SHUMAKER
Consulting Engineering & Land Surveying, D.P.C.

December 13, 2019

Mr. Payson Long
New York State Department of Environmental Conservation
Division of Environmental Remediation
525 Broadway
Albany, NY 12233

Re: Review of Landfill Operations – Calendar Year 2019
Town of Conklin Landfill
Conklin, New York
SCE No. R09357.11

Dear Mr. Long:

Shumaker Consulting Engineering & Land Surveying, D.P.C. (SCE) has been contracted by the Town of Conklin (Town) to assist, monitor, and report on the ongoing Operation and Maintenance activities at the Town of Conklin Landfill site.

The current Site Management Plan (SMP) for the Landfill, dated September, 2015, was prepared by SCE. Site-wide inspections will be performed on a regular schedule, and at a minimum of once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect Engineering Controls or monitoring devices. The Annual inspections and corresponding report will present sufficient information to assess the following:

- Compliance with all institutional controls (ICs), including Site usage.
- An evaluation of the condition and continued effectiveness of engineering controls (ECs).
- General Site conditions at the time of the inspection.
- The Site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection.
- Compliance with permits and schedules included in the Operation and Maintenance Plan.
- Confirm that Site records are up to date.

This Annual Report has been prepared by SCE on behalf of the Town in support of the annual report commitment promulgated by the SMP. The data collected as part of this study is presented herein. Further, the information included herein is very similar to the information provided in the Periodic Review Report (PRR) which is currently submitted on a triennial basis.

1.0 SITE HISTORY

Two (2) landfill areas originally existed at the "Conklin Dumps Site". The areas, referred to as the upper and lower landfills, operated during the 1960s and 1970s. The areas were studied extensively in the 1980s and were subsequently nominated to the National Priorities List (NPL). A remedial action plan was selected for the site. The plan ultimately called for excavating the lower landfill and placing it on top of the upper landfill. The combined landfill was then capped and a leachate collection system was installed.

Since the remedial activities at the landfill were completed in the mid-1990s, post-closure monitoring and maintenance has been conducted under the most recent SMP, which has been in effect since December 2012. To date, the SMP has received no authorized modifications.

2.0 ANNUAL INSPECTION OF LANDFILL

SCE scientists performed a visual inspection of the site on December 11, 2019. The inspectors coordinated with Mr. Thomas Delamarter, the Department of Public Works Superintendent for the Town of Conklin.

The following items were inspected:

- Perimeter fence and access roads
- Leachate collection system (trench manholes, pump station, storage tank, treatment building)
- Landfill cover for areas of instability, subsidence, erosion, discoloration, etc.
- Surface water drainage features for washouts, excessive sediment or debris in ditches, dislodged rip-rap, erosion, etc.
- Gas venting system to determine if the vents have been damaged or disturbed
- Monitoring and leachate recovery wells

Overall, the site appears to be in good condition. Mr. Delamarter reports that Town forces visually inspect the landfill monthly and make repairs as needed. However, the Town does not retain a formal record of inspections and repair work performed. Town forces mow the landfill area approximately twice a year; this mowing schedule is adequate for maintaining a short shallow-rooted vegetative cover. The 2018 Annual Inspection yielded the recommendation to clear small shrubs and trees that had taken root in the surface drainage swale where mowing is difficult; these trees and shrubs had been removed at the date of the 2019 inspection. Access roads have been maintained and they are traversable. The site entrance is maintained and accessible. The security fence is in generally good condition, though trees and shrubs should be cleared from the perimeter to avoid compromising the integrity of the fence. Surface drainage features appeared to be stable and in good condition. The landfill cover appeared to be in good condition. Two wet areas were noted along the western portion of the landfill cover.

Monitoring wells appeared to be in generally good repair, with the exception of MW-37. MW-37 appears along the roadway, where it had been struck by a car and bent. The water depth of MW-37 could not be measured. All well casings showed evidence of some rust, but repainting is not necessary at this time. Vegetation should be cleared around wells MW-12, MW-3, MW-38S, and MW-38D. One well standpipe, LW-14, is in need of trimming and re-survey. The well cap no longer closes on the casing, due to upheaval of the PVC standpipe inside. The upheaval of the

PVC standpipe was previously noted in the 2018 Annual Report. A blockage was also noted in MW-2.

The operation of the leachate collection system was observed and tested during this field visit. With the exception of Recovery Well No. 3, the pumps, level monitors, and controls appeared to be functioning normally. The well level reading for Recovery Well No. 3 indicated -0.04' which is below the normal range of level indications (typically between 4.0' – 8.0'). When tested in 'hand', the water level did not change. Mr. Delamarter was advised that a maintenance check on the Recovery Well No. 3 level indicator is warranted.

The leachate handling system was also inspected as part of this assessment. The exterior of the building that houses the leachate handling system was noted to be in deteriorating condition, with evidence that the exterior plywood is becoming detached from the underlying framing; the condition of the exterior was previously noted in the 2018 Annual Inspection. No major structural or plumbing deficiencies were noted on the interior components. The secondary containment for the leachate tank has accumulated some stormwater due to the northern side of the rain skirt being missing. The missing rain skirt was previously noted during the 2018 Annual Inspection. This section of the rain skirt should be replaced and the secondary containment fully drained. It was also noted that the leachate tank may have been full to the point of overflowing. This information was relayed to Mr. Delamarter.

Interior components within the leachate handling building were inspected, and no deficiencies were noted. The tank level monitor is fully operational, and the sump pump was inspected and its operation verified.

The site inspection report for the December 11, 2019 site inspection is included as **Appendix A** herein.

3.0 INSTITUTIONAL CONTROL/ENGINEERING CONTROL (IC/EC) PLAN COMPLIANCE REPORT

3.1. IC/EC Requirements and Compliance

Since remaining contaminated material and groundwater exists beneath the site, IC/ECs are required to protect human health and the environment. The Town implemented an Environmental Easement which included the IC/EC Plan in January 2013. The IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the site.

3.2. Engineering Controls

This section presents the Engineering Control Systems for the facility which includes the landfill cover, perimeter fence and gates, leachate collection and discharge system, gas venting system, environmental monitoring system, and surface water management system. All ECs for the site are designed to be protective of human health and the environment.

3.3. Upper Landfill Site

3.3.1 Leachate Collection and Storage System

Leachate is captured by a collection trench made out of 940 lf of 6-inch diameter perforated PVC piping; leachate is gravity fed to a concrete pump station. There are also three (3) leachate recovery wells located in the waste mass area near the northeast corner of the landfill. The discharge of each recovery well is conveyed to the pump station where it is then transferred and pumped into a storage tank.

The purpose of the leachate collection trenches and recovery wells is to prevent leachate from migrating off site through surface seeps or shallow groundwater flow. The leachate storage system consists of one (1) 30,000-gallon capacity aboveground horizontal steel storage tank protected by a 33,000-gallon capacity steel secondary containment dike.

Before any leachate can be discharged to the sanitary sewer system for treatment at the Binghamton-Johnson City treatment plant, it must meet effluent limitations per the Industrial Wastewater Discharge Permit issued for the Town of Conklin Landfill by the BJCJSTP.

3.3.2 Landfill Cap and Venting System

Exposure to remaining contamination in soil/fill at the site is prevented by a multi-media cap system placed over the landfill area. The multi-media cap was constructed in conformance with 6NYCRR Part 360 standards which includes a flexible geomembrane cap, a geotextile soil drainage layer, and a nominal 2 feet of clean soil and topsoil. Topsoil is retained in place by a stable vegetated surface over the entire landfill site. The landfill cap is intact per the 2019 Annual Inspection; the previously noted areas of woody vegetation have been removed.

Surface water and sheet flow from the surface of the cap is removed by a surface drainage system and perimeter drainage ditches, respectively, which intercepts and directs surface water runoff to a stabilized outlet at Carlin Creek. An annual inspection in December 2019 indicated that the surface drainage system is intact and working as designed.

A total of four (4) gas vents have been installed within the landfill cap boundaries as shown on the Site Map in Figure 2. During installation, a geomembrane boot was placed and sealed around the vent pipe with stainless steel bands and then it was extrusion welded into place on the cap to completely seal the vent penetration. During the 2019 inspection, the 4 vents within the cap were found to be in place. At least one vent along the northern cap perimeter was noted to be leaning or tipped over. These vents should be righted during the next maintenance effort.

3.3.3 Monitoring Well Network and Sampling Schedule

The environmental monitoring system consists of a series of groundwater monitoring wells and groundwater level observation wells on and around the perimeter of the landfill site (see Figure 2). In addition, there is one (1) surface water sample point in Carlin Creek which flows to the north of the capped landfill site. The objectives of the Monitoring Well Network are to evaluate the condition of groundwater at the site and its effectiveness of limiting off-site transport of site related Contaminants of Concern (COC). Tabulated historic data shows that the monitoring well network is operating as planned

with no off-site migration of COC. Sampling of the Monitoring Well Network has been switched to sampling every 5th quarter as detailed in the September 2015 SMP.

3.3.4 Perimeter Fence at Upper Landfill

To minimize the potential for trespassing, vehicular, or foot traffic across the landfill cap, an 8-foot chain link fence with gates has been installed around the entire Upper Landfill area. A total of three (3) 20-foot gates were constructed: two (2) on the east side adjacent to Broome Corporate Parkway and one (1) in the southwest corner of the site where an access road enters the site from Darden Drive to the west of the site. All gates are chained and locked with padlocks to prevent entry by unauthorized personnel. The 2019 annual inspection found that the perimeter fence is intact; however, ongoing removal of woody vegetation remains critical to the longevity of the fence in this largely undeveloped area.

3.4 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when the effectiveness of monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when the remedial processes are complete is provided in Section 6.5 of NYSDEC DER-10 (May 2010). At this time, monitoring at the site indicates that the remedial processes are moving the site closer to achievement of remedial action objectives; therefore, no recommendations for change are being proposed at this time.

3.5 Institutional Controls (IC)

A series of ICs is required by the ROD for the Upper and Lower Landfill sites. Unlike ECs, adherence with ICs is procedural and requires ongoing compliance activities. Adherence to these ICs on the site is required by the Environmental Easement and implemented under the September 2015 SMP. The identified ICs are:

3.5.1 Upper Landfill Site

ICs authorized for the Upper Landfill site are comprised of the following:

- Restrict activities that could affect the integrity of the landfill cover, including without limitation, excavating, digging, and construction activities which are prohibited on any portion of the Upper Landfill, unless the Town, USEPA, NYSDEC, or successor agency have given their prior written consent to any such intrusive activity.

- Prior to any earthwork on the Upper Landfill site which could impact the integrity of the composite cap, an Excavation Work Plan must be developed which is subject to the Town, NYSDEC, or successor agency, and USEPA approval before implementation. More information regarding the Excavation Work Plan and other procedures required for the Upper Landfill are included in the SMP.

- Groundwater wells for drinking water shall not be installed or used on any portion of the Upper Landfill.

- The Upper Landfill shall not be used for “Residential Use” and “Restricted Residential Use” as defined by NYSDEC Regulations 6NYCRR Part 375-1.8(g)(2)(i) and (ii). Allowable uses

include "Commercial Use" and "Industrial Use" as defined in NYSDEC Regulation 6NYCRR Part 375–1.8(g)(2)(iii) and (iv).

3.5.2 Lower Landfill Site

ICs established for the Lower Landfill site include the following:

- Groundwater wells for drinking water shall not be installed or used on any portion of the Lower Landfill.
- The Lower Landfill shall not be used for "Residential Use" and "Restricted Residential Use" as defined by NYSDEC Regulations 6NYCRR Part 375-1.8(g)(2)(i) and (ii). Allowable uses include "Commercial Use" and "Industrial Use" as defined in NYSDEC Regulation 6NYCRR Part 375–1.8(g)(2)(iii) and (iv).

4.0 ANNUAL STATEMENT OF INSTITUTIONAL CONTROLS

During the 2019 site inspection, all institutional controls at the Upper and Lower landfill sites appear to be in place. Specifically, the following was observed:

a. The landfill cap on the Upper landfill appears to remain in place and undisturbed.
b. No groundwater wells for drinking water have been installed on the Upper or Lower landfill sites.
c. The Upper and Lower landfill sites are not zoned to allow Residential use or Restricted-Residential use.

5.0 RECOMMENDATIONS

Based on the observations of the past year of landfill operations, SCE recommends the following:

a. The level sensor in Recovery Well No. 3 should undergo a maintenance check to confirm proper operation.
b. The exterior plywood on the leachate discharge building should have maintenance performed, and repaired as required to maintain it weather-tight.
c. As an ongoing recommendation, the Town should perform a limited amount of tree and brush removal outside of the perimeter fence, in order to ensure the long-term performance of the security fence.
d. The rain skirt around the leachate collection tank should be re-installed to minimize rainwater accumulation within the secondary containment dike.
e. The standpipe of LW-14 should be trimmed and re-surveyed to allow securing of the well cap to the well casing.

Very truly yours,

SHUMAKER CONSULTING ENGINEERING & LAND SURVEYING, D.P.C.

Mallory Smith

Mallory Smith
Environmental Scientist III

Enclosures

cc: Tom Delamarter, Town of Conklin

APPENDIX A

SITE INSPECTION RECORD FORM

This summary inspection checklist is to be completed during each site inspection at least once per month. Note all items which require repair or maintenance. Use the last page to annotate any additional comments, unusual events or information observed during this inspection.

Name of inspector(s): M. Smith, S. Martin

Date of Inspection: 12/11/19

Arrival Time: 8:30 am Departure Time: 11:00 am

Weather Conditions: Cloudy, flurries, below freezing Temperature Mid-20s

Reason for Visit: Annual Inspection

General Inspection (Monthly)

	OK:	Comments:
Site Entrance	X	Minimal rust on locks and chains
Access Roads	X	
Overall Appearance (litter/trash)	X	Some misc. trash along roadside
Treatment Building Exterior		Paint chipping, siding missing
Building Interior		Mold, rat droppings, etc.
Heater	X	
Heat Tracing	X	
Exhaust Ventilation		Removed
Lighting	X	All lights fully operational
Building Sump	X	
Bar Grating	X	Appears in good condition, no rust
Perimeter Fence and Gates	X	

Leachate Storage System Inspection (Monthly)

	OK:	Comments:
Storage Tank and Pipe Venting	X	
Secondary Containment Dike		Minimal rust on exterior
Rain Skirt		Missing on north side
Level Control System	X	
Treatment Building Sump Pump	X	
Transfer Pump		N/A
Exterior/Interior Paint		Rust/worn

Leachate Collection System Inspection (Monthly)

	OK:	Comments:
Pump Station (Structure)	X	
Leachate Collection Trench Manholes	X	
Leachate Collection Trench Piping	X	
Pump Station Pump		N/A
Recovery Wells		
Well Pumps	X	Rusted
Well Casing	X	Rusted
Monitoring Wells (casings)	X	Need new locks; MW-37 knocked over by car; LW-14 does not close
Recovery Well Metering Pit		
Flow Meters	N/A	
Meter Control Panel	N/A	Not in use
Meter Pit (Structure)	N/A	
Pump Control Panel		RW-3 reading below 0

Inspection Data Measurements

Leachate Depth: -

Leachate Volume: 25,553.0 gallons (full)

Leachate Collection System Operational Check (Monthly)

Open the control panel near the entrance gate and check to see if any low level lights are on. For each Pump Record the well/sump level (feet). Then switch the pump control from auto to hand. Observe the level decreasing. If it does not decrease then the pump or control panel may not be functioning properly. Turn switch back to auto and record the new level (or the same level if no change occurred). Additionally Record the Pump Run time (hour).

	OK	Initial Level	Final Level	Run Time
Recovery Well No. 1	X	5.77	4.33	254.38
Recovery Well No. 2	X	8.30	7.40	130.19
Recovery Well No. 3		-0.04	-0.04	24.97
Pump Station	X	7.06	7.04	12,047.05

Landfill Cover Inspection (Monthly)

	OK:	Comments:
Final Cover		Some wet spots on west side of cap
Landfill Slope	X	
Gas Vents	X	
Vegetative Cover	X	Woody veg. recently mowed in drainage swales
Drainage Down Chute	X	
Perimeter Drainage	X	

Well Level Measurements (Quarterly)

	Top of Casing Elev. (ft)	- Depth to Water (ft)	=	Water Level Elev. (ft)
MW-1	946.69	- 26.19	=	920.5
MW-2	925.73	- Obstructed at ~19feet	=	
MW-3	892.40	- 4.02	=	888.38
MW-4	897.18	- 9.70	=	887.48
MW-12	901.08	- 11.68	=	889.40
MW-37	908.71	- Inaccessible- hit by car	=	
MW-38S	890.13	- 5.25	=	884.88
MW-38D	888.34	- 6.10	=	882.24
LW-14	926.24	- 32.17	=	894.07

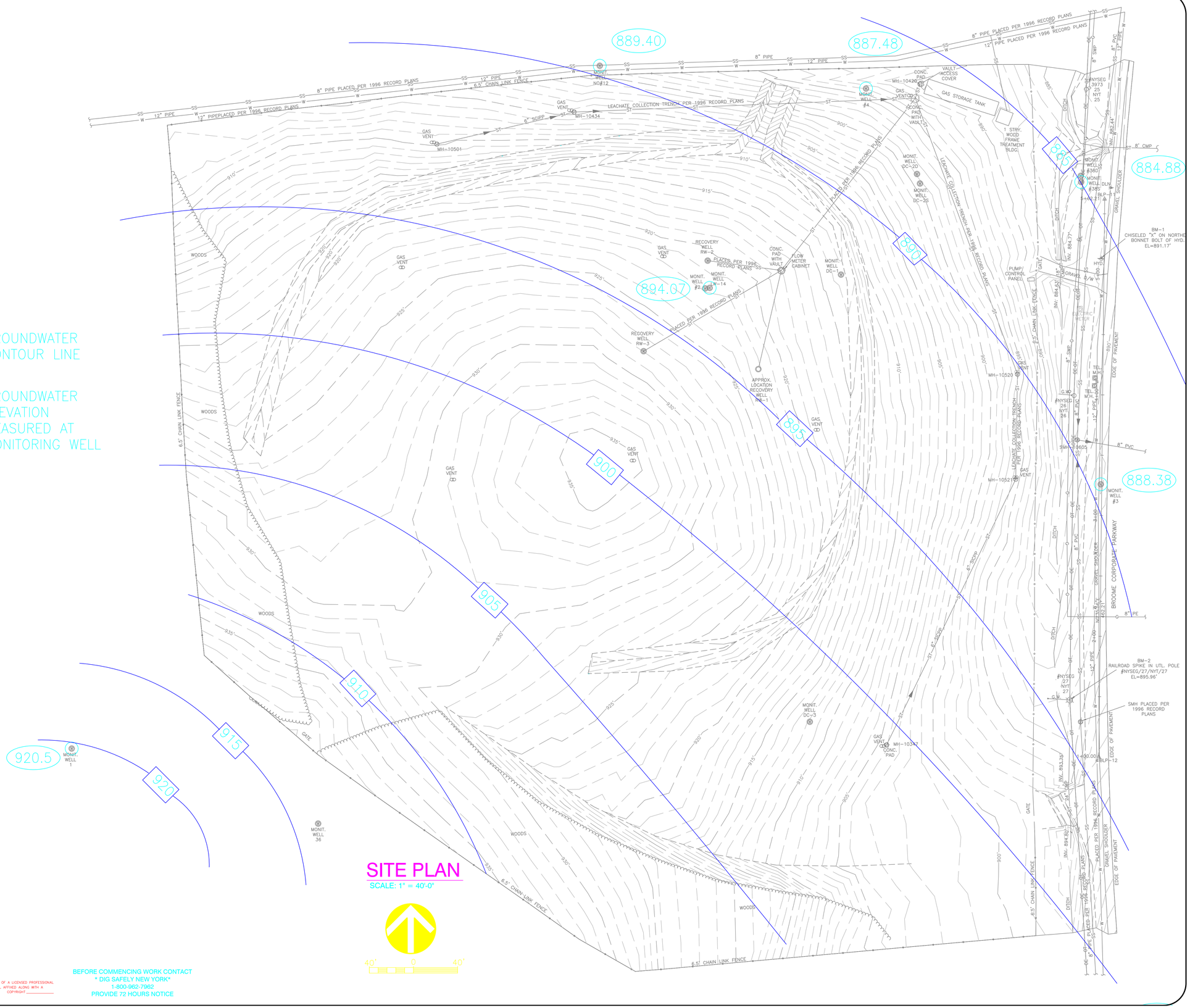
Notes/Explanations:
(Please indicate additional information on those items which require attention indicated above)

Continue maintenance of woody vegetation surrounding perimeter fence. 2 wet areas on cap.
Missing keys to MW with ASUS locks- replace locks. Cap on LW-14 does not close fully.
Leachate volume above 25,000 gallons- full.

LEGEND:

900 — GROUNDWATER CONTOUR LINE

885.12 — GROUNDWATER ELEVATION MEASURED AT MONITORING WELL



SITE PLAN

SCALE: 1" = 40'-0"

40' 0 40'

BEFORE COMMENCING WORK CONTACT
* DIG SAFELY NEW YORK*
1-800-962-7962
PROVIDE 72 HOURS NOTICE

SHUMAKER
Consulting Engineering & Land Surveying, P.C.
143 Court Street, Binghamton, New York 13901
Telephone (607) 798-8081/ Fax (607) 798-8186

CONKLIN LANDFILL
FOLLOW-UP REPORT
1271 CONKLIN ROAD
CONKLIN, NEW YORK

REVISIONS

No.	Date	By	Description

DRAWING TITLE
DEC 2019 GROUNDWATER POTENTIOMETRIC MAP

DRAWING NO.
FIGURE #1

Drawn By:	SMM
Checked By:	MSS
Project Mgr:	MSS
Date:	12/13/19
Project No:	09357

ISSUE DATE
-/--/--