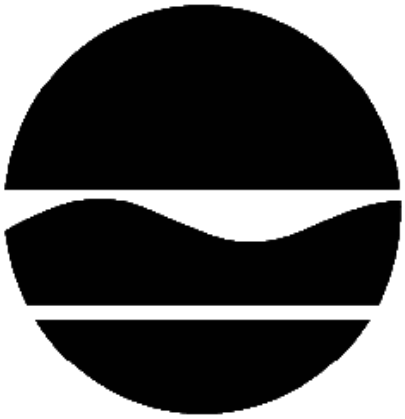
PROPOSED REMEDIAL ACTION PLAN

Saranac Lake Gas Co. Inc.
Operable Unit Number 03: Pontiac Bay on Lake Flower
State Superfund Project
Saranac Lake, Essex County
Site No. 516008
February 2015



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

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SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the above referenced site. The disposal of hazardous wastes at the site has resulted in threats to public health and the environment that would be addressed by the remedy proposed by this Proposed Remedial Action Plan (PRAP). The disposal of hazardous wastes at this site, as more fully described in Section 6 of this document, has contaminated various environmental media. The proposed remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This PRAP identifies the preferred remedy, summarizes the other alternatives considered, and discusses the reasons for the preferred remedy.

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

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York; (6 NYCRR) Part 375. This document is a summary of the information that can be found in the site-related reports and documents in the document repositories identified below.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all PRAPs. This is an opportunity for public participation in the remedy selection process. The public is encouraged to review the reports and documents, which are available at the following repositories:

NYSDEC Region 5
Attn: Michael P. McLean
1115 Route 86
Ray Brook, NY 12977
Phone: 518-897-1242

Saranac Lake Free Library
100 Main Street
Saranac Lake, NY 12983
Phone: 518-891-4190

A public comment period has been set from: February 20, 1015 to March 22, 2015

A public meeting is scheduled for the following date: Wednesday March 11, 2015 7pm-9pm

Public meeting location: Harrietstown Town Hall
39 Main Street
Saranac Lake, NY 12983

At the meeting, the findings of the remedial investigation (RI) and the feasibility study (FS) will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP.

Written comments may also be sent to:

Michael McLean
NYS Department of Environmental Conservation
Division of Environmental Remediation
1115 State Route 86 PO Box 296
Ray Brook, NY 12977-0296
mike.mclean@dec.ny.gov

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

Receive Site Citizen Participation Information By Email

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

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The Saranac Lake Gas Company site, a former manufactured gas plant (MGP) facility, is located in a residential setting on Payeville Road in the Village of Saranac Lake, Essex County. The site is approximately 4.5 acres in size and lies east of and adjacent to the Adirondack Scenic Railroad. Residential properties border the site to the north and east, and a college recreational facility and playing field borders to the south.

Site Features: Currently the main site feature is a fenced storage yard and small building. The manufactured gas plant was predominantly located within the fenced area. Other site features include Brandy Brook, a wooded area, and an access road on the northern portions of the property and woods and equipment storage on the southern portions.

Current zoning/use: The site is zoned commercial and is currently unoccupied.

Past Use of the Site: From the late 1800s to approximately the 1940s, the site was used for manufacturing lighting gas via coal gasification for the Village of Saranac Lake. The operations consisted of two gas holders, a purifier, retort operations, along with coal storage areas and offices. No original structures exist on site today with the exception of a raised concrete storage pad and concrete foundation for one of the gas holders. The past activities at the site have resulted in contamination, both on and off-site.

Operable Units (OU): The site has been separated into three OUs. An operable unit represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigate, eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination. The operable units are the former gasification plant property (OU01), Brandy Brook running from the site to Pontiac Bay of Lake Flower (OU02), and Pontiac Bay/Lake Flower (OU03). OU02 and OU03 are considered offsite areas.

Site Geology and Hydrogeology: Surficial geology at the Site is predominantly medium to fine sands with some silt. Borings were conducted to as much as 56 feet below ground surface and bedrock was not encountered. Groundwater is very shallow at the site (less than 5 feet) and generally flows to the south; a small brook (Brandy Brook) runs through the northern portions the site. Brandy Brook discharges into Lake Flower approximately 2,000 feet downstream of the site. Sediments in Brandy Brook and Lake Flower are a silty-fine sand, fine sandy silt with traces of clay and gravel.

Operable Unit (OU) Number 03 is the subject of this document. All future references to “site” in this document refer to OU03.

A Record of Decision will be issued for OU01 and OU02 in the future.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy. Since OU03 addresses off-site areas, the remedy will not propose any land use restrictions.

SECTION 5: ENFORCEMENT STATUS

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

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

Saranac Lake Gas Company

After the remedy is selected, the Department will approach the PRPs to implement the selected remedy. If an agreement cannot be reached with the PRPs, the Department will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the state for recovery of all response costs the state has incurred.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

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

The following general activities are conducted during an RI:

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

The analytical data collected on this site includes data for:

- surface water
- sediment

6.1.1: Standards, Criteria, and Guidance (SCGs)

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

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

6.1.2: RI Results

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

COAL TAR
BTEX (benzene, toluene, ethylbenzene, xylenes)

As illustrated in Exhibit A, the contaminant(s) of concern exceed the applicable SCGs for:

- sediment

6.2: Interim Remedial Measures

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

There were no IRMs performed at this site during the RI.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

The Fish and Wildlife Resources Impact Analysis (FWRIA) for OU 03 is included in the RI report and identified resources at the site and contaminant exposure pathways. A detailed ecological impact is warranted unless a remedy that addresses sediment contamination exceeding Class A Sediment Guidance Values (SGVs) is implemented.

The site investigation performed in 2013 and 2014 detected coal tar wastes and significantly elevated levels of manufactured gas plant (MGP) wastes above NYS standards, criteria, and guidance levels in the soil and groundwater at the former MGP site; along with coal tar wastes and significantly elevated levels of MGP wastes in the sediments of Brandy Brook and Pontiac Bay of Lake Flower. Lake Flower is a Class AA water body.

Manufactured gas was cooled and purified prior to distribution. Two principal waste materials were produced in this process: coal tar and purifier waste. Coal tar is a reddish brown oily liquid by-product which formed as a condensate as the gas cooled.

Coal tar does not readily dissolve in water. Materials such as this are commonly referred to as non-aqueous phase liquids, or NAPLs. Although most coal tars are slightly denser than water, the difference in density is slight. Consequently, they can either float or sink when in contact with water.

Specific volatile organic compounds (VOCs) of concern with coal tar are benzene, toluene, ethylbenzene and xylenes. Specific semi-volatile organic compounds of concern with coal tar are numerous polycyclic aromatic hydrocarbons (PAHs). Based on visual and analytical findings, the volume of MGP-impacted sediment exceeding Class A SGVs in OU03 is estimated to be approximately 16,900 cubic yards. Contaminated sediment exist from the surface of the sediment to as much as seven feet in depth.

Two inorganics (lead, zinc) and two pesticides (4,4' DDD, heptachlor epoxide) were also detected at concentrations exceeding their sediment guidance values. Though not site contaminants of concern, their location is within the interpreted extent of MGP impacted sediment.

6.4: Summary of Human Exposure Pathways

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

The former gasification plant (OU01) is completely fenced, which restricts public access. However, persons who enter the former gasification plant could contact contaminants in the soil by walking, digging or otherwise disturbing the soil. Contaminated groundwater at the former gasification plant is not used for drinking or other purposes and the local area is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in the groundwater or soil may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern because there are no occupied buildings on the site. Furthermore, environmental sampling indicates soil vapor intrusion is not a concern for off-site buildings. People using Pontiac Bay (OU03) for recreational purposes such as swimming and boating may come into direct contact with site-related contaminants in sediment.

People may come in contact with contaminants present in the sediments of Brandy Brook (OU02) while entering or exiting the shallow creek during recreational activities.

6.5: Summary of the Remediation Objectives

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

The remedial action objectives (RAOs) for this site are:

Sediment

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

SECTION 7: SUMMARY OF THE PROPOSED REMEDY

To be selected, the remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives identified for the site, which are presented in Section 6.5. Potential remedial alternatives for the Site were identified, screened and evaluated in the FS report.

A summary of the remedial alternatives that were considered for this site is presented in Exhibit B. Cost information is presented in the form of present worth, which represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved. A summary of the Remedial Alternatives Costs is included as Exhibit C.

The basis for the Department's proposed remedy is set forth in Exhibit D.

The proposed remedy is referred to as the Excavation and Off-Site Disposal of Contaminated Sediments to meet Class A Guidance Values.

The estimated present worth cost to implement the remedy is $9,360,000. The cost to construct the remedy is estimated to be $9,222,000 and the estimated average annual cost is $9,000.

The elements of the proposed remedy are as follows:

1. Remedial Design

Implementation of a remedial design program to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Implementation of Green remediation principles and techniques to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation and Off-Site Disposal of Contaminated Sediments to Meet Class A Guidance Values.

An area approximately 76,000 square feet in extent within Pontiac Bay containing MGP-related contamination exceeding Class A sediment guidance values will be excavated to an anticipated depth of seven feet. An estimated 16,900 cubic yards of sediment will be removed. This area of the bay will be isolated and dewatered to allow the use of an excavator to mechanically remove the MGP-impacted sediment. Following the excavation of visually contaminated sediment, over-excavation will ensure that there are no deeper lenses of MGP waste. Confirmatory samples will be taken to ensure that the remedial objectives have been met prior to backfilling. The areas excavated will be backfilled with material meeting Class A sediment guidance values, comprised of sand in the subsurface and suitable habitat substrate in the top two feet.

The excavated sediments may require dewatering and pre-treatment prior to transport. This will be conducted in the upland areas adjacent to the bay prior to off-site disposal. The decanted water will be collected and treated as necessary prior to discharge.

3. The excavated area and any adjacent area disturbed during remediation will be restored, to the extent feasible, using a Department-approved Aquatic Habitat Restoration Plan. This will include monitoring of the restoration to assure success of the restoration.

Exhibit A

Nature and Extent of Contamination

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

For each medium for which contamination was identified, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and inorganics (metals and cyanide).

Surface Water

Two surface water samples were collected from Pontiac Bay (OU03). With the exception of iron and manganese, no compounds were detected in OU03 surface water at concentrations exceeding their SCG. These detected compounds are not site contaminants of concern. See Figure 2.

Table 1 - Surface Water

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
Inorganics			
Iron	160 to 780	300	1 of 2
Manganese	24 to 750	300	1 of 2

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

No site-related surface water contamination of concern was identified during the RI. Therefore, no remedial alternatives need to be evaluated for surface water.

Sediments

Thirty four sediment samples were collected in Pontiac Bay and Lake Flower. Of the thirty four collected, seventeen were analyzed and the results are shown in Figure 2. Sediments throughout Pontiac Bay and extending further into Lake Flower show evidence of impact from MPG-related contamination. Based on PAH concentrations in OU03, these sediments are classified as Class C meaning they are considered “highly contaminated and likely to pose a risk to aquatic life". Coal tar in the form of dense non aqueous phase liquid, product (DNAPL) and/or staining was present in 11 of the 30 borings advanced into the lake bed during the remedial investigation. Many samples with obvious DNAPL were not laboratory analyzed. The vertical extent of MGP-impacted sediments within OU03 ranges between one to seven feet below the surface of the sediment. Based on the visual and analytical findings, an estimate of the volume of MGP-impacted sediment within OU03 is approximately 22,500 cubic yards.

Lead and zinc were also detected in OU03 sediment at concentrations that characterize them as Class B sediments. Although not MGP related, the locations where the samples were collected are within the extent of MGP-impacted sediment and will be addressed in the remedy.

Two sample locations within Lake Flower (SD-131 and SD-132) also had detections of PAHs that meet the definition of Class C sediment. However, the chemical profile of these samples indicate that the contamination is not MGP-related due to the absence of naphthalene, an MGP indicator compound. Also, the locations of these samples (SD-131 and SD-132) are not contiguous with the area of identified MGP-impact within Pontiac Bay. The contamination encountered at locations SD-131 and SD-132 is likely from another anthropogenic source(s).

Two pesticides were also identified with levels just above the Freshwater Sediment Class B Guidance Values at SD-09. Although not MGP related, the locations where the samples were collected are within the extent of MGP-impacted sediment and will be addressed in the remedy.

Table 2 – Sediment

Detected Constituents	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)	Frequency Exceeding SCG
VOCs			
1,2,4-Trimetyhlbenzene	ND to 5	3.4	1 of 4
Ethyl Benzene	ND to 3.3	0.43	6 of 17
Isopropylbenzene	ND to 0.93	0.21	4 of 17
Napthalene	ND to 61	4	2 of 4
Xylenes, Total	ND to 3.4	0.59	3 of 17
SVOCs			
Acenaphthene	ND to 120	4	9 of 17
Acenaphthylene	ND to 8.6	4	4 of 17
Anthracene	ND to 62	4	9 of 17
Benzo(a)anthracene	ND to 31	4	8 of 17
Benzo(a)pyrene	0.0084 to 27	4	9 of 17
Benzo(b)fluoranthene	0.0055 to 25	4	9 of 17
Benzo(ghi)perylene	0.0043 to 11	4	7 of 17
Benzo(k)fluoranthene	ND to 11	4	7 of 17
Chrysene	ND to 30	4	9 of 17
Fluoranthene	ND to 64	4	9 of 17
Fluorene	ND to 63	4	9 of 17

Detected Constituents	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)	Frequency Exceeding SCG
Indeno(1,2,3-cd)pyrene	ND to 7.4	4	6 of 17
Naphthalene	ND to 160	4	7 of 17
Phenanthrene	ND to 220	4	10 of 17
Pyrene	ND to 110	4	10 of 17
Inorganics			
Lead	0.47 to 134	36	8 of 14
Zinc	13.4 to 26	120	2 of 14
Pesticides/PCBs			
4,4'-DDD	ND to 0.045	0.044	1 of 4
Heptachlor Epoxide	ND to 0.021	0.015	1 of 4

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

Based on the findings of the Remedial Investigation, the presence of MGP wastes has resulted in the contamination of sediment. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of sediment to be addressed by the remedy selection process are coal tar and BTEX (benzene, toluene, ethylbenzene, xylenes).

Exhibit B

Description of Remedial Alternatives

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

Alternative 1: No Action

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

Alternative 2A: Limited Excavation and Off-Site Disposal of Contaminated Sediments with Capping

This alternative requires isolating and dewatering a portion of Pontiac Bay and the use of an excavator to remove MGP-impacted sediment. Mechanical excavation produces a sediment with higher solids content that requires less treatment than hydraulic dredging methods. Alternative 2A limits contaminant excavation depth to two feet on average. Significant MGP-impacted sediment would remain. The planned excavation impacts approximately 76,000 square feet of Pontiac Bay with an estimated volume of sediment removed of 5,630 cubic yards. A cap, consisting of Aquablok or similar would then be placed over the remaining contamination and two feet of the bathymetry restored with in-kind habitat substrate over the cap. Long term monitoring of the cap is necessary.

The excavated sediments must be temporarily stockpiled, solidified, and dewatered. Any decanted water resulting from solidification must be collected and treated through an on-site water treatment system. Off-site disposal at a thermal desorption facility or other acceptable disposal facility is anticipated.

It is estimated the work occurs over two years/construction seasons.

Present Worth: *$6,158,000*
Capital Cost: *$5,943,000*
Annual Costs: *$14,000*

Alternative 2B: Excavation and Off-Site Disposal of Contaminated Sediments to meet Class A Sediment Guidance Values

This alternative also requires isolating and dewatering a portion of Pontiac Bay and the use of an excavator to remove MGP-impacted sediment. Mechanical excavation produces a sediment with higher solids content that requires less treatment than hydraulic dredging methods. An area approximately 76,000 square feet in extent within Pontiac Bay containing MGP-related contamination exceeding Class A sediment guidance values will be excavated to an anticipated depth of seven feet. An estimated 16,900 cubic yards of sediment will be removed. Following the excavation of visually contaminated sediment, over-excavation will ensure that there are no deeper lenses of MGP waste. Confirmatory samples will be taken to ensure that the remedial objectives have been met prior to backfilling. The areas excavated will be backfilled with material meeting Class A sediment guidance values, comprised of sand in the subsurface and suitable habitat substrate in the top two feet.

The excavated sediments will be handled and disposed of as discussed in Alternative 2A. It is estimated the work occurs over two years/construction seasons.

Present Worth: *$9,360,000*
Capital Cost: *$9,222,000*
Annual Costs: *$9,000*

Alternative 2C: Excavation and Off-Site Disposal of Contaminated Sediments to meet Pre-Release Conditions

This alternative also requires isolating and dewatering a portion of Pontiac Bay and the use of an excavator to remove MGP-impacted sediment. Mechanical excavation produces a sediment with higher solids content that requires less treatment than hydraulic dredging methods. Excavation occurs up to 8 feet in depth or deeper until all sediment with any amount of detectable contamination is removed to obtain pre-release conditions. Collection of confirmatory samples for laboratory analysis is planned prior to backfilling to ensure that excavation objectives have been met. The areas excavated will be backfilled with material meeting Class A sediment values, comprised of sand in the subsurface and suitable habitat substrate in the top two feet. The planned excavation impacts approximately 147,000 square feet of Pontiac Bay with an estimated volume of sediment removed being approximately 22,500 cubic yards.

The excavated sediments will be handled and disposed of as discussed in Alternative 2A. It is estimated the work occurs over two years/construction seasons.

Present Worth: *$21,603,000*
Capital Cost: *$21,465,000*
Annual Costs: *$9,000*

Alternative 3A: Limited Dredging and Off-Site Disposal of Contaminated Sediments with Capping

Dredging of impacted sediments in the bay requires placement of a silt curtain to prevent mobilization of impacted sediments further into the lake, floating platforms/barges, and hydraulic dredging equipment and piping to convey sediment. Hydraulic dredging produces a sediment slurry with a low solids content that must be extensively dewatered and/or treated prior to disposal. Alternative 3A limits contaminant dredging depth to around two feet on average. Significant MGP-impacted sediment will remain. The planned excavation impacts approximately 76,000 square feet of Pontiac Bay with an estimated volume of sediment removed being approximately 5,630 cubic yards. A cap consisting of Aquablok or similar will then be placed over the remaining contamination and two feet of the bathymetry restored with in-kind habitat substrate over the cap. Long term monitoring of the cap is necessary.

Dredged sediment would then be placed in Geotubes® or similar technology to slowly dewater and reduce the volume of material for transportation and disposal. Any decanted water resulting from solidification must be collected and treated through an on-site water treatment system. Off-site disposal at a thermal desorption facility or other acceptable disposal facility is anticipated.

It is estimated the work occurs over two years/construction seasons.

Present Worth: *$6,729,000*
Capital Cost: *$6,514,000*
Annual Costs: *$14,000*

Alternative 3B Dredging and Off-Site Disposal of Contaminated Sediments to meet Class A Sediment Guidance Values

Dredging of impacted sediments in the bay requires placement of a silt curtain to prevent mobilization of impacted sediments further into the lake, floating platforms/barges, and hydraulic dredging equipment and piping to convey sediment. Hydraulic dredging produces a sediment slurry with a low solids content that must be extensively dewatered and/or treated prior to disposal. Sediment would then be placed in Geotubes® or similar technology to slowly dewater and reduce the volume of material for transportation and disposal. Dredging occurs up to 7 feet in depth or until visual observations of impacted sediment stop, at which point periodic testing is conducted to ensure that there are no additional lenses of impacted sediment below. Collection of confirmatory samples for laboratory analysis is planned prior to backfilling to ensure that Class A sediment guidance values have been met. The dredged area will be backfilled with material meeting Class A sediment values, comprised of sand in the subsurface and suitable habitat substrate in the top two feet. The planned dredging impacts approximately 76,000 square feet of Pontiac Bay with an estimated volume of sediment removed being approximately 16,900 cubic yards.

The dredged sediments will be handled and disposed of as discussed in Alternative 3A. It is estimated the work occurs over two years/construction seasons.

Present Worth: *$10,010,000*
Capital Cost: *$9,872,000*
Annual Costs: *$9,000*

Alternative 3C Dredging and Off-Site Disposal of Contaminated Sediments to meet Pre-Release Conditions

Dredging of impacted sediments in the bay requires placement of a silt curtain to prevent mobilization of impacted sediments further into the lake, floating platforms, and hydraulic dredging equipment and piping to convey sediment. Hydraulic dredging produces a sediment slurry with a low solids content that must be extensively dewatered and/or treated prior to disposal. Sediment would then be placed in Geotubes® or similar technology to slowly dewater and reduce the volume of material for transportation and disposal. Dredging occurs up to 8 feet in depth or deeper until all impacted sediment is removed. Collection of confirmatory samples for laboratory analysis is planned prior to backfilling to ensure that dredging objectives have been met. The dredged area will be backfilled with material meeting Class A sediment values, comprised of sand in the subsurface and suitable habitat substrate in the top two feet. The planned dredging impacts approximately 147,000 square feet of Pontiac Bay with an estimated volume of sediment removed being approximately 22,500 cubic yards.

The dredged sediments will be handled and disposed of as discussed in Alternative 3A. It is estimated the work occurs over two years/construction seasons.

Present Worth: *$23,431,000*
Capital Cost: *$23,293,000*
Annual Costs: *$9,000*

Exhibit C

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
1. No Action	*0*	*0*	*0*
Alternative 2A: Limited Excavation and Off-Site Disposal of Contaminated Sediments with Capping	*$5,943,000*	*$14,000*	*$6,158,000*
Alternative 2B: Excavation and Off-Site Disposal of Contaminated Sediments to meet Class A Sediment Guidance Values	*$9,222,000*	*$9,000*	*$9,360,000*
Alternative 2C: Excavation and Off Site Disposal of Contaminated Sediments to meet Pre-Release Conditions	*$21,465,000*	*$9,000*	*$21,465,000*
Alternative 3A: Limited Dredging and Off Site Disposal of Contaminated Sediments with Capping	*$6,514,000*	*$14,000*	*$6,729,000*
Alternative 3B: Dredging and Off Site Disposal of Contaminated Sediments to meet Class A Sediment Guidance Values	*$9,872,000*	*$9,000*	*$10,010,000*
Alternative 3C: Dredging and Off Site Disposal of Contaminated Sediments to meet Pre-Release Conditions	*$23,293,000*	*$9,000*	*$23,431,000*

Exhibit D

SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Alternative 2B: Excavation and Off-Site Disposal of Contaminated Sediments to meet Class A Sediment Guidance Values as the remedy for this site. Alternative 2B would achieve the remediation goals for the site by removing all impacted sediments considered harmful to aquatic life and recreational users of the lake. The elements of this remedy are described in Section 7. The proposed remedy is depicted in Figure 2.

Basis for Selection

The proposed remedy is based on the results of the RI and the evaluation of alternatives. The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375. A detailed discussion of the evaluation criteria and comparative analysis is included in the FS report.

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

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

Alternative 1 does not provide any protection to public health and the environment and will not be evaluated any further.

Alternatives 2B and 3B would protect public health and the environment by eliminating, reducing, or controlling existing or potential exposure pathways through sediment removal. These remedial alternatives would achieve the majority of RAOs for sediment at OU03 with the exception of restoring the lake sediments to pre-disposal/pre-lease conditions in sediments greater than 7 feet in depth. Alternatives 2B, 3B would remove all visible MGP-impacted sediment and all remaining sediment would meet the Class A sediment guidance values (SGVs). Meeting Class A criteria would mean any remaining sediment would present little or no potential for risk to aquatic life or recreational users of the lake.

Alternatives 2A and 3A would protect public health and the environment through eliminating, reducing, and controlling existing or potential exposure pathways through sediment removal and capping. These remedial alternatives would achieve the majority of RAOs for sediment at OU03 with the exception of restoring the lake sediments to Class A Criteria. However, given that sediment contaminants would remain in place beneath the cap, a site management plan including an IC/EC plan would be required.

Alternatives 2C and 3C would protect public health and the environment through eliminating, reducing, or controlling existing or potential exposure pathways through sediment removal. These remedial alternatives would achieve all RAOs for sediment. Alternatives 2C and 3C would remove all contaminants of concern to non-detect levels throughout Pontiac Bay.

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

Alternatives 2B and 3B would meet chemical-specific SCGs by removing approximately 7 feet of contaminated sediment, including all visible MGP-impacted sediment, to effectively remove sediment contamination in excess of the Class A SGV within Pontiac Bay.

Alternatives 2A and 3A would meet chemical-specific SCGs by removing the top 2 feet of impacted sediment and capping remaining sediment contamination in excess of the Class A SGV. Significant contamination above SCGs would remain beneath the cap.

Alternatives 2C and 3C would meet chemical-specific SCGs by removing all sediment with detectable concentrations of contaminants of concern (up to 8 feet in depth) to restore Pontiac Bay to pre-disposal conditions.

All alternatives would trigger location-specific SCGs associated with construction within a flood plain, and action-specific SCGs associated with dust control, odor control, erosion and sediment control, transportation and disposal of remediation wastes, and lake restoration.

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

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

Alternatives 2B, 2C, 3B and 3C would permanently remove and dispose of all MGP-impacted sediment exceeding the Class A SGVs. Mechanical excavation is more effective than dredging because impacts can be seen and addressed immediately. Site restoration would return the bay to pre-construction conditions, as determined by the pre-design investigations. As a result, Alternatives 2B, 2C, 3B, and 3C have similar levels of long term effectiveness.

Alternatives 2A and 3A would leave impacted sediment in place and require a cap. The cap would require periodic inspections to ensure that it remains effective and may require maintenance in the future to maintain long-term effectiveness and permanence. As a result, the reliability of these alternatives is less than Alternative 2B, 2C, 3B, and 3C.

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

Alternatives 2B and 3B would result in the elimination of toxicity, mobility, and volume of sediment contamination in Pontiac Bay by removing any contaminated sediment exceeding the Class A SCGs and transporting the sediment off-site for treatment and disposal.

Alternatives 2C and 3C would also result in the elimination of toxicity, mobility and volume of sediment contamination in Pontiac Bay by removing any contaminated sediment with detectable concentrations of contaminants and transporting the sediment off-site for disposal.

Alternatives 2A and 3A would result in the reduction of mobility of sediment contamination within the Bay through on-site capping. These alternatives would also reduce the total volume of contamination, but to a lesser degree than Alternatives 2B, 2C, 3B, and 3C. However, these alternatives would not reduce the overall toxicity

of contamination remaining beneath the cap.

Alternatives 2B, 2C, 3B and 3C would most effectively reduce the toxicity, mobility, and volume of site contamination.

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

All alternatives would result in some degree of short-term impacts and potential risks to the community, site workers, and the environment as a result of implementation. Implementation would include preparation of and adherence to a construction work plan, community air monitoring plan, and health and safety plan to address the potential risks and impacts. It is estimated that all alternatives would need to be conducted in two phases, during two consecutive seasons. All remedial alternatives will affect public access to portions of the lake.

Alternative 2A would involve the least disturbance of sediment, but would still require extensive use of odor controls throughout the dewatered area of excavation and stockpile areas. Alternative 2B involves less disturbance of sediment compared to Alternative 2C, but would still require extensive use of odor controls throughout the dewatered area of excavation. Alternative 2C involves the most disturbance of sediment compared to all retained alternatives and would require extensive use of odor controls throughout the dewatered area of excavation.

For Alternatives 3A, 3B and 3C it is likely the Geotubes® or similar technology will need to remain on-site for dewatering for several months after construction is complete to properly dewater prior to disposal, which would require odor controls to prevent impacts to the community beyond the work period. Dredging will require a larger footprint for sediment handling, dewatering, and treatment.

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

There would be limited technical issues with implementing Alternatives 2A, 2B and 2C associated primarily with dewatering, excavating and restoring Pontiac Bay. State or Federal regulations for construction within a flood plain may complicate implementation of this alternative.

There would be significant technical issues with implementing Alternatives 3A, 3B and 3C. Dredging in shallow areas of the bay would be from the shore since a traditional barge would not be a viable option due to shallow water depth in the Bay. Depths of dredging and visual observations of the bottom are difficult in comparison to traditional excavation. Sediment in the Geotubes® or similar technology would require a significant amount of time to dewater prior to transporting off-site for disposal, and the water would also need to be collected for off-site disposal. Similarly to Alternatives 2A, 2B, and 2C State or Federal regulations for construction within a flood plain would need to be incorporated in the implementation of this alternative.

Implementability of all alternatives would be contingent upon cooperation of the community and land owners surrounding the bay for use of land for equipment, supplies, and access. The additional acreage required for the

treatment plant for the dredged slurry under Alternatives 3A, 3B and 3C would increase the administrative difficulty of implementing these alternatives.

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

The capping alternatives have the least expensive costs, with 2A having an estimated present worth cost of $5,314,000 and 3A a cost of $6,637,000. Capping will require long term monitoring and additional future costs to maintain the cap. Removal of all contamination to pre-release conditions are the most expensive alternatives, with 2C having an estimated cost of $22,068,000 and 3C, $23,184,000 and provide little additional protectiveness or reduction in the volume. Removal of all impacted sediment above Class A SCGs would have costs of $9,282,000 for Alternative 2B and $10,636,000 for Alternative 3B. Excavation alternatives are more cost effective than dredging.

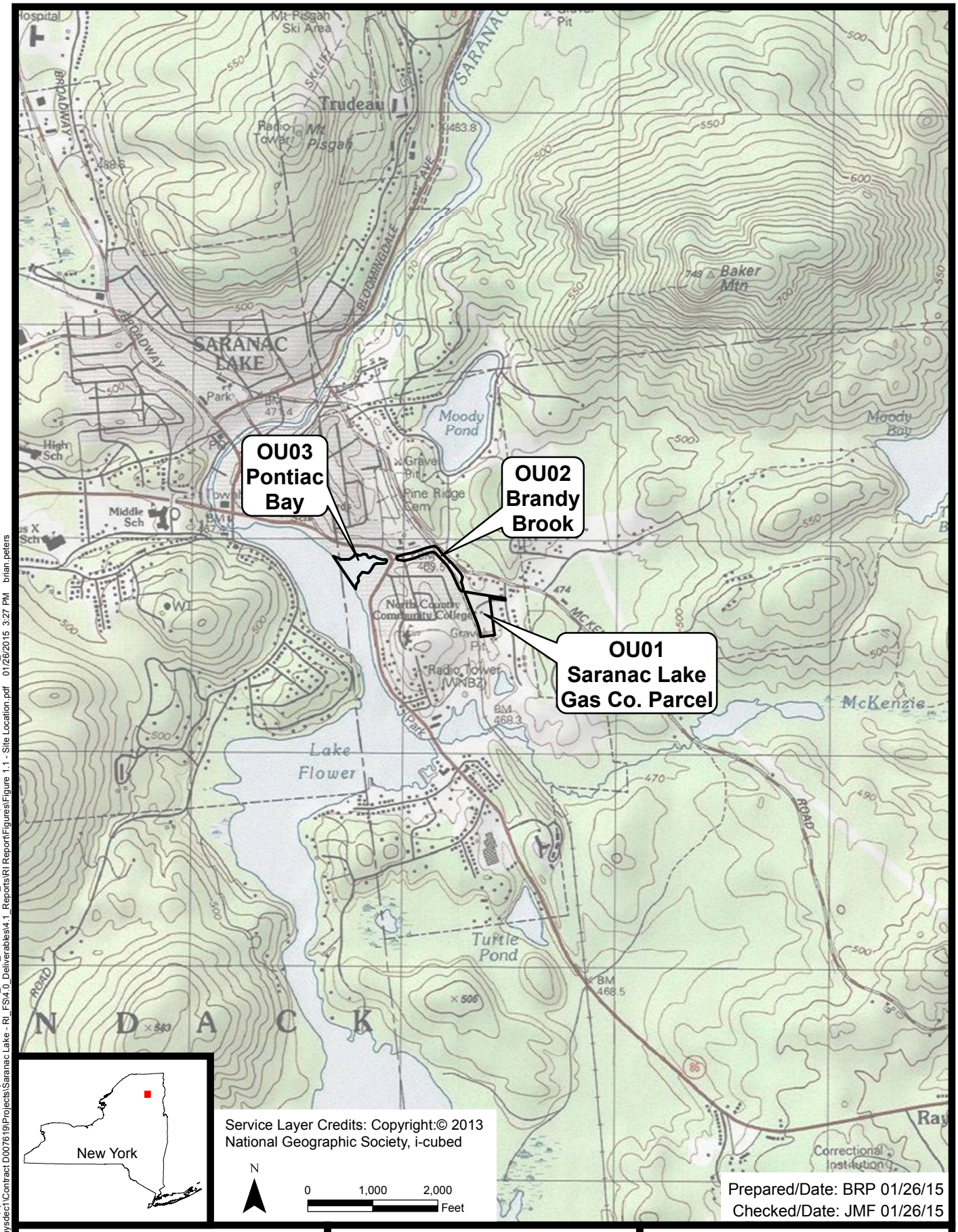
8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the remedy.

The current and reasonably anticipated future use of OU03 is recreational use. All alternatives would be compatible with this current land use and reasonably anticipated future land use, which includes fishing and swimming. Capping alternatives (2A, 3A) would require a site management plan and periodic cap inspections to ensure that the cap is effective. Alternative 3B and 3C would preclude use of staging areas beyond the physical sediment removal phase of the remedy while the dredged sediment continues to dewater.

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

9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP are evaluated. A responsiveness summary will be prepared that describes public comments received and the manner in which the Department will address the concerns raised. If the selected remedy differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.

Alternative 2B - Excavation and Off-Site Disposal of Contaminated Sediments to meet Class A Sediment Guidance Values is being proposed because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion. It provides nearly the same degree of long-term effectiveness and reduction in contaminant volume as removal to pre-release conditions, and the mechanical excavation component provides a higher level of effectiveness in a more implementable and cost-effective manner than the dredging alternatives.



NYSDEC Site # 516008
Saranac Lake Gas Co., Inc.
Saranac Lake, New York

MACTEC

Site Location Map

Project 3612132271 Figure 1

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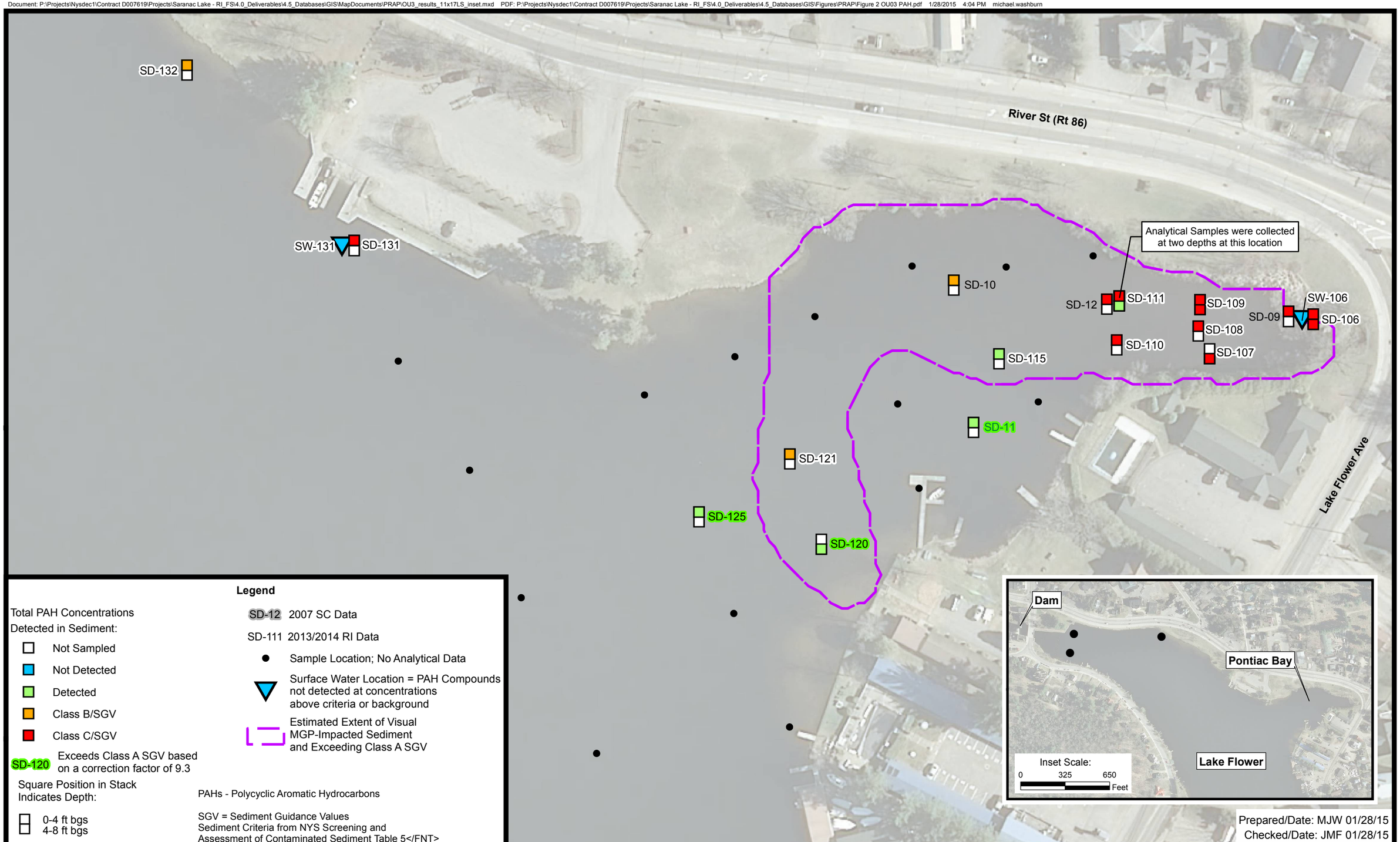

Legend

Total PAH Concentrations Detected in Sediment:

- Not Sampled
- Not Detected
- Detected
- Class B/SGV
- Class C/SGV

SD-120 Exceeds Class A SGV based on a correction factor of 9.3

Square Position in Stack Indicates Depth:

- 0-4 ft bgs
- 4-8 ft bgs

SD-12 2007 SC Data

SD-111 2013/2014 RI Data

Sample Location; No Analytical Data

Surface Water Location = PAH Compounds not detected at concentrations above criteria or background

Estimated Extent of Visual MGP-Impacted Sediment and Exceeding Class A SGV

PAHs - Polycyclic Aromatic Hydrocarbons

SGV = Sediment Guidance Values
Sediment Criteria from NYS Screening and Assessment of Contaminated Sediment Table 5</FNT>

Essex County color digital orthoimagery (2013) obtained from New York State GIS Clearinghouse at: http://www.nysgis.state.ny.us

N

0 40 80 Feet

Prepared/Date: MJW 01/28/15
Checked/Date: JMF 01/28/15

NYSDEC Site # 516008
Saranac Lake Gas Co., Inc.
Saranac Lake, New York

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OU03 - Total PAH Compounds Detected in Media Compared to Criteria
Project 3612132271 Figure 2