:
COHOES FIRE TRAINING AREA

CRESCENT RD
COHOES, NY

Facility Location: in COLONIE in ALBANY COUNTY **Village:** Cohoes
Facility Principal Reference Point: NYTM-E: 605.047 NYTM-N: 4739.013
Latitude: 42°47'47.2" Longitude: 73°42'55.6"
Project Location: Crescent Rd, immediately above the School Street Hydro gatehouse/power canal
Authorized Activity: Excavate approximately 100 cubic yards of PCB contaminated sediment from the Mohawk River in conjunction with the remediation of a former fire training area. The remediation is being conducted in accordance with the Remedial Design, which was prepared in accordance with an exisitng consent order (Index No. A4-0416-003).

Permit Authorizations

Excavation & Fill in Navigable Waters - Under Article 15, Title 5
Permit ID 4-0126-00656/00001
New Permit Effective Date: 10/25/2007 Expiration Date: 10/25/2008
Water Quality Certification - Under Section 401 - Clean Water Act
Permit ID 4-0126-00656/00002
New Permit Effective Date: 10/25/2007 Expiration Date: 10/25/2008

NYSDEC Approval

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: WILLIAM R ADRIANCE, Chief Permit Administrator
Address: NYSDEC HEADQUARTERS
625 BROADWAY
ALBANY, NY 12233

Authorized Signature: William R. Adriance Date 10/25/07

Permit Components

NATURAL RESOURCE PERMIT CONDITIONS

WATER QUALITY CERTIFICATION SPECIFIC CONDITION

GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

NATURAL RESOURCE PERMIT CONDITIONS - Apply to the Following Permits: EXCAVATION & FILL IN NAVIGABLE WATERS; WATER QUALITY CERTIFICATION

1. **Conformance With Plans** All activities authorized by this permit must be in strict conformance with the approved plans submitted by the applicant or applicant's agent as part of the permit application. Such approved plans were prepared by ARCADIS Of New York, Inc. (See details in following condition.).

2. **Conformance with Plans (continued)** All work must be completed in accordance with the following approved plans:

- Remedial Design, prepared by Arcadis of New York, LLC, dated October 2007 (cover letter from James Morgan, National Grid, dated October 19, 2007.)
- Letter from James Morgan, National Grid, dated September 10, 2007 to Christine Delorier, US Army Corps of Engineers regarding Former Fire Training Area at the School Street Hydroelectric Station.

PRE-CONSTRUCTION REQUIREMENTS

3. **Management of Dredge Spoils** All dredged material shall be disposed of in accordance with the Final Remedial Design, referenced in Paragraph 1 and 2 (Conformance with plans) and approved by the Department on October 22, 2007.

4. **Notification of the Commencement of Work** The permittee shall submit a Notice of Intent to Commence Work to Christopher Hogan and Allan Geisendorfer via e-mail (cmhogan@gw.dec.state.ny.us and angeisen@gw.dec.state.ny.us) at least 72 hours in advance of the time of commencement of work and shall also provide e-mail notification of the completion of work.

DREDGING

5. **Environmental Bucket** Dredging shall be conducted using a closed environmental bucket in conjunction with the installation of turbidity barriers. Dredging equipment shall be operated in a manner that minimizes the in-stream resuspension of sediments. Dredging operations shall not cause an increase in turbidity that results in a substantial visible contrast to natural conditions or the deposition of sediment outside the limits of the installed turbidity barriers.

6. **Surface Water Monitoring** Surface water monitoring of turbidity shall be conducted to confirm the effectiveness of the turbidity barriers. In-water monitoring of turbidity shall be conducted at least 100 feet upstream and 500 feet downstream of the dredging operation, hourly. Dredging activities will be modified (slowed or halted) or other engineering controls will be implemented if the downstream turbidity exceeds the upstream turbidity by 10 NTU. NYSDEC shall be notified via e-mail

(cmhogan@gw.dec.state.ny.us) that dredging was slowed or halted, which specific adjustments were made and when dredging activities were resumed.

7. **Water Column Sampling** Two water column samples for TSS and PCB will be collected daily during sediment removal. Depth integrated samples shall be collected at multiple locations at least 100 feet upstream of the dredging and/or outside of the dredge plume. Upstream samples shall combined as a composite. Depth integrated samples shall be collected at multiple locations approximately 500 feet downstream of the dredging. Downstream samples shall be combined as a composite.

8. **PCB Analysis** PCB analysis shall be conducted using EPA Method 508. The detection/reporting limit for PCB analysis shall be 65 ppt. or less. All laboratory analyses required by this permit must be conducted by a laboratory certified by the New York State Department of Health Environmental Laboratory Approval Program (ELAP) .

9. **Water Column Sample Data Review - Halting Dredging** When downstream turbidity exceeds upstream turbidity by more than 10 NTU, samples shall be collected for PCB analysis four times per day until the downstream turbidity no longer exceeds the upstream turbidity by more than 10 NTU. The first two samples collected will be analyzed for PCB concentration and the rest of the samples shall be archived. If PCB concentrations exceed 90 ppt in the first two samples, then archived samples will be analyzed. Water column samples shall be analyzed on a 24 hour turnaround basis or as quickly as can be achieved by the certified laboratory. Un-verified sample results shall be reported to DEC as soon as the information is available from the laboratory.

10. **City of Cohoes Water Intake** If, for any reason, the water supply intake for the City of Cohoes cannot be kept closed during the dredging, then dredging shall be halted. Prior to the resumption of dredging, the applicant shall coordinate with the Maureen Schuck of the NYSDOH.

11. **Precautions Against Contamination of Waters** All necessary precautions shall be taken to preclude contamination of any wetland or waterway by suspended solids, sediments, fuels, solvents, lubricants, epoxy coatings, paints, concrete, leachate or any other environmentally deleterious materials associated with the project.

12. **State May Require Site Restoration** If upon the expiration or revocation of this permit, the project hereby authorized has not been completed, the applicant shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may require, remove all or any portion of the uncompleted structure or fill and restore the site to its former condition. No claim shall be made against the State of New York on account of any such removal or alteration.

13. **State May Order Removal or Alteration of Work** If future operations by the State of New York require an alteration in the position of the structure or work herein authorized, or if, in the opinion of the Department of Environmental Conservation it shall cause unreasonable obstruction to the free navigation of said waters or flood flows or endanger the health, safety or welfare of the people of the State, or cause loss or destruction of the natural resources of the State, the owner may be ordered by the Department to remove or alter the structural work, obstructions, or hazards caused thereby without expense to the State, and if, upon the expiration or revocation of this permit, the structure, fill, excavation, or other modification of the watercourse hereby authorized shall not be completed, the owners, shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may require, remove all or any portion of the uncompleted structure or fill and restore to its former condition the navigable and flood capacity of the watercourse. No claim shall

be made against the State of New York on account of any such removal or alteration.

14. **No Interference With Navigation** There shall be no unreasonable interference with navigation by the work herein authorized.

15. **State Not Liable for Damage** The State of New York shall in no case be liable for any damage or injury to the structure or work herein authorized which may be caused by or result from future operations undertaken by the State for the conservation or improvement of navigation, or for other purposes, and no claim or right to compensation shall accrue from any such damage.

POST-CONSTRUCTION REQUIREMENTS

16. **Remedial Action Summary Report** The Remedial Action Summary Report required by the Consent Order and described in the approved Final Remedial Design shall be provided to the Department within 60 dyas of completion of the remedial activities. Copies of the report shall be provided to Allan Geisendorfer, NYSDEC - Region 4, Division of Environmental Remediation and Christopher Hogan, NYSDEC - Central Office, Division of Environmental Permits. Reports can be provided via e-mail if electronic copies of the complete are avilable.

WATER QUALITY CERTIFICATION SPECIFIC CONDITIONS

1. **Water Quality Certification** The NYS Department of Environmental Conservation hereby certifies that the subject project will not contravene effluent limitations or other limitations or standards under Sections 301, 302, 303, 306 and 307 of the Clean Water Act of 1977 (PL 95-217) provided that all of the conditions listed herein are met.

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. **Facility Inspection by The Department** The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. **Relationship of this Permit to Other Department Orders and Determinations** Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. **Applications For Permit Renewals, Modifications or Transfers** The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this

permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Chief Permit Administrator
NYSDEC HEADQUARTERS
625 BROADWAY
ALBANY, NY12233

4. **Submission of Renewal Application** The permittee must submit a renewal application at least 30 days before permit expiration for the following permit authorizations: Excavation & Fill in Navigable Waters, Water Quality Certification.

5. **Permit Modifications, Suspensions and Revocations by the Department** The Department reserves the right to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

a. materially false or inaccurate statements in the permit application or supporting papers;

b. failure by the permittee to comply with any terms or conditions of the permit;

c. exceeding the scope of the project as described in the permit application;

d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;

e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

6. **Permit Transfer** Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification
The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit

The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits
The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights
This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

11/26/2007
E-Mail Correspondence to the NYSDEC

Schedule Update – NYSDEC Site #401044 (Nearshore Sediment Removal, School Street Hydro)

Brussel, John

From: Brussel, John

Sent: Monday, November 26, 2007 3:51 PM

To: 'Chris Hogan'

Cc: angeisen@gw.dec.state.ny.us; 'Maureen E. Schuck'; 'Morgan, James F.'; Wingert, Ray; Uncher, Thomas; Evans, Allen

Subject: Schedule Update - NYSDEC Site #401044 (Nearshore Sediment Removal, School Street Hydro)

Chris:

As discussed earlier this afternoon with Allan Geisendorfer, the start of the nearshore sediment removal in the Mohawk River east of the former fire training area at the School Street Hydroelectric Station is being delayed while potential modifications are being evaluated in response to recent changes in flow conditions.

Due to recent precipitation and recent removal of accumulated woody debris floating in front of the ice fender, flow velocities are now greater than 3 to 4 feet per second in certain areas (e.g., where the inner and outer turbidity barriers are proposed immediately upstream from the ice fender). The turbidity barrier will not stay in-place and will not function properly at these velocities.

Potential changes have been identified, and we're currently coordinating with Brookfield, National Grid, and the contractor to see what may work for everyone. We'll send the proposed modification to the NYSDEC for review and approval prior to implementation (hopefully in the next couple days). We'll keep you posted on schedule.

Feel free to call Jim Morgan of National Grid (315.428.3101), Ray Wingert of Brookfield Power (207.671.4646), or me if you have any questions or need additional information.

-John

John C. Brussel, PE
Senior Engineer
ARCADIS BBL
ARCADIS of New York, Inc.
6723 Towpath Road, Box 66
Syracuse, NY 13214-0066
Tel 315.671.9441
Alt Tel 315.446.2570 (ext. 19441)
Fax 315.449.4111
John.Brussel@arcadis-us.com

12/7/2007
Letter to the NYSDEC

Proposed Modification to the
Remedial Design

36643

nationalgrid

James F. Morgan
Lead Senior Environmental Engineer
Environmental Department

December 7, 2007

Mr. Allan N. Geisendorfer, P.E.
New York State Department of Environmental Conservation
Region 4
1130 North Westcott Road
Schenectady, New York 12306

Mr. Christopher M. Hogan
New York State Department of Environmental Conservation
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, New York 12233

Re: Brookfield Power, Inc.
(Former National Grid)
School Street Hydroelectric Station
Cohoes, New York
NYSDEC Site No. 401044
Remedial Design Modification

Dear Mr. Geisendorfer and Mr. Hogan:

This letter presents a proposed modification to the Remedial Design prepared by ARCADIS of New York, Inc. (ARCADIS BBL, October 2007) for the above-referenced site. The modification is being proposed in response to recent changes in flow conditions in the Mohawk River, particularly in the nearshore area where sediment removal is proposed. As indicated in e-mail correspondence from ARCADIS BBL dated November 26, 2007, flow velocities in certain portions of the proposed work area (e.g., where the inner and outer turbidity barriers are proposed immediately upstream from the ice fender) have significantly increased (and are greater than 3 to 4 feet per second) due to recent precipitation and the recent removal of accumulated woody debris floating in front of the ice fender. These velocities are too high for the turbidity barrier to stay in-place and function properly.

Based on the changes in the field conditions, the following actions are proposed:

- Gates at the upper gatehouse nearest the shore will be closed during the turbidity barrier installation and sediment removal activities. It is anticipated three gates (each of the "tainter gates") will initially be closed, and conditions will be assessed. Additional gates (selected "slide gates", starting with those closest to the tainter gates) will be closed, as needed. The gate closure will coincide with reduced hydroelectric power generation, resulting in a reduction in the total flow through the ice fender into the power canal. River flow will likely exceed flow through the canal, resulting in spill over the dam. These operational activities will: (1) reduce the flow velocities in the area upstream from the gatehouse (particularly in the proposed work area); and (2) change the flow pattern so that flow is directed toward the eastern end of the ice fender/gatehouse and dispersed over the dam (and not channeled through the work area as it is now). These changes will facilitate installation and performance of the turbidity barrier.

- The outer turbidity barrier will be constructed with a semi-permeable 6-ounce woven geotextile instead of the 18-ounce (minimum) polyvinyl chloride [PVC] coated fabric identified in the Remedial Design. The geotextile barrier will be able to withstand higher flow velocities than the PVC coated barrier, and will be better suited to deflect current from the inner impermeable barrier. The outer barrier will also provide additional containment of turbidity, if needed. The inner turbidity barrier will be constructed as a 22-ounce PVC coated fabric that exceeds the material specification presented in the Remedial Design.

Based on the proposed gate closure, drawdown of the river level will not be performed. However, the sediment removal will be performed using an environmental bucket (as specified the 401 Water Quality Certificate issued by the New York State Department of Environmental Conservation [NYSDEC]), minimizing the suspended sediment in the water column. The turbidity measurements for the 401 Water Quality Certificate will be taken at a compliance point approximately 500 feet downstream of the work area, downstream of the upper gatehouse, in the power canal. Due to only a portion of the upper gatehouse gates being open, turbidity measurements will be performed on water collected in the eastern half of the power canal, where water is flowing through the open gates of the upper gatehouse.

A gate closure "step test" will be performed, weather permitting, on Monday, December 10, 2007 to evaluate flow velocity changes in response to sequential gate closures and generating unit shutdowns. The results of the step test will be used to evaluate potential operating conditions during the turbidity barrier deployment and subsequent sediment removal.

Following NYSDEC review and approval of the changes discussed above, ARCADIS BBL will notify the contractor to order the turbidity barrier, and a revised schedule will be provided to the NYSDEC.

If you have any questions or require additional information, please feel free to contact me at (315) 428-3101, Mr. Ray Wingert, P.E. of Brookfield Power at (207) 671-4646, or Mr. John Brussel, P.E. of ARCADIS BBL at (315) 671-9441.

Sincerely,

James F. Morgan

James F. Morgan
Lead Senior Environmental Engineer

cc: Maureen E. Schuck, NYSDOH
Ray Wingert, P.E., Brookfield Power, Inc.
Thomas Uncher, Brookfield Power, Inc.
Timothy Lukas, Brookfield Power, Inc.
John Brussel, P.E., ARCADIS BBL
Allen Evans, ARCADIS BBL

Environmental Department, 300 Erie Boulevard West, Syracuse, New York 13202
T: (315) 428-3101 ▪ F: (315) 460-9644 ▪ James.F.Morgan@us.ngrid.com ▪ www.nationalgrid.com

12/12/2007
Letter to National Grid

Approval of Proposed Modification to the Remedial Design

File: B00366 43

New York State Department of Environmental Conservation
Office of Environmental Quality, Region 4
1130 North Westcott Road, Schenectady, New York 12306-2014
Phone: (518) 357-2045 • **FAX:** (518) 357-2398
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

December 12, 2007

James F. Morgan
Lead Senior Environmental Engineer
National Grid
Environmental Department
300 Erie Boulevard West
Syracuse, NY 13202

Re: Site #401044
Former School Street Hydroelectric Station
Colonie (T), Albany County

Dear Mr. Morgan:

Chris Hogan and I have reviewed your letter request dated 12/07/07 to modify the turbidity control measures in order to address higher flow rates. The proposed actions are approved. All activities must still comply with the Excavation and Fill permit and Part 401 Water Quality Certificate issued for the remediation project.

Implementation of these actions will result in a delay of the remedial action to January, 2008.

Sincerely,

Allan N. Geisendorfer, P.E.
Regional Spill Engineer
Region IV

AG:lg\letter.site401044.formerSchoolSt.Station.Colonie.2007-12-12.wpd.

cc: Chris Hogan, Environmental Permits, Broadway
Ron Groves, ACHD
Maureen Schuck, NYSDOH
John Brussel, Arcadis
Ray Wingert, Brockfield Power
Honorable John McDonald, Mayor, City of Cohoes
Robert Cozzy, DEC

ARCADIS

12/18/2007
E-Mail Correspondence to the NYSDEC

Notification of Gate Closure Step Test Results & Next Steps

Brussel, John

From: Brussel, John

Sent: Tuesday, December 18, 2007 11:44 AM

To: angeisen@gw.dec.state.ny.us

Cc: 'Chris Hogan'; 'Maureen E. Schuck'; Morgan, James F.; 'Wingert, Ray'; Evans, Allen

Subject: Updated Project Schedule - NYSDEC Site #401044 (Nearshore Sediment Removal, Former Fire Training Area, School Street Hydro)

Attachments: 2007.1218-Remediation Project Schedule (Site 401044).pdf

Allan:

I wanted to let you know that the gate closure step test performed last week at the School Street Hydro Station was successful at reducing flow in the nearshore area adjacent to the former fire training area. The turbidity barriers have since been ordered and are expected to arrive within the next 3 weeks. An updated project schedule prepared by the Contractor (D.A. Collins) is attached for your information. Turbidity barrier installation is currently scheduled to begin on January 7, 2008.

During the step test, the maximum flow in the nearshore area was reduced from over 4 feet per second (fps) to approximately 2 fps by closing approximately half of the gates at the upper gatehouse. The greatest flows within the proposed removal area were observed to be in the area between the ice fender and approximately 40 feet upstream. Much lower flows were observed further upstream through the proposed removal area. Based on these observations, the sediment removal will be completed in two stages, as described below, to minimize the amount of time that turbidity barriers will need to be maintained around the area where flow is highest.

- Stage 1 – Sediment will be dredged from approximately 90% of the total removal area during the first stage (from the area between approximately 40 and 215 feet upstream from the ice fender, where flow is slowest). Turbidity barriers will be installed around this area prior to dredging. Following dredging, the removal depths will be verified, backfill will be placed, and then the turbidity barriers will be removed. The Stage 1 work is anticipated to take 6 days to complete.

- Stage 2 – Sediment will be removed from the remaining 10% of the total removal area during the second stage (from the ice fender to approximately 40 feet upstream). Turbidity barriers will be installed around this second, smaller area prior to dredging. Following dredging, the removal depths will be verified, backfill will be placed, and then the turbidity barriers will be removed. The Stage 2 work is anticipated to take 2 days to complete.

During each stage, flow deflection barriers (e.g., steel trench boxes) will also be strategically placed outside the removal limits, as appropriate, to further divert flow around the proposed work areas.

We will keep you posted of any further changes to the schedule.

Feel free to call Jim Morgan at 315.428.3101 or me if you have any questions.

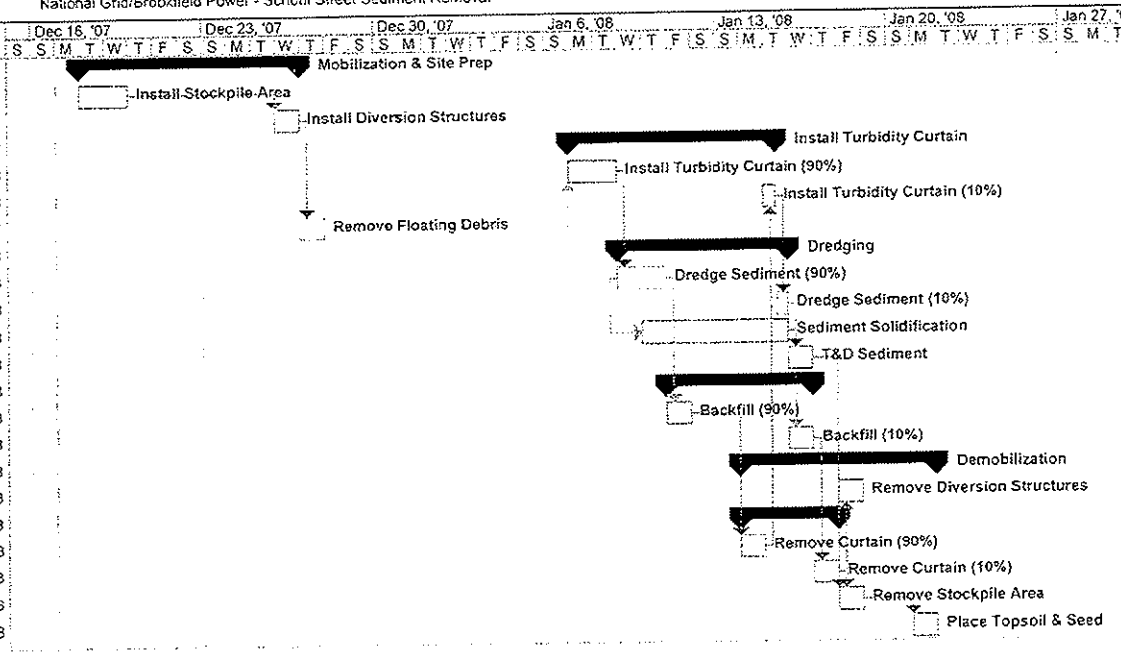
-John

John C. Brussel, PE
Senior Engineer
ARCADIS BBL
ARCADIS of New York, Inc.
6723 Towpath Road, Box 66
Syracuse, NY 13214-0066
Tel 315.671.9441
Alt Tel 315.446.2570 (ext. 19441)
Fax 315.449.4111
John.Brussel@arcadis-us.com

PRELIMINARY SCHEDULE

National Grid/Brookfield Power - School Street Sediment Removal

ID	Task Name	Duration	Start
1	Mobilization & Site Prep	5 days	Tue 12/18/07
2	Install Stockpile Area	2 days	Tue 12/18/07
3	Install Diversion Structures	1 day	Wed 12/26/07
4	Install Turbidity Curtain	6.5 days	Mon 1/7/08
5	Install Turbidity Curtain (90%)	2 days	Mon 1/7/08
6	Install Turbidity Curtain (10%)	0.5 days	Tue 1/15/08
7	Remove Floating Debris	1 day	Thu 12/27/07
8	Dredging	5 days	Wed 1/9/08
9	Dredge Sediment (90%)	2 days	Wed 1/9/08
10	Dredge Sediment (10%)	0.5 days	Tue 1/15/08
11	Sediment Solidification	4 days	Thu 1/10/08
12	T&D Sediment	1 day	Wed 1/16/08
13	Backfill Dredge Area	4 days	Fri 1/11/08
14	Backfill (90%)	1 day	Fri 1/11/08
15	Backfill (10%)	1 day	Wed 1/16/08
16	Demobilization	6 days	Mon 1/14/08
17	Remove Diversion Structures	1 day	Fri 1/18/08
18	Remove Turbidity Curtain	4 days	Mon 1/14/08
19	Remove Curtain (90%)	1 day	Mon 1/14/08
20	Remove Curtain (10%)	1 day	Thu 1/17/08
21	Remove Stockpile Area	1 day	Fri 1/18/08
22	Place Topsoil & Seed	1 day	Mon 1/21/08



D.A. Collins Environmental Services
Project: School Street
Date: 09/19/07

Task | Milestone | External Tasks
Split | Summary | External Milestone
Progress | Project Summary | Deadline

ARCADIS

1/25/2008
E-Mail Correspondence to the NYSDEC

Request for Approval to Change to a Conventional Dredging Bucket

Brussel, John

From: Brussel, John

Sent: Friday, January 25, 2008 10:21 AM

To: Chris Hogan; Christopher O'neill

Cc: Maureen E. Schuck; James F. Morgan; Wingert, Ray; Jefts, Lucas

Subject: Dredging Update - NYSDEC Site #401044, School Street Hydro Station, Cohoes, NY

Chris & Chris:

Per discussions with the project team at School Street this morning, D.A. Collins had limited success at removing sediment in the nearshore area yesterday afternoon, even with increased downward force on the bucket. The amount of sediment removed per bucket in the afternoon (an estimated 0.1 CY per bucket) was much less than that removed in the morning. The total volume dredged yesterday was an estimated 5 CY, with most of the material removed while we were onsite. Dredging so far has been in the upper 20 feet of the approximately 200 foot long proposed removal area.

Based on surveying performed this morning, the dredging has resulted in removal of sediment to a depth of approximately 0.7 feet approximately 15 feet from the shoreline, 0.6 to 0.7 feet approximately 7.5 feet from the shoreline, and 0.3 feet just past the the shoreline. The actual removal depths so far are all less than the 1.0 foot target removal depth. In addition, based on additional sediment probing performed this morning in the upper 20 foot stretch of the removal area, the remaining sediment is >1.0 foot thick. The sediment (sand) appears to be tight, with no apparent cobbles/rocks. The tight sand (not bedrock) appears to have limited the dredging via the environmental bucket. Due to the very slow pace and limited removal depths, the dredging has currently been halted.

Per our discussions with the NYSDEC yesterday morning and based on the results of the dredging, surveying, and sediment probing since that time, D.A. Collins proposes to change to the conventional digging bucket. Upon NYSDEC approval, dredging with the conventional bucket will begin. The dredging will be performed in a manner to minimize turbidity. The double-row of turbidity barriers (which are working well) will continue to be used, and monitoring will continue to be performed in accordance with the project plans.

The expectation is that the change to the conventional bucket will allow the project to be completed in a reasonable timeframe (e.g., the original 2 to 3 day estimate) while maintaining acceptable turbidity levels.

Feel free to call Jim Morgan of National Grid (315.428.3101), Ray Wingert of Brookfield Power (207.671.4646) or me if you have any questions.

-John

ARCADIS
John C. Brussel, PE
Principal Engineer

6723 Towpath Road, Box 66
Syracuse, NY 13214-0066

Tel 315.671.9441
Fax 315.449.4111
John.Brussel@arcadis-us.com
www.arcadis-us.com

ARCADIS

Modification to Excavation and Fill Permit and Part 401 WQC

January 28, 2008

New York State Department of Environmental Conservation
Division of Environmental Permits, 4th Floor
625 Broadway, Albany, New York 12233-1750
Phone: (518) 402-9167 • **FAX:** (518) 402-9168
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

January 28, 2008

James F. Morgan
Lead Senior Environmental Engineer
National Grid
Environmental Department
300 Erie Boulevard West
Syracuse, NY 13202

RE: Modification: Excavation and Fill Permit (DEC#: 4-0126-00656) and Part 401: Water Quality Certificate (DEC#: 4-0126-00656/00001); Cohoes Fire Training Area.

Dear Mr. Morgan:

Pursuant to 6 NYCRR Part 621 (Uniform Procedures) the Department hereby modifies the Excavation and Fill Permit and Part 401: Water Quality Certification for the above referenced project to allow the use of a conventional bucket instead of the environmental bucket specified by Special Condition #5 of the Certification. The modification is the result of an e-mail request by John Brussel, P.E., Arcadis, dated January 25, 2008. Mr. Brussel indicated in the request that due to the nature of the sediment in the nearshore area the environmental bucket is only able to remove less than .1 cubic yards of sediment in each excavation attempt. The conventional bucket will allow a more efficient means to excavate the contaminated sediment.

As indicated above the conventional bucket may be employed provided the following conditions are adhered to during the dredging;

a) PCB analysis (USEPA Method 608) must be conducted with a 24 hour turnaround time and the Department must receive a copy of the laboratory results.

b) Dredging with the conventional bucket must be conducted in a manner that minimizes the resuspension of sediment.

c) If there is a violation of permit conditions, either the turbidity limit or the water quality standard for PCB, then dredging shall be halted and additional containment methods shall be employed.

Please contact Christopher Hogan at 518-402-9151 if you have any questions regarding the modification.

Sincerely,

John J. Ferguson
Deputy Chief Permit Administrator

cc: R. Wingert
J. Brussel
C. O'Neil

APPENDIX B

Executed Environmental Easement (with survey map)

ALBANY COUNTY – STATE OF NEW YORK

BRUCE A. HIDLEY COUNTY CLERK
16 EAGLE STREET, ALBANY, NEW YORK 12207

COUNTY CLERK'S RECORDING PAGE
*****THIS PAGE IS PART OF THE DOCUMENT – DO NOT DETACH*****

INSTRUMENT #: R2017-16092

Receipt#: 20170156170
Clerk: SC
Rec Date: 07/12/2017 01:00:03 PM
Doc Grp: D
Descrip: DEED, EASEMENT
Num Pgs: 12
Rec'd Frm: PEOPLE OF STATE OF NEW YORK

Recording:

Cover Page	5.00
Recording Fee	75.00
Cultural Ed	14.25
Records Management - Coun	1.00
Records Management - Stat	4.75
TP584	5.00
Sub Total:	105.00
Transfer Tax	
Transfer Tax - State	0.00
Sub Total:	0.00
Total:	105.00

****** NOTICE: THIS IS NOT A BILL ******

***** Transfer Tax *****
Transfer Tax #: 7765
Transfer Tax
Consideration: 0.00

Total: 0.00

THIS PAGE CONSTITUTES THE CLERK'S ENDORSEMENT, REQUIRED BY SECTION 316-a (5) & 319 OF THE REAL PROPERTY LAW OF THE STATE OF NEW YORK.

Bruce A. Hidley
Albany County Clerk

Record and Return To:

BROOK FIELD RENEWABLE
C/O JASON ZEHR
399 BIG BAY RD
QUEENSBURY NY 12804

R & R -
BROOKFIELD RENEWABLE
c/o JASON ZEHR
399 BIG BAY ROAD
QUEENSBURY, N.Y. 12804

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 19th day of June, 2017 between Owner(s) Erie Boulevard Hydropower, L.P., having an office at 200 Donald Lynch Boulevard, Marlborough, Massachusetts 01752, County of Middlesex, State of Massachusetts (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor is the owner of real property located at the address of Cohoes Crescent Road in the Town of Colonie, County of Albany and State of New York, known and designated on the tax map of the County Clerk of Albany as tax map parcel numbers: Section 5.01 Block 1 Lot 30, being a portion of the property conveyed to Grantor by deed dated July 30, 1999 and recorded in the Albany County Clerk's Office in Liber and Page 2636/342. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 1.018 +/- acres, and is hereinafter more fully described in the Land Title Survey dated November 6, 2015 prepared by Raymond T. Liuzzo, PLS, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A;

WHEREAS, Grantor is the owner, operator, and licensee of the hydroelectric generating facility licensed by the Federal Energy Regulatory Commission ("FERC") as the School Street Project No. 2539 (the "Project") and located adjacent to the Controlled Property; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Order on Consent Index Number: A4-0416-0003, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv), including passive recreational uses, which are public uses with limited potential for soil contact.

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Albany County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement; and

C. Notwithstanding any provision contained herein, the Grantor, its successors and assigns, have the right to perform any and all acts required by an order of FERC or its successor, affecting the Controlled Property or the Project, without the prior approval of any party to this document or any other person. Grantor, its successors and assigns, shall notify the Department of changes in use or modifications of the Controlled Property and associated soil disturbance in accordance with Section 1.3 of the NYSDEC-approved SMP and Section E.1 of the Excavation Work Plan (Appendix E to the SMP).

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to: Site Number: 401044
Office of General Counsel

NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

Whenever notice to the Grantor or approval from the Grantor is required, the Party providing such notice or seeking such approval address correspondence to:

Erie Boulevard Hydropower, L.P.
Attn: Compliance Manager
399 Big Bay Road
Queensbury, NY 12804

With a copy to:

Brookfield Renewable Partners L.P.
41 Rue Victoria
Gatineau, Quebec, J8X 2A1

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

Remainder of Page Intentionally Left Blank

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Erie Boulevard Hydropower, L.P.:

By: _____

Print Name: Jon D. Elmer

Title: Director Date: 4/11/17

By: _____

Print Name: Thomas Uncher

Title: Vice President Date: 4/11/17

Grantor's Acknowledgment

STATE OF ~~MASSACHUSETTS~~ New York)
) ss:
COUNTY OF ~~MIDDLESEX~~ Warren)

On the 11th day of April, in the year 2017, before me, the above-named Jon D. Elmer and Thomas Uncher, personally appeared before me, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Brenda J Schermerhorn
Notary Public - State of Massachusetts

BRENDA J SCHERMERHORN
NOTARY PUBLIC, State of New York
Reg. No. 01SC6169934
Qualified in Saratoga County
My Commission Expires July 2, 2019

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Robert W. Schick, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 19 day of June, in the year 2017 before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2018

SCHEDULE "A" PROPERTY DESCRIPTION

DESCRIPTION
ENVIRONMENTAL EASEMENT
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SITE NO. 401044
PORTION OF LANDS NOW OR FORMERLY OF
ERIE BOULEVARD HYDROPOWER, L.P.
TOWN OF COLONIE, COUNTY OF ALBANY, STATE OF NEW YORK
AREA = 1.018± ACRES OF LAND

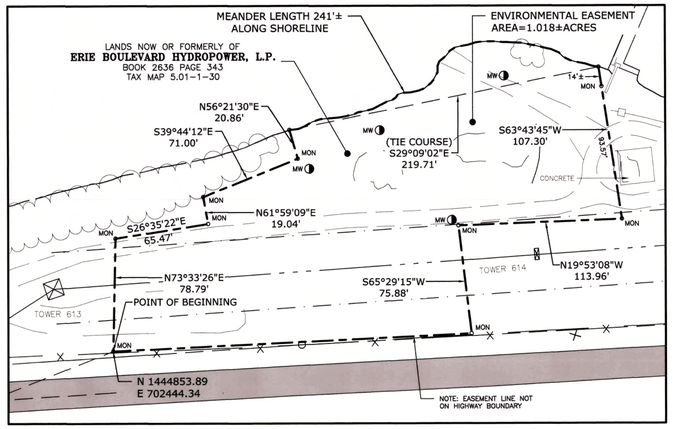
All that certain tract, piece or parcel of land situate in the Town of Colonie, County of Albany, State of New York, lying generally East of Cohoes-Crescent Road and Southwest of the Mohawk River, and being more particularly bounded and described as follows:

COMMENCING at a point on the Northeasterly road boundary of Cohoes-Crescent Road (49.5-foot-wide right-of-way) at its point of intersection with the division line between the lands now or formerly of Erie Boulevard Hydropower, L.P. as described in Book 2636 of Deeds at Page 343 on the Southeast and the lands of the People of the State of New York on the Northwest, said point of commencement being located at New York State Plane Coordinate System, East Zone, NAD 83/2011 (Epoch 2010.00), North 1,447,305.66, East 700,441.24; thence from said point of commencement along the Northeasterly and Easterly road boundary of Cohoes-Crescent Road the following ten (10) courses: 1) in a Southeasterly direction along a curve to the left having a radius of 695.50 feet, an arc length of 42.75 feet and a chord bearing of South 52 deg. 14 min. 22 sec. East 42.74 feet to a point of tangency; 2) South 54 deg. 00 min. 02 sec. East 357.72 feet to a point of curvature; 3) in a Southeasterly direction along a curve to the right having a radius of 820.00 feet, an arc length of 540.46 feet and a chord bearing of South 35 deg. 07 min. 07 sec. East 530.73 feet to a point of tangency; 4) South 16 deg. 14 min. 13 sec. East 188.27 feet to a point of curvature; 5) in a Southeasterly direction along a curve to the left having a radius of 1,190.50 feet, an arc length of 430.71 feet and a chord bearing of South 26 deg. 36 min. 05 sec. East 428.36 feet to a point of tangency; 6) South 36 deg. 57 min. 57 sec. East 321.33 feet to a point of curvature; 7) in a Southeasterly direction along a curve to the left having a radius of 1,095.50 feet, an arc length of

447.47 feet and a chord bearing of South 48 deg. 40 min. 03 sec. East 444.37 feet to a point of tangency; 8) South 60 deg. 22 min. 09 sec. East 232.52 feet to a point of curvature; 9) in a Southeasterly direction along a curve to the right having a radius of 755.00 feet, an arc length of 513.95 feet and a chord bearing of South 40 deg. 52 min. 04 sec. East 504.08 feet to a point of tangency; and 10) South 21 deg. 21 min. 59 sec. East 185.29 feet to a point; thence running through the said lands now or formerly of Erie Boulevard Hydropower, L.P. North 68 deg. 38 min. 01 sec. East 4.07 feet to the POINT OF BEGINNING, said point of beginning being located at New York State Plane Coordinate System, East Zone, NAD 83/2011 (Epoch 2010.00), North 1,444,853.89, East 702,444.34 and runs thence from said point of beginning through the said lands now or formerly of Erie Boulevard Hydropower, L.P. the following five (5) courses: 1) North 73 deg. 33 min. 26 sec. East 78.79 feet to a point; 2) South 26 deg. 35 min. 22 sec. East 65.47 feet to a point; 3) North 61 deg. 59 min. 09 sec. East 19.04 feet to a point; 4) South 39 deg. 44 min. 12 sec. East 71.00 feet to a point; and 5) North 56 deg. 21 min. 30 sec. East 21± feet to a point on the Southwesterly shoreline of the Mohawk River; thence in a Southeasterly meander along said Southwesterly shoreline of the Mohawk River 241± feet to a point; the tie for the last described course being South 29 deg. 09 min. 02 sec. East 219.71 feet; thence through the said lands now or formerly of Erie Boulevard Hydropower, L.P. the following four (4) courses: 1) South 63 deg. 43 min. 45 sec. West 107± feet to a point; 2) North 19 deg. 53 min. 08 sec. West 113.96 feet to a point; 3) South 65 deg. 29 min. 15 sec. West 75.88 feet to a point; and 4) North 20 deg. 29 min. 17 sec. West 249.83 feet to the point or place of beginning and containing 1.018 acres of land, more or less.

Subject to any covenants, easements or restrictions of record.

DRAWING NUMBER D-63991
SHEET NUMBER: SHEET 1 OF 1



DETAIL A
SCALE 1" = 50'

'This property is subject to an environmental easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the New York Environmental Conservation Law. The engineering and institutional controls for this Easement are set forth in the Site Management Plan (SMP). A copy of the SMP must be obtained by any party with an interest in the property. The SMP can be obtained from NYS Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233 or at 'derweb@dec.ny.gov.'

MAP NOTES:

1. Information shown hereon was compiled from a combination of actual field survey conducted during the month of August, 2012 and October 2015 and from Aerial Stereo Photogrammetry prepared by Col-East, Inc. and flown on April 22, 2011. Data shown was taken from digitally compiled manuscripts. Photogrammetry was controlled by GPS observations from an actual field survey conducted on May 2, 2011 by C.T. Male personnel. Environmental easement corners were set on October 20, 2015.
2. North orientation, coordinates and bearings are Grid North based on the New York State Plane Coordinate System, East Zone, NAD 83/2011 EPOCH 2010.00.
3. Right of way of Cohoes Crescent Road was created 1.5 rods (24.75') from the existing centerline of pavement as field located in August 2012.
4. The location of underground improvements or encroachments, if any exist, or as shown hereon, are not certified. There may be underground utilities, the existence of which are not known to the undersigned. Size and location of all underground utilities and structures must be verified by the appropriate authorities. Dig Safely New York must be notified prior to conducting test borings, excavation and construction.
5. This survey does not constitute a record search by C.T. Male Associates Engineering, Surveying Architecture and Landscape Architecture, D.P.C. to determine ownership or easements of record. For all information regarding easements, rights of way and title of record, the surveyor relied upon title commitment number CT15-31041-ALB, prepared by Chicago Title Insurance Company, dated October 15, 2015.
6. Subject to covenants, restrictions and easements reserved to Niagara Mohawk Power Corporation recorded in Book 2636 of Deeds at Page 343.
7. Easement parcel shown hereon is located within FERC Project Boundary FERC No. 2539.

MAP REFERENCES:

1. "Niagara Mohawk Power Corporation School St. Hydro Project Exhibit D FERC No. 2539 City of Cohoes Town of Colonie Albany County, New York 1-1099" prepared by Niagara Mohawk dated December 16, 1998. Dwg. No. C-33210-E.
2. "Boundary Survey Showing the Southwesterly Division Line of a Portion of School Street Hydro Project Prepared for Brookfield Power Town of Colonie and City of Cohoes County of Albany, New York" prepared by C.T. Male Associates, P.C. dated June 2, 2006. Dwg. No. 06-539 Project No. 06.6216.
3. "Exhibit G-1, School Street Hydroelectric Project, Project Boundary Map and Location Map, Town of Colonie and City of Cohoes, Albany County, New York, Erie Boulevard Hydropower, LP FERC No. 2539", prepared by C.T. Male Associates, P.C., dated July 21, 2014. Dwg. No. 12-457, Project No. 12.2345.

ENGINEERING/INSTITUTIONAL CONTROLS (PER ARCADIS)

1. Soil cover system consisting of clean soil and/or stone at least 1-foot thick.
2. Restricted commercial use.

LEGEND

○ MON	NYSDEC ALUMINUM MONUMENT SET
◑ MW	MONITORING WELL
⊠ MON	MONUMENT SET
	UTILITY POLE
	UTILITY POLE WITH LIGHT

BAR SCALE
100 0 15 30 60
Meters

BAR SCALE
100 0 50 100 200
1 inch = 100 ft.

DESCRIPTION
ENVIRONMENTAL EASEMENT
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SITE NO. 401044
PORTION OF LANDS NOW OR FORMERLY OF
ERIE BOULEVARD HYDROPOWER, L.P.
TOWN OF COLONIE, COUNTY OF ALBANY, STATE OF NEW YORK
AREA = 1.018± ACRES OF LAND

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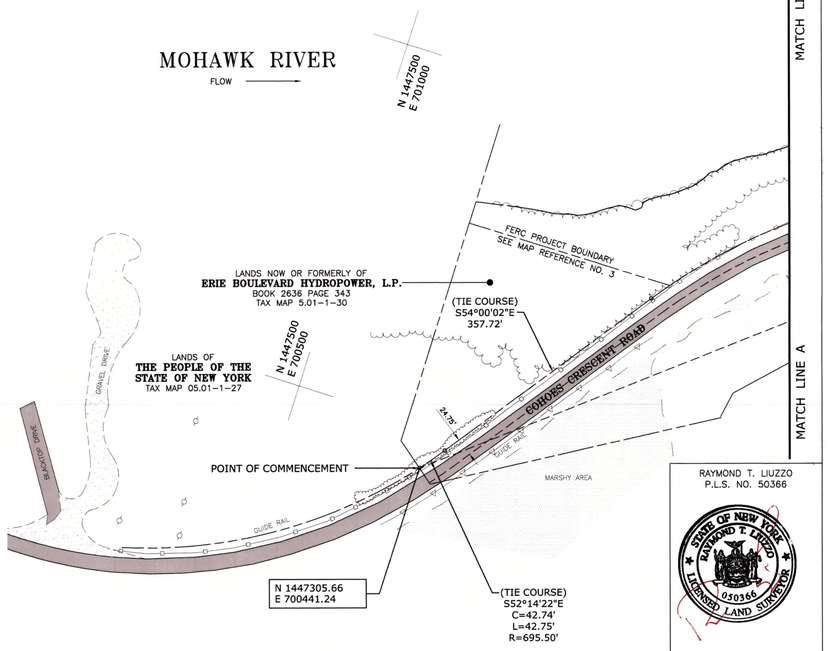

RAYMOND T. LIUZZO
P.L.S. NO. 50366

STATE OF NEW YORK · RAYMOND T. LIUZZO · 050366 · LICENSED LAND SURVEYOR

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299

REFERENCE DESCRIPTION	DWG. NO.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.

NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.

DES.	DES.
DR.	GLB
CK.	DGD
	APPROVED

ENVIRONMENTAL EASEMENT
SCHOOL STREET HYDRO PROJECT
NYSDEC SITE NO. 401044
PORTION OF LANDS NOW OR FORMERLY OF
ERIE BOULEVARD HYDROPOWER, L.P.

ACCOUNT NUMBER: C.T. MALE PROJECT NO.: 15.5583 C.T. MALE DWG NO.: 15-599

BROOKFIELD RENEWABLE POWER	ORIGINAL ISSUE DATE: NOVEMBER 6, 2015
ENVIRONMENTAL EASEMENT	FILE INDEX
TOWN OF COLONIE ALBANY COUNTY, NEW YORK	DRAWING D-63991
Address	SHEET NUMBER: SHEET 1 OF 1

Arcadis of New York, Inc.

One Lincoln Center

110 West Fayette Street

Suite 300

Syracuse, New York 13202

Tel 315 446 9120

Fax 315 449 0017

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