cornerstone
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June 14, 2019

Mr. Scott Deyette, Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation, BURC
625 Broadway
Albany, NY 12233-7014

Re: Croton Point Sanitary Landfill
Periodic Review Report
NYDEC Site No. 360001

Dear Mr. Deyette:

On behalf of Westchester County, Department of Environmental Facilities (WCDEF), enclosed is the Croton Point Sanitary Landfill, Periodic Review Report (PRR) (June 14, 2019). This submittal is consistent with the New York State Department of Environmental Conservation's (Department) Reminder Notice: Site Management Periodic Review Report and IC/EC Certification Submittal, dated April 5, 2019.

As a result of the PRR being prepared in accordance with the site specific Site Management (SM) requirements it is our expectation that this PRR is approvable and that review and approval can be completed in the near future.

We have enclosed one (1) hard copy and provided an electronic format of the report to the Department.

We look forward to your approval of the PRR. Please contact us should you have any questions or require additional information on this matter.

Sincerely,

CORNERSTONE ENGINEERING, GEOLOGY AND LAND SURVEYING, PLLC

Daryl R. O'Dell, P.E.
Project Manager

Kristen M. Thordahl, P.E.
Compliance and Reporting Specialist

cornerstone PLLC

Enclosure: Croton Point Sanitary Landfill Periodic Review Report

cc: Louis J. Vetrone, Deputy Comissioner, WCDEF
Gary Ritchie, Superintendent of Landfills, WCDEF

Westchester gov.com

George Latimer
County Executive

Department of Environmental Facilities

Vincent F. Kopicki, P.E.
Commissioner

June 14, 2019

Mr. Scott Deyette
Project Manager
Division of Environmental Remediation, BURC
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233-7014

Re: Site Management Periodic Review Report and IC/EC Certification Submittal
NYSDEC Site #360001

Dear Mr. Deyette:

Enclosed please find Westchester County's Periodic Review Report for Croton Point Sanitary Landfill and Railroad 1, NYSDEC Site No. 360001, referenced in your Reminder Notice sent on 4/5/19. Please accept this notification that Westchester County has deemed Daryl O'Dell, P.E., Project Manager, Cornerstone Engineering, Geology and Land Surveying, PLLC, our designated representative for the report and related documents.

Please note, Mr. Mario Parise has retired and moving forward Mr. Louis Vetrone, Deputy Commissioner will be the main point of contact for Westchester County and any future correspondence related to this referenced subject matter should be directed to Mr. Vetrone. Mr. Vetrone's contact information is as follows:

Louis J. Vetrone
Deputy Commissioner, Westchester County Department of Environmental Facilities
270 North Avenue, 6th Floor
New Rochelle, NY 10801
Tel.: 914-813-5429
Email: LJV3@westchestergov.com

Sincerely,

Vincent F. Kopicki, P.E.
Commissioner, Department of Environmental Facilities

cc: w/out enclosures
Louis Vetrone, Deputy Commissioner, DEF
Gary Ritchie, Superintendent of Landfills, DEF
Daryl O'Dell, P.E., Cornerstone
Michael Schumaci, Client Manager, Cornerstone

cornerstone PLLC

Building lifetime relationships with our clients and employees.

Croton Point Sanitary Landfill

Periodic Review Report

Croton Point Landfill

Railroad 1 Landfill

Site Number: 360001

June 14, 2019

Prepared for:

Westchester gov.com

Westchester County
Department of Environmental Facilities
270 North Avenue
New Rochelle, New York 10801

100 Crystal Run Road, Suite 101
Middletown, NY 10941
(845) 695-0200

REPORT CERTIFICATION

Periodic Review Report

Croton Point Sanitary Landfill
Croton Point Avenue
Croton-On-Hudson, New York 10520

The material and data in this report were prepared under the supervision and direction of the undersigned.

CORNERSTONE ENGINEERING, GEOLOGY AND LAND SURVEYING, PLLC

Daryl R. O'Dell 6/14/2019

Daryl R. O'Dell, P.E. Date
NY PE License No. 087115

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1 INTRODUCTION

This Periodic Review Report (PRR, Report) is being submitted consistent with the New York State Department Environmental Conservation's (NYSDEC) Reminder Notice: Site Management Periodic Review, dated April 5, 2019 (NYSDEC's letter) for the Croton Point Sanitary Landfill. A copy of the NYSDEC's letter is included in Appendix A.

The Croton Point Sanitary Landfill (Site) is comprised of two (2) landfills, the Croton Landfill and the Railroad I Landfill. This PRR has been prepared in conformance with the applicable requirements of the Technical Guidance for Site Investigation and Remediation (DER-10).

During the reporting period as specified in the NYSDEC's letter (May 18, 2014 to May 18, 2019), routine operation, maintenance and monitoring activities were performed in compliance with the approved Post Closure Operation and Maintenance (O&M) Manuals for the Railroad I Landfill prepared by Savin Engineers, P.C. dated April 2004 and the Croton Point Landfill prepared by Savin Engineers, P.C. dated July 1996. For this Report, data and information has been compiled from 2014 through May 18, 2019.

This PRR will address topics as outlined in the NYSDEC DER-10 to include:

- Evaluation of Records and Reporting - To the extent applicable, the site monitoring data, as well as results of the inspections, have been evaluated as part of the periodic review to confirm that:
  - Engineering controls, including necessary treatment or mitigation systems and associated institutional controls are in place, are performing properly and remain effective;
  - The Site Management (SM) plan is being implemented. The SM plan for the Site consists of the Post Closure O&M manuals;
  - Operation and maintenance activities are being conducted properly by Westchester County Department of Environmental Facilities (WCDEF) personnel assigned to the solid waste division; and
  - Based on this review, the remedy continues to be protective of public health and the environment.

2 SITE OVERVIEW

Croton Point Park is a public park operated by Westchester County, New York and is located on a peninsula extending into the Hudson River at Croton-on-Hudson, New York. The park was partially built on two (2) closed landfills; Croton Landfill and Railroad I Landfill. Collectively they are referred to as the Croton Sanitary Landfill.

2.1 RAILROAD I LANDFILL

2.1.1 Site Description

The Railroad I Landfill is located southwest of the Village of Croton-on-Hudson as shown on Figure 1 and Figure 2.

The Railroad I Landfill is a separate landfill located north of the main landfill adjacent to the Metro North Croton-Harmon Rail Yard. Railroad I is a lined landfill with a combination synthetic cap and clay-side liner, a leachate collection system and the landfill gas collection and control system. Railroad I Landfill operated from 1980 until 1982 and received only municipal solid waste (MSW), as reported in the Post Closure Care and Operation Manual for the Railroad I Landfill, dated April 2004.

Based on liquid level elevations observed at landfill gas extraction wells and around the landfill, preferential groundwater flow in the water table (unconfined) system is primarily from the northwest flowing toward Haverstraw Bay. Basic information as well as O&M requirements for these landfills are contained in the Railroad I Landfill O&M Manual dated April 2004.

Apart from the landfill areas, much of the land use on Croton Point is recreational. There are camping areas to the southwest of the Railroad I Landfill, a beach and picnic area further to the southwest.

2.2 CROTON POINT LANDFILL

2.2.1 Site Description

The Croton Point Landfill is located southwest of the Village of Croton-on-Hudson as shown on Figure 1 and Figure 2. The Croton Point Landfill is classified as a Class II inactive waste disposal site under the NYSDEC regulations pertaining to inactive hazardous waste disposal sites, 6 NYCRR Part 375.

The Croton Point Landfill is divided in two (2) distinct disposal facilities as shown on Figure 2. The largest of these facilities is the "Original Landfill", an unlined area used from 1927 until 1986 as reported in the Operation Manual for the Croton Point Landfill, dated

July 1996. The other area, known as the "Ballfield Landfill," is an immediately adjacent lined landfill operated from 1982 until 1986, as reported in the Operation Manual for the Croton Point Landfill, dated July 1996, which was the last landfill cell of the Croton Landfill. The Ballfield Landfill was designed with a bottom liner and leachate collection system.

The "Original Landfill" has no synthetic liner, however, it is underlain by an organic clay/peat deposit. This deposit inhibits vertical flow of groundwater and would be expected to promote a predominately lateral flow of groundwater out of the landfill. Based on liquid level elevations observed at landfill gas extraction wells and around the landfill, preferential groundwater flow in the water table (unconfined) system is from the northwest flowing toward Haverstraw Bay and southeast flowing toward the tidal shallows off the Croton Marsh.

A deeper groundwater system exists under confined conditions beneath the organic clay/peat deposit. Although flow in this confined system is more complicated by tidal influence than flow in the unconfined system, deep well liquid levels reveal a general direction of flow from the mainland toward Croton Bay. The organic clay/peat layer impedes the flow of groundwater between the shallow unconfined system and the deeper confined system.

Apart from the landfill areas, much of the land use on Croton Point is recreational. There are camping areas to the north and south of the Original Landfill, picnic area to the west, and a beach area along Haverstraw Bay to the northwest.

3 PERIODIC REVIEW REPORT

3.1 INTRODUCTION

The purpose of this PRR is to evaluate the institutional and engineering controls (IC/EC) at the Site and to summarize monitoring results and evaluate O&M activities to document the following:

- IC/EC are in place, performing properly and remain effective;
- The SM plan is being implemented; and
- Operation and maintenance activities are being conducted, as needed, to maintain the engineering controls.

The PRR documentation is as follows (relevant DER-10 citations shown in parentheses):

- Performance and Effectiveness (6.3(b)2.i.)
  - Sections 3.2, 3.3, 3.5, 3.6, and 3.8
- New Conclusions or Observations (6.3(b)2.ii.)
  - Section 3.10
- Recommendations for Change (6.3(b)2.iii.)
  - Section 3.6
- Contaminant Removal (6.3(b)4.ii.)
  - Section 3.8
- Routine Maintenance and Inspection (6.3(b)4.iii and iv.)
  - Sections 3.4 through 3.9
- Performance Monitoring (6.3(b)4.v.)
  - CD – 1; CD-3
- Optimization and Performance Problem Resolution (6.3(b)4.vi. and vii.)
  - Section 3.4; Appendix B
- Field Data (6.3(b)4.viii.)
  - CD-ROM
- Sampling and Well Locations (6.3(b)5.i.)
  - Figure 2
- Change of Use Documentation (6.3(b)6.)

- No change of use during this reporting period

- Recommendations for Modification of ECs or ICs (6.3(b)7.)
  - Section 3.10
- Cumulative Data Summary Tables and/or Graphical Representations of Contaminants (6.3(b)8.)
  - Section 3.3
- Inspection Reports (6.3(b)10.)
  - CD-5

3.2 POST CLOSURE OPERATION PROGRAM

The Program covers record keeping relative to the Leachate, Seeps and Landfill Gas Condensate Collection System, as well as the Landfill Gas Collection and Control System. Operating records for the five (5) leachate and condensate pump stations are reflected in the individual Daily Discharge Logs (CD-1), and Summary Monthly Discharge Logs (CD-2). Operating records for the flare are shown in the Flare Data Logs (CD-3). Data for the pump stations and flare are not complied until the end of each year, as such, information for 2019 has not been provided in this Report.

3.3 POST CLOSURE MONITORING AND SAMPLING PROGRAM

The Post Closure Monitoring and Sampling Program, in response to the New York State Department of Environmental Conservation (NYSDEC), Record of Decision, provides for a periodic monitoring program designed to detect any changes in the effectiveness of the remedial program. The sampling program examines changes in surface waters, leachate, landfill gases, marsh sediments and stormwater discharges. Results from the sampling program will be used to assess the long-term performance and effectiveness of the closure systems.

Details of the requirements of the monitoring and sampling program are described in the Post Closure Care and O&M Manual.

3.4 WORK AND ACTIVITY PERFORMED

The most significant work performed for this reporting period includes the addition of the RR1 header near EW-23 to remediate a water collection issue (April 2014) and a new horizontal gas collection well, EW-13A, to assist with the collection of migrating gas (November 2015). These are shown on the site plan, Figure 2.

Actions from 2014 through 2018 are included in Appendix B – Work and Activity Performed.

3.5 GROUNDWATER AND SURFACE WATER MONITORING

WCDEF has made a request for a reduction in groundwater sampling from quarterly to once every fifth quarter for the Croton Point Sanitary Landfill. In a letter dated March 31, 2004, the NYSDEC accepted the proposal. In addition, in a letter dated October 29, 2012, the NYSDEC has reduced the sampling frequency for the Railroad I Landfill to once every fifth quarter, and it is to coincide and be performed at the same time as the Croton Point Landfill Sampling.

The individual quarterly reports for the above mentioned sampling periods are not included herewith. Each Quarterly Sampling Report was submitted to NYSDEC following each of the specific sampling events.

Quarterly sampling was last performed in December 2018, and the next sampling event is scheduled to be conducted in the first quarter of 2020.

3.6 WORK AND ACTIVITY PERFORMED

The most significant work performed for this reporting period includes the addition of the RR1 header near EW-23 to remediate a water collection issue (April 2014) and a new horizontal gas collection well, EW-13A, to assist with the collection of migrating gas (November 2015). These are shown on the site plan, Figure 2.

Actions from 2014 through 2018 are included in Appendix B – Work and Activity Performed.

3.7 LANDFILL GAS WELL FIELD

During the reporting period of May 18, 2014 through May 18, 2019, WCDEF personnel performed landfill site inspections and conducted wellfield monitoring. The landfill gas wells were inspected and observations with respect to the site conditions, groundhog holes, gas leakage and landfill gas control valve box condition. Vacuum pressure readings, methane quality, carbon dioxide and oxygen levels were recorded, and relative position of the butterfly (well isolation) valves were noted. Adjustments were made to landfill gas flow as required based on landfill gas concentrations.

Routine maintenance to the landfill gas collection and control system have been performed based on inspection findings. Additionally, WCDEF personnel implemented vegetative management controls to include removal of woody growth that typically accumulates along access roadways and on the landfill cap, as well as adding aggregate to repair ruts in the access roadways.

3.8 FLARE/BLOWER STATION SERVICE AND MAINTENANCE

On February 23, 2016 and October 25, 2017, preventative maintenance was performed and completed on the enclosed flare by LFG Specialties, LLC. While on site, the service technician observed and determined the enclosed flare system has been adequately maintained and is in good condition.

The following recommendations for repairs/modifications to the enclosed flare station based on LFG Specialties observations:

- The propane tank needs a 15 PSI regulator at the tank.
- The propane regulator at the flare should be set to 3 PSI.
- The Thermal Instrument flow meter should be rescaled to 0-450 SCFM and calibrated to current gas readings.

Corrective action to the enclosed flare deficiencies that were addressed by WCDEF personnel are as follows:

- Purchase and installation of 15 PSI regulator.
- Adjustment of propane regulator at the flare.
- Recalibration and rescaling of flow meter.

Additional activities completed by LFG Specialties, LLC while on-site included:

- Check of all safety shutdowns.
- Verification of flow meter.
- Replacement of pilot gauge.
- Replacement of grease for blowers.
- Replacement of CPU unit.

3.9 LEACHATE COLLECTION AND CONVEYANCE

The leachate system consists of five pump stations and nearly two and a half miles of force mains and gravity sewers. In addition to leachate collection from the Croton Point and Railroad I Landfills, the system also collects and conveys sewage from several sanitary lines connected into the system throughout the park and the Metro North railroad yards.

The pump stations were monitored every day and any unusual observations were reported. It should be noted that all of the pumping facilities are tied into a central alarm system, which sends an alarm via telephone to the North Yonkers Pump Station. The central station

is monitored 24 hours per day, 7 days per week, and is tested weekly. WCDEF Personnel are dispatched in response to any alarm conditions.

During the reporting period, WCDEF continued its program of daily pump station inspections (including weekends and holidays) assuring that any unfavorable condition is addressed promptly.

All of the stations have an elapsed time meter for each pump, which monitors the pump running time. The elapsed time meter readings are recorded each day and a daily, weekly, and monthly summary is prepared. The daily log report is set up to calculate flows discharged from each station. The daily and monthly Pump Station logs, as described above, are provided (CD-1).

Table 1: *Total Leachate Flow* and Table 2: *Daily Average Leachate Flow* summarize the monthly total and average flows discharged from this facility, and received at the Ossining Wastewater Treatment Facility, from 2014 through 2018. Table 3: *Annual Leachate Flow*, summarizes the annual leachate flows over the reporting period.

TABLE 1: TOTAL LEACHATE FLOW

Month	Total Leachate Flow (Gallons)				
	2014	2015	2016	2017	2018
January	2,806,242	2,556,300	695	2,996,379	10,296,381
February	1,830,708	1,163,160	42,900	2,790,565	4,759,072
March	2,750,448	2,013,234	93,600	3,380,127	3,820,228
April	2,575,506	2,725,356	171,063	3,927,210	3,639,962
May	3,118,266	2,286,336	212,097	5,722,146	3,484,850
June	2,016,192	2,942,004	150,972	4,589,839	2,818,588
July	2,697,426	2,494,278	1,849,800	5,268,927	3,303,699
August	2,123,700	2,215,122	2,669,889	4,444,506	4,790,333
September	1,553,448	3,008,418	2,201,361	4,367,942	3,136,680
October	1,798,842	3,115,398	2,114,175	3,921,294	4,613,669
November	2,113,422	1,890,372	3,639,375	4,252,424	5,544,121
December	3,066,108	2,511,060	3,515,489	4,078,760	4,237,773

TABLE 2: DAILY AVERAGE LEACHATE FLOW

Month	Daily Average Leachate Flow (gal/day)				
	2014	2015	2016	2017	2018
January	91,963	82,461	22	96,657	332,141
February	65,382	41,541	1,479	99,663	169,967
March	88,724	64,943	3,019	109,036	123,233
April	85,850	90,845	5,702	130,907	121,332
May	100,589	73,753	6,842	184,585	112,415
June	67,206	98,067	5,032	152,995	93,953
July	87,014	80,461	59,671	169,965	106,571
August	68,506	71,456	86,125	143,371	154,527
September	51,782	100,281	73,379	145,598	104,556
October	58,027	100,497	68,199	126,493	148,828
November	70,447	63,012	121,313	141,747	184,804
December	98,907	81,002	113,403	131,573	136,702

TABLE 3: ANNUAL LEACHATE FLOW

Year	Total Leachate Flow	Daily Average Leachate Flow (gal/day)
2014	28,450,308	77,867
2015	28,921,038	79,027
2016	16,661,417	45,349
2017	49,740,120	136,049
2018	54,445,356	149,086

The total sewage/leachate discharged to the Ossining Wastewater Treatment Facility for the 5-year reporting period was 178,218,239 gallons, which results in a monthly average flow of 2,970,304 gallons, or a daily average flow rate of 97,600 gallons/day.

3.10 PUMPING STATION SERVICE AND MAINTENANCE

Unanticipated service and maintenance at the pump stations has been minimal during the reporting period. However, some specific tasks were performed as detailed previously in Section 3.4 of this Report. Observations were made by WCDEF personnel on a daily basis to confirm operating performance of the pump stations.

3.11 RECOMMENDATIONS AND CONCLUSIONS

The following overall PRR recommendations and conclusions result from the information contained in the above referenced reports.

3.11.1 Compliance with Site Management Plans

Based on Cornerstone's review of documentation available and the information provided, the requirements set forth in the SM plan for the Site have been met during the reporting period of this PRR.

3.11.2 Recommendations and Future Periodic Review Report Submittals

The recommendations for the site are to continue the current maintenance and monitoring programs in accordance with the governing SM plan, and maintain the existing IC/EC.

Environmental monitoring data will continue to be evaluated as it is received and if additional remedial actions are deemed appropriate, separate recommendations will be prepared for submittal in the next 5-year PRR to the NYSDEC.

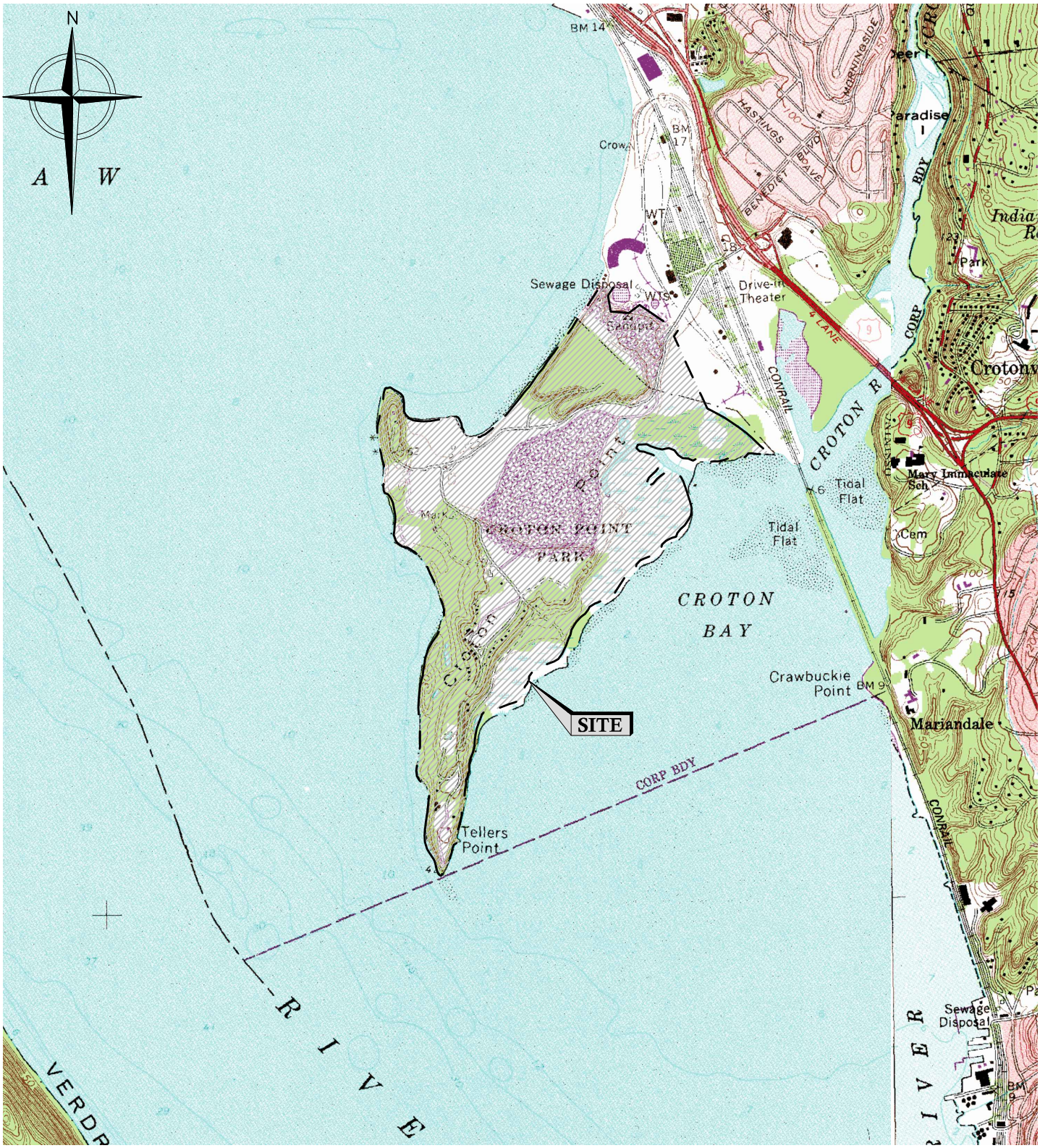
The certification of Institutional Controls and Engineering Controls is included in Appendix A of this Report.

LIMITATIONS

The work product included in the attached was undertaken in full conformity with generally accepted professional consulting principles and practices and to the fullest extent as allowed by law we expressly disclaim all warranties, express or implied, including warranties of merchantability or fitness for a particular purpose. The work product was completed in full conformity with the contract with our client and this document is solely for the use and reliance of our client (unless previously agreed upon that a third party could rely on the work product) and any reliance on this work product by an unapproved outside party is at such party's risk.

The work product herein (including opinions, conclusions, suggestions, etc.) was prepared based on the situations and circumstances as found at the time, location, scope and goal of our performance and thus should be relied upon and used by our client recognizing these considerations and limitations. Cornerstone shall not be liable for the consequences of any change in environmental standards, practices, or regulations following the completion of our work and there is no warrant to the veracity of information provided by third parties, or the partial utilization of this work product.

FIGURES



0 2000 4000

SCALE IN FEET

SOURCE:

1. BACKGROUND MAPPING TAKEN FROM USGS 7.5 MINUTE QUADRANGLES TITLED HAVERSTRAW, NEW YORK, DATED 1967 AND PHOTOREVISED 1979 AND OSSINING, NEW YORK, DATED 1967 AND PHOTOREVISED 1979.

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PREPARED BY:
CORNERSTONE ENGINEERING, GEOLOGY AND LAND SURVEYING, PLLC

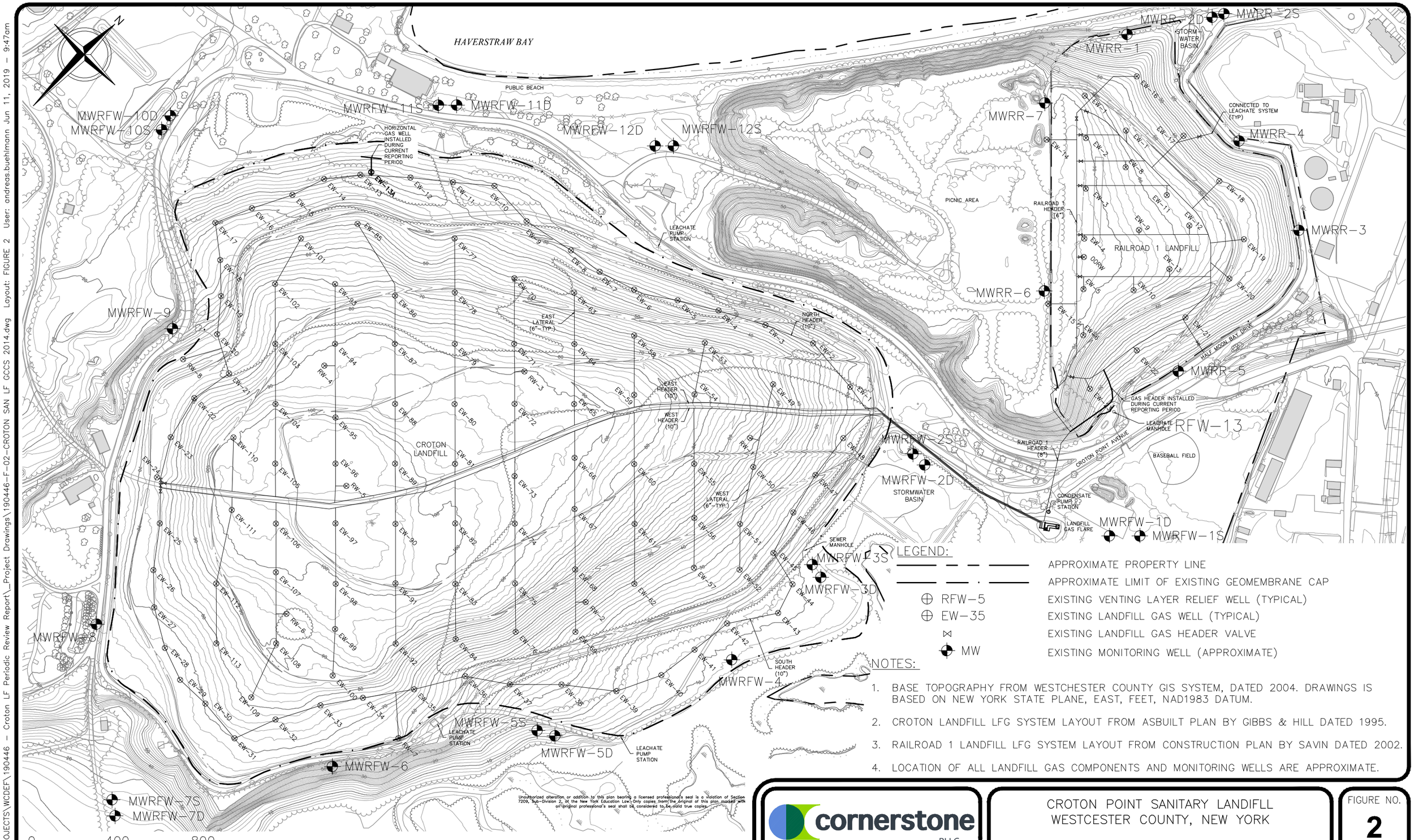
CROTON POINT SANITARY LANDFILL
WESTCHESTER COUNTY, NEW YORK

VICINITY MAP

FIGURE NO.
1

PROJECT NO.
190446

File: X:\PROJECTS\WCDEF\190446 - Croton LF Periodic Review Report_Project Drawings\190446-F-01-CROTON SAN LF VICINITY MAP.dwg Layout: FIGURE 1 User: andreas.buehlmann Jun 11, 2019 - 3:43pm



LEGEND:

— — — —	APPROXIMATE PROPERTY LINE
— — · —	APPROXIMATE LIMIT OF EXISTING GEOMEMBRANE CAP
⊕ RFW-5	EXISTING VENTING LAYER RELIEF WELL (TYPICAL)
⊕ EW-35	EXISTING LANDFILL GAS WELL (TYPICAL)
⋈	EXISTING LANDFILL GAS HEADER VALVE
⌖ MW	EXISTING MONITORING WELL (APPROXIMATE)

NOTES:

1. BASE TOPOGRAPHY FROM WESTCHESTER COUNTY GIS SYSTEM, DATED 2004. DRAWINGS IS BASED ON NEW YORK STATE PLANE, EAST, FEET, NAD1983 DATUM.
2. CROTON LANDFILL LFG SYSTEM LAYOUT FROM ASBUILT PLAN BY GIBBS & HILL DATED 1995.
3. RAILROAD 1 LANDFILL LFG SYSTEM LAYOUT FROM CONSTRUCTION PLAN BY SAVIN DATED 2002.
4. LOCATION OF ALL LANDFILL GAS COMPONENTS AND MONITORING WELLS ARE APPROXIMATE.

cornerstone PLLC

PREPARED BY:
CORNERSTONE ENGINEERING, GEOLOGY AND LAND SURVEYING, PLLC

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

CROTON POINT SANITARY LANDIFLL
WESTCESTER COUNTY, NEW YORK

EXISTING SITE PLAN

FIGURE NO. **2**

PROJECT NO. 190446

File: X:\PROJECTS\WCDEF\190446 - Croton LF Periodic Review Report_Project Drawings\190446-F-02-CROTON SAN LF GCCS 2014.dwg Layout: FIGURE 2 User: andreas.buehlmann Jun 11, 2019 - 9:47am

APPENDIX A
NYSDEC LETTER WITH INSTITUTIONAL CONTROLS AND ENGINEERING CONTROLS (IC/EC) CERTIFICATION

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Environmental Remediation
625 Broadway, 11th Floor, Albany, NY 12233-7020
P: (518)402-9543 | F: (518)402-9547
www.dec.ny.gov

4/5/2019

Louis J. Vetrone
Deputy Commissioner
county of westchester
department of environmental facilities
270 north avenue
New Rochells, NY 10811

Re: Reminder Notice: Site Management Periodic Review Report and IC/EC Certification Submittal
Site Name: Croton Point Sanitary Landfill
Site No.: 360001
Site Address: Croton Point Avenue
Croton-On-Hudson, NY 10520

Dear Louis J. Vetrone:

This letter serves as a reminder that sites in active Site Management (SM) require the submittal of a periodic progress report. This report, referred to as the Periodic Review Report (PRR), must document the implementation of, and compliance with, site-specific SM requirements. Section 6.3(b) of DER-10 *Technical Guidance for Site Investigation and Remediation* (available online at http://www.dec.ny.gov/regulations/67386.html) provides guidance regarding the information that must be included in the PRR. Further, if the site is comprised of multiple parcels, then you as the Certifying Party must arrange to submit one PRR for all parcels that comprise the site. The PRR must be received by the Department no later than **June 17, 2019**. Guidance on the content of a PRR is enclosed.

Site Management is defined in regulation (6 NYCRR 375-1.2(at)) and in Chapter 6 of DER-10. Depending on when the remedial program for your site was completed, SM may be governed by multiple documents (e.g., Operation, Maintenance, and Monitoring Plan; Soil Management Plan) or one comprehensive Site Management Plan.

A Site Management Plan (SMP) may contain one or all of the following elements, as applicable to the site: a plan to maintain institutional controls and/or engineering controls ("IC/EC Plan"); a plan for monitoring the performance and effectiveness of the selected remedy ("Monitoring Plan"); and/or a plan for the operation and maintenance of the selected remedy ("O&M Plan"). Additionally, the technical requirements for SM are stated in the decision document (e.g., Record of Decision) and, in some cases, the legal agreement directing the remediation of the site (e.g., order on consent, voluntary agreement, etc.).

When you submit the PRR (by the due date above), include the enclosed forms documenting that all SM requirements are being met. The Institutional Controls (ICs) portion of the form (Box 6) must be signed by you or your designated representative. If you cannot certify that all SM requirements are being met, you must submit a Corrective Measures Work Plan that identifies the actions to be taken to restore compliance. The work plan must include a schedule to be approved by the Department. The Periodic Review process will not be considered complete until all necessary corrective measures are completed and all required controls are certified. Instructions for completing the certifications are enclosed.

All site-related documents and data, including the PRR, must be submitted in electronic format to the Department of Environmental Conservation. The required format for documents is an Adobe PDF file with optical character recognition and no password protection. Data must be submitted as an electronic data deliverable (EDD) according to the instructions on the following webpage:

https://www.dec.ny.gov/chemical/62440.html

Documents may be submitted to the project manager either through electronic mail or by using the Department's file transfer service at the following webpage:

https://fts.dec.state.ny.us/fts/

The Department will not approve the PRR unless all documents and data generated in support of the PRR have been submitted using the required formats and protocols.

You may contact Scott Deyette, the Project Manager, at 518-402-9794 or scott.deyette@dec.ny.gov with any questions or concerns about the site. Please notify the project manager before conducting inspections or field work. You may also write to the project manager at the following address:

New York State Department of Environmental Conservation
Division of Environmental Remediation, BURC
625 Broadway
Albany, NY 12233-7014

Enclosures

PRR General Guidance
Certification Form Instructions
Certification Forms

ec: w/ enclosures
Scott Deyette, Project Manager

Dan Bendell, Hazardous Waste Remediation Supervisor, Region 3

Enclosure 1

Certification Instructions

I. Verification of Site Details (Box 1 and Box 2):

Answer the three questions in the Verification of Site Details Section. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

II. Certification of Institutional Controls/ Engineering Controls (IC/ECs)(Boxes 3, 4, and 5)

1.1.1. Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party should petition the Department separately to request approval to remove the control.

2. In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.

3. If you cannot certify "YES" for each Control listed in Box 3 & Box 4, sign and date the form in Box 5. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a plan of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) must be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 6 and Box 7):

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page as follows:

- For the Institutional Controls on the use of the property, the certification statement in Box 6 shall be completed and may be made by the property owner or designated representative.

- For the Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional, as noted on the form.

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. 360001

Site Name Croton Point Sanitary Landfill

Site Address: Croton Point Avenue Zip Code: 10520
City/Town: Croton-On-Hudson
County: Westchester
Site Acreage: ~~100.000~~ 120 - Approximate

Reporting Period: May 18, 2014 to May 18, 2019

	YES	NO
1. Is the information above correct?	✓	
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?		✓
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?		✓
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?		✓
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?		✓

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	✓	
7. Are all ICs/ECs in place and functioning as designed?	✓	

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Daryl R. O'Dell
Signature of Owner, Remedial Party or Designated Representative

6/14/2019
Date

SITE NO. 360001

Box 3

Description of Institutional Controls

Parcel	Owner	Institutional Control
00100 970000100	COUNTY OF WESTCHESTER	Landuse Restriction
		Ground Water Use Restriction
		O&M Plan

An Environmental Notice was filed on October 7, 2013 that restricts land use to commercial/industrial, and prohibits the use of groundwater at the site.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
00100 970000100	Leachate Collection
	Cover System

The site has a cover system in place, as well as a leachate collection system.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my 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 the information presented is accurate and compete.

YES	NO
☑	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☑	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Daryl R. O'Dell — 6/14/2019

Signature of Owner, Remedial Party or Designated Representative — Date

IC CERTIFICATIONS
SITE NO. 360001

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 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 Daryl R. O'Dell at Cornerstone Engineering, Geology and Land Surveying, PLLC 100 Crystal Run Road, Ste 101, Middletown, NY 10941

print name print business address

am certifying as Professional Engineer (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Daryl R. O'Dell

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

6/14/2019

Date

Enclosure 3
Periodic Review Report (PRR) General Guidance

I. Executive Summary: (1/2-page or less)
   A. Provide a brief summary of site, nature and extent of contamination, and remedial history.
   B. Effectiveness of the Remedial Program - Provide overall conclusions regarding;
      1. progress made during the reporting period toward meeting the remedial objectives for the site
      2. the ultimate ability of the remedial program to achieve the remedial objectives for the site.
   C. Compliance
      1. Identify any areas of non-compliance regarding the major elements of the Site Management Plan (SMP, i.e., the Institutional/Engineering Control (IC/EC) Plan, the Monitoring Plan, and the Operation & Maintenance (O&M) Plan).
      2. Propose steps to be taken and a schedule to correct any areas of non-compliance.
   D. Recommendations
      1. recommend whether any changes to the SMP are needed
      2. recommend any changes to the frequency for submittal of PRRs (increase, decrease)
      3. recommend whether the requirements for discontinuing site management have been met.

II. Site Overview (one page or less)
   A. Describe the site location, boundaries (figure), significant features, surrounding area, and the nature and extent of contamination prior to site remediation.
   B. Describe the chronology of the main features of the remedial program for the site, the components of the selected remedy, cleanup goals, site closure criteria, and any significant changes to the selected remedy that have been made since remedy selection.

III. Evaluate Remedy Performance, Effectiveness, and Protectiveness
   Using tables, graphs, charts and bulleted text to the extent practicable, describe the effectiveness of the remedy in achieving the remedial goals for the site. Base findings, recommendations, and conclusions on objective data. Evaluations and should be presented simply and concisely.

IV. IC/EC Plan Compliance Report (if applicable)
   A. IC/EC Requirements and Compliance
      1. Describe each control, its objective, and how performance of the control is evaluated.
      2. Summarize the status of each goal (whether it is fully in place and its effectiveness).
      3. Corrective Measures: describe steps proposed to address any deficiencies in ICECs.
      4. Conclusions and recommendations for changes.
   B. IC/EC Certification
      1. The certification must be complete (even if there are IC/EC deficiencies), and certified by the appropriate party as set forth in a Department-approved certification form(s).

V. Monitoring Plan Compliance Report (if applicable)
   A. Components of the Monitoring Plan (tabular presentations preferred) - Describe the requirements of the monitoring plan by media (i.e., soil, groundwater, sediment, etc.) and by any remedial technologies being used at the site.
   B. Summary of Monitoring Completed During Reporting Period - Describe the monitoring tasks actually completed during this PRR reporting period. Tables and/or figures should be used to show all data.
   C. Comparisons with Remedial Objectives - Compare the results of all monitoring with the remedial objectives for the site. Include trend analyses where possible.
   D. Monitoring Deficiencies - Describe any ways in which monitoring did not fully comply with the monitoring plan.
   E. Conclusions and Recommendations for Changes - Provide overall conclusions regarding the monitoring completed and the resulting evaluations regarding remedial effectiveness.

VI. Operation & Maintenance (O&M) Plan Compliance Report (if applicable)
   A. Components of O&M Plan - Describe the requirements of the O&M plan including required activities, frequencies, recordkeeping, etc.
   B. Summary of O&M Completed During Reporting Period - Describe the O&M tasks actually completed during this PRR reporting period.
   C. Evaluation of Remedial Systems - Based upon the results of the O&M activities completed, evaluated

the ability of each component of the remedy subject to O&M requirements to perform as designed/expected.

D. O&M Deficiencies - Identify any deficiencies in complying with the O&M plan during this PRR reporting period.

E. Conclusions and Recommendations for Improvements - Provide an overall conclusion regarding O&M for the site and identify any suggested improvements requiring changes in the O&M Plan.

VII. Overall PRR Conclusions and Recommendations

A. Compliance with SMP - For each component of the SMP (i.e., IC/EC, monitoring, O&M), summarize;
   1. whether all requirements of each plan were met during the reporting period
   2. any requirements not met
   3. proposed plans and a schedule for coming into full compliance.

B. Performance and Effectiveness of the Remedy - Based upon your evaluation of the components of the SMP, form conclusions about the performance of each component and the ability of the remedy to achieve the remedial objectives for the site.

C. Future PRR Submittals
   1. Recommend, with supporting justification, whether the frequency of the submittal of PRRs should be changed (either increased or decreased).
   2. If the requirements for site closure have been achieved, contact the Departments Project Manager for the site to determine what, if any, additional documentation is needed to support a decision to discontinue site management.

VIII. Additional Guidance

Additional guidance regarding the preparation and submittal of an acceptable PRR can be obtained from the Departments Project Manager for the site.

APPENDIX B
WORK AND ACTIVITY PERFORMED

2014 Work and Activity Performed

January 7, 2014	• Flare shut down due to power failure; resumed Flare at 7am on auto mode. Personnel monitored flare start up.
January 9, 2014	• Collected data for CLF and RR1.
January 27-30, 2014	• Collected data for CLF and RR1.
February 4, 2014	• Flare shut down at 10:45am to 1:15pm. While Flare was shut down the flow meter was replaced.
February 7, 2014	• Flare shut down to install new PLC by Pat Cullen and Pat Doresy. The Flare was shut down from 9:45am to 11:45am.
February 26, 2014	• Meeting with Mario and Lou to discuss mowing at CLF and RR1. • Collected data for CLF and RR1.
March 5, 2014	• Turned Flare off at 9:50am to Grease blowers and exercised valves. Also changed 2032 batteries in PLC.
March 14-19, 2014	• Collected data on CLF.
March 20, 2014	• Installed program on computer to view Yokogawa data, then uploaded data from Yokogawa onto program.
March 24-27, 2014	• Collected data for CLF and RR1.
April 1, 2014	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
April 2, 2014	• Pat Cullen and Kevin worked on Flare from 11am to 12pm.
April 8, 2014	• Supplies delivered for landfill restoration projects.
April 17, 2014	• Collected data on CLF and RR1.
April 21, 2014	• Construction project started by Cornerstone and Croton landfill crew. • Isolated RR1 header from Flare so work could begin. • CLF crew excavated a 6" header near RR1 EW-23. They then proceeded to cut the pipe and drain the water that was causing the blockage.
April 22, 2014	• To remediate the water issue in the RR1 header, the CLF crew along with cornerstone created a trap. The trap would collect the water from the header and drain it to a nearby leachate manhole, all while keeping the system free from 02. • Tested the RR1 header for air leaks by applying vacuum at the flare. Then tested the quality of gas at the flare to monitor for air leaks. The RR1 header showed low 02, which meant the work had been successful.
April 25, 2014	• Changed PID at flare from -15.0 to -14.0
May 6,2014	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
May 12, 2014	• CLF crew removed water from vaults on RR1

2014 Work and Activity Performed

May 16, 2014	• Construction on RR1 continued. • CLF crew along with Cornerstone camera main header to find an air leak on RR1. A break in the header was discovered near RR1 EW-19. The header was broken at a Y section of the pipe. We proceeded to excavate and replaced the cross section of pipe.
May 23-27, 2014	• Collected data on CLF and RR1. • Turned on East header of CLF
June 4, 2014	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter. • Excavated RR1 EW-7 to remove water from line.
June 9, 2014	• Flare shut down at 7:00am due to power outage. Monitored the restarted of the Flare at 9:15am.
July 7, 2014	• Greased blowers and exercised valves at Flare.
July 9, 2014	• Flare shut down at 2:45am due to power outage. Monitored the restarted of the Flare at 7:15am.
July 10, 2014	• Flare was shut down at 10:45 for work to be done on the PLC by Pat Cullen. Monitored the restarted of the Flare at 1:30pm.
July 16,2014	• JM from Cornerstone came to bore test gas migration areas near the Parks department's bathhouse, which is located along the North West side of CLF.
July 17, 2014	• Collected data along the north header on CLF. Fixed two wells in the process on collecting data, well EW-2 and EW-15.
July 18-22, 2014	• Collected data on CLF and RR1. • Removed water from vaults on RR1
August 4, 2014	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
August 20, 2014	• Removed water from vaults on RR1 then proceeded to collect data.
August 21-26, 2014	• Collected data on CLF and RR1.
August 27, 2014	• Flare was shut down at 9:00am to work on new lighting. Monitored the restarted of the Flare at 11:00am.
September 2, 2014	• Shut Flare down to switch out nitrogen tank. Monitored the restarted of the Flare.
September 3-4, 2014	• CLF crew began investigation into the North header on CLF. We cut into the header and sent a camera in to find water or obstructions. No water or obstructions were found.
September 10, 2014	• Cornerstone instruction on how to record data for well field. Proceeded to collect data for the month for CLF and RR1. • Crew continued camera work on CLF headers.
September 26, 2014	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.

2014 Work and Activity Performed

October 10, 2014	• Investigated RR1 EW-5 to EW-10 with camera. We found and drained water in the header.
October 17-21, 2014	• Collected data on CLF and RR1.
October 27-28, 2014	• Crew went to all gas wells on CLF and tightened all connections. The issue with 02 at the Flare was greatly reduced.
November 3, 2014	• Closed RR1 valve at 8:00am so work could be performed in well field. • CLF crew and Cornerstone worked on RR1 EW-4 to EW-10. The header connecting the two wells was excavated, so that the header could be lifted allowing water to drain properly.
November 10, 2014	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
November 18-21 2014	• Collected data on CLF and RR1. • Removed water from vaults on RR1
December 2, 2014	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter. • Tightened all valves and fittings at the Flare.
December 4, 2014	• Flare was shut down for yearly inspection and maintenance. During this time the flame arrestor was checked and cleaned, the flow meter was replaced and calibrated, louvers calibrated to controller, and the interior and exterior of the stack was inspected. • Need to acquire a contract with manufacturer (LFG) of Flare system for yearly inspections.
December 8, 2014	• Changed PID at Flare to -10.0 • Collected data on CLF and RR1.
December 15-19, 2014	• Fixed RR1 EW-6 and EW-8 while collecting data.

2015 Work and Activity Performed

January 2, 2015	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
January 5-7, 2015	• Collected data for CLF and RR1.
January 8, 2015	• Manually drained water out of Condensation pump station for 5 minutes.
January 9, 2015	• CLF crew began set up for ground water sampling.
January 12, 2015	• Flare shut down due to low nitrogen at 7:30am. We changed tank and monitored the restart of the Flare. • CLF crew began taking samples from Ground Monitoring Wells. Sampling continued for the next 3 weeks.
February 5, 2015	• Installed new version of Landtech GEM program. While Joe from • Landtech gave us a demo of the new GEM 5000.
February 10, 2015	• Collected data for CLF and RR1. • Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
February 11, 2015	• Flare shut down due to low nitrogen. We changed tank and monitored the restart of the Flare around 9:30am.
February 13, 2015	• Flare shut down due to hose breaking at nitrogen tank. We replaced the hose tank and monitored the restart of the Flare.
February 26-27, 2015	• CLF crew found air leak at The Flare. The drain line to the knock out pot had burst due to water freezing. The heat tape that was supposed to be preventing such an issue was not working. The CLF crew along with Cornerstone replaced the drain line and heat tape to fix the problem.
March 3, 2015	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
March 11, 2015	• Flare was shut down at 9:30am for PLC updates and back up battery installation. Work was completed around 12:00pm then we monitored the restart of the Flare.
March 16-19, 2015	• CLF crew removed water from vaults on RR1. • Collected data on CLF and RR1.
April 8, 2015	• Meeting with contractor at Flare about pump station rehabilitation project.
April 13-17, 2015	• CLF crew removed water from vaults on RR1. • Collected data on CLF and RR1. • Took monthly readings of flow meter.
April 20, 2015	• Greased blowers and exercised valves at Flare. • Construction on condensation pump station begins.

2015 Work and Activity Performed

April 27-29, 2015	• CLF crew removed trees along outside of RR1 basin. • Tested the RR1 header for air leaks by applying vacuum at the flare. Then tested the quality of gas at the flare to monitor for air leaks. The RR1 header showed low 02, which meant the work had been successful.
May 4, 2015	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
May 7, 2015	• Due to construction at Condensation pump station the Flare was shut down from 8:30am to 12:00pm.
May 8, 2015	• CLF crew along with cornerstone worked on CLF EW-73. We were able to dig up the vault and piping so we could pitch the water back into the gas well. This removed our blockage from the area and we were able to acquire more gas.
May 12-14, 2015	• At 8:30am the Flare was shut down for ongoing construction. Then on May 14th the Flare was able to be restarted.
May 18-19, 2015	• Collected data on CLF and RR1.
June 5, 2015	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter. • Auto dialer was installed for the Flare.
June 10-12, 2015	• Collected data on CLF and RR1.
June 19, 2015	• Flare shut down at 2:45am due to power outage. Monitored the restart of the Flare at 7:15am.
June 24, 2015	• Shut Flare down at 9:00am. During the shut we changed the IP address, reset the PID, and backed up all settings. Monitored the restart of the Flare at 10:30am.
July 7, 2015	• Flare was down at 5:30am due to power outage. Monitored the restart of the Flare at 7:00am. • Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter
July 13, 2015	• CLF crew and cornerstone replaced RR1 valve at Flare. This is only a temporary fix until we buy the correct valve.
July 20-22, 2015	• Collected data on CLF and RR1.
July 23, 2015	• Shut down the Flare so they could perform a final test on the Condensation pump station. Testing was successful and the pump station was back on line.
July 28, 2015	• Flare went down at 3:30am due to power outage. The Flare had issues restarting but with the help of cornerstone by phone call we were able to trouble shoot and locate the problem. After we had cleaned the lower UV sensor the Flare was able to restart. We monitored the restart at 10:30am.

2015 Work and Activity Performed

August 10, 2015	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
August 13, 2015	• Removed water from vaults on RR1 then proceeded to collect data.
August 14, 2015	• CLF crew received training from cornerstone on proper well field data collection. During the training they collected the data for RR1.
August 17-19, 2015	• CLF crew continued collecting data on CLF.
August 20, 2015	• CLF crew went to East Brunswick Landfill for HDPE pipe fusing training.
September 9, 2015	• Shut Flare down for installation of G.E. quick panel. Once work was completed we monitored the restart at 1:30pm. • Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
September 16-17, 2015	• During the construction rehabilitation of the Ballfield pump station a spill occurred. At 1:15pm a CLF crew member noticed that a bypass from the pump station had been spilling into the trench. We then proceeded to clean up the spill and contact the DEC. The spill is reported as number 1506400.
September 21, 2015	• CLF crew along with the direction of Cornerstone took bar samples along CLF and RR1. During these tests they found pockets of CH4 along the Northwest side of CLF. Cornerstone will follow up with a report and recommendations to solve the issue.
September 22-23, 2015	• Collected data on CLF and RR1. • During data collection the north header was turned back on to counter act CH4 from escaping the limits of CLF.
September 24, 2015	• Flare was down at 1:15pm due to power outage. Monitored the restart of the Flare at 1:30pm.
October 7, 2015	• Checked area Northwest of CLF for levels of CH4. Readings remain the same even with pulling form the North header.
October 9, 2015	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter. • Sounded CLF EW-1 through EW-24 gas wells on the North header for water, to see if that was obstructing gas flow.
October 13, 2015	• Cornerstone instructed us to dig test pits at the points of high levels of CH4. The test pits reviled little to no garbage but had higher amounts of CH4 the deeper we dug.
October 14, 2015	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter. • Pumped water out of previously sounded wells. CLF EW-12 and EW-14 both had less than a gallon each.

2015 Work and Activity Performed

October 19, 2015	• CLF crew used robotic camera to evaluate sewer line next to area of gas migration. During which time nothing was discovered to look out of the ordinary. • CLF crew also plotted the points of an old leachate pond that was in the same area of the gas migration. Thoughts were that garbage could have been at the bottom of the pond when it was filled in after the closure of the landfill.
October 20, 2015	• CLF crew took more samples at gas migration site to locate any other points. They concluded that there were 3 points of concern at this time.
October 21-23, 2015	• Collected data on CLF and RR1.
October 28, 2015	• CLF crew installed drain on CLF EW-73 so they could remove water from header. November 3, 2015 • Closed RR1 valve at 8:00am so work could be performed in well field. • CLF crew and Cornerstone worked on RR1 EW-4 to EW-10. The header connecting the two wells was excavated, so that the header could be lifted allowing water to drain properly.
November 10, 2015	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
November 16-17, 2015	• CLF crew excavated the North header at EW-13 so that they could install a 10" tee. The work was done in preparation for an upcoming project with Cornerstone to remediate the migrating gas.
November 18, 2015	• CLF crew and cornerstone continued on the work done the days before. They installed a horizontal gas well into the area of migrating gas with hopes to collect it and send it to the Flare. The horizontal well was completed and will now be referred to as EW-13A.
November 18-21 2015	• Collected data on CLF and RR1. • Removed water from vaults on RR1. • Sampled new gas well EW-13A. CLF crew would only keep the well open until it would crash. Due to this it was monitored daily.
December 1, 2015	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter. • Tightened all valves and fittings at the Flare. • Drained water from header at EW-73.
December 3, 2015	• CLF crew sounded wells on CLF. No water was found but wells in area known as ballfield seemed to be sucking back into the center of landfill.

2015 Work and Activity Performed

December 14, 2015	• CLF crew plotted a grid in the area of EW-13A. They then began to take bar samples in the area to evaluate if the horizontal well was helping. At this time there were still high levels of CH4. • CLF crew had meeting with the Parks department to discuss remapping of bio-diversity zones. We were only there to aide Parks with information of CLF and RR1.
December 15-19, 2015	• Collected data on CLF and RR1. • Removed water from vaults on RR1. • Removed water form header at EW-73.

2016 Work and Activity Performed

January 4, 2016	• Flare shut down at 6:00am due to power outage. We monitored the restart of the flare at 7:15am. • Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter. We then replaced flow meter with a calibrated one and had this on sent out for calibration. • Collected EW-13A data, then sampled gas in migration area.
January 5-7, 2016	• Collected data for CLF and RR1.
January 19, 2016	• CLF crew used a TVA-1000 to test the air about the gas migration area. High levels of CH4 were found and the area was coned off to prevent the public from entering.
January 20, 2016	• CLF crew had meeting with Mario and Lou about migrating gas and the work that had been done to correct the problem. • During this time the Pump Station project was still active and another bypass was created at Pump Station 1. We proceeded to monitor the bypass daily to prevent another spill.
February 12, 2016	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
February 19-23, 2016	• Collected data on CLF and RR1.
February 23-24, 2016	• Flare shut down at 8:00am for yearly maintenance by LFG. Troy from LFG monitored the restart of the Flare at 1:30pm the next day.
March 1, 2016	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter. • Found and marked anchor trench along gas migration area for upcoming bore testing.
March 7, 2016	• CLF crew used a Rigid see snake camera to investigate EW-13A. At around 150' we discovered water which was blocking the perforated section of pipe. This was making it difficult to collect gas from the area.
March 14-17, 2016	• CLF crew removed water from vaults on RR1. • Collected data on CLF and RR1. • CLF crew lowered PID of the Flare from -10.0 to -9.0
March 23-24, 2016	• CLF crew, Cornerstone, and an outside contractor conducted bore testing in the gas migration area. As the bore holes were drilled samples of the air and soil were collected. • During the boring we installed a perforated pipe near the horizontal gas well EW-13A. This was in hopes of collecting the ground water in the area and draining the horizontal.
March 25, 2016	• Began pumping water from horizontal gas well EW-13A. This continued for the next couple weeks and at no point in our efforts were we able to drain the water.

2016 Work and Activity Performed

April 5-6, 2016	• CLF crew checked wells EW-9 through EW-16 for sediment, water levels, and conditions of screens. Then checked EW-77, EW-85, and EW-101. All wells were located adjacent to bore testing site.
April 8, 2016	• CLF crew removed water from vaults on RR1. • Took monthly readings of flow meter. • Greased blowers and exercised valves at Flare.
April 13, 2016	• Flare shut down for maintenance at 9:00am. Turned blowers up to pull condensation to drains at Flare. then monitored the restart at 10:30am.
April 18-21, 2016	• Collected data on CLF and RR1.
April 25-26, 2016	• CLF crew jetted wells EW-10 through EW-15 to clear debris from perforations. After jetting was complete we went back and removed all water from wells. Next day we videoed the wells to see if the work that was completed cleaned the perforations.
May 2, 2016	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
May 3, 2016	• CLF crew excavated EW-13A to lift the pipe up out of the water. While lifting the pipe more stone was added to aide in the collection of gas.
May 4, 2016	• Bar testing was conducted on the beach near the gas migration area. Samples were taken to insure that gas wasn't migrating and causing a danger to the public. No gas was present.
May 17-20, 2016	• Collected data on CLF and RR1.
May 23 through June 10, 2016	• Ground water sampling was conducted.
June 13-16, 2016	• Collected data on CLF and RR1. • Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
June 21, 2016	• Bar testing was conducted to see if gas was still in the migration area of EW-13A. Some gas was present. EW-13A will remain on to keep trying to pull gases to Flare.
June 28, 2016	• CLF crew used a TVA-1000 to sample the area of migration on the west side of CLF. Hot spots were found in new areas and were coned off to keep people away.
July 6, 2016	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter
July 22-27, 2016	• Collected data on CLF and RR1.
August 4, 2016	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.

2016 Work and Activity Performed

August 5, 2016	• CLF crew along with Cornerstone continued investigating gas migration area. While on site Cornerstone replaced EW-13A valve with fine tune valve to help slow the flow of the well. Hopefully this will give the CLF crew a steady flow of gas.
August 8, 2016	• CLF crew took bar tests along edge of liner near the gas migration area. Some gas was found south of EW-13A.
August 17-19, 2016	• CLF crew sounded all gas wells on the North header. • Flare shut down at 2:30pm due to power outage. We monitored the restart of the flare at 7:15am the next morning.
August 23-26, 2016	• CLF crew collected data on CLF and RR1.
September 2, 2016	• Joe from Landtech came to train the CLF crew on the new GEM 5000.
September 7, 2016	• CLF crew used a TVA-1000 to conducted surface sampling in the area of EW-13A. After surface samples were taken they then bar tested the "hot spots" with their GEM 2000. • Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
September 14-16, 2016	• CLF crew collected data on CLF and RR1.
October 7, 2016	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
October 13, 2016	• CLF crew greased storm water gate at bulkhead.
October 14, 2016	• CLF crew used the NA-1000 to surface sample EW-54, EW-88, EW-96, EW-60, and EW-74. They also checked known "hot spots" in area of gas migration.
October 24-27, 2016	• CLF crew collected data on CLF and RR1.
November 1, 2016	• Flare was down at 8:00am for maintenance. Flare was restarted and monitored at 11:00am.
November 2, 2016	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
November 14-18 2016	• Collected data on CLF and RR1. • Removed water from vaults on RR1.
November 22, 2016	• Flare shut down at 12:00pm due to power outage. We monitored the restart of the flare at 12:30 pm.
December 3, 2016	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter. • Tightened all valves and fittings at the Flare. • Drained water from header at EW-73.
December 4, 2016	• Shut Flare down at 8:30am so we could change the #2 thermal sensor. Flare was restarted and monitored at 10:00am.

2016 Work and Activity Performed

December 14, 2016	• CLF crew plotted a grid in the area of EW-13A. They then began to take bar samples in the area to evaluate if the horizontal well was helping. At this time there were still high levels of CH4. • CLF crew had meeting with the Parks department to discuss remapping of bio-diversity zones. We were only there to aide Parks with information of CLF and RR1.
December 12-16, 2016	• Collected data on CLF and RR1. • Removed water from vaults on RR1.

2017 Work and Activity Performed

January 4, 2017	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
January 11, 2017	• CLF crew turned Flare off at 8:30 am, then raised the PID to -55.0 to draw water in lines to condensation pump. Restarted the Flare and returned the PID to -9.0 at 9:30 am.
January 12, 2017	• CLF crew changed well heads at EW-69 and EW-92.
January 20, 2017	• CLF crew had meeting with Mario and Lou about migrating gas and the work that had been done to correct the problem. • During this time the Pump Station project was still active and another bypass was created at Pump Station 1. We proceeded to monitor the bypass daily to prevent another spill.
February 12, 2017	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
February 19-23, 2017	• Collected data on CLF and RR1.
February 24 and 27, 2017	• CLF crew removed woodys from flare area and around CLF.
March 3, 2017	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter. • Found and marked anchor trench along gas migration area for upcoming bore testing.
March 9, 2017	• CLF crew created access road to monitor well 1.
March 20-24, 2017	• CLF crew removed water from vaults on RR1. • Collected data on CLF and RR1.
April 13-14, 2017	• CLF crew removed stumps on RR1 from previous tree removal.
April 17, 2017	• Flare shut down at 6:40am due to power outage. Flare automatically restarted at 6:50am.
April 19, 2017	• CLF crew removed water from vaults on RR1. • Took monthly readings of flow meter. • Greased blowers and exercised valves at Flare.
April 20, 2017	• CLF crew installed signs on CLF for park. Signs direct people to stay on paths.
April 24-27, 2017	• Collected data on CLF and RR1.
May 2, 2017	• Flare shut down at 9:30am due to power outage. We monitored the restart at 9:45am. • Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
May 5, 2017	• CLF crew took surface readings with the NA-1000 in the area of gas migration. No new problem areas were discovered.
May 9, 2017	• Flare shut down due to failure of louver control. CLF crew fixed and restarted flare.

2017 Work and Activity Performed

May 11, 2017	• Flare shut down due to power outage. Monitored and restarted the flare.
May 15, 2017	• Flare down for service by LFG.
May 18-25, 2017	• Collected data on CLF and RR1.
May 31, 2017	• Changed Yokogawa card • CLF crew removed water from EW-73
June 8, 2017	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
June 26-29, 2017	• Collected data on CLF and RR1.
July 3, 2017	• CLF crew used a TVA-1000 to sample the area of migration on the west side of CLF. No new hot spots were found.
July 6, 2017	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter
July 10, 2017	• Shut down Flare so we could replace nitrogen tank at inlet. • Repaired roads on CLF after storm damage.
July 13 2017	• CLF crew removed water from vaults on RR1.
July 17-21, 2017	• Collected data on CLF and RR1.
August 8, 2017	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
August 22-25, 2017	• CLF crew collected data on CLF and RR1.
September 2, 2017	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
September 11-22, 2017	• CLF crew collected ground water samples from monitor wells on CLF and RR1.
September 25-29, 2017	• CLF crew collected data on CLF and RR1.
October 6, 2017	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
October 12, 2017	• CLF crew greased storm water gate at bulkhead.
October 13-18, 2017	• CLF crew collected data on CLF and RR1.
October 19, 2017	• CLF crew along with help from LFG replaced RR1 valve at the Flare. • CLF crew replaced well heads at EW-18, EW-19, and EW-21a. Replaced old heads with a slow flow valve from QED.
October 25, 2017	• LFG service of Flare.
November 11, 2017	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
November 20-24, 2017	• Collected data on CLF and RR1. • Removed water from vaults on RR1.
December 8, 2017	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter. • Drained water from header at EW-73.

2017 Work and Activity Performed

December 19-22, 2017	• Collected data on CLF and RR1. • Removed water from vaults on RR1.

2018 Work and Activity Performed

January 9, 2018	• Flare shut down. Changed the nitrogen tank and monitored the restart. • Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
January 12, 2018	• CLF crew changed gauges on nitrogen tank.
January 22-24, 2018	• Collected data on CLF and RR1.
January 30, 2018	• Removed water from vaults on RR1 and from header on CLF.
February 9, 2018	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
February 26-28, 2018	• Collected data on CLF and RR1.
March 2-9, 2018	• Flare shut down at 11:00am due to power outage. Power was down due to storms in the area. CLF crew was able to restart the Flare on the 8th when power came back on.
March 12, 2018	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
March 23-25, 2018	• Collected data on CLF and RR1.
April 3, 2018	• CLF crew took surface readings and bar tests of gas migration area. Same results were found as previously stated.
April 23-24, 2018	• Collected data on CLF and RR1.
April 30, 2018	• Repaired roads on CLF after storms.
May 8, 2018	• CLF crew removed water from wells on CLF.
May 10, 2018	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
May 15, 2018	• Flare shut down at 6:30 due to flame loss. Turned off north line
May 21-22, 2018	• Collected data on CLF and RR1. • Flare shut down at 4:00pm on May 22 due to a power outage. The flare automatically restarted at 4:15pm.
June 13, 2018	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
June 18-19, 2018	• Collected data on CLF and RR1.
June 27, 2018	• LFG came an installed new touch panel on flare and also performed its yearly service.
July 2, 2018	• Flare was on and off all weekend due to power outages. As of Monday the flare is running normal.
July 13, 2018	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter
July 18, 2018	• Flare shut down due to power outage at 9:00am. Power came back at 1:00pm and we monitored the restart of the flare.

2018 Work and Activity Performed

July 19, 2018	• Monitor well RFW-4 was damaged by a village of croton tractor. The CLF crew replaced the damaged outer casing of the well and poured a new concrete pad.
July 23, 2018	• Flare shut down due to low nitrogen. CLF crew replaced the tank and monitored the restart of the flare.
July 24-27, 2018	• Collected data on CLF and RR1.
August 4-6, 2018	• Flare shut down on the 4th at 6:00pm due to a power outage. We manually restarted the flare at 7:00am on the 6th. • Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
August 22-25, 2018	• CLF crew collected data on CLF and RR1.
August 28, 2018	• Replaced the hose for the nitrogen tank due to the old on being dry rotted.
September 7, 2018	• Flare shut down at 1:30am due to power outage. CLF crew restarted the flare at 7:00am.
September 12, 2018	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
September 19-21, 2018	• CLF crew collected data on CLF and RR1.
September 24, 2018	• Flare kept shutting down during the weekend due to high 02 in the North header. CLF crew closed the North header and the Flare was able to stay running.
October 1, 2018	• Flare shut down due to power outage. Monitored the restart of the flare at 7:45am.

2018 Work and Activity Performed

October 9-10, 2018	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter. • LFG servicing of flare. Also replaced the bearings in blower B while on site.
October 12, 2018	• CLF crew surfaced sampled gas migration area. No new hot spots were located.
October 14, 2018	• Flare shut down due to power outage at 5:30pm. The flare came back on at 6:00pm when the power returned.
October 17-19, 2018	• CLF crew surfaced sampled all gas wells on CLF and RR1 with TVA-1000. No hot spots were located during sampling.
October 22-25, 2018	• CLF crew collected data on CLF and RR1.
October 26, 2018	• CLF crew began ground water monitoring samples. Over the next month samples were collected on RR1, CLF, the Hudson River and surrounding pump stations. Sampling ended on November 26, 2018.
October 27-30, 2018	• Flare shut down due to power outage. The flare restarted when power returned on October 30, 2018 at 7:30am.
November 9, 2018	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter.
November 28-30, 2018	• Collected data on CLF and RR1. • Removed water from vaults on RR1.
December 3, 2018	• Greased blowers and exercised valves at Flare. • Took monthly readings of flow meter. • Drained water from header at EW-73.
December 14-17, 2018	• Collected data on CLF and RR1. • Removed water from vaults on RR1.

2019 Work and Activity Performed

January 2,2019	• Opened north line at 2:00pm
January 4-7, 2019	• Collected data for CLF and RR1
January 9, 2019	• Changed grease in blowers and switched blower C to A
January 10, 2019	• Computer went down, could not retrieve any data
January 11-14, 2019	• Collected data for CLF and RR1
January 15, 2019	• Main computer went down
January 18, 2019	• Collected data for CLF and RR1
January 23, 2019	• Chris from Cornerstone took gas well readings an TVA readings on North Line
January 24, 2019	• Collected data for CLF and RR1
January 25, 2019	• Pumped out gas wells on RR1. • Chris from Cornerstone came to readings on NorthLine & BAR. Test & TVA gas migration area.
January 28, 2019	• Collected data for CLF and RR1. • Gas well readings on RR1. • Chris came from Cornerstone to survey gas migration area for upcoming project.
February 1, 2019	• Flare shut down at 6:45am to 11:45am due to power shortage and heat wrap was unplugged.
February 4, 2019	• Pipe burst in storage room, All log books damages, had to wait to dry. • Furnace went down, restarted on 2/5/19 at 6:45pm.
February 5-11, 2019	• Collected data for CLF and RR1.
February 12, 2019	• Switched blower A to blower B.
February 19, 2019	• Collected data for CLF and RR1. • Lubed louvers at flare.
February 26, 2019	• Pumped out gas wells on RR1.
February 27-28, 2019	• Gas readings on wells in RR1.
March 1, 2019	• Collected data on CLF and RR1.
March 14, 2019	• Collected data on CLF and RR1.
March 25, 2019	• GEM 2000 and GEM 5000 sent to be calibrated on 3/19/19. No flare readings.
April 4, 2019	• Flare shut down from 8:30am to 12:00pm due to ConED working on power line in Ball Field.
April 5, 2019	• Received GEM 2000, used to do flare readings. Needs well sites to be reinstalled • Collected data on CLF and RR1. • Still waiting on GEM 5000 from service.
April 8, 2019	• Received GEM 5000 from service, used for readings. • Collected data on CLF and RR1
April 12-18, 2019	• Collected data on CLF and RR1 • Gas well readings on RR1

2019 Work and Activity Performed

April 23, 2019	• Flare went down at 10:40am and 11:00am due to power shortage. Back on at 11:05am
April 26-29, 2019	• Collected data on CLF and RR1.
May 3, 2019	• Collected data on CLF and RR1. • Flare wet down at 12:17pm to 12:19pm due to power shortage.
May 6-13, 2019	• Collected data on CLF and RR1.
May 14, 2019	• Organized data/records for DEC 5yr report
May 17, 2019	• Collected data on CLF and RR1.