SPDES Permit Fact Sheet
Lockwood Hills LLC
Lockwood Ash Disposal Site
NY0107069

Contents

Summary of Permit Changes

A State Pollutant Discharge Elimination System (SPDES) permit renewal has been drafted for the Lockwood Ash Disposal Site. The following is a summary of the changes. The details of these changes are specified below and in the permit:

Added

- Effluent limitations for stormwater discharges from the new Outfalls 002 & 003
- BMP requirements
- Monitoring for color for Outfall 001
- NAICS code
- 12 month rolling average limitation for mercury
- WIN Item No
- International Joint Commission (IJC) Compact Area

Updated

- Copper limitation to WQBEL for Outfall 001
- Sampling frequency for the leachate pond (Outfall 001) to once per discharge event and every 14 days within a single event
- WET testing action levels based on new dilution ratio and sampling during years ending in 3 and 8 (for Outfall 001)
- Outfall designations and coordinates
- Stormwater requirements
- Flow diagram
- Permittee name and contact person
- Permit limit table footnotes
- SIC code

Removed

- Dust suppressants requirement as dust suppressants are no longer used
- Groundwater monitoring program requirements as they are now covered under the Environmental Management Plan as part of the Part 360 Permit for the facility

This factsheet summarizes the information used to determine the effluent limitations and other conditions contained in the permit. General background information about the regulatory basis for the effluent limitations and other conditions contained in this permit are in the Appendix linked throughout this factsheet.

Administrative History

8/1/2009 The last full technical review was performed and the SPDES permit became effective with an expiration date of 11/30/2010. This permit, along with all subsequent modifications, if any as listed below, has formed the basis of this permit.

The permit was administratively renewed in 2010. The current permit administrative renewal is effective until 11/30/2015.

2/18/2015 Consent Order RB-20140710-47 required modifications to the treatment system for managing the leachate and stormwater which would result in eventual modification to the SPDES permit.

11/30/2015 The current permit was extended pursuant to SAPA[1].

6/1/2020 The Lockwood Hills LLC submitted a request to modify the permit to reflect implementation of the Consent Order R8-20140710-47 and incorporate internal outfalls for the sediment basins. A resubmittal was received on 7/13/2020.

9/11/2020 DEC sent a notice of incomplete application (NOIA) to Lockwood Hills LLC requesting additional site information.

9/13/2021 The Lockwood Hills LLC submitted sufficient supporting data for the NY-2C permit application to satisfy the NOIA.

Please see the Notice of Complete Application, published in the Environmental Notice Bulletin and newspapers, for information on the public notice process.

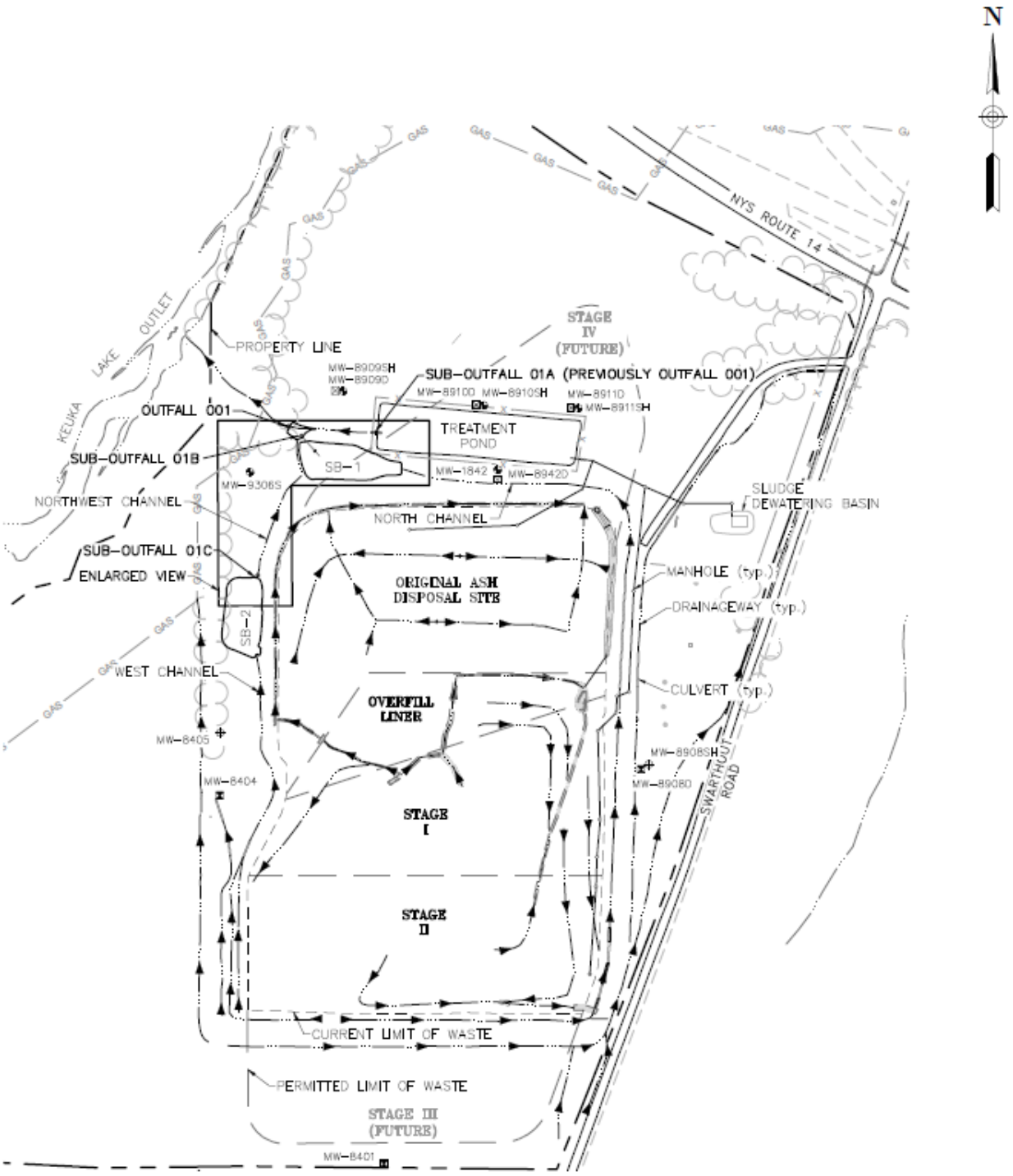
Facility Information

This is an industrial facility that accepts coal combustion byproducts and water treatment sludge for landfill disposal. Wastewater consists of landfill leachate and stormwater. The current treatment system was updated in 2019 to segregate stormwater from the leachate pond (Outfall 001) through the use of new sediment basins (Outfalls 002 & 003). “Both sediment basins [1 & 2] now receive contact stormwater, as well as non-contact stormwater. Contact stormwater is defined as precipitation runoff from areas of the landfill that are inactive or from other site operations. Non-contact stormwater is defined as runoff from undisturbed areas of the site or runon from areas offsite. All runoff from active areas of the Landfill where precipitation may come in contact with the waste is collected by the leachate collection and removal system and routed to the Treatment Pond. Discharges from the Treatment Pond and both Sediment Basins now combine in a sediment trap before discharging offsite through the same well-defined, deeply-cut channel to the Keuka Lake Outlet. Leachate is treated in the Treatment Pond through the incorporation of the step aerator at its inlet and settling within the Pond itself.” The aerator increases dissolved oxygen concentration of the leachate to promote the oxidation of ferrous iron to iron hydroxide precipitate.

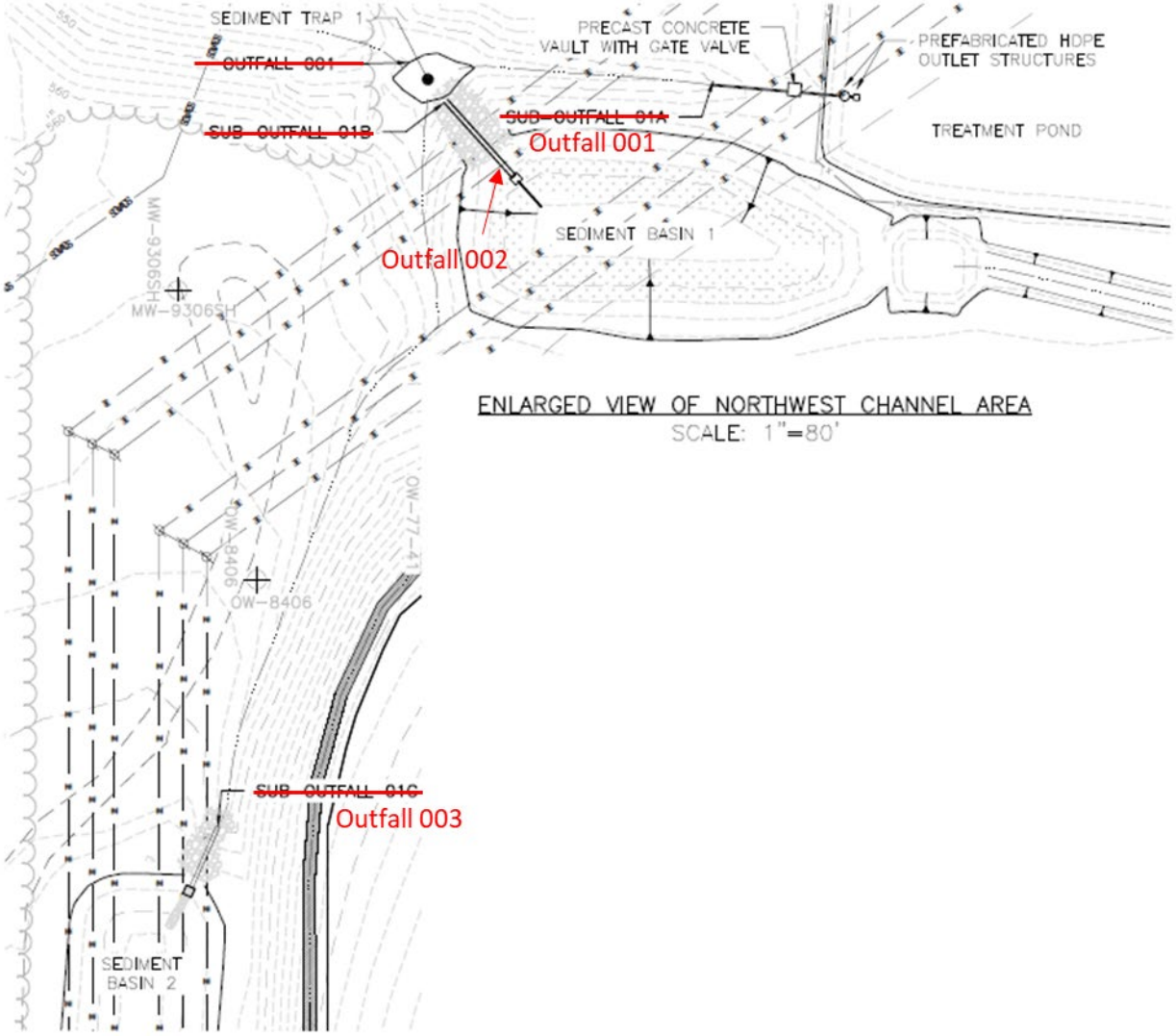
[1] State Administrative Procedures Act Section 401(2) and 6 NYCRR 621.11(*l*)

Site Overview

From 2020 application package (for the permit, the outfalls will be designated as 001, 002, 003 rather than 01A, 01B, 01C, respectively):



LOCKWOOD ASH DISPOSAL SITE OUTFALL LOCATION MAP
SCALE: 1"=400'



Enforcement History

The objective of Consent Order R8-20140710-47, signed February 18, 2015, was "for Lockwood Hills to eliminate the discharge of leachate to groundwater from the Leachate Pond and to provide for a satisfactory monitoring regime for groundwater impacted by the discharge." Lockwood completed construction of the Sediment Pond Sediment Removal and Improvement work and submitted Certification Report and Record Drawings to DEC on December 27, 2019. DEC sent an approval letter for the Construction Certification Report on July 6, 2020.

Environmental regulatory compliance and enforcement information for this facility can be found on the Enforcement and Compliance History Online at https://echo.epa.gov.

Existing Effluent Quality

The Pollutant Summary Table presents the existing effluent quality and permit limitations for discharges from the facility. Concentration and mass data are presented, based on Discharge Monitoring Reports and the application submitted by the permittee for the period 11/1/2019 to 9/30/2021. Appendix Link

Interstate Water Pollution Control Agencies

Outfalls 001-003 are located within the Great Lakes watershed and International Joint Commission (IJC) compact area. Appendix Link

Additional Site-Specific Concerns

This facility is also covered under a Part 360 permit (DEC ID 8-5736-00005/00003-0).

The permittee submitted a thermal study report on May 30, 2012. The study assessed the impact of the Lockwood Ash Disposal Site discharge on the Keuka Lake Outlet by collecting wastewater discharge, temperature, conductivity, and stream flow measurements from 7/17/2011 to 7/29/2011. Temperature and conductivity measurements were taken a quarter mile, 150 feet, and 20 feet upstream of the Lockwood discharge, at the point of mixing (where the Lockwood discharge meets the Keuka Lake Outlet waters), and 50 feet and 300 feet downstream of the Lockwood discharge. Daily temperature measurements were taken at the valve in the sedimentation basin (now the leachate pond). Wastewater from Lockwood Ash was discharged through a 650-foot canal to the Keuka Lake Outlet. Stream flow data was obtained from the USGS stream gage (04232482) downstream of the discharge point.

During the study period, air temperature was recorded between 85 and 90 °F, stream flow was 18 cfs, and the discharge rate from Lockwood Ash was 127,000 gpd. While the addition of the Lockwood Ash discharge increased the conductivity of the receiving water at the point of discharge, the conductivity returned to upstream levels by the time the water reached the measurement point 50 feet downstream of the discharge addition. While the temperature measured at the valve of the sedimentation basin was as much as 10 °F warmer than the receiving water, the receiving water temperature changed by no more than 1 °F at the point of mixing or either downstream measurement location. Data indicates that the addition of the Lockwood Ash discharge to the Keuka Lake Outlet has no effect on the temperature of the Keuka Lake Outlet; therefore, no temperature limitation is proposed. Temperature monitoring will be maintained.

Receiving Water Information

The facility proposes to discharge via the following outfalls:

Outfall No.	SIC Code	Wastewater Type	Receiving Water
001	4953	Treated landfill leachate	Keuka Lake Outlet
002	4953	Stormwater	Keuka Lake Outlet
003	4953	Stormwater	Keuka Lake Outlet

This facility is approximately 1.3 miles upstream of Seneca Lake (Ont. 66-12-P 369, Class B(T)). The facility is located within the IJC compact area, Great Lakes Watershed.

The location of the outfall(s), and the name, classification, and index numbers of the receiving waters are indicated in the Outfall and Receiving Water Summary Table at the end of this fact sheet. Appendix Link

Impaired Waterbody Information

The Keuka Lake Outlet segment (PWL No. 0705-0020) is not listed on the 2018 New York State Section 303(d) List of Impaired/TMDL Waters; therefore, there are no applicable wasteload allocations (WLAs) for this discharge.

Mixing Zone and Critical Receiving Water Data

The 7Q10 flow for the Keuka Lake Outlet of 5.9 MGD (9.1 CFS) was used to calculate the chronic A(C) dilution ratio. The 7Q10 flow was obtained from the drainage basin ratio and gage station data using SW Toolbox.

Gage Name: Keuka Lake Outlet at Dresden
Gage ID: 04232482
Drainage Area at Gage (mi^2): 208
Drainage Area at Facility (mi^2): 205
7Q10 Flow at Gage (CFS): 9.2
Calculated 7Q10 Flow at Facility (CFS): 9.1
Source: SW Toolbox

The 30Q10 flow of 7.6 MGD (12 CFS) was obtained from the same source and used to calculate the Human, Aesthetic, Wildlife (HEW) dilution ratio. A 1Q10 flow of 5.3 MGD (8.2 CFS) was obtained from the same source and used to calculate the acute A(A) dilution ratio.

Dilution Ratio = (Facility Flow + Low Flow)/Facility Flow

Outfall No.	Acute Dilution Ratio A(A)	Chronic Dilution Ratio A(C)	Human, Aesthetic, Wildlife Dilution Ratio (HEW)	Basis
001	22:1	24:1	32:1	TOGS 1.3.1

Critical receiving water data are listed in the Pollutant Summary Table at the end of this fact sheet. Appendix Link

Permit Requirements

The technology based effluent limitations (TBELs), water quality-based effluent limitations (WQBELs), existing effluent quality and a discussion of the selected effluent limitation for each pollutant present in the discharge are provided in the Pollutant Summary Table.

USEPA Effluent Limitation Guidelines (ELGs) Applicable to Facility

Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT), Best Available Technology Economically Achievable (BAT), and New Source Performance Standards (NSPS) limitations are based on effluent guidelines developed by USEPA for specific industries[2]. The applicable effluent guidelines and limits are listed at the end of the Pollutant Summary Table in the USEPA ELG Calculation Table.

[2] As promulgated under 40 CFR Parts 405 - 471

Whole Effluent Toxicity (WET) Testing

An evaluation of the discharge indicates the potential for toxicity based on the following criteria: Appendix Link

- There is the presence of substances in the effluent for which ambient water quality criteria do not exist. (#1)
- There is the possibility of complex synergistic or additive effects of chemicals, typically when the number of metals or organic compounds discharged by the permittee equals or exceeds five. (#4)

Consistent with TOGS 1.3.2, a reasonable potential analysis was performed using the existing WET data for this facility (see data below). It was determined that while the analysis indicated no potential for toxicity in the effluent, WET testing is required based on the criteria listed above and WET action levels are being added to the permit. Given the dilution available and location within the Great Lakes basin, the permit requires chronic only WET testing. Samples will be collected quarterly during years ending in 3 and 8. WET testing action levels of 6.6 TUa and 24 TUc have been included in the permit for each species. The acute action levels for each species represent the acute dilution ratio times a factor of 0.3. The chronic action levels represent the chronic dilution ratio.

Test Date	[1]MSS 48H LC50 (%Effluent)	[2]MSS TUa	[3]TUa Action Level	[4]MSS Survival 100% Effluent	[5]Acute Test Result	[6]MSS RPD TUa	[7]Acute WET Limit Required	[8]MSS 7D NOEC/IC25 (%Effluent)	[9]MSS NOEC/IC25 TUc	[10]TUc Action Level	[11]Chronic Test Result NOEC/IC25	[12]MSS RPD IC25 TUc	[13]Chronic WET Limit Required
03/16	>100% (FI)	<0.3 (FI)	10.7	100% (FI)	Pass	<0.9	No	>100% (FI)/>100% (FI)	<1.0 (FI)/<1.0 (FI)	70.0	Pass/Pass	<3.0	No
06/16	>100% (FI)	<0.3 (FI)	10.7	100% (FI)	Pass	<0.9	No	25% (I)/34.3% (I)	4.0 (I)/2.9 (I)	70.0	Pass/Pass	8.7	No
10/16	>100% (FI)	<0.3 (FI)	10.7	100% (FI)	Pass	<0.9	No	50% (F)/>100% (FI)	2.0 (F)/<1.0 (FI)	70.0	Pass/Pass	<3.0	No

[1]Most Sensitive Species 48-hour Lethal Concentration: (F=Fish; I=Invertebrate) is the concentration or percentage of effluent that is lethal to 50% of the exposed organisms over a 48-hour period, and often indicates one species is more sensitive than the other during effluent testing.

[2]Most Sensitive Species Toxic Units Acute: is calculated as (100 / MSS 48H LC50). However, because ≤ 0.3 TUa is defined as the acceptable amount of acute toxicity at the edge of the acute mixing zone, and mathematically 100 / 100 = 1.0 (i.e. a "failing result"), non-toxic acute test results are indicated as < 0.3.

[3]Toxic Unit Acute Action Level: is calculated as [(Acute Dilution Factor+1) x 0.3 TUa] representing the maximum allowable effluent TUa at the edge of the acute mixing zone after mixing with the receiving water and using the seven-day once-in-ten year low flow (7Q10), to assure acute protection of the receiving water.

[4]Most Sensitive Species Survival in 100% Effluent: is the lowest percentage of surviving organisms in 100% effluent, providing additional evidence of unacceptable acute toxicity when the necessary 50% or greater mortality required to generate an LC50 has not been attained. *Denotes statistically significant mortality in 100% effluent as compared to the control.

[5]Acute Test Result: MSS TUa ≤ TUa Action Level for passing effluent test result and MSS TUa > TUa Action Level for a failing effluent test result. If unacceptable mortality (i.e. statistically significant as compared to the control) is noted in 100% effluent, this may also be considered a failing test result.

[6]Most Sensitive Species Reasonable Potential Determination Toxic Units Acute: is calculated as (MSS TUa x 3.0), the Reasonable Potential Multiplier when three tests have been conducted, taking into account the statistical potential for effluent variability to occur causing an exceedance of the toxicity based action level.

[7]Acute Whole Effluent Toxicity Limit Required: MSS RPD TUa ≤ TUa Action Level, then no toxicity based limit is required and the action level remains in place. If MSS RPD TUa > TUa Action Level, then a toxicity based limit is required and the action level becomes the limit.

[8]Most Sensitive Species 7-day No Observed Effect Concentration or 25% Inhibition Concentration: is the highest concentration or percentage of effluent tested that causes no statistically significant effect to the exposed test organisms as compared to the control over a 7-day period, or the concentration or percentage of effluent that causes a 25% reduction in reproduction or growth for the test population.

[9]Most Sensitive Species Toxic Units Chronic: is calculated as (100 / MSS 7D NOEC) or (100 / MSS 7D IC25).

[10]Toxic Unit Chronic Action Level: is calculated as [(Chronic Dilution Factor+1) x 1.0 TUc] representing the maximum allowable effluent TUc at the edge of the chronic mixing zone after mixing with the receiving water and using the seven-day once-in-ten year low flow (7Q10), to assure chronic protection of the receiving water.

[11]Chronic Test Result: MSS NOEC/IC25 TUc ≤ TUc Action Level for passing effluent test result and MSS NOEC/IC25 TUc > TUc Action Level for a failing effluent test result.

[12]Most Sensitive Species Reasonable Potential Determination Toxic Units Chronic: is calculated as (MSS IC25 TUc x 3.0), the Reasonable Potential Multiplier when three tests have been conducted, taking into account the statistical potential for effluent variability to occur causing an exceedance of the toxicity based action level.

[13]Chronic Whole Effluent Toxicity Limit Required: MSS RPD IC25 TUc ≤ TUc Action Level, then no toxicity based limit is required and the action level remains in place. If MSS RPD IC25 TUc > TUc Action Level, then a toxicity based limit is required and the action level becomes the limit.

Anti-backsliding

The limitations contained in the permit are at least as stringent as the previous permit limits and there are no instances of backsliding. Appendix Link

Antidegradation

The permit contains effluent limitations which ensure that the designated best use of the receiving waters will be maintained. Please see the Environmental Notice Bulletin for information on the State Environmental Quality Review (SEQR)[3] determination. Appendix Link

Discharge Notification Act Requirements

In accordance with the Discharge Notification Act (ECL 17-0815-a), the permittee is required to post a sign at each point of wastewater discharge to surface waters. The permit also contains a requirement that the permittee make the sampling data available, upon request, to the public.

Best Management Practices (BMPs)

In accordance with 6 NYCRR 750-1.14(f) and 40 CFR 122.44(k), the permittee is required to develop and implement a BMP plan that prevents, or minimizes the potential for, the release of toxic or hazardous pollutants to state waters. The BMP plan requires annual review by the permittee.

Stormwater Pollution Prevention Requirements

The facility discharges stormwater associated with industrial activity that would require SPDES permit coverage under 40 CFR 122.26. BMPs consistent with requirements contained in the NYS MSGP (GP-0-17-004) Sector [L], have been included in the permit and pollutants associated with the industrial activity are to be controlled through implementation of source controls developed and implemented under this BMP plan. This requirement is updated from the previous permit.

Mercury[4]

The multiple discharge variance (MDV) for mercury provides the framework for NYSDEC to require mercury monitoring and mercury minimization programs (MMPs), through SPDES permitting. Appendix Link

The facility is a Class 01 discharger within the Great Lakes watershed and the permit includes requirements for the implementation of MMP Type III.

Based on 7 data point(s) with a maximum of 2.5 ng/L collected as part of the application the facility is expected to meet the new daily max permit limit of 50 ng/L (with monthly sampling frequency). The limit represents the general level currently achievable (GLCA). The data collected will be used to establish an additional 12-month rolling average effluent limit during the next permit review.

A mercury minimization program consisting of the following is also required:

- Additional monitoring
- Control strategy for implementation of the MMP
- Annual status report (maintained onsite)

[3] As prescribed by 6 NYCRR Part 617
[4] In accordance with DOW 1.3.10 Mercury – SPDES Permitting & Multiple Discharge Variance (MDV), December 30, 2020.

Schedule(s) of Additional Submittals

A schedule of submittals has been included:

- Pollutant scan for Outfalls 002 & 003
- Initial BMP plan
- WET testing report
- Mercury minimization plan
- WTC annual form, if applicable

Special Conditions

Included conditions pertaining to the need to maintain a Part 360 for disposal of solid waste material permit in conjunction with this SPDES permit.

Monitoring data for a discharge from Outfall 002 & 003 (retention ponds), during a qualifying storm event, was not able to be collected as part of this permit review. Samples were collected on 8/18/2021 within the impoundment, but discharge through the outfall pipes did not occur; therefore, confirmatory sampling of parameters will be required during next discharge through Outfalls 002 & 003.

OUTFALL AND RECEIVING WATER SUMMARY TABLE

Outfall	Latitude	Longitude	Receiving Water Name	Water Class	Water Index No. / Priority Waterbody Listing (PWL) No.	Major / Sub Basin	Hardness (mg/l)	1Q10 (MGD)	7Q10 (MGD)	30Q10 (MGD)	Critical Effluent Flow (MGD)	Dilution Ratio		
												A(A)	A(C)	HEW
001A	42° 40' 33.59" N	76° 57' 42.54" W	Keuka Lake Outlet	C(T)	Ont. 66-12-P 369-115 PWL: 0705-0020	07/05	155[5]	5.3	5.9	7.6	0.25	22:1	24:1	32:1
002	42° 40' 33.49" N	76° 57' 45.12" W	Keuka Lake Outlet	C(T)	Ont. 66-12-P 369-115 PWL: 0705-0020	07/05	155[6]	5.3	5.9	7.6	-	-	-	-
003	42° 40' 29.66" N	76° 57' 46.73" W	Keuka Lake Outlet	C(T)	Ont. 66-12-P 369-115 PWL: 0705-0020	07/05	155[5]	5.3	5.9	7.6	-	-	-	-

POLLUTANT SUMMARY TABLE

Outfall 001

Outfall #	001	**Description of Wastewater:** Treated landfill leachate **Type of Treatment:** Aeration and settling														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality[6]	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
General Notes: Existing discharge data from 11/1/2019 to 9/30/2021 was obtained from Discharge Monitoring Reports and the application provided by the permittee.															
Flow Rate	GPD	Daily Max	250,000	140,000 Actual Average	50/0	250,000	Design Flow	Narrative: No alterations that will impair the waters for their best usages.					6 NYCRR 703.2	-	TBEL
	The flow limit is set at the design flow of the wastewater treatment facility.														
pH	SU	Minimum	6.0	7.1 Actual Min	50/0	**6.0**	TOGS 1.2.1	-	-	6.5 – 8.5	Range	6.5 - 8.5	TOGS 1.3.1	-	TBEL
		Maximum	9.0	8.6 Actual Max	50/0	**9.0**									
	Consistent with TOGS 1.2.1, TBELs reflect the available treatment technology listed in Attachment C. Given the available dilution an effluent limitation equal to the TBEL is reasonably protective of the WQS.														
Temperature	°F	Daily Max	Monitor	89.6 Actual Max	35/0	-	-	Narrative (Trout): No discharge at a temperature over 70F (21C) shall be permitted at any time to streams classified for trout					6 NYCRR 704.2	-	**Monitor**
	Data from the May 30, 2012 thermal criteria study report indicates that the addition of the Lockwood Ash discharge to the Keuka Lake Outlet has no effect on the temperature of the Keuka Lake Outlet; therefore, no temperature limitation is proposed. Temperature monitoring will be maintained.														

[5] Ambient hardness consistent with previous factsheet.

[6] Existing Effluent Quality: Daily Max = 99% lognormal; Monthly Avg = 95% lognormal (for datasets with ≤ 3 nondetects); Daily Max = 99% delta-lognormal; Monthly Avg = 95% delta-lognormal (for datasets with > 3 nondetects)

Outfall #	001	**Description of Wastewater:** Treated landfill leachate **Type of Treatment:** Aeration and settling													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality[6]	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Total Suspended Solids (TSS)	mg/L	Daily Max	50	19.6	26/24	**50**	USEPA ELG BPT	-	Narrative: None from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages.				6 NYCRR 703.2	-	TBEL
	Consistent with 40 CFR Part 423, the TBEL is reflective of USEPA ELG BPT; therefore, the TBEL is specified. Consistent with §423.12(b)(10), untreated runoff associated with a 10 year, 24 hour rainfall event shall not be subject to the TSS limitation.														
Oil & Grease	mg/L	Daily Max	-	-	-	**20**	USEPA ELG BPT	-	Narrative: No residue attributable to sewage, industrial wastes or other wastes, nor visible oil film nor globules of grease.				6 NYCRR 703.2	-	TBEL
	Consistent with 40 CFR Part 423, the TBEL is reflective of USEPA ELG BPT; therefore, the TBEL is specified.														
Aluminum, Total	mg/L	Daily Max	2.4	0.27	21/29	**2.4**	Antibacksliding	-	-	-	-	-	-	-	TBEL
	In accordance with TOGS 1.3.1 E, the WQS for aluminum is not applicable when the pH is great than 6.5. Consistent with 6 NYCRR Part 750-1.10(c), which states "when effluent limitations are established they must be at least as stringent as the effluent limitations previously required unless the department determines that an exception is warranted," the existing permit limitations for total aluminum will be maintained.														
Arsenic, Total	mg/L	Daily Max	0.1	0.049	16/34	**0.10**	Antibacksliding	-	-	150	A(C)	3.7	6 NYCRR 703.5	-	TBEL
	The projected instream concentration was calculated using the 99th percentile of the delta lognormal distribution of the effluent concentration of 0.049 mg/L, an ambient upstream concentration of 0 mg/L, and an effluent hardness of 155 mg/L. A multiplier[7] of 2.0 and a CV of 0.60 were applied to the projected effluent to account for the number of samples. A metals translator of 1.000 was applied to convert between the total and dissolved form in accordance with EPA Document 823-B-96-007. A comparison of the projected instream concentration to the WQS indicates there is no reasonable potential; therefore, consistent with 6 NYCRR Part 750-1.10(c), which states "when effluent limitations are established they must be at least as stringent as the effluent limitations previously required unless the department determines that an exception is warranted," the existing permit limitations for total arsenic will be maintained.														
Cadmium, Total	mg/L	Daily Max	0.11	0.012	5/45	**0.11**	Antibacksliding	-	-	0.003	A(C)	0.081	6 NYCRR 703.5	-	TBEL
	The projected instream concentration was calculated using the 99th percentile of the delta lognormal distribution of the effluent concentration of 0.012 mg/L, an ambient upstream concentration of 0 mg/L, and an effluent hardness of 155 mg/L. A multiplier[7] of 2.0 and a CV of 0.60 were applied to the projected effluent to account for the number of samples. A metals translator of 1.123 was applied to convert between the total and dissolved form in accordance with EPA Document 823-B-96-007. A comparison of the projected instream concentration to the WQS indicates there is no reasonable potential; therefore, consistent with 6 NYCRR Part 750-1.10(c), which states "when effluent limitations are established they must be at least as stringent as the effluent limitations previously required unless the department determines that an exception is warranted," the existing permit limitations for total cadmium will be maintained.														
Copper, Total	mg/L	Daily Max	1.0	0.033	14/36	1.0	Antibacksliding	-	-	0.013	A(C)	**0.33**	6 NYCRR 703.5	-	WQBEL
	The projected instream concentration was calculated using the existing permit limit of 1.0 mg/L, an ambient upstream concentration of 0 mg/L, and an effluent hardness of 155 mg/L. A multiplier[7] of 1.9 and a CV of 0.60 were applied to the projected effluent to account for the number of samples. A metals translator of 1.042 was applied to convert between the total and dissolved form in accordance with EPA Document 823-B-96-007. A comparison of the projected instream concentration to the WQS indicates there is reasonable potential; therefore, a WQBEL is specified.														

Outfall #	001	**Description of Wastewater:** Treated landfill leachate **Type of Treatment:** Aeration and settling													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data: Permit Limit	Existing Discharge Data: Existing Effluent Quality[6]	Existing Discharge Data: # of Data Points Detects / Non-Detects	TBELs: Limit	TBELs: Basis	Water Quality Data & WQBELs: Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL	ML	Basis for Permit Requirement
Boron, Total	mg/L	Daily Max	monitor	27	36/0	-	-	-	3.1	10	A(C)	No reasonable potential	6 NYCRR 703.5	-	**Monitor**
	The Division of Materials Management informed the Division of Water that Boron is a constituent in leachate specific to this facility. Elevated detections of boron in groundwater near the previous combined leachate/stormwater pond were the driver for the consent order that required separation of stormwater from leachate and remediation of the old pond, which included the removal of sediments and constructing the new lined leachate pond. Due to historic contamination, total boron monitoring will be maintained.														
Iron, Total	mg/L	Daily Max	4.0	1.0	47/3	**4.0**	Antibacksliding	-	-	-	-	-	-	-	TBEL
	There is no Class C WQS for total iron. Consistent with 6 NYCRR Part 750-1.10(c), which states "when effluent limitations are established they must be at least as stringent as the effluent limitations previously required unless the department determines that an exception is warranted," the existing permit limitations for total iron will be maintained.														
Manganese, Total	mg/L	Daily Max	3.0	0.87	47/3	**3.0**	Antibacksliding	-	-	-	-	-	-	-	TBEL
	There is no Class C WQS for total manganese. Consistent with 6 NYCRR Part 750-1.10(c), which states "when effluent limitations are established they must be at least as stringent as the effluent limitations previously required unless the department determines that an exception is warranted," the existing permit limitations for total manganese will be maintained.														
Mercury	ng/L	Daily Max	50	2.3	7/0	**50**	TOGS 1.3.10	-	-	0.7	H(FC)	0.7	-	-	MDV
	The facility is Class 01 discharger within the Great Lakes watershed. In accordance with TOGS 1.3.10, the 50 ng/L daily maximum limitation will be maintained.														
Selenium, Total	mg/L	Daily Max	0.07	0.051	32/18	**0.07**	Antibacksliding	-	0.0026	0.0046	A(C)	0.11	6 NYCRR 703.5	-	TBEL
	The projected instream concentration was calculated using the 99th percentile of the delta lognormal distribution of the effluent concentration of 0.051 mg/L, an ambient upstream concentration of 0 mg/L, and an effluent hardness of 155 mg/L. A multiplier[7] of 2.0 and a CV of 0.60 were applied to the projected effluent to account for the number of samples. A comparison of the projected instream concentration to the WQS indicates there is no reasonable potential; therefore, consistent with 6 NYCRR Part 750-1.10(c), which states "when effluent limitations are established they must be at least as stringent as the effluent limitations previously required unless the department determines that an exception is warranted," the existing permit limitations for total selenium will be maintained.														
Zinc, Total	mg/L	Daily Max	2.0	0.048	12/38	**2.0**	Antibacksliding	-	0.0053	0.12	A(C)	3.0	6 NYCRR 703.5	-	TBEL
	The projected instream concentration was calculated using the 99th percentile of the delta lognormal distribution of the effluent concentration of 0.048 mg/L, an ambient upstream concentration of 0 mg/L, and an effluent hardness of 155 mg/L. A multiplier[7] of 1.9 and a CV of 0.60 were applied to the projected effluent to account for the number of samples. A metals translator of 1.014 was applied to convert between the total and dissolved form in accordance with EPA Document 823-B-96-007. A comparison of the projected instream concentration to the WQS indicates there is no reasonable potential; therefore, consistent with 6 NYCRR Part 750-1.10(c), which states "when effluent limitations are established they must be at least as stringent as the effluent limitations previously required unless the department determines that an exception is warranted," the existing permit limitations for total zinc will be maintained.														
Additional Pollutants Detected															
Total Dissolved Solids	mg/L	Daily Max	-	3300*	*	-	-	-	190	500	A(C)	No reasonable potential	6 NYCRR Part 703.3	-	**No Limitation**
	*Data reported on application for 20 analyses. The 95th percentile of lognormal data nor the number of detects vs non-detects is unknown. The projected instream concentration was calculated using the maximum effluent concentration of 3300 mg/L and an ambient upstream concentration of 0 mg/L. A multiplier[7] of 1.4 and a CV of 0.60 were applied to the projected effluent to account for the number of samples. A comparison of the projected instream concentration to the WQS indicates no reasonable potential; therefore, no limitation is specified.														

Outfall #	001	**Description of Wastewater:** Treated landfill leachate **Type of Treatment:** Aeration and settling													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data: Permit Limit	Existing Discharge Data: Existing Effluent Quality[6]	Existing Discharge Data: # of Data Points Detects / Non-Detects	TBELs: Limit	TBELs: Basis	Water Quality Data & WQBELs: Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL	ML	Basis for Permit Requirement
Nitrogen, Ammonia (as N) June 1st – Oct. 31st	mg/L	Monthly Avg	-	0.2*	*	-	-	-	0.088	0.86	A(C)	No reasonable potential	6 NYCRR Part 703.5	-	**No Limitation**
*Data reported on application for 20 analyses. The 95th percentile of lognormal data, the number of detects vs non-detects, and the seasonal maximum are is unknown. The WQS for Ammonia was determined from TOGS 1.1.1 from a summer pH of 7.5 and a temperature of 25 °C. The pH and temperature of the receiving waterbody were assumed values and consistent with TOGS 1.3.1E. The projected instream concentration was calculated using the maximum effluent concentration of 0.2 mg/L and an ambient upstream concentration of 0 mg/L. A multiplier[7] of 1.4 was applied to the maximum effluent concentration to account for the number of samples. In accordance with TOGS 1.3.1E, the HEW dilution ratio was applied to calculate the projected instream concentration. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation; therefore, no limitation is specified.														
Nitrogen, Ammonia (as N) Nov. 1st – May 31st	mg/L	Monthly Avg	-	0.2*	*	-	-	-	0.088	1.9	A(C)	No reasonable potential	6 NYCRR Part 703.5	-	**No Limitation**
*Data reported on application for 20 analyses. The 95th percentile of lognormal data, the number of detects vs non-detects, and the seasonal maximum are is unknown. The WQS for Ammonia was determined from TOGS 1.1.1 from a summer pH of 7.5 and a temperature of 10 °C. The pH and temperature of the receiving waterbody were assumed values and consistent with TOGS 1.3.1E. The projected instream concentration was calculated using the maximum effluent concentration of 0.2 mg/L and an ambient upstream concentration of 0 mg/L. A multiplier[8] of 1.4 was applied to the maximum effluent concentration to account for the number of samples. In accordance with TOGS 1.3.1E, the HEW dilution ratio was applied to calculate the projected instream concentration. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation; therefore, no limitation is specified.														
Alkalinity, Total	mg/L	Daily Max	-	300*	*	-	-	-	-	-	-	-	-	-	**No Limitation**
* Data reported on application for 20 analyses. The 95th percentile of lognormal data nor the number of detects vs non-detects is unknown. There is no Class C WQS for total alkalinity; therefore, no limitation is specified.															
Barium, Total	µg/L	Daily Max	-	225*	*	-	-	-	-	-	-	-	-	-	**No Limitation**
* Data reported on application for 20 analyses. The 95th percentile of lognormal data nor the number of detects vs non-detects is unknown. There is no Class C WQS for total barium; therefore, no limitation is specified.															
Chloride	mg/L	Daily Max	-	301*	*	-	-	-	-	-	-	-	-	-	**No Limitation**
* Data reported on application for 20 analyses. The 95th percentile of lognormal data nor the number of detects vs non-detects is unknown. There is no Class C WQS for chloride; therefore, no limitation is specified.															
Chromium, Total	µg/L	Daily Max	-	9.3*	*	-	-	-	0.0068	0.050	H(WS)	No reasonable potential	6 NYCRR Part 703.5	-	**No Limitation**
* Data reported on application for 20 analyses. The 95th percentile of lognormal data nor the number of detects vs non-detects is unknown. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation; therefore, no limitation is specified.															
Magnesium, Total	mg/L	Daily Max	-	128*	*	-	-	-	-	-	-	-	-	-	**No Limitation**

[7] As recommended from EPA's Technical Support Document, Chapter 3.3
[8] As recommended from EPA's Technical Support Document, Chapter 3.3

Outfall #	001	**Description of Wastewater:** Treated landfill leachate **Type of Treatment:** Aeration and settling													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data: Permit Limit	Existing Discharge Data: Existing Effluent Quality[6]	Existing Discharge Data: # of Data Points Detects / Non-Detects	TBELs: Limit	TBELs: Basis	Water Quality Data & WQBELs: Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL	ML	Basis for Permit Requirement
	* Data reported on application for 20 analyses. The 95th percentile of lognormal data nor the number of detects vs non-detects is unknown. There is no Class C WQS for total magnesium; therefore, no limitation is specified.														
Potassium, Total	mg/L	Daily Max	-	89.6*	*	-	-	-	-	-	-	-	-	-	**No Limitation**
	* Data reported on application for 20 analyses. The 95th percentile of lognormal data nor the number of detects vs non-detects is unknown. There is no Class C WQS for total potassium; therefore, no limitation is specified.														
Sodium, Total	mg/L	Daily Max	-	329*	*	-	-	-	-	-	-	-	-	-	**No Limitation**
	* Data reported on application for 20 analyses. The 95th percentile of lognormal data nor the number of detects vs non-detects is unknown. There is no Class C WQS for total sodium; therefore, no limitation is specified.														
Sulfate	mg/L	Daily Max	-	1740*	*	-	-	-	-	-	-	-	-	-	**No Limitation**
	* Data reported on application for 20 analyses. The 95th percentile of lognormal data nor the number of detects vs non-detects is unknown. There is no Class C WQS for sulfate; therefore, no limitation is specified.														
Color, apparent	CU	Daily Max	-	15*	*	-	-	-	Narrative: None in amounts that will adversely affect the taste, color or odor thereof, or impair the waters for their best usages.				6 NYCRR Part 703.2	-	**Monitoring**
	* Data reported on application for 20 analyses. The 95th percentile of lognormal data nor the number of detects vs non-detects is unknown. Since there is a narrative standard for color, monitoring will be added to the permit.														

Permittee: Lockwood Hills LLC
Facility: Lockwood Ash Disposal Site
SPDES Number: NY0107069
USEPA Non-Major/Class 01 Industrial

Date: November 12, 2021 v.1.2
Permit Writer: Catherine Winters
Water Quality Reviewer: Catherine Winters
Full Technical Review

POLLUTANT SUMMARY TABLE

Outfall 002 & 003

Outfall #	002 & 003	**Description of Wastewater:** Treated landfill leachate														
		Type of Treatment: Aeration and settling														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality[9]	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
General Notes: Existing discharge data from 11/1/2019 to 9/30/2021 was obtained from Discharge Monitoring Reports and the application provided by the permittee.															
Flow Rate	GPD	Daily Max	-	-	-	-	-	Narrative: No alterations that will impair the waters for their best usages.					6 NYCRR 703.2	-	**No Limitation**
	Flow will continue to be monitored for informational purposes and to calculate pollutant loadings.														
pH	SU	Minimum	6.0	7.6 Actual Min	12/0	**6.0**	TOGS 1.2.1	-	-	6.5 – 8.5	Range	6.5 - 8.5	TOGS 1.3.1	-	TBEL
		Maximum	9.0	7.8 Actual Max	12/0	**9.0**									
	Consistent with TOGS 1.2.1, TBELs reflect the available treatment technology listed in Attachment C. Given the available dilution an effluent limitation equal to the TBEL is reasonably protective of the WQS.														
Temperature	°F	-	-	-	-	-	-	-	Narrative (Trout): No discharge at a temperature over 70F (21C) shall be permitted at any time to streams classified for trout				6 NYCRR 704.2	-	**Monitor**
	Data from the May 30, 2012 thermal criteria study report indicates that the addition of the Lockwood Ash discharge to the Keuka Lake Outlet has no effect on the temperature of the Keuka Lake Outlet; therefore, no temperature limitation is proposed. Temperature monitoring will be maintained.														
Additional Pollutants Detected															
Boron, Total	mg/L	Daily Max	-	0.667	2/0	-	-	-	-	-	-	-	-	-	**Monitor**
	Elevated detections of boron in groundwater near the previous combined leachate/stormwater pond were the driver for the consent order that required separation of stormwater from leachate and remediation of the old pond, which included the removal of sediments and constructing the new lined leachate pond. Due to historic contamination, total boron monitoring will be maintained.														
Iron, Total	mg/L	Daily Max	-	0.215	2/0	-	-	-	-	-	-	-	-	-	**No Limitation**
	There is no Class C WQS for total iron; therefore, no limitation is specified.														

[9] Existing Effluent Quality: Daily Max = 99% lognormal; Monthly Avg = 95% lognormal (for datasets with ≤ 3 nondetects); Daily Max = 99% delta-lognormal; Monthly Avg = 95% delta-lognormal (for datasets with > 3 nondetects)

Outfall #	002 & 003	**Description of Wastewater:** Treated landfill leachate													
		Type of Treatment: Aeration and settling													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality[9]	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Manganese, Total	mg/L	Daily Max	-	0.164	2/0	-	-	-	-	-	-	-	-	-	**No Limitation**
	There is no Class C WQS for total manganese; therefore, no limitation is specified.														
Zinc, Total	mg/L	Daily Max	-	0.12	1/1	-	-	-	-	-	-	-	-	-	**Monitor**
	Basin 1 sample was non-detect and only a single data point is available for Basin 2. Monitoring is required to inform future reasonable potential analysis.														

USEPA EFFLUENT LIMITATION GUIDELINE (ELG) CALCULATIONS

Appendix Link

For the applicable categorical limitations under 40 CFR Part 423, the following basis was used to determine the TBEL:

Outfall	001
40 CFR Part/Subpart	§423.12(b)(9); §423.12(b)(10); §423.12(b)(11)
Subpart Name	Steam electric power generating point source category, as applicable to coal pile runoff and combustion residual leachate

ELG Pollutant	Daily Max TBEL (mg/L)	Monthly Avg. TBEL (mg/L)
40 CFR § 423.12 - Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT)		
Total suspended solids	50	-
Total suspended solids	100.0	30.0
Oil & Grease	20.0	15.0
The above ELGs were determined to be applicable to Lockwood Ash Disposal Site since the landfill wastes include coal pile runoff and combustion residual leachate. The Lockwood Ash facility was determined to be exempt from ELG requirements for landfill point source category due to applicability of 40 CFR Part 445.1(f) and exempt from ELG requirements for centralized waste treatment point source category due to the applicability of 40 CFR Part 437.1(c)(4).		

Appendix: Regulatory and Technical Basis of Permit Authorizations

The information presented in the Appendix is meant to supplement the factsheet for multiple types of permits and may not be applicable to this specific permit.

Regulatory References

The requirements included in SPDES permits are based on both federal and state laws, regulations, policies, and guidance.

- Clean Water Act (CWA) 33 section USC 1251 to 1387
- Environmental Conservation Law (ECL) Articles 17 and 70
- Federal Regulations
  - 40 CFR, Chapter I, subchapters D, N, and O
- State environmental regulations
  - 6 NYCRR Part 621
  - 6 NYCRR Part 750
  - 6 NYCRR Parts 700 - 704 – Best use and other requirements applicable to water classes
  - 6 NYCRR Parts 800 – 941 - Classification of individual surface waters
- NYSDEC water program policy, often referred to as Technical and Operational Guidance Series memos (TOGS)
- USEPA Office of Water Technical Support Document for Water Quality-based Toxics Control, March 1991, Appendix E

The following is a quick guide to the references used within the factsheet:

SPDES Permit Requirements	Regulatory Reference
Anti-backsliding	6 NYCRR 750-1.10(c)
Best Management Practices (BMPS) for CSOs	6 NYCRR 750-2.8(a)(2)
Environmental Benefits Permit Strategy (EBPS)	6 NYCRR 750-1.18, NYS ECL 17-0817(4), TOGS 1.2.2 (revised January 25,2012)
Exceptions for Type I SSO Outfalls (bypass)	6 NYCRR 750-2.8(b)(2), 40 CFR 122.41
Mercury Multiple Discharge Variance	Division of Water Program Policy 1.3.10 (TOGS 1.3.10)
Mixing Zone and Critical Water Information	TOGS 1.3.1 & Amendments
PCB Minimization Program	40 CFR Part 132 Appendix F Procedure 8, 6 NYCRR 750-1.13(a) and 750-1.14(f), and TOGS 1.2.1
Pollutant Minimization Program (PMP)	6 NYCRR 750-1.13(a), 750-1.14(f), TOGS 1.2.1
Schedules of Compliance	6 NYCRR 750-1.14
Sewage Pollution Right to Know (SPRTK)	NYS ECL 17-0826-a, 6 NYCRR 750-2.7
State Administrative Procedure Act (SAPA)	State Administrative Procedure Act Section 401(2), 6 NYCRR 621.11(l)
State Environmental Quality Review (SEQR)	6 NYCRR Part 617
USEPA Effluent Limitation Guidelines (ELGs)	40 CFR Parts 405-471
USEPA National CSO Policy	33 USC Section 1342(q)
Whole Effluent Toxicity (WET) Testing	TOGS 1.3.2
General Provisions of a SPDES Permit Department Request for Additional Information	NYCRR 750-2.1(i)

The provisions of the permit are based largely upon 40 CFR 122 subpart C and 6 NYCRR Part 750 and include monitoring, recording, reporting, and compliance requirements, as well as general conditions applicable to all SPDES permits.

Outfall and Receiving Water Information

Impaired Waters

The NYS 303(d) List of Impaired/TMDL Waters (http://www.dec.ny.gov/chemical/31290.html) identifies waters where specific designated uses are not fully supported and for which the state must consider the development of a TMDL or other strategy to reduce the input of the specific pollutant(s) that restrict waterbody uses, in order to restore and protect such uses. SPDES permits must include effluent limitations necessary to implement a

WLA of an EPA-approved TMDL (6 NYCRR 750-1.11(a)(5)(ii)), if applicable. In accordance with 6 NYCRR 750-1.13(a), permittees discharging to waters which are on the list but do not yet have a TMDL developed may be required to perform additional monitoring for the parameters causing the impairment. Accurate monitoring data is needed for the development of the TMDL, and to allow the Department to accurately determine the existing capabilities of the wastewater treatment plant to assure that wasteload allocations (WLAs) are allocated equitably.

Interstate Water Pollution Control Agencies

Some POTWs may be subject to regulations of interstate basin/compact agencies including: Interstate Sanitation Commission (ISC), International Joint Commission (IJC), Delaware River Basin Commission (DRBC), Ohio River Valley Water Sanitation Commission (ORSANCO), and the Susquehanna River Basin Commission (SRBC). Generally, basin commission requirements focus principally on water quality and not treatment technology. However, interstate/compact agency regulations for the ISC, IJC, DRBC and NYC Watershed contain explicit effluent limits which must be addressed during permit drafting. 6 NYCRR 750-2.1(d) requires SPDES permits for discharges that originate within the jurisdiction of an interstate water pollution control agency, to include any applicable effluent standards or water quality standards (WQS) promulgated by that interstate agency.

Existing Effluent Quality

During development of the permit, a statistical evaluation of existing effluent quality is performed to calculate the 95th (monthly average) and 99th (daily maximum) percentiles of the existing effluent quality. That evaluation is completed in accordance with TOGS 1.2.1 and the USEPA Office of Water Technical Support Document for Water Quality-based Toxics Control, March 1991, Appendix E. When there are three or fewer non-detects, a lognormal distribution of the data is assumed, and lognormal calculations are used to determine the monthly average and daily maximum concentrations of the existing effluent. When there are greater than three non-detects, a delta-lognormal distribution is assumed, and delta-lognormal calculations are used to determine the monthly average and daily maximum pollutant concentrations. Statistical calculations are not performed for parameters where there are less than ten data points. If additional data is needed, a monitoring requirement may be specified either through routine monitoring or a short-term high intensity monitoring program. The Pollutant Summary Table identifies the number of sample data points available.

Permit Requirements

Basis for Effluent Limitations

Sections 101, 301, 304, 308, 401, 402, and 405 of the CWA and Titles 5, 7, and 8 of Article 17 ECL, as well as their implementing federal and state regulations, and related guidance, provide the basis for the effluent limitations and other conditions in the permit.

When conducting a full technical review of an existing permit, the previous permit limitations form the basis for the next permit. Existing effluent quality is evaluated against the existing permit limitations to determine if these should be continued, revised, or deleted. Generally, existing limitations are continued unless there are changed conditions at the facility, the facility demonstrates an ability to meet more stringent limitations, and/or in response to updated regulatory requirements. Pollutant monitoring data is also reviewed to determine the presence of additional contaminants that should be included in the permit based on a reasonable potential analysis to cause or contribute to a water quality standards violation.

Anti-backsliding

Anti-backsliding requirements are specified in the CWA sections 402(o) and 303(d)(4), ECL 17-0809, and regulations at 40 CFR 122.44(*l*) and 6 NYCRR 750-1.10(c) and (d). Generally, the relaxation of effluent limitations in permits is prohibited unless one of the specified exceptions applies, which will be cited on a case-by-case

basis in this factsheet. Consistent with current case law[10] and USEPA interpretation[11] anti-backsliding requirements do not apply should a revision to the final effluent limitation take effect before the scheduled date of compliance for that final effluent limitation.

Antidegradation Policy

New York State implements the antidegradation portion of the CWA based upon two documents: (1) Organization and Delegation Memorandum #85-40, "Water Quality Antidegradation Policy" (September 9, 1985); and, (2) TOGS 1.3.9, "Implementation of the NYSDEC Antidegradation Policy – Great Lakes Basin (Supplement to Antidegradation Policy dated September 9, 1985) (undated)." The permit for the facility contains effluent limitations which ensure that the existing best usage of the receiving waters will be maintained. To further support the antidegradation policy, SPDES applications have been reviewed in accordance with the State Environmental Quality Review Act (SEQR) as prescribed by 6 NYCRR Part 617.

Effluent Limitations

In developing a permit, the Department determines the technology-based effluent limitations (TBELs) and then evaluates the water quality expected to result from technology controls to determine if any exceedances of water quality criteria in the receiving water might result. If there is a reasonable potential for exceedances of water quality criteria to occur, water quality-based effluent limitations (WQBELs) are developed. A WQBEL is designed to ensure that the water quality standards of receiving waters are met. In general, the CWA requires that the effluent limitations for a particular pollutant are the more stringent of either the TBEL or WQBEL.

Technology-based Effluent Limitations (TBELs)

A TBEL requires a minimum level of treatment for industrial point sources based on currently available treatment technologies and/or Best Management Practices (BMPs). CWA sections 301(b) and 402, ECL sections 17-0509, 17-0809 and 17-0811, and 6 NYCRR 750-1.11 require technology-based controls on effluents. TBELs are set based upon an evaluation of New Source Performance Standards (NSPS), Best Available Technology Economically Achievable (BAT), Best Conventional Pollutant Control Technology (BCT), Best Practicable Technology Currently Available (BPT), and/or Best Professional Judgment (BPJ).

USEPA Effluent Limitation Guidelines (ELGs) Applicable to Facility

In many cases, BPT, BCT, BAT and NSPS limitations are based on effluent guidelines developed by USEPA for specific industries, as promulgated under 40 CFR Parts 405-471. Applicable guidelines, pollutants regulated by these guidelines, and the effluent limitation derivation for facilities subject to these guidelines is in the USEPA Effluent Limitation Guideline Calculations Table.

Best Professional Judgement (BPJ)

For substances that are not explicitly limited by regulations, the permit writer is authorized to use BPJ in developing TBELs. Consistent with section 402(a)(1) of the CWA, and NYS ECL section 17-0811, the Department is authorized to issue a permit containing "any further limitations necessary to insure compliance with water quality standards adopted pursuant to state law". BPJ limitations may be set on a case-by-case basis using any reasonable method that takes into consideration the criteria set forth in 40 CFR 125.3. Applicable state regulations include 6 NYCRR 750-1.11.

The BPJ limitation considers: the existing technology present at the facility; the statistically calculated existing effluent quality for that parameter; and any unique or site-specific factors relating to the facility. Technology limitations generally achievable for various treatment

[10] American Iron and Steel Institute v. Environmental Protection Agency, 115 F.3d 979, 993 n.6 (D.C. Cir. 1997)
[11] U.S. EPA, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; 65 Fed. Reg. 31682, 31704 (May 18, 2000); Proposed Water Quality Guidance for the Great Lakes System, 58 Fed. Reg. 20802, 20837 & 20981 (April 16, 1993)

technologies are included in TOGS 1.2.1, Attachment C. These limitations may be used for the listed parameters when the technology employed at the facility is listed.

Water Quality-Based Effluent Limitations (WQBELs)

In addition to the TBELs, permits must include additional or more stringent effluent limitations and conditions, including those necessary to protect water quality. CWA sections 101 and 301(b)(1)(C), 40 CFR 122.44(d)(1), and 6 NYCRR Parts 700-704 and 750-1.11 require that permits include limitations for all pollutants or parameters which are or may be discharged at a level which may cause or contribute to an exceedance of any State water quality standard adopted pursuant to NYS ECL 17-0301. The limitations must be stringent enough to ensure that water quality standards are met and must be consistent with any applicable WLA which may be in effect through a TMDL for the receiving water. These and other requirements are summarized in TOGS 1.1.1, 1.3.1, 1.3.2, 1.3.5 and 1.3.6.

Mixing Zone Analyses

Mixing zone analyses are conducted in accordance with the following:
"EPA Technical Support Document for Water Quality-Based Toxics Control" (March 1991); EPA Region VIII's "Mixing Zones and Dilution Policy" (December 1994); NYSDEC TOGS 1.3.1, "Total Maximum Daily Loads and Water Quality-Based Effluent Limitations" (July 1996); "CORMIX v11.0" (2019).

Critical Flows

In accordance with TOGS 1.2.1 and 1.3.1, water quality-based effluent limitations are developed using dilution ratios that relate the critical low flow condition of the receiving waterbody to the critical effluent flow. The critical low flow condition used in the dilution ratio will be different depending on whether the limitations are for aquatic or human health protection. For chronic aquatic protection, the critical low flow condition of the waterbody is typically represented by the 7Q10 flow and is calculated as the lowest average flow over a 7-day consecutive period within 10 years. For acute aquatic protection, the critical low flow condition is typically represented by the 1Q10 and is calculated as the lowest 1-day flow within 10 years. However, NYSDEC considers using 50% of the 7Q10 to be equivalent to the 1Q10 flow. For the protection of human health, the critical low flow condition is typically represented by the 30Q10 flow and is calculated as the lowest average flow over a 30-day consecutive period within 10 years. However, NYSDEC considers using 1.2 x 7Q10 to be equivalent to the 30Q10. The 7Q10 or 30Q10 flow is used with the critical effluent flow to calculate the dilution ratio. The critical effluent flow can be the maximum daily flow reported on the permit application, the maximum of the monthly average flows from discharge monitoring reports for the past three years, or the facility design flow. When more than one applicable standard exists for aquatic or human health protection for a specific pollutant, a reasonable potential analysis is conducted for each applicable standard and corresponding critical flow to ensure effluent limitations are sufficiently stringent to ensure all applicable water quality standards are met as required by 40 CFR 122.44(d)(1)(i). For brevity, the pollutant summary table reports the results of the most conservative scenario.

Reasonable Potential Analysis (RPA)

The Reasonable Potential Analysis (RPA) is a statistical estimation process, outlined in the 1991 USEPA Technical Support Document for Water Quality-based Toxics Control (TSD), Appendix E. This process uses existing effluent quality data and statistical variation methodology to project the maximum amounts of pollutants that could be discharged by the facility. This projected instream concentration (PIC) is calculated using the appropriate ratio and compared to the water quality standard (WQS). When the RPA process determines the WQS may be exceeded, a WQBEL is required. The procedure for developing WQBELs includes the following steps:

1) identify the pollutants present in the discharge(s) based upon existing data, sampling data collected by the permittee as part of the permit application or a short-term high intensity monitoring program, or data gathered by the Department;

2) identify water quality criteria applicable to these pollutants;

3) determine if WQBELs are necessary (i.e. reasonable potential analysis (RPA)). The RPA will utilize the procedure outlined in Chapter 3.3.2 of EPA's Technical Support Document (TSD). As outlined in the TSD, for parameters with limited effluent data the RPA may include multipliers to account for effluent variability; and,

4) calculate WQBELs (if necessary). Factors considered in calculating WQBELs include available dilution of effluent in the receiving water, receiving water chemistry, and other pollutant sources.

The Department uses modeling tools to estimate the expected concentrations of the pollutant in the receiving water and develop WQBELs. These tools were developed in part using the methodology referenced above. If the estimated concentration of the pollutant in the receiving water is expected to exceed the ambient water quality standard or guidance value, then there is a reasonable potential that the discharge may cause or contribute to an exceedance of any State water quality standard adopted pursuant to NYS ECL 17-0301. If a TMDL is in place, the facility's WLA for that pollutant is applied as the WQBEL.

For carbonaceous and nitrogenous oxygen demanding pollutants, the Department uses a model which incorporates the Streeter-Phelps equation. The equation relates the decomposition of inorganic and organic materials along with oxygen reaeration rates to compute the downstream dissolved oxygen concentration for comparison to water quality standards.

Whole Effluent Toxicity (WET) Testing:

WET tests use small vertebrate and invertebrate species to measure the aggregate toxicity of an effluent. There are two different durations of toxicity tests: acute and chronic. Acute toxicity tests measure survival over a 96-hour test exposure period. Chronic toxicity tests measure reductions in survival, growth, and reproduction over a 7-day exposure. TOGS 1.3.1 includes guidance for determining when aquatic toxicity testing should be included in SPDES permits. The authority to require toxicity testing is in Part 702.16(b) of Chapter X, Title 6 of the New York State Codes, Rules, and Regulations. TOGS 1.3.2 describes the procedures which should be followed when determining whether to include toxicity testing in a SPDES permit and how to implement a toxicity testing program. Per TOGS 1.3.2, WET testing may be required when any one of the following seven criteria are applicable:

1. There is the presence of substances in the effluent for which ambient water quality criteria do not exist.
2. There are uncertainties in the development of TMDLs, WLAs, and WQBELs, caused by inadequate ambient and/or discharge data, high natural background concentrations of pollutants, available treatment technology, and other such factors.
3. There is the presence of substances for which WQBELs are below analytical detectability.
4. There is the possibility of complex synergistic or additive effects of chemicals, typically when the number of metals or organic compounds discharged by the permittee equals or exceeds five.
5. There are observed detrimental effects on the receiving water biota.
6. Previous WET testing indicated a problem.
7. POTWs which exceed a discharge of 1 MGD. Facilities of less than 1 MGD may be required to test, e.g., POTWs <1 MGD which are managing industrial pretreatment programs.

Minimum Level of Detection

Pursuant to 40 CFR 122.44(i)(1), SPDES permits must contain monitoring requirements using sufficiently sensitive test procedures approved under 40 CFR Part 136. A method is "sufficiently sensitive" when the method's minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant parameter; or the lowest ML of the analytical methods approved under 40 CFR Part 136. The ML represents the lowest level that can be measured within specified limitations of precision and accuracy during routine laboratory operations on most effluent matrices. When establishing effluent limitations for a specific parameter (based on technology or water quality requirements), it is

possible that the calculated limitation will fall below the ML established by the approved analytical method(s). In these instances, the calculated limitation is included in the permit with a compliance level set equal to the ML of the most sensitive method.

Monitoring Requirements

CWA section 308, 40 CFR 122.44(i), and 6 NYCRR 750-1.13 require that monitoring be included in permits to determine compliance with effluent limitations. Additional effluent monitoring may also be required to gather data to determine if effluent limitations may be required. The permittee is responsible for conducting the monitoring and reporting results on Discharge Monitoring Reports (DMRs). The permit contains the monitoring requirements for the facility. Monitoring frequency is based on the minimum sampling necessary to adequately monitor the facility's performance and characterize the nature of the discharge of the monitored flow or pollutant. Variable effluent flows and pollutant levels may be required to be monitored at more frequent intervals than relatively constant effluent flow and pollutant levels (6 NYCRR 750-1.13). For industrial facilities, sampling frequency is based on guidance provided in TOGS 1.2.1. For municipal facilities, sampling frequency is based on guidance provided in TOGS 1.3.3.

Other Conditions

Mercury

The multiple discharge variance (MDV) for mercury was developed in accordance with 6 NYCRR 702.17(h) "to address widespread standard or guidance value attainment issues including the presence of a ubiquitous pollutant or naturally high levels of a pollutant in a watershed." The first MDV was issued in October 2010, and subsequently revised and reissued in 2015; each subsequent iteration of the MDV is designed to build off the previous version, to make reasonable progress towards the water quality standard (WQS) of 0.7 ng/L dissolved mercury. The MDV is necessary because human-caused conditions or sources of mercury prevent attainment of the WQS and cannot be remedied (i.e., mercury is ubiquitous in New York waters at levels above the WQS and compliance with a water quality based effluent limitation (WQBEL) for mercury cannot be achieved with demonstrated effluent treatment technologies). The Department has determined that the MDV is consistent with the protection of public health, safety, and welfare. During the effective period of this MDV, any increased risks to human health are mitigated by fish consumption advisories issued periodically by the NYSDOH.

All surface water SPDES permittees are eligible for authorization by the MDV provided they meet the requirements specified in DOW 1.3.10.

Schedules of Additional Submittals

Schedules of Submittals are used to summarize the deliverables required by the permit.

Best Management Practices (BMP) Plans

BMP plans are authorized for inclusion in NPDES permits pursuant to Sections 304(e) and 402 (a)(1) of the Clean Water Act, and 6 NYCRR 750-1.14(f). The regulations pertaining to BMPs are promulgated under 40 CFR Part 125, Subpart K. These regulations specifically address surface water discharges.