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CLEAN HARBORS CANADA, INC.

2018 Compliance Audit Summary Report – Ryley Facility

Alberta Environment Approval Number 10348-03-00

February 22, 2019

Clean Harbors Canada, Inc.
P.O. Box 390
Ryley, Alberta
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Attention: Mr. Stan Yuha

2018 Compliance Audit Summary Report – Ryley Facility

Dillon Consulting Limited is pleased to submit the enclosed Final 2018 Compliance Audit Summary Report for the Ryley Facility (Facility or Site) to Clean Harbors Canada, Inc. The Report describes the methodological approach used and highlights key findings resulting from the 2018 triennial compliance audit completed at the Facility on September 19-20, 2018.

We hope you see this as a valuable tool to gain insight into current operations and Approval requirements and discover the findings and recommendations described herein useful in informing continued operations at the Facility.

Sincerely,

DILLON CONSULTING LIMITED



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1.0 Introduction

Clean Harbors Canada Inc. (Clean Harbors) is required to undergo a third-party compliance audit (compliance audit or audit) of construction, operations, and closure/post-closure care of its Ryley Facility (Facility or Site), located in Ryley, Alberta, as a requirement of the Site's Alberta Environment and Parks (AEP) Approval number 10348-03-00 (Approval) at a minimum of once every three years. The first audit, as part of the new Approval (valid 2017-2027), was required to be initiated on or before October 1, 2018. Dillon Consulting Limited (Dillon) was retained to perform the compliance audit, for which the compliance audit kick-off call was held on September 5, 2018 representing the commencement of the audit activities. The formal Site visit was conducted on September 19 and 20, 2018.

To prepare for this exercise, an audit checklist (Appendix A following this report) was established to account for every actionable item contained within the operating Approval. During the Site visit, the auditors reviewed relevant documentation, interviewed facility staff members, and took part in a Site visit and associated visual inspection of the facility in order to assess the compliance level of each item contained within the audit checklist. This report summarizes the findings and results of this audit.

1.1 Scope and Objectives

The objective of this audit was to determine if the Facility was in compliance with all requirements included in the Approval from the period of July 11, 2015 (2015 compliance audit completion) to September 18, 2018 (2018 compliance audit commenced). This is the first audit completed at the Facility since the new Approval came into effect in 2017.

Each of the 574 line items in the audit checklist were assessed, and assigned one of the following statuses:

- Information
- Compliant
- Non-compliant
- Not Applicable
- Opportunity for Improvement
- Pending

Each line item consists of a clear statement identifying an obligation of the Facility to the Approval. Line items are phrased in such a way where it is easy to assign one of the above statuses without cause for confusion. Approval requirements which state numerous conditions under one larger, enveloping condition have been separated and added as individual line items in the audit checklist to provide further clarity. Some conditions of the approval offered information only, and were assigned a status as such. A "Not Applicable" status was assigned to items which were not applicable at the time of the audit. "Opportunity for Improvement" was assigned to items for which the Facility was clearly

implementing compliance measures, but where Dillon identified room to improve. "Pending" was assigned to line items which the Facility is currently in the process of complying with, but has not yet completed.

In addition to assessing compliance with each item of the audit checklist, the auditors also recorded the supporting documentation (where available) which they had reviewed prior to assigning a status to each line item. Documentation is generally the strongest evidence to support interviewee statements, and was revisited as needed to confirm statements. Documents which were reviewed included, but were not limited to:

- Annual Landfill Operations Report(s);
- Groundwater Monitoring Report(s);
- Calibration records;
- Design drawings; and
- Emails

To supplement documentation review, or in cases where documentation was not available or did not exist, a Facility tour was conducted by both auditors and two senior staff members of Clean Harbors. Visual observations and inspections were performed during the tour to verify compliance with certain items in the audit checklist.

Verbal confirmation provided by Clean Harbors personnel was accepted in cases where assigning a status based on documentation or visual inspection was impossible. Names of personnel who provided verbal information were recorded next to each line item for which verbal confirmation was the only evidence. Oftentimes, more than one staff member confirmed claims by the other, increasing the confidence of the auditors in assigning a status.

Clarification from AEP on Approval terms was not sought for this audit. Dillon's Auditors used professional judgement when evaluating the Approval terms and the Facility's compliance with them.

Requirements which were not explicitly identified in the Approval were outside the scope of this audit.

2.0 Discussion

The completed audit checklist, identifying the status of all Approval clauses, is provided as Appendix A following the report text.

Previous audits completed at the facility have identified several requirements which do not necessarily portray the operating practices which are actually utilized by the facility. After reviewing the amended Approval extensively, it is evident that some recommendations from the 2015 audit were not referred to

in amending the Approval most recently in 2017. The 2015 audit notes that “*recent amendments still contained terms that did not consistently portray the operating practices actually utilized by the Facility*”, which identifies an ongoing disconnect between certain Approval requirements and the best operational practices used at the Facility. For example from the 2015 audit: “*Clause 4.5.32 (b) (ii) (4.6.52 (b) in the amended Approval) stipulates that landfill inspections be completed immediately after a storm event, rather than on the next day of operation*”. This requirement remains in the amended Approval, even after recommendations from previous audits.

Clarification or modification of such clauses is suggested through ongoing discussion with AEP, to ensure compliance with the Approval and maintain best operational practices at the Facility. As such, Dillon would recommend Facility staff review the Approval in depth on a regular basis as construction progress and operational status changes in response to new systems, infrastructure, and wastes on-site.

2.1 Summary of Findings

Appendix A following the text includes the full checklist used during the facility audit. Table 1 below summarizes the statuses assigned to each line item in the audit checklist.

Table 1: Statuses Assigned to Line Items in the Audit Checklist

Status	Number Assigned
Information	74
Compliant	329
Non-compliant	4
Not applicable	109
Opportunity for improvement	10
Pending	46
TOTAL	572

Four (4) line items (two (2) when accounting for similarities in line items) were assigned the status “non-compliant”. They are as follows:

1. Section 4.1.4 (vi) of the Approval states “*the Approval holder shall operate and maintain the integrity of the following infrastructure components at the facility: (vi) Groundwater monitoring wells*”. This requirement is similar to those in Sections 4.9.10 (a) and (b) which state “*The approval holder shall for all groundwater monitoring wells: (a) Protect from damage, and (b) Keep locked except when being sampled*”. One well in particular (MW-10) was found to have been damaged, resulting in well cap exposure. The protective casing and locking mechanism was not in place at the time of the Facility tour on September 19, 2018. By September 20, 2018 Facility personnel had stated that repairs to MW-10 were underway and repairs were confirmed

verbally in January 2019. All other groundwater monitoring wells observed by the auditors appeared to be protected and locked. Clarify that SOP was put in place

2. Section 4.6.16 (b) of the Approval states "*All tanks containing hazardous waste and all tanks containing hazardous recyclables in each building shall be equipped, at a minimum, with all of the following: (b) A written operating procedure to prevent tank overflow*". Although the "Bulk Flammable Liquid Transfer SOP Document and Checklist" is available, it is not posted next to the tanks in question.

Several requirements of the Approval were identified as "informational" or "non-applicable" in nature by audit and Facility personnel and were assigned these identifiers accordingly. For example, Section 4.6.41 of the Approval states "*The approval holder shall not dispose of hazardous waste in any Class II landfill cell*". No Class II landfill cells exist at the facility, and no plans or permits are in place to allow a Class II landfill cell to be constructed in the future.

For continued Approval compliance in construction and operations, Dillon recommends that Facility staff regularly review the Approval in depth, and engage the AEP Director as needed during approval amendment periods to modify clauses which may no longer be applicable to Site conditions.

3.0 Conclusions

The 2018 compliance audit of AEP Approval number 10348-03-01 revealed two non-compliances to Approval terms and conditions between the time of the last audit completion and commencement of this audit. These non-compliances relate to the following Approval clauses and consisted of the following:

- Clause 4.1.4 (vi) and 4.9.10 (a) and (b) (three related items counted as one non-compliance): One groundwater monitoring well was found to be damaged to a level which caused the outer protective casing to be destroyed. Facility personnel were in the process of remedying this violation on the second day of the audit; and
- Clause 4.6.16 (b): The standard operating procedure (SOP) for tank filling and responding to overflows was available to staff in documentation on-site, but was not posted next to the bulk liquid storage tanks at the time of the audit.

Several opportunities for improvement were identified in the course of the audit, as identified in Appendix A. They include the following:

- Clause 3.1.4 (b) and (c): No change log for May 4, 2018 to August 30, 2018 versions;
- Clause 4.1.5 (ii): Minor amounts of mud and standing water was identified in roadways and near the Cell 4 construction limit. This was determined to be due to ongoing construction activities on site during the visit and do not represent ongoing grading issues or conditions;

- Clause 4.6.24 (i): Although it appears that the Facility is adhering to the document in question; "Industrial Waste Identification and Management Options, Alberta Environment, May 1996", it should be explicitly referred to in the Facility's Operations Plan;
- Clause 4.6.30 (b): Although it appears that the Facility is adhering to the document in question; "Alberta User Guide for Waste Managers, Alberta Environment, August 1996", it should be explicitly referred to in the Facility's Operations Plan;
- Clause 4.6.34 (w): The 2016 operations plan contained a landfill layout plan from 2013, even though surveys of the landfill are conducted biannually. Dillon would recommend this plan be updated every year and included with the most up-to-date Operations Plan;
- Clause 4.6.35: Both 2017 and 2016 plans were available. The 2016 version should be removed;
- Clause 4.6.39 (b): Although it appears that the Facility is adhering to the document in question; "Industrial Waste Identification and Management Options, Alberta Environment, May 1996", it should be explicitly referred to in the Facility's Operations Plan; and
- Clause 4.6.45: Although it appears that the Facility is adhering to the document in question; "Guidelines for the Disposal of Asbestos Waste: Environmental Protection Services, Alberta Environment, 1989, as amended", it should be explicitly referred to in the Facility's Operations Plan.
- Clause 8.1.2: The Approval states "*The approval holder shall submit a Decommissioning and Land Reclamation Plan for the old surface water detention pond to the Director a minimum of six (6) months prior to decommissioning and land reclamation of the pond.*" While it is clear that the decommissioning of the old surface water detention pond took place prior to the construction of Cell 4 as stated in 8.1.1, and appropriate documentation was submitted and approved by AEP, it is not specifically referenced as a "Decommissioning and Land Reclamation Plan" for the old pond, and is instead included in the Soil Management Program and Sampling Proposal. This could be split out as a standalone document for better tracking in future.

4.0

Closure

This audit and report have been completed in accordance with industry best practices subject to limitations outlined herein. If you should have any questions or concerns regarding the contents of this report, or findings of the audit, please direct them to Jack Wallace at jwallace@dillon.ca or by calling 403.215.8880 ext. 4364.

Appendix A

Ryley Audit Checklist

Audit Checklist

Approval Line Item	Action	Finding					Documents Reviewed	Details
		Information Compliant	Non-Compliant	Not applicable	Opportunity for	Pending		
Part 2 - General								
Section 2.1 - Reporting								
2.1.1	The approval holder must immediately report to the Director by telephone any contravention of the terms and conditions of this approval at 1-780-422-4505.	X					Contravention letter to AEP for July, 2017 fire at the landfill.	Calls to the AEP number are placed immediately following any contravention.
2.1.2	The approval holder shall submit a written report to the Director within 7 days of the reporting pursuant to 2.1.1.	X					Contravention correspondence with AEP, including contravention dates and reporting.	Contravention reports are provided as letters to AEP within 7 days of the incident.
2.1.3	The approval holder shall immediately notify the director if any of the following events occurs:			X			Not applicable	The facility has not had any of these events occur.
2.1.3 (a)	The approval holder is served with a petition into bankruptcy.			X				
2.1.3 (b)	The approval holder files an assignment in bankruptcy or Notice of Intent to make a proposal.			X				
2.1.3 (c)	A receiver or receiver-manager is appointed.			X				
2.1.3 (d)	An application for protection from creditors is filed for the benefit of the approval holder under any creditor protection legislation.			X				
2.1.3 (e)	Any of the assets which are the subject matter of this approval are seized for any reason.			X				
2.1.4	The approval holder shall report any monitoring of substances or parameters which are the subject of operational limits as set out in the approval if they are monitored more frequently than specified by the approval. The additional results of such monitoring are to be included as an addendum in the reports required by the approval.	X					Not applicable	<ul style="list-style-type: none"> - Voluntary reporting outside of the Approval may be conducted more frequently. - Failed tests will be repeated until compliance is reached, which represents required frequency. - Failed test results will be included in report results.
2.1.5	The approval holder shall submit all monthly reports required by the approval to be compiled or submitted on or before the end of the month following the month in which the information was collected.	X					Monthly and stormwater discharge reports.	Reviewed monthly reports and submission correspondence.
2.1.6	The approval holder shall submit all annual reports require by the approval to be compiled or submitted to the Director on or before March 31 of the year following the year in which the information was collected.	X					2017 Annual Report	<ul style="list-style-type: none"> - Had a non-compliance for late submission in last audit. - Confirmed that 2017 Annual Report was submitted prior to March 31 deadline.
Section 2.2 - Record Keeping								

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information Compliant	Non-Compliant	Not applicable	Opportunity for	Pending			
Part 2 - General									
2.2.1 (b)	The approval holder shall record and retain all the following information in respect of any sampling conducted or analyses performed in accordance with this approval for a minimum of 10 years:								
2.2.1 (b, i)	The place, date and time of sampling.								
2.2.1 (b, ii)	Sample type.								
2.2.1 (b, iii)	The dates the analyses were performed.								
2.2.1 (b, iv)	The analytical techniques, methods or procedures used in the analysis.								
2.2.1 (b, v)	The names of the persons who collected and analysed each sample.								
2.2.1 (b, vi)	The number of analyses.								
2.2.2	The approval holder shall keep and maintain an Operating Record as per 4.6.34(a) until the end of the landfill post-closure.		X						
2.2.3	The Operating Record shall include, at minimum, all of the following information:		X						
2.2.3 (a)	The information required in section 7.3(c) of the <i>Standards for Landfills in Alberta</i> .		X						
2.2.3 (b)	The name and contact information of all persons who discover any contravention		X						
2.2.3 (c)	The names and contact information of all persons who take any remedial actions arising from the contravention of the Act, the regulations, or the approval.		X						
2.2.3 (d)	A description of remedial measures taken in respect of a contravention of the Act, the regulations, or the Approval.		X						
2.2.4	The approval holder shall submit a copy of the most recent Operating Record to the Director upon written request from the Director within the timeline specified by the Director.		X					Operating Records for 2017	Operating Records are held on site but are not submitted unless requested by AEP.
Section 2.3 - Analytical Requirements									
2.3.1 (i, A)	Air monitoring analytical requirements for collection, preservation, storage, handling, and analysis must be in accordance with: the "Alberta Stack Sampling Code" (AEP, 1995).		X					2016 Air monitoring program	Explicitly referred to in Air Monitoring Program

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for	Pending		
Part 2 - General									
2.3.1 (i, B)	Air monitoring analytical requirements for collection, preservation, storage, handling, and analysis must be in accordance with: the "Methods Manual for Chemical Analysis of Atmospheric Pollutants" (AEP, 1993).		X					2016 Air monitoring program	Explicitly referred to in Air Monitoring Program.
2.3.1 (i, C)	Air monitoring analytical requirements for collection, preservation, storage, handling, and analysis must be in accordance with: the "Air Monitoring Directive" (AEP 1989).		X					2016 Air monitoring program	Explicitly referred to in Air Monitoring Program.
2.3.1 (ii)	Industrial Wastewater, Industrial runoff, groundwater and domestic wastewater analytical requirements for collection, preservation, storage, handling, and analysis must be in accordance with: the "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association, American Water Works Association, Water Environment Federation, 1998).		X					2016 Air monitoring program	Explicitly referred to in Air Monitoring Program.
2.3.1 (iii, A)	Whole effluent toxicity analytical requirements for collection, preservation, storage, handling, and analysis must be in accordance with: the "Biological Test Method: Reference Method for Determining the Acute Lethality of Effluents to Rainbow Trout" (Environment and Climate Change Canada, 2000).		X					2016 Air monitoring program	Explicitly referred to in Air Monitoring Program.
2.3.1 (iii, B)	Whole effluent toxicity analytical requirements for collection, preservation, storage, handling, and analysis must be in accordance with: the "Biological Test Method: Reference Method for Determining the Acute Lethality of Effluents to Daphnia Magna" (Environment and Climate Change Canada, 2000).		X					2016 Air monitoring program	Explicitly referred to in Air Monitoring Program.
2.3.1 (iii, C)	Whole effluent toxicity analytical requirements for collection, preservation, storage, handling, and analysis must be in accordance with: the "Biological Test Method: Growth Inhibition Test Using the Freshwater Alga Selenastrum capricornutum" (Environment and Climate Change Canada, 1992).		X					2016 Air monitoring program	Explicitly referred to in Air Monitoring Program
2.3.1 (iii, D)	Whole effluent toxicity analytical requirements for collection, preservation, storage, handling, and analysis must be in accordance with: the "Biological Test Method: Test of Reproduction and Survival Using the Cladoceran Ceriodaphnia dubia" (Environment and Climate Change Canada, 1992).		X					2016 Air monitoring program	Explicitly referred to in Air Monitoring Program.

Audit Checklist

Approval Line Item	Action	Finding					Documents Reviewed	Details
		Information Compliant	Non-Compliant	Not applicable	Opportunity for	Pending		
Part 2 - General								
2.3.1 (iii, E)	Whole effluent toxicity analytical requirements for collection, preservation, storage, handling, and analysis must be in accordance with: the "Biological Test Method: Test of Larval Growth and Survival Using Fathead Minnows" (Environment and Climate Change Canada, 1992).	X					2016 Air monitoring program	Explicitly referred to in Air Monitoring Program.
2.3.1 (iii, F)	Whole effluent toxicity analytical requirements for collection, preservation, storage, handling, and analysis must be in accordance with: the "Biological Test Method: Toxicity Test Using Luminescent Bacteria (Photobacterium phosphoreum)" (Environment and Climate Change Canada, 1992).			X			2016 Air monitoring program	This is not the standard referred to in the Approval attached to the 2016 Air Monitoring Program, but only due to the change which occurred to the Approval in 2017. Standards were updated in 2017 after Approval amendment and should be included in future Air Monitoring Programs.
2.3.1 (iv, A)	Soil analytical requirements for collection, preservation, storage, handling, and analysis must be in accordance with: the Soil Monitoring Directive (AEP, 2009).			X			2016 Air monitoring program	Updated in 2017 Approval similar to 2.3.1 (iii, F).
2.3.1 (iv, B)	Soil analytical requirements for collection, preservation, storage, handling, and analysis must be in accordance with: The Soil Quality Criteria Relative to Disturbance and Reclamation (Alberta Agriculture, 1987)	X					2016 Air monitoring program	Explicitly referred to in Air Monitoring Program.
2.3.1 (v, A)	Waste analytical requirements for collection, preservation, storage, handling, and analysis must be in accordance with: the "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (USEPA, 1986).			X			2016 Air monitoring program	Updated in 2017 Approval similar to 2.3.1 (iii, F).
2.3.1 (v, B)	Waste analytical requirements for collection, preservation, storage, handling, and analysis must be in accordance with: the "Methods Manual for Chemical Analysis of Water and Wastes" (Alberta Environmental Centre, 1996).	X					2016 Air monitoring program	Explicitly referred to in Air Monitoring Program.
2.3.1 (v, C)	Waste analytical requirements for collection, preservation, storage, handling, and analysis must be in accordance with: the "Toxicity Characteristic Leaching Procedure (TCLP)" (USEPA Regulation 40 CFR261, Appendix II, Method No. 1311).	X					2016 Air monitoring program	Explicitly referred to in Air Monitoring Program.
2.3.1 (v, D)	Waste analytical requirements for collection, preservation, storage, handling, and analysis must be in accordance with: the "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association, American Water Works Association, Water Environment Federation, 2010).	X					2016 Air monitoring program	Explicitly referred to in Air Monitoring Program.

Audit Checklist

Approval Line Item	Action	Finding					Documents Reviewed	Details
		Information Compliant	Non-Compliant	Not applicable	Opportunity for	Pending		
Part 2 - General								
2.3.2	Labs retained for analysis of parameters required by the approval are accredited pursuant to ISO/IEC 17025.		X				Testing Results	- Maxxam and ALS are used for all water/leachate parameters - Alberta Innovates is used for all air parameters - Confirmed accreditations for all labs
2.3.4	The approval holder shall comply with the terms and conditions of any written authorization issued by the Director under 2.3.2.	X					Not Applicable	Information only.
Section 2.4 - Other								
2.4.1	<i>The terms and conditions of this approval are severable. If any term or condition of this approval or the application of any term or condition is held invalid, the application of such term or condition to other circumstances and the remainder of this approval shall not be affected thereby.</i>	X					Not Applicable	Information only.
2.4.2	<i>Any conflict between the Standards for Landfills in Alberta, as amended, and the terms and conditions of this approval shall be resolved in favour of this approval.</i>	X					Not Applicable	Information only.
2.4.3	<i>Environmental Protection and Enhancement Act Approval No. 10348-02-00, as amended, is cancelled.</i>	X					Not Applicable	Information only.
2.4.4	All tanks shall conform to the "Guidelines for Secondary Containment for Above Ground Storage Tanks" (Alberta Environmental Protection, 1997).		X				Field Observation	
2.4.5	All above ground storage tanks containing liquid hydrocarbons or organic compounds shall conform to the "Environmental Guidelines for Controlling Emissions of Volatile Organic Compounds from Aboveground Storage Tanks" (Canadian Council of Ministers of the Environment, 1995).		X				PTMAA Certificate	- Three get annually inspected by Petroleum Tank Industry (diesel tank and 2 liquid waste tanks). - PTMAA certificate viewed, valid to August 31, 2019. - Secondary containment observed in field.

Audit Checklist

Approval Line Item	Action	Finding					Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement		
Part 3 - Construction								
Section 3.1 - Landfill								
3.1.1	The approval holder shall not commence construction of Cell 4 unless and until updated financial security of the facility has been provided to include Cell 4 lateral expansion.		X				Verbacl confirmation of correspondence with AEP	Updated for Cell 4 construction. Had increased it last year Submitted to AEP prior to construction, required additional inputs, resubmitted Items missing incl. lay down area construction Included additional items not required End result was less than current amount Sent letter to AEP indicating that they are not changing amount. Didn't hear back from AEP but bond was accepted.
3.1.2	The approval holder shall construct each new Class I industrial landfill which has the following components, at a minium:	X					Not applicable	Information only.
3.1.2 (a)	A minimum of 0.45 metre thick cover of clean sand or soil placed over top of the uppermost drainage layer.		X				Issued for Construction Drawings	Minimum of 450mm is specified in drawing details.
3.1.2 (b, i)	GCL liner placed in direct contact with an underlying 80 mil HDPE geomembrane liner as a primary liner.		X				- Issued for Construction Drawings - AEP Letter amending GCL to Geosynthetic	Detail 3 on Drawing C-04 shows GCL in direct contact with underlying geomembrane.
3.1.2 (b, ii)	GCL liner placed in direct contact with an underlying 80 mil HDPE geomembrane liner as a secondary liner.		X				- Issued for Construction Drawings - AEP Letter amending GCL to Geosynthetic	Detail 3 on Drawing C-04 shows GCL in direct contact with underlying geomembrane as a secondary liner.
3.1.2 (b, iii, A)	GCL liner placed in direct contact with an underlying clay liner that has a minimum thickness of 1.0 metre at all points.		X				Issued for Construction Drawings	1000 mm indicated as a minimum thickness of the underlying clay liner, GCL indicated above in detail 3 on C-04.
3.1.2 (b, iii, B)	GCL liner placed in direct contact with an underlying clay liner that has been compacted to achieve an in-place hydraulic conductivity of 1×10^{-9} m/s or less.		X				Clean Harbors Cell 4 Request for Quotation	GCL is required to have a conductivity of 5×10^{-9} cm/s at most (which is lower than the AEP requirements).
3.1.2 (c, i)	Leachate collection system that is placed over the primary liner.		X				Issued for Construction Drawings	Detail 11 of C-06 shows LCS above primary layer.
3.1.2 (c, ii)	Leachate collection system that is capable of maintaining the acceptable leachate head.		X				Issued for Construction Drawings	Leachate collection system for most cells on timers, one cell has automatic pumping based on leachate level.
3.1.2 (c, iii, a)	Leachate collection system that consists of a geo-composite drainage layer with a transmissivity of at least 1×10^{-4} m ² /s placed over top of the primary layer.		X				Issued for Construction Drawings	Transmissivity is required to be 1×10^{-4} m ² /s at a minimum.
3.1.2 (c, iii, b)	Leachate collection system that consists of a network of perforated leachate collection pipes.		X				Issued for Construction Drawings	Drawing C-05 shows perforation details for the leachate collection system.
3.1.2 (c, iii, c)	Leachate collection system that consists of a leachate collection sump placed over the primary layer.		X				Issued for Construction Drawings	Drawing C-05 shows sump in both primary and secondary layer acting as one.

Audit Checklist

Approval Line Item	Action	Finding					Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement		
Part 3 - Construction								
3.1.2 (d, i)	Leak detection system that is placed over the secondary layer.		X				Issued for Construction Drawings	Detail 3 on Drawing C-04 shows leak detection system over the secondary layer.
3.1.2 (d, ii)	Leak detection system that is capable of detecting the leakage through the primary layer.		X				Issued for Construction Drawings	Detail 3 on Drawing C-04 shows leak detection system under the primary layer.
3.1.2 (d, iii, a)	Leak detection system that consists of a geo-composite drainage layer with a transmissivity of at least $1 \times 10^{-4} \text{m}^2/\text{s}$ placed over the top of the secondary layer.		X				Issued for Construction Drawings	Detail 3 on Drawing C-04 shows geocomposite leak detection system over the secondary layer. Transmissivity of geocomposite satisfies requirements.
3.1.2 (d, iii, b)	Leak detection system that consists of a network of perforated leak detection liquid collection pipes.		X				Issued for Construction Drawings	Detail 10 on Drawing C-05 shows perforated leachate monitoring pipes.
3.1.2 (d, iii, c)	Leak collection system that consists of a leak detection liquid collection sump placed over the secondary layer.		X				Issued for Construction Drawings	C-05 shows sump in both primary and secondary layer acting as one.
3.1.2 (e, i)	A final cover that meets the requirements in Section 6.1(c) of the "Standards for Landfills in Alberta" or as specified in the Landfill Cell Closure Plan submitted by the approval holder and authorized by the Director pursuant to 7.1.1 and 7.1.4 of the approval.					X	Not applicable	No existing plans for Cell 4 closure seeing as it is still in the construction phase. Other cells and capping procedures are in compliance.
3.1.2 (f)	A run-on control system capable of preventing flow onto the active landfill area from at least the peak discharge from a 1 in 25 year, 24 hour duration storm event at the facility.		X				Issued for Construction Drawings	Perimeter berm is evident in C-03.
3.1.2 (g)	A runoff control system capable of collecting and controlling at least the runoff volume resulting from a 1 in 25 year, 24 hour duration storm event at the facility.		X				Issued for Construction Drawings	Leachate collections system will handle all stormwater which falls in the landfill footprint.
3.1.3	The composite liner is constructed on a foundation or base that prevents failure of the liners due to settlement, compression or uplift.		X				Issued for Construction Drawings	1000mm minimum of compacted clay liner specified on top of compacted backfill of an unknown thickness.
3.1.4	The approval holder shall submit to the Director the following plans and specifications for the proposed construction of each of the items listed in 3.1.2, signed and stamped by a professional registered with APEGA at least 3 months prior to construction:					X	Not applicable	All deviations have to be reported per below after construction, anticipated for 2019.
3.1.4 (a)	Detailed Construction Plan and Specifications		X				Correspondence with AEP	Submitted May 4, 2018, more than three months prior to August 21, 2018 letter from AEP approving construction.
3.1.4 (b)	Construction Quality Assurance Plan				X		Correspondence with AEP	August 30, 2018 version viewed from Tetra Tech. Opportunity for Improvement observed - no change log for May 4 to Aug 30 versions.

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 3 - Construction									
3.1.4 (c)	Construction Quality Control Plan					X		Correspondence with AEP	August 30, 2018 version viewed from Tetra Tech. Opportunity for Improvement observed - no change log for May 4 to Aug 30 versions.
3.1.5	The approval holder shall correct all deficiencies as outlined in the Detailed Construction Plan and Specifications outlined by the Director in the timeline specified by the Director.		X					Correspondence with AEP	From May 4, 2018, AEP supposed to provide approval within 3 months. However, deficiencies were corrected on a per item basis through these months until final issuance of approval to proceed on August 21, 2018.
3.1.6	The approval holder shall implement the Detailed Construction Plan and Specifications in 3.1.4 as authorized in writing by the Director.		X					Site field observations	Observations for Cell 4 construction consistent with requirements in plans.
3.1.7	During construction of any of the items listed in 3.1.2, the approval holder shall not deviate from the Detailed Construction Plan and Specifications unless the following conditions are met:		X					Site field observations	No deviations being observed through the first half of construction
3.1.7 (a)	The deviation results in a minor adjustment in order to suite field conditions encountered	X						Information only	Deviation results to be communicated to AEP following construction in the summary report, per Line Item 3.1.9.
3.1.7 (b)	The deviation will result in an equivalent or better design performance of the landfill.	X						Information only	Deviation results to be communicated to AEP following construction in the summary report, per Line Item 3.1.9.
3.1.8	The approval holder shall submit to the Director a summary report of the Construction Quality Assurance and Construction Quality Control results signed and stamped by a professional registered with APEGA.							X	Not applicable
3.1.9	The summary report in 3.1.9 shall contain the following information, at minimum:							X	
3.1.9 (a)	Confirmation that the landfill has been constructed according to the Construction Quality Assurance Plan, Construction Quality Control Plan, and the Detailed Construction Plan and Specifications.							X	
3.1.9 (b)	Description of any minor deviations as per 3.1.7							X	
3.1.9 (c)	Confirmation by the professional registered with APEGA, that deviations as per 3.1.7 will result in an equivalent or better design performance of the landfill.							X	
3.1.9 (d)	"As-built" plans.							X	
3.1.9 (e)	Photo-documentation of important stages of construction including any repair work or remediation activities to establish or maintain liner integrity.							X	
3.1.9 (f)	Any other information not listed or implied in 3.1.9 as required in writing by the Director.							X	

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 3 - Construction									
3.1.10	The approval holder shall notify the Director in writing at least fourteen days prior to construction of commencing operations of any new landfill cell.							X	
3.1.11	The approval holder shall construct the off-loading area as described in the application.							X	
3.1.12	The approval holder shall manage landfill progression in a manner that has limited off-site visual impacts of the landfill, as described in the Landfill Cell Closure Plan.							X	
Section 3.2 - Waste Stabilization Area									
3.2.1 (a)	The waste stabilization area has been constructed in accordance with application No. 008-10348.		X						Correspondence between AEP and CH - This has been completed within the constructed portions of Cell 4. - AEP required this to avoid tracking waste off-site. - Clean Harbors submitted specification for stabilization area, did not receive any amendment requests.
3.2.1 (b)	The waste stabilization area has been constructed in accordance within a Class I landfill cell.		X						
Section 3.3 - Soil Conservation									
3.3.1	The approval holder shall salvage and conserve all topsoil for land reclamation of the landfill.		X				Field observations 2017 Annual Report		Vegetated mounds for final Cell 3 closure at southern edge. Non-vegetated active stockpiles for Cell 4 construction at north end.
3.3.2	The approval holder shall salvage and conserve all upper subsoil for land reclamation of the landfill.		X				Field observations 2017 Annual Report		
3.3.3	The approval holder shall conserve and stockpile all topsoil separately from the upper subsoil.		X				Field observations 2017 Annual Report		Stockpiles are separated for topsoil and upper subsoil.
3.3.4 (a)	The approval holder shall place all top soil stockpiles at the landfill.		X				Field observations 2017 Annual Report		Stockpiles placed within the landfill boundary.
3.3.4 (b)	The approval holder shall place all upper subsoil stockpiles at the landfill.		X				Field observations 2017 Annual Report		
3.3.5 (a)	The approval holder shall stockpile all topsoil on stable foundations.		X				Field observations 2017 Annual Report		Topsoil stockpiles are placed on undisturbed topsoil and stable ground.
3.3.5 (b)	The approval holder shall stockpile all topsoil on undisturbed topsoil.		X				Field observations 2017 Annual Report		
3.3.6 (a)	The approval holder shall stockpile all upper subsoil on stable foundations.		X				Field observations 2017 Annual Report		Upper subsoil stockpiles are placed on areas with topsoil removed and stable ground.
3.3.6 (b)	The approval holder shall stockpile all upper subsoil on areas where the topsoil has been removed.		X				Field observations 2017 Annual Report		
3.3.7	The approval holder shall take all steps necessary to prevent any erosion due to wind or water.		X				Field observations 2017 Annual Report		Vegetation for closed stockpiles used for final closure of Cell 3. No other erosion measures required from AEP.

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 3 - Construction									
3.3.7 (a)	The approval holder shall revegetate stockpiles in order to prevent erosion.		X					Field observations 2017 Annual Report	Stockpiles appear to be vegetated from field observation.
3.3.7 (b)	The approval holder shall take all steps authorized in writing by the director in order to prevent erosion.				X			Field observations 2017 Annual Report	Not applicable.
3.3.8 (a, i)	The approval holder shall suspend conservation of topsoil when wet or frozen condition would result in mixing, loss, degradation or compaction of topsoil.		X					Field observations 2017 Annual Report	Stockpiling of topsoil and upper subsoil is suspended during periods of adverse weather conditions, in accordance with facility operational practices.
3.3.8 (a, ii)	The approval holder shall suspend conservation of topsoil when high wind velocities or other field conditions would result in mixing, loss, or degradation of topsoil.		X					Field observations 2017 Annual Report	
3.3.8 (b, i)	The approval holder shall suspend conservation of upper subsoil when wet or frozen condition would result in mixing, loss, degradation or compaction of upper subsoil.		X					Field observations 2017 Annual Report	
3.3.8 (b, ii)	The approval holder shall suspend conservation of upper subsoil when wet or frozen condition would result in mixing, loss, degradation or compaction of upper subsoil.		X					Field observations 2017 Annual Report	
3.3.9 (a)	The approval holder shall recommend conservation of topsoil when conditions in 3.3.8 no longer existed.	X						Not applicable	Information only.
3.3.9 (b)	The approval holder shall recommend conservation of upper subsoil when conditions in 3.3.8 no longer existed.	X						Not applicable	Information only.

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
Section 4.1 - General									
4.1.1	The geographic boundaries of the landfill has been maintained to that located within SE ¼ of Section 9, Township 50, Range 17, West of the 4 th Meridian.		X					- 2017 Annual Report - Site Maps	The Landfill appear to be within the approved boundary.
4.1.2	The waste elevation of the landfill has not exceeded the maximum designated waste elevation.		X					June 30, 2018 Survey	- Survey reviewed, max. point is 705.35 masl - Maximum elevation, per Part 1 (ggg) (definitions) is 714 masl
4.1.3	Access to the facility has been restricted to only authorized personnel.		X					Field observations	- Visitor sign in sheet at front desk. - Scale house reporting for all vehicles. - Security cameras on site. - Gated access.
4.1.4	A 24 hour "HOTLINE" number has been maintained for prompt response during an emergency.		X					Field observations	Hotline is posted on doors to office and scalehouse.
4.1.5	The approval owner shall operate and maintain the integrity of the following waste management facilities at the facility:	X						- 2017 Annual Report - Site field tour	To be reviewed in field.
4.1.5 (i)	HWRSP Facility		X						Confirmed during field inspection.
4.1.5 (ii)	Class I and II landfill, including Class I and II cells and waste stabilization areas.					X			Identified minor amounts of mud and standing water in roadways and near Cell 4 construction limit.
4.1.5 (iii)	Waste storage areas.		X						Confirmed during field inspection.
4.1.6	The approval holder shall operate and maintain the integrity of the following infrastructure components at the facility:		X						Confirmed during field inspection.
4.1.6 (i)	Composite liner		X						Confirmed during field inspection.
4.1.6 (ii)	Leachate collection system		X						Confirmed during field inspection.
4.1.6 (iii)	Leak detection system		X						Confirmed during field inspection.
4.1.6 (iv)	Run-on control system		X						Changing with the construction of Cell 4 - still acceptable.
4.1.6 (v)	Run-off control system		X					Changing with the construction of Cell 4 - still acceptable.	
4.1.6 (vi)	Groundwater monitoring wells			X				- Well MW-10 (near waste storage and HWRSP Facility) had casing damaged with exposed well cap and missing lock. - All other wells were observed to be protected and locked.	
4.1.6 (vii)	Weigh scale		X					Weigh scale is operational.	
4.1.6 (viii)	Site access control		X					Field observations	Sign-in procedures in place, doors locked, etc.
Facility Audit									

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.1.7	The approval holder shall cause the facility to be audited by an independent third-party environmental consultant to assess compliance with the terms and conditions of this approval, commencing on or before October 1, 2018		X					Not applicable	On-site portion: - Conducted starting September 19, 2018. - Completed September 20, 2018.
4.1.8	The approval holder shall submit the audit report required in 4.1.7 in the Annual Landfill Operations Report						X	Not applicable	To be included in annual report.
4.1.9	<i>The requirements in 4.1.7 and 4.1.8 do not relieve the approval holder of any duty under the Act, or its associated regulations, or this approval</i>	X						Not applicable	Information only.
Section 4.2 - Air									
Operations									
4.2.1	The approval holder shall not release any air effluent streams to the atmosphere except as authorized by this approval.	X						Not applicable	Information only.
4.2.2	The approval holder shall only release air effluent streams to the atmosphere from the following sources: - Scrubber exhaust stack - Drum Processing Building exhaust vent - Staging Building exhaust vent - Administrative Building exhaust vents - Laboratory fume hood and exhaust vents - Maintenance Shop equipment and exhaust vents - Leachate Collection Tanks exhaust vents - Leachate transfer lines passive gas vents - Any other source authorized in writing by the Director		X					Field observations	- No other sources not listed in the approval. - Temporary pilot project approval to do quenching emulsions, only if non-toxic gases are emitted. VOC detector purchased and doing bench and lab tests.
4.2.3	The approval holder shall not operate any process equipment unless and until the pollution abatement equipment associated with the corresponding process equipment is operational and operating.		X					- Site field operations - Verbal confirmation	All pollution abatement equipment is continuously operated.
4.2.4	The approval holder shall treat all air effluent streams from the exhaust vents of the Drum Processing or Staging or both Buildings with a caustic scrubber and an activated carbon filter before directing the air effluent streams to the scrubber exhaust stack for release to the atmosphere while: - Hazardous wastes/recyclables are being processed. - Hazardous wastes/recyclables are being transferred. - Containers of hazardous wastes/recyclables are open in the Drum Processing and/or Staging Buildings.		X					- Site field operations - Verbal confirmation	Monitored weekly and documented as per section below. All building air is treated through the pollution abatement equipment (scrubber and filter), including drum and tank vents.

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.2.5	The approval holder shall control fugitive emissions and any source not specified in 4.2.2 in accordance with 4.2.6 of this approval.		X					Site field observations	Fugitive emissions are controlled per the HWRSFP SOPs and daily monitoring by site staff.
4.2.6	With respect to fugitive emissions and any source not specified in 4.2.2, the approval holder shall not release a substance or cause to be released a substance that causes or may cause any of the following:	X						- Landfill Operations Plan - Appendix C (Fugitive Dust and Odour Best Management Plan)	- No fugitive emissions outside of what's permitted. - Odour complaints are received and managed per BMPs (report reviewed and contained in Operations Plan).
4.2.6 (a)	Impairment, degradation or alteration of the quality of natural resources.	X							
4.2.6 (b)	Material discomfort, harm or adverse effect to the well being or health of a person.	X							
4.2.6 (c)	Harm to property or to vegetative or animal life.	X							
4.2.7	The approval holder shall not burn any debris by means of an open fire unless authorized in writing by the Director.		X					Correspondence with AEP	Fire occurred on property in 2017, for which AEP was notified. Not intentional burning is conducted on site.
4.2.8	If the approval holder receives complaints of offensive odours, or fugitive dust, or both, beyond the facility boundaries, the approval holder shall:		X					- Landfill Operations Plan Appendix C (Fugitive Dust and Odour Best Management Plan) - Environmental Management Program SOP #90RY-410-00 - Site field observations - Verbal confirmation	- Response is based on the type of complaint. - Material receipt may be suspended during high wind days. - Cover can be immediately placed for dust suppression and dispersion prevention. - Receive typically 3 odour complaints per year.
4.2.8 (a)	Conduct the following to reduce the release of those odours, or fugitive dust, or both by:		X						
4.2.8 (a, i)	Placing restrictions on types, or volumes, or both, of the wastes being handled or processed or deposited that are causing those odours, or fugitive dust, or both.		X						
4.2.8 (a, ii)	Increasing the frequency of cover placement, or modifying waste handling activities, or performing both, at the landfill.		X						
4.2.8 (a, iii)	Modifying waste handling activities at the HWRSFP Facility.		X						
4.2.8 (a, iv)	Performing any combination of the above.		X						
4.2.8 (b)	Activate the Odour and Fugitive Dust Response Program as specified in the Landfill Operations Plan 4.6.34U).		X						
Limits									

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.2.9	The approval holder shall maintain the pH of the scrubbing liquid of the caustic scrubber referred to in 4.2.4 at 8.0 or higher.		X					- Site field observations - Recorded weekly and daily data log books	- Weekly readings are taken and recorded in log book next to the scrubber. - Data logger contains daily readings. - Available to AEP upon request, confirmed in report that recordings are compliant. - "Keep pH above 8.0" sign posted
4.2.10	The approval holder shall replace activated carbon in the activated carbon filter referred to in 4.2.4 immediately when the concentration of total petroleum hydrocarbons in the air effluent streams released from the scrubber exhaust stack to the atmosphere exceeds 25 ppm.		X					- Site field observations - Recorded weekly data log books	- Weekly readings are taken and recorded in log book next to the scrubber. - Carbon is replaced every 4-5 years or less frequency.
Monitoring and Reporting									
4.2.11	The approval holder shall monitor, daily at a minimum, the pH of the scrubbing liquid of the caustic scrubber referred to in 4.2.4.		X					- Monitoring records - Site field observations	- Weekly readings are taken and recorded in log book next to the scrubber. - Data logger contains daily readings. - Available to AEP upon request, confirmed in report that recordings are compliant. - September 13, 2017 date sampled.
4.2.12	The approval holder shall monitor, weekly at a minimum, the air effluent streams released from the scrubber exhaust stack, using a portable total petroleum hydrocarbon analyzer while: - Hazardous wastes/recyclables are being processed. - Hazardous wastes/recyclables are being transferred. - Containers of hazardous wastes/recyclables are open in the Drum Processing and/or Staging Buildings.		X					- Monitoring records - Site field observations	- Weekly readings are taken and recorded in log book next to the scrubber. - Carbon is replaced every 4-5 years or less frequency.
4.2.13	The portable total petroleum hydrocarbon analyzer referred to in 4.2.12 shall:	X						Calibration certificate from August 1, 2018	Accuracy is to 0.1 ppm, as observed on calibration certificate.
4.2.13 (a)	Have a detection limit of 1 ppm or lower for total petroleum hydrocarbons.		X					Calibration certificate from August 1, 2018	Calibrated August 1, 2018, expiry May, 2020.
4.2.13 (b)	Be located in a straight section of the scrubber exhaust stack, a minimum of one (1) metre downstream from the last flow disturbance.		X					- Site field observation - Verbal confirmation	Sampling location is on second story scaffolding within building.
4.2.13 (c)	Be calibrated regularly in accordance with the analyzer manufacturer's specifications.		X					Calibration certificate from August 1, 2018	Calibrated August 1, 2018, expiry May, 2020.

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Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.2.14	The approval holder shall continue to implement the Ambient Air Monitoring Program as authorized in writing by the Director on June 24, 2009, unless and until otherwise authorized in writing by the Director pursuant to 4.2.18.						X	2017 Annual Report	New Directive forthcoming in 2019 (Chapter 9).
4.2.15	The approval holder shall submit to the Director the results of the Ambient Air Monitoring Program in 4.2.14 with the following reports: - Monthly Ambient Air Monitoring Report - Annual Ambient Air Monitoring Report In accordance with the written authorization by the Director on June 24, 2009, unless and until otherwise authorized in writing by the Director pursuant to 4.2.18.		X					- 2017 Annual Report - Monthly Ambient Air Monitoring Reports for 2017	Monthly and Annual Ambient Air Monitoring Reports.
4.2.16	The approval holder shall submit a revised Ambient Air Monitoring Program, revised reporting requirements, or both, to the Director upon written request from the Director within the timeline specified in writing by the Director.				X			Not applicable	No request from Director issued.
4.2.17	If the revised Ambient Air Monitoring Program, reporting requirements, or both, submitted pursuant to 4.2.16 is found deficient by the Director, the approval holder shall correct all deficiencies as outlined in writing by the Director within the timeline specified in writing by the Director.				X			Not applicable	No deficiencies found by Director.
4.2.18	The approval holder shall implement the revised Ambient Air Monitoring Program, reporting requirements, or both, submitted pursuant to 4.2.16 as authorized in writing by the Director within the timeline specified in writing by the Director.				X			Not applicable	No request from Director issued.
Section 4.3 - Runoff and Industrial Wastewater									
Operations									
4.3.1	The approval holder shall not release any substances from the facility to the surrounding watershed except as authorized by this approval.	X						Not applicable	Information only.
4.3.2	The approval holder shall operate and maintain the integrity of:	X						Not applicable	Information only.
4.3.2 (a)	The run-on control system to prevent flow onto the active landfill area from at least the peak discharge from a 1 in 25 year, 24 hour duration storm event at the facility.						X	Field observations	Run on/run off control systems are not completed for Cell 4 as construction is ongoing. Anticipated for completion in Spring 2019.

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.3.2 (b)	The runoff control system for the facility to collect and control at least the runoff volume resulting from a 1 in 25 year, 24 hour duration storm event at the facility.						X	Field observations	Run on/run off control systems are not completed for Cell 4 as construction is ongoing. Anticipated for completion in Spring 2019.
4.3.3	All runoff from the facility developed area shall be directed to the runoff control system as described in:				X			Not applicable	The old surface water detention pond was decommissioned in August, 2018 prior to this audit.
4.3.3 (a)	Application No. 012-10348, prior to decommissioning and reclamation of the old surface water detention pond.				X				
4.3.3 (b)	The application, after decommissioning and reclamation of the old surface water detention pond.				X				
4.3.4	Prior to decommissioning and reclamation of the old surface water detention pond and subject to 4.3.7, the approval holder shall only make or permit a release from the old surface water detention pond:		X					2017 Annual Report Cell 4 construction plan Site field observations	Decommissioning of the old surface water detention pond done in August 2018. Observations made of the new surface water detention pond, drainage ditch, and discharge point.
4.3.4 (a)	At the release point as designated in application No. 012-10348, which is: - Located in the south east corner of the old surface water detention pond. - Referred to as sampling location A 1 in 4.3.11.		X						
4.3.4 (b)	Through a pump and a release hose over the south berm into the drainage control ditch, east of the landfill access road, to the new surface water detention pond, under normal operating conditions.		X						
4.3.4 (c)	Through a pump and a release hose over the south berm directly to the culvert under Highway 854, during periods of high runoff exceeding the holding capacity of the old surface water detention pond.		X						
4.3.5	Subject to 4.3.7, the approval holder shall only make or permit a release from the new surface water detention pond:		X						
4.3.5 (a)	At the release point as designated in application No. 012-10348, which is: - Located in the north east corner of the new surface water detention pond. - Referred to as sampling location 81 in 4.3.11.		X				2017 Annual Report Site field observations Verbal confirmation	- Observed the discharge point at the new surface water detention pond. - Composite sampling is performed prior to any discharge consistent with the approval.	
4.3.5 (b)	Through a pump and a release hose over the east berm into the culvert under Highway 854.		X						

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.3.6	The approval holder shall only dispose of industrial wastewaters, or specified runoff in Table 4.3-A, or both, by one or more of the following methods:				X			2017 Annual Report Site field observations Verbal confirmation	- Not applicable to facility. All stormwaters are discharged through pond with testing prior to discharge. - No non-compliant discharges have occurred. - When TSS exceeds limits, further settling time is done prior to re-testing and discharge, or flocculant is added.
4.3.6 (a)	To facilities holding a current Act authorization to accept such waste.				X				
4.3.6 (b)	To facilities approved by a local environmental authority outside of Alberta to accept such waste.				X				
4.3.6 (c)	To a disposal well approved by AER.				X				
4.3.6 (d)	As per 4.6.51.				X				
4.3.6 (e)	As otherwise authorized in writing by the Director.				X				
Limits									
4.3.7	Releases of runoff from the following to the surrounding watershed shall comply with the limits specified in Table 4.3-B: - The old surface water detention pond. - The new surface water detention pond. - Or, both ponds.	X					Not applicable	Information only.	
4.3.8	Releases of runoff from within the tank farm bermed area to the old or new or both surface water detention ponds shall comply with the limits specified in Table 4.3-C.				X		Not applicable	- Tank farm bermed area goes into landfill. - They do not test to Table 4.3C for placing in pond, not enough volume and could be too expensive.	
Monitoring and Reporting									
4.3.9	The approval holder shall monitor the runoff control system as required in Table 4.3-D, subject to 4.3.12.		X				Field observations	Facility operators were conscientious of impact Cell 4 construction was having on runoff system.	
4.3.10	The approval holder shall report to the Director the results of the runoff control system monitoring as required in Table 4.3-D, subject to 4.3.12.		X				Annual Report	Monitoring findings reported to AEP.	
4.3.11	For the purpose of Table 4.3-D:	X					Not applicable	Information only.	
4.3.11 (a)	Sampling location A 1 is defined as the old surface water detention pond release point.				X		Field observations	Old surface water detention pond has been decommissioned.	
4.3.11 (b)	Sampling location A2 is defined as the old surface water detention pond.				X		Field observations	Old surface water detention pond has been decommissioned.	
4.3.11 (c)	Sampling location B1 is defined as the new surface water detention pond release point.		X				Field observations	Facility actively monitors releases.	

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
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Part 4 - Operations, Limits, Monitoring, and Reporting									
4.3.11 (d)	Sampling location B2 is defined as the new surface water detention pond.		X					Field observations	Facility actively monitors detention pond.
4.3.11 (e)	Sampling location C is defined as the tank farm bermed area.				X			Field observations	Adequate water volume for sampling purposes was not present at the time of the audit.
4.3.12	The monitoring and reporting requirements in 4.3.9 and 4.3.10 for the old surface water detention pond (sampling locations A1 and A2) shall not apply after decommissioning and reclamation of the old surface water detention pond.				X			Not applicable	The old surface water detention pond was decommissioned in August, 2018 prior to this audit.
4.3.13	The monitoring and reporting required in Table 4.3-D for the acute lethality tests shall comply with:	X						Not applicable	Information only.
4.3.13 (a)	The Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout, Environment Canada, Environmental Protection Series 1/RM/13, December 2000, as amended.		X					Monitoring and reporting documents	Facility appears to be following governing regulations.
4.3.13 (b)	The Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Daphnia Magna, Environment Canada, Environmental Protection Series 1/RM/14, December 2000, as amended.		X					Monitoring and reporting documents	Facility appears to be following governing regulations.
4.3.14	The approval holder shall: - Treat any acute lethality test that deviates from the corresponding test method referred to in 4.3.13 as invalid. - Repeat the test as soon as logistically possible.				X			Not applicable	No deviation from corresponding test method has occurred.
4.3.15	In the event that less than 50% of the rainbow trout survived in the 100% concentration sample, the approval holder shall: - Implement a program immediately to identify the source of the toxicity. - Submit to the Director within 90 days after the test result is available, a proposed program to reduce the toxicity of the runoff.				X			Not applicable	No deviation from corresponding test method has occurred.
4.3.16	The approval holder shall submit the Monthly Runoff and Industrial Wastewater Report in Table 4.3-D to the Director.		X					Monthly Runoff and Industrial Wastewater Report	Verbal confirmation from multiple parties confirming the reports are forwarded to AEP.
4.3.17	The Monthly Runoff and Industrial Wastewater Report shall include, at a minimum, all of the following information:	X						Not applicable	Monthly reports contained in annual report, but only need to be submitted with discharges.

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.3.17 (a)	A monthly assessment of the monitoring results relative to the limits in Table 4.3-B.		X					Monthly Runoff and Industrial Wastewater Report	Included in Report.
4.3.17 (b)	A monthly assessment of the monitoring results relative to the limits in Table 4.3-C.		X					Monthly Runoff and Industrial Wastewater Report	Included in Report.
4.3.17 (c)	A monthly assessment of the performance of the: - Runoff control system. - Pollution abatement equipment. - Monitoring equipment.		X					Monthly Runoff and Industrial Wastewater Report	Included in Report.
4.3.17 (d)	A monthly summary of management and disposal of the industrial wastewaters and specified runoff, as per 4.3.6.		X					Monthly Runoff and Industrial Wastewater Report	Included in Report.
4.3.17 (e)	A monthly summary of management and disposal of runoff in general.		X					Monthly Runoff and Industrial Wastewater Report	Included in Report.
4.3.17 (f)	A monthly summary of runoff contraventions reported pursuant to 2. 1. 1.		X					Monthly Runoff and Industrial Wastewater Report	Included in Report.
4.3.17 (g)	Any other information as required in writing by the Director.		X					Monthly Runoff and Industrial Wastewater Report	Included in Report.
4.3.18	The approval holder shall submit the Annual Runoff and Industrial Wastewater Report in Table 4.3-D to the Director.		X					Annual Runoff and Industrial Wastewater Report	Verbal confirmation and included with annual report.
4.3.19	The Annual Runoff and Industrial Wastewater Report shall include, at a minimum, all of the following information:	X						Not applicable	Information only.
4.3.19 (a)	An annual summary assessment of the monitoring results relative to the limits in Table 4.3-B.		X					Annual Runoff and Industrial Wastewater Report	Included in Report.
4.3.19 (b)	An annual summary assessment of the monitoring results relative to the limits in Table 4.3-C.		X					Annual Runoff and Industrial Wastewater Report	Included in Report.

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.3.19 (c)	An annual summary assessment of the performance of the: - Runoff control system. - Pollution abatement equipment. - Monitoring equipment.		X					Annual Runoff and Industrial Wastewater Report	Included in Report.
4.3.19 (d)	An annual summary of management and disposal of the industrial wastewaters and specified runoff, as per 4.3.6.		X					Annual Runoff and Industrial Wastewater Report	Included in Report.
4.3.19 (e)	An annual summary and evaluation of management and disposal of runoff in general.		X					Annual Runoff and Industrial Wastewater Report	Included in Report.
4.3.19 (f)	An annual summary of the results pursuant to 4.3.21.		X					Annual Runoff and Industrial Wastewater Report	Included in Report.
4.3.19 (g)	An annual summary of runoff contraventions reported pursuant to 2. 1. 1.		X					Annual Runoff and Industrial Wastewater Report	Included in Report.
4.3.19 (h)	Any other information as required in writing by the Director.		X					Annual Runoff and Industrial Wastewater Report	Included in Report.
4.3.20	The approval holder shall:	X						Not applicable	Information only.
4.3.20 (a)	Collect a representative grab sample from the old surface water detention pond at least once per year, prior to decommissioning and reclamation of the pond.				X			Not applicable	Old surface water detention pond has been decommissioned.
4.3.20 (b)	Collect a representative grab sample from the new surface water detention pond at least once per year.		X					Annual Runoff and Industrial Wastewater Report	Details included in Report.
4.3.20 (c)	Analyze the sample(s) for all of the parameters specified in Table 4.3-E.		X					Annual Runoff and Industrial Wastewater Report	Details included in Report.
4.3.21	The approval holder shall submit the results of the analyses in 4.3.20 to the Director in the Annual Runoff and Industrial Wastewater Report.		X					Annual Runoff and Industrial Wastewater Report	Details included in Report.
Section 4.4 - Leachate Collection and Leak Detection									
Operations									

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.4.1	The approval holder shall only dispose of leachate removed from the leachate collection system by one or more of the following methods:	X						Not applicable	Information only.
4.4.1 (a)	To facilities holding a current Act authorization to accept such waste.				X			Not applicable	Option not used by the facility.
4.4.1 (b)	To facilities approved by a local environmental authority outside of Alberta to accept such waste.				X			Not applicable	Option not used by the facility.
4.4.1 (c)	To a disposal well approved by AER.		X					AER approval for deep well 2017 Annual Report	- Leachate is hauled to Class I deep well in Calmar. - Volume summary for 2017 in annual report; August 2018 volumes observed with manifests. - AER approval for deepwell (leased from Seller's Oilfield Services to CH) observed. Approval No. WM 077 A, dated July 25, 2011.
4.4.1 (d)	As per 4.6.51.				X			Not applicable	Option not used by the facility.
4.4.2	The approval holder shall only dispose of liquid removed from the leak detection system by one or more of the following methods:	X						Not applicable	Information only
4.4.2 (a)	To facilities holding a current Act authorization to accept such waste.				X			Not applicable	Option not used by the facility.
4.4.2 (b)	To facilities approved by a local environmental authority outside of Alberta to accept such waste.				X			Not applicable	Option not used by the facility.
4.4.2 (c)	To a disposal well approved by AER.		X					AER approval for deep well 2017 Annual Report	- Leachate is hauled to Class I deep well in Calmar. - Volume summary for 2017 in annual report; August 2018 volumes observed with manifests. - AER approval for deepwell (leased from Seller's Oilfield Services to CH) observed. Approval No. WM 077 A, dated July 25, 2011.
4.4.2 (d)	As per 4.6.51.				X			Not applicable	Option not used by the facility.
Limits									
4.4.3	Subject to 4.4.4, the approval holder shall not exceed the maximum acceptable leachate head in any landfill cell.		X					Leachate level logs	Leachate levels recorded daily. Field logs for 2017-2018 observed, contain following parameters: - Date, time, condition, level status, personnel initial
4.4.4	Subsequent to a storm event, the leachate head in any landfill cell shall not exceed the maximum acceptable leachate head for more than fourteen (14) days, unless otherwise authorized in writing by the Director.		X					Leachate level logs	Leachate pumping infrastructure on timers in most cells, automatic in one. Infrastructure is capable of removing leachate generated from a storm even in fewer than 14 days.

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.4.5	The volume of liquid in the leak detection system, as monitored in Table 4.6-D, shall not exceed the action leakage rate in any landfill cell.		X					Leachate level logs	Leachate levels recorded daily. Field logs for 2017-2018 observed, contain following parameters: - Date, time, condition, level status, personnel initial
Monitoring and Reporting									
4.4.6	The approval holder shall monitor the leachate collection and leak detection systems as required in Table 4.6-D and for all parameters specified in Table 4.4-A, subject to 4.4.8 and 4.4.9.		X					Leachate level logs	Leachate levels recorded daily. Field logs for 2017-2018 observed, contain following parameters: - Date, time, condition, level status, personnel initial
4.4.7	The approval holder shall report to the Director the results of the leachate collection and leak detection systems monitoring as required in Table 4.6-D, including the results of the analyses for all parameters specified in Table 4.4-A, subject to 4.4.8 and 4.4.9.		X					Annual Report	Submitted to AEP.
4.4.8	The requirements in 4.4.6 and 4.4.7 for monitoring and reporting the parameters in Table 4.4-A for leachate shall not apply if insufficient leachate is available for conducting the analyses.	X						Not applicable	Information only.
4.4.9	The requirements in 4.4.6 and 4.4.7 for monitoring and reporting the parameters in Table 4.4-A for leak detection liquid shall not apply if insufficient leak detection liquid is available for conducting the analyses.	X						Not applicable	Information only.
4.4.10	If the volume of liquid removed from the leak detection system exceeds the action leakage rate, in addition to reporting pursuant to 2.1.1, the approval holder shall submit a Response Action Plan to the Director within 30 days of the exceedance.	X						Not applicable	Information only.
Section 4.5 - Dugouts and Water Wells in Surrounding Area									
Monitoring and Reporting									
4.5.1	The approval holder shall, unless the approval holder is not granted access by the landowner:	X						Not applicable	Information only.
4.5.1 (a)	Collect a representative sample from each of the dugouts and each of the water wells, within an approximate 1.6 kilometre radius around the facility.		X					Dugout sampling report	Details included in Report.
4.5.1 (b)	Analyze the sample for the parameters listed in Table 4.5-A.		X					Dugout sampling report	Details included in Report.

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.5.2	The monitoring required in 4.5.1 shall be conducted once each year in October unless otherwise authorized in writing by the Director.		X					Annual Dugout and Water Well Sampling Program Report	Details included in Report.
4.5.3	The approval holder shall record the analytical results of the sampling information required in 4.5.1 in an Annual Dugout and Water Well Sampling Program Report.		X					Annual Dugout and Water Well Sampling Program Report	Details included in Report.
4.5.4	The approval holder shall submit the Annual Dugout and Water Well Sampling Program Report to the Director pursuant to 4.6.58(i).		X					Annual Dugout and Water Well Sampling Program Report	Details included in Report.
Section 4.6 - HWRSP Facility and Landfill									
General									
4.6.1	The approval holder shall not receive, process, dispose of, or perform any combination of the above for any of the following wastes, individually or in any combination, at the places specified below respectively: - Explosives (Class 1 TDGR wastes), at the facility. - Radioactive wastes (Class 7 TDGR wastes), at the facility. - Radioactive wastes regulated under the Nuclear Safety and Control Act (Canada), at the facility. - Biomedical waste, at the facility. - Waste containing free liquids, at the landfill, excluding the waste stabilization area. - Material containing ozone depleting substances, at the landfill. - Municipal solid waste, at the facility. - NORM waste, at the facility.		X					Verbal confirmation Site field observations	Site field observations and verbal confirmation were received regarding materials receipt. Cross checked against Facility Operations Plan and SOPs for individual waste materials.
4.6.2	Incompatible wastes and incompatible hazardous recyclables shall be prevented from mixing.		X					Facility SOPs: Drum Staging and Storage (SOPOP002), Drum Sampling (SOPOP003), Container Management (SOPOP004), Landfill Operations (SOPL001)	Relevant Facility SOPs confirm procedures are appropriate to prevent incompatible wastes and recyclables from mixing.
4.6.3	The approval holder shall dispose of wastes generated at the facility only:	X						Not applicable	Information only.

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.6.3 (a)	To facilities holding a current Act authorization.		X					Verbal confirmation by Site personnel	Regulations are being followed.
4.6.3 (b)	To facilities approved by a local environmental authority outside of Alberta.		X					Verbal confirmation by Site personnel	Regulations are being followed.
4.6.3 (c)	As otherwise authorized in writing by the Director.		X					Verbal confirmation by Site personnel	Regulations are being followed.
HWRSP Facility									
Operations Plan									
4.6.4	The approval holder shall develop, keep up-to-date, and implement an HWRSP Facility Operations Plan.		X					- Facility Standard Operating Procedures (SOPs) - Landfill Operations Plan (includes HWRSP)	Most recently dated as February 2016, with annual updates required. In 2017, Section 14 was added to address the operations of the HWRSP.
4.6.5	The approval holder shall:	X						Not applicable	Information only.
4.6.5 (a)	Review the HWRSP Facility Operations Plan annually, at a minimum.		X					2017 Annual Report	This is performed in line with the annual reporting required under the Approval.
4.6.5 (b)	Update the HWRSP Facility Operations Plan if any of the following circumstances apply: - There are facility expansions or changes in site operations or equipment. - There is an applicable change to an applicable regulation. - An update is required in writing by the Director.		X					2017 Annual Report	Section 14 added to 2017 Annual Report, addressing HWRSP facility operations.
4.6.6	The approval holder shall retain a copy of the most recent HWRSP Facility Operations Plan at the facility.		X					2017 Annual Report Landfill Operations Plan	Held on site electronically and in hard copy.
4.6.7	The approval holder shall submit a copy of the most recent HWRSP Facility Operations Plan to the Director upon written request from the Director within the timeline specified in writing by the Director.		X					2017 Annual Report	Submitted in the 2017 Annual Report.
4.6.8	If the HWRSP Facility Operations Plan submitted pursuant to 4.6.7 is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.				X			Not applicable	No response received from AEP on 2017 Annual Report.

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.6.9	The approval holder shall implement the latest HWRSP Facility Operations Plan, unless otherwise authorized in writing by the Director.		X					HWRSP Facility Operations Plan	Up to date plan available and utilized.
Operations									
4.6.10	The approval holder shall only transfer wastes and hazardous recyclables at designated transfer areas designed to contain spills and leaks.		X					Facility SOPs: Drum Staging and Storage (SOPOP002), Drum Sampling (SOPOP003), Container Management (SOPOP004), Spills on Site (SOPOP008)	Relevant Facility SOPs confirm procedures for transferring wastes in the HWRSP.
4.6.11	The approval holder shall use the following when transferring substances to, from, and between containers, tanks, and trucks:	X						Not applicable	Information only.
4.6.11 (a)	Couplings equipped with seals that are compatible with the substance transferred.		X					Facility SOPs: Drum Staging and Storage (SOPOP002), Drum Sampling (SOPOP003), Container Management (SOPOP004), Spills on Site (SOPOP008)	Confirmed during Site visit.
4.6.11 (b)	The necessary precautions to prevent spills when the couplings are disconnected.		X					Facility SOPs: Drum Staging and Storage (SOPOP002), Drum Sampling (SOPOP003), Container Management (SOPOP004), Spills on Site (SOPOP008)	Confirmed during Site visit.
4.6.11 (c)	Emergency shut-off valves.		X					Facility SOPs: Drum Staging and Storage (SOPOP002), Drum Sampling (SOPOP003), Container Management (SOPOP004), Spills on Site (SOPOP008)	Confirmed during Site visit.

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.6.11 (d)	Established transfer areas and associated curbing, paving and catchment areas.		X					Facility SOPs: Drum Staging and Storage (SOPOP002), Drum Sampling (SOPOP003), Container Management (SOPOP004), Spills on Site (SOPOP008)	Confirmed during Site visit.
4.6.11 (e)	Drip trays to capture potential losses under coupling devices and other connections.		X					Facility SOPs: Drum Staging and Storage (SOPOP002), Drum Sampling (SOPOP003), Container Management (SOPOP004), Spills on Site (SOPOP008)	Confirmed during Site visit.
4.6.11 (f)	Manual inspections of the transfer area for leaks and spills during and after waste transfer.		X					Facility SOPs: Drum Staging and Storage (SOPOP002), Drum Sampling (SOPOP003), Container Management (SOPOP004), Spills on Site (SOPOP008)	Confirmed during Site visit.
4.6.12	All wastes and all hazardous recyclables that are unloaded shall be immediately transferred to the waste storage area.		X					Facility SOPs: Drum Staging and Storage (SOPOP002), Drum Sampling (SOPOP003), Container Management (SOPOP004), Spills on Site (SOPOP008)	Confirmed during Site visit.
4.6.13	All containers and unrinsed empty containers shall be stored in the waste storage area.		X					Field observation	Confirmed during Site visit.
4.6.14	The approval holder shall:	X						Not applicable	Information only.

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.6.14 (a)	Provide and maintain an adequate aisle space between containers in the waste storage area to allow inspection and unobstructed movement of personnel, fire protection equipment, spill control equipment and decontamination equipment to any area of the waste storage area.		X					Site field operations	Site field operations consistent with fire code for spacing between containers.
4.6.14 (b)	Arrange inspection aisles in the waste storage area such that the identification label on each container is readable.		X					Site field operations	Identification labels clear for all containers.
4.6.15	All tanks within the tank farm area shall be equipped, at a minimum, with all of the following:	X						Not applicable	Information only.
4.6.15 (a)	Sensors for detecting the level in each tank.		X					Site field operations	Sensors, alarms, and shut-off devices observed and active for each tank.
4.6.15 (b)	High level alarms that activate when a tank overflow is imminent.		X					Site field operations	
4.6.15 (c)	Automatic shut-off devices or sufficient free board space above the high level sensor to allow operators time to prevent overflow from occurring.		X					Site field operations	
4.6.15 (d)	Earthen dikes or equivalent secondary containment structures capable of containing 110% of the volume of the largest tank within the bermed area plus 10% of the aggregate capacity of all other tanks in the bermed area.		X					Site field operations	Entire waste storage area is the building floor, which is drained to holding tank in central manhole and can be pumped.
4.6.16	All tanks containing hazardous waste and all tanks containing hazardous recyclables in each building shall be equipped, at a minimum, with all of the following:	X						- Site field observation - Bulk Flammable Liquid Transfer SOP	- Bulk Flammable Liquid Transfer SOP Document and Checklist is available (part of Facility SOPs) in office area but is not stored next to tanks. - All other requirements met.
4.6.16 (a)	Sensors or gauges for detecting the level in each tank.		X					Site field observation	Sensors observed and active for tanks.
4.6.16 (b)	A written operating procedure to prevent tank overflow.			X				- Site field observation - Bulk Flammable Liquid Transfer SOP	Bulk Flammable Liquid Transfer SOP Document and Checklist is available (part of Facility SOPs) in office area but is not stored next to tanks.
4.6.16 (c)	Secondary containment structures capable of containing 110% of the volume of the largest tank within the building plus 10% of the aggregate capacity of all other tanks containing hazardous waste and hazardous recyclables in the same building.		X					- Site field observation	Secondary containment structures observed in the field.

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.6.17	Hazardous waste and hazardous recyclables stored in containers and tanks shall be stored in accordance with the Hazardous Waste Storage Guidelines, June 1988, Alberta Environment, as amended.		X					- Site field observation - Bulk Flammable Liquid Transfer SOP	Facility observed to be following governing regulations.
4.6.18	The approval holder shall only carry out the following activities, individually or in any combination, at the HWRSP Facility in relation to hazardous waste or hazardous recyclables or both:		X					- Site field observation - Landfill Operations Report (Section 14) - Facility SOPs	Field observations reviewed the activities that occur on site; which was confirmed through review of the Landfill Operations Report (Section 14 for HWRSP) and Facility SOPs.
4.6.18 (a)	Commingling of hazardous waste or hazardous recyclables to make maximum use of available container or tank capacity, only if the resultant mixture has the same TDGR hazard classification as any one of the individual components.		X						
4.6.18 (b)	Phase separation by gravity settling, only without the addition of any chemicals designed to accelerate settling.		X						
4.6.18 (c)	Dispersion of solids into liquids by natural or mechanical means, only if the resultant mixture has the same TDGR hazard classification as the original waste.		X						
4.6.18 (d)	Physical segregation of hazardous from non-hazardous articles or components from the same container, only if no process equipment is used.		X						
4.6.18 (e)	Washing of drums or other objects, only for the purpose of removing hazardous residue.		X						
4.6.18 (f)	Crushing or shredding of used filters, rags, absorbent materials, or empty containers, only for the purpose of volume reduction or liquid recovery, unless otherwise authorized in writing by the Director.		X						
4.6.18 (g)	Treatment of hazardous waste, only as authorized in writing by the Director.		X						
4.6.19	Notwithstanding 4.6.1 B(g), the approval holder shall not incinerate waste at the facility.				X		Not applicable	No waste incineration equipment exists at the facility.	
Limits									
4.6.20	The approval holder shall not store a total of more than 752,500 litres of hazardous waste or hazardous recyclables or both at the HWRSP Facility at any time.		X				WINWEB inventory management software	Maximum capacity not exceeded as of September 20, 2018, per the below volumes.	

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.6.21	In addition to the storage limits in 4.6.20, the approval holder shall not exceed the waste storage limits as specified in TABLE 4.6-A.		X					WINWEB inventory management software	Observations of inventory software made on September 20, 2018: - 164,000 L of containers - 18,350 L of bulk liquids
4.6.22	Containers other than 205 litre drums shall be prorated to 205 litre drum equivalents based on their nominal volumes, e.g., 10 X 20 litre pails= 1 X 205 litre drum.		X					WINWEB inventory management software	Software automatically calculates drum equivalents.
4.6.23	The limits referred to in 4.6.20 and 4.6.21 shall be calculated based on the:	X						Not applicable	Information only.
4.6.23 (a)	Total nominal volumes of all containers, treating all partially filled containers as if they were full.	X						Not applicable	Information only.
4.6.23 (b)	Total filled capacities of all tanks.	X						Not applicable	Information only.
Monitoring and Reporting									
4.6.24	The approval holder shall identify, characterize, and classify all waste streams and all hazardous recyclables, generated or received at the HWRSP Facility, not including runoff, industrial wastewater streams and air effluent streams in accordance with the:	X						Not applicable	Information only.
4.6.24 (i)	Industrial Waste Identification and Management Options, Alberta Environment, May 1996, as amended.					X		Landfill Operations Report, Section 2	Not referenced specifically in Landfill Operations Plan, although documentation indicates adherence to this standard. Recommended that this be included in the Operations Plan as a specific reference.
4.6.24 (ii)	Alberta User Guide for Waste Managers, Alberta Environment, August 1996, as amended.		X					Landfill Operations Report, Section 2	Referenced in Landfill Operations Plan.
4.6.25	The approval holder shall measure or, when not feasible to measure, estimate, the quantity of each waste and hazardous recyclable identified in 4.6.24 each year.		X					Annual Landfill Operations Report	Addressed in Appendix A of Operations Report.
4.6.26	The approval holder shall keep a daily total and inventory of all materials being stored at the HWRSP Facility.		X					Field observations Inventory logs	Observed documentation in the field.
4.6.27	The daily total and inventory records in 4.6.26 shall be available at the facility at all times for inspection by the Director or an inspector.		X					Field observations Inventory logs	Available at the time of the audit.
4.6.28	The approval holder shall submit a Monthly Waste Management Report to the Director.		X					July 2018 Monthly Waste Inventory Report and verbal confirmation	Verbal confirmation that the monthly reports are submitted to AEP. Different documents for internal use and submission confirms submission.

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.6.29	The approval holder shall compile all of the information indicated in Table 4.6-B in the Monthly Waste Management Report which shall contain, at minimum, all of the following information:	X						Not applicable	Information only.
4.6.29 (a)	An opening waste and hazardous recyclables inventory balance in kilograms or litres by waste class or material type.		X					July 2018 Monthly Waste Inventory Report	Included in Report.
4.6.29 (b)	The amount and type of waste and hazardous recyclables received: - Within the province. - From outside of the province.		X					July 2018 Monthly Waste Inventory Report	Included in Report.
4.6.29 (c)	The amount and type of waste and hazardous recyclables: - Shipped for recycling or product. - Shipped off-site for disposal. - Disposed on-site.		X					July 2018 Monthly Waste Inventory Report	Included in Report.
4.6.29 (d)	Any adjustments, including but not limited to, consolidation, reclassification, losses to processing, spills, volume miscalculations, or any other circumstances, which would affect the mass balance of the monthly inventory report.		X					July 2018 Monthly Waste Inventory Report	Included in Report.
4.6.29 (e)	Closing balance in kilograms or litres.		X					July 2018 Monthly Waste Inventory Report	Included in Report.
4.6.29 (f)	A summary of contraventions reported pursuant to 2. 1. 1 related to waste and hazardous recyclables.		X					July 2018 Monthly Waste Inventory Report	No Contraventions identified in monthly report.
4.6.29 (g)	Any other information as required in writing by the Director.				X			July 2018 Monthly Waste Inventory Report	No additional requirements by AEP.
4.6.30	The approval holder shall compile all the information required by 4.6.24 and 4.6.25 in an Annual Waste Management Summary Report:	X						Not applicable	Information only.
4.6.30 (a)	As specified in Table 4.6-C.		X					Annual Operations Report	Addressed in Appendix A of Operations Report.
4.6.30 (b)	In accordance with the: - Industrial Waste Identification and Management Options, Alberta Environment, May 1996, as amended. - Alberta User Guide for Waste Managers, Alberta Environment, August 1996, as amended.					X		Annual Operations Report	Not referenced specifically in Landfill Operations Plan, although documentation indicates adherence to this standard. Recommended that this be included in the Operations Plan as a specific reference.
4.6.31	The approval holder shall submit the Annual Waste Management Summary Report to the Director.		X					Annual Operations Report	Submitted as part of the Annual Report for the facility.

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
Landfill									
Operations Plan									
4.6.32	The approval holder shall develop, keep up-to-date, and implement a Landfill Operations Plan that does not contravene with the requirements of this approval.		X					Landfill Operations Plan	Approval requirements are being examined in this checklist.
4.6.33	The approval holder shall:	X						Not applicable	Information only.
4.6.33 (a)	Review the Landfill Operations Plan annually, at a minimum.		X					Landfill Operations Plan	2 dates observed on 2 separate copies, in 2016 and in 2017.
4.6.33 (b)	Update the Landfill Operations Plan if any of the following circumstances apply: - There are facility expansions or changes in site operations or equipment. - There is an applicable change to the Standards for Landfills in Alberta, as amended. - An update is required in writing by the Director. - There is an update to an applicable regulation.		X					2017 Annual Report	The Landfill Operations Plan is updated annually, as required. Changes to facility operations and expansions are reviewed annually, as are the Landfill Standards.
4.6.34	The Landfill Operations Plan shall include, at a minimum, all of the following:	X						Not applicable	Information only.
4.6.34 (a)	SOP for keeping and maintaining an Operating Record.		X					Landfill Operations Plan	Addressed in 1.0 of Operations Plan.
4.6.34 (b)	SOP for waste control, run-on and runoff controls, and nuisance controls.		X					Landfill Operations Plan	Included in Operation Plan.
4.6.34 (c)	SOP for the waste stabilization area operations.						X	Landfill Operations Plan	Document exists for Cell 3 operations, to be amended to include Cell 4 in spring-summer of 2019.
4.6.34 (d)	SOP for the acceptance, handling and disposal of wastes, including: - Waste characterization and classification at source. - Waste manifesting and tracking. - QA/QC waste acceptance procedures. - Waste sampling.		X					Landfill Operations Plan	Addressed in Sections 3.0, 3.1, 3.2, 3.3 of Operations Plan.
4.6.34 (e)	SOP for detecting, preventing and disposal of unauthorized wastes.		X					Landfill Operations Plan	Addressed in 3.2 of Operations Plan.
4.6.34 (f)	SOP for placing waste in a landfill cell including: - Working face width. - Lift depth. - Compaction. - Waste placement location using a grid system		X					Landfill Operations Plan	Addressed in 6.1 of Operations Plan.

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Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.6.34 (g)	SOP for managing contaminated sulphur and sulphur containing wastes.		X					Landfill Operations Plan	Addressed in 4.2 of Operations Plan.
4.6.34 (h)	SOP for managing asbestos wastes.		X					Landfill Operations Plan	Addressed in 4.1 of Operations Plan.
4.6.34 (i)	SOP for placing leachate, leak detection liquid, or other authorized wastes and liquids over the surface of the active landfill area for the purpose of evaporation or dust suppression.		X					Landfill Operations Plan	Addressed in 9.3 of Operations Plan.
4.6.34 (j)	An Odour and Fugitive Dust Response Program.		X					Landfill Operations Plan	Included in Operations Plan.
4.6.34 (k)	A Fugitive Dust and Odour Best Management Plan.		X					Landfill Operations Plan	Addressed in Appendix C of Operations Plan.
4.6.34 (l)	A runoff and industrial wastewater monitoring and management program.						X	Landfill Operations Plan	Document exists for Cell 3 operations, to be amended to include Cell 4 in spring-summer of 2019.
4.6.34 (m)	A leachate monitoring and management program.		X					SOPL002-003 Landfill Leachate System	Procedures in place for monitoring of leachate and overall management.
4.6.34 (n)	A leak detection liquid monitoring and management program.		X					SOPL002-003 Landfill Leachate System	Details outlining procedures in case of exceedences outlined as well as overall management.
4.6.34 (o)	A groundwater monitoring program.		X					Groundwater Monitoring Program	Included in Operations Plan.
4.6.34 (p)	A Remediation Plan to deal with groundwater quality deterioration.		X					Groundwater Remediation Plan	Has not been required during the audit period.
4.6.34 (q)	A soil monitoring program.						X	Not applicable	Completed in draft form, to be submitted in late 2019.
4.6.34 (r)	A soil management program.						X	Not applicable	Completed in draft form, to be submitted in late 2019.
4.6.34 (s)	A landfill cell cover system.		X					Design drawings	Cell cover system is prepared by consultants and conforms to provincial regulations.
4.6.34 (t)	A monitoring and maintenance program for the scale house and heavy operational equipment.		X					Maintenance Dashboard and Scale maintenance records	Scales calibrated twice per year, maintenance program in place.
4.6.34 (u)	A health and safety program.		X					Health and Safety Program	Health and Safety program in place, training records kept accounted for, notifications when training comes due. Employees sign off on h&s program.
4.6.34 (v)	An emergency response program, including SOP for handling fires, substance releases to the environment, and health concerns.		X					Emergency Response Program	Additionally, a system exists to track each employees training and provides management with information such as: training expiring, which training each employee requires, etc.

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Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.6.34 (w)	An up-to-date plan of the landfill layout with survey records showing the location of all infrastructure components of the landfill including final cover elevations and contours.					X		Landfill Operations Plan, Figure 2	2 Surveys conducted each year, 2016 operations plan includes a landfill layout plan from 2013. Should be updated each year with current landfill survey data.
4.6.35	The approval holder shall retain a copy of the most recent Landfill Operations Plan at the facility.					X		Landfill Operations Plan	Both 2017 and 2016 available - 2016 should be removed.
4.6.36	The approval holder shall submit to the Director the most recent Landfill Operations Plan when requested in writing by the Director within the timeline specified in writing by the Director.		X					Landfill Operations Plan	Submitted yearly.
4.6.37	The approval holder shall correct all deficiencies in the Landfill Operations Plan submitted pursuant to 4.6.36, as outlined in writing by the Director, within the timeline specified in writing by the Director.		X					Not applicable	No deficiencies ever recorded.
4.6.38	The approval holder shall implement the latest Landfill Operations Plan, unless otherwise authorized in writing by the Director.		X					Landfill Operations Plan	2017 Operations Plan observed.
Operations									
4.6.39	The approval holder shall classify all materials entering the landfill in accordance with the:	X						Not applicable	Information only.
4.6.39 (a)	Waste Control Regulation (AR 192196).		X					Landfill Operations Plan, Section 2	Referenced in Landfill Operations Plan.
4.6.39 (b)	Industrial Waste Identification and Management Options, Alberta Environment, May 1996, as amended.					X		Landfill Operations Plan	Not referenced specifically in Landfill Operations Plan, although documentation indicates adherence to this standard. Recommended that this be included in the Operations Plan as a specific reference.
4.6.39 (c)	Alberta User Guide for Waste Managers, May 1995, as amended.		X					Landfill Operations Plan	Referenced in Landfill Operations Plan.
4.6.40	The approval holder shall obtain a detailed representative physical and chemical analysis of a waste prior to disposal of the waste into the landfill at the following times, at a minimum:	X						Not applicable	Information only
4.6.40 (a)	The first time a waste is received from a new generator.		X					Landfill Operations Plan, Sections 2-4	Procedures and acceptance criteria in the Landfill Operations Plan are compliant with Approval.
4.6.40 (b)	The first time a delivery is received from a different process associated with a known waste generator.		X						
4.6.40 (c)	The first time a waste is received from a different location associated with a known waste generator.		X						

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		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.6.40 (d)	When the nature or composition of the waste that was previously characterized by the generator changes.		X						
4.6.41	The approval holder shall not dispose of hazardous waste in any Class II landfill cell.				X		Not applicable	The site is not a Class II landfill.	
4.6.42	The approval holder shall:	X					Not applicable	Information only	
4.6.42 (a)	Only carry out waste stabilization or solidification or both within the waste stabilization area.		X				Site field observations	Solidification and waste stabilization activities consistent with Approval requirements during field observations.	
4.6.42 (b)	Not transfer waste from the waste stabilization area to the Class I landfill cell before the waste stabilization or solidification or both have completed.		X						
4.6.43	The approval holder shall only dispose of any liquid collected within the waste stabilization area by one or more of the following methods:	X					Not applicable	Information only.	
4.6.43 (a)	To facilities holding a current Act authorization to accept such waste.				X		Not applicable	Option not used by the facility.	
4.6.43 (b)	To facilities approved by a local environmental authority outside of Alberta to accept such waste.				X		Not applicable	Option not used by the facility.	
4.6.43 (c)	To a disposal well approved by AER.or		X				AER approval for deep well	- Liquid waste is hauled to Class I deep well in Calmar. - AER approval for deepwell (leased from Seller's Oilfield Services to CH) observed. Approval No. WM 077 A, dated July 25, 2011.	
4.6.43 (d)	As otherwise authorized in writing by the Director.				X		Not applicable	Option not used by the facility.	
4.6.44	The approval holder shall conduct:	X					Not applicable	Information only.	
4.6.44 (a)	Annually, in-house visual inspections for corrosion.		X				Audible confirmation and inspection report	Yearly visual inspections.	
4.6.44 (b)	Biennially, ultrasonic testing to monitor thickness of the steel plate liner of the stabilization pits in the waste stabilization area, unless otherwise authorized in writing by the Director.		X				Inspection reports	Performed yearly.	
4.6.45	The approval holder shall dispose of asbestos wastes in accordance with "Guidelines for the Disposal of Asbestos Waste": Environmental Protection Services, Alberta Environment, 1989, as amended.					X	Landfill Operations Plan, Section 4.1	Not referenced specifically in Landfill Operations Plan, although documentation indicates adherence to this standard. Recommended that this be included in the Operations Plan as a specific reference.	

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Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.6.46	The approval holder shall dispose of sulphur waste in accordance with "Guidelines for Landfill Disposal of Sulphur Wastes and Remediation of Sulphur Containing Soils", Alberta Environment, 2011, as amended.		X					Landfill Operations Plan, Section 4.2	Referenced in Landfill Operations Plan.
4.6.47	The approval holder shall only dispose of wastes that the landfill is not authorized to dispose of:	X						Not applicable	Information only.
4.6.47 (a)	To facilities holding a current Act authorization.		X					Verbal confirmation	All waste receipts are screened at the site entry scale and any non-authorized loads, as determined through manifest, are rejected.
4.6.47 (b)	To facilities approved by a local environmental authority outside of Alberta. Or:		X						
4.6.47 (c)	As otherwise authorized in writing by the Director.		X						
4.6.48	If an unauthorized waste is received at the landfill, the approval holder shall remove the waste from the landfill within seven (7) days of the receipt, unless otherwise authorized in writing by the Director.	X						Not applicable	Not observed during the audit.
4.6.49	The approval holder shall restrict the working face of each landfill cell to the smallest practical area.	X						Not applicable	Not observed during the audit.
4.6.50	For any waste disposed of at the landfill that is subject to wind dispersal, the approval holder shall:	X						Not applicable	Information only.
4.6.50 (a)	Wet the waste to prevent dispersal of particulate matter. or		X					Landfill Operations Plan Appendix C (Fugitive Dust and Odour Best Management Plan)	Documents reviewed have procedures for managing dust and particulate matter through waste placement in landfill and in waste stabilization.
4.6.50 (b)	Immediately apply cover on top of the waste to minimize entrainment of particulate matter.		X						
4.6.51	Notwithstanding 4.6.1 (v), the approval holder may place any of the following wastes over the surface of the active landfill area for the purpose of dust suppression, provided that placement of such wastes will not cause offensive odours:	X						Not applicable	Information only.
4.6.51 (a)	Specified runoff.	X						Not applicable	Information only.
4.6.51 (b)	Leachate.	X						Not applicable	Information only.
4.6.51 (c)	Leak detection liquid.	X						Not applicable	Information only.
4.6.51 (d)	Sump waste of car wash bays or similar operations.	X						Not applicable	Information only.
4.6.51 (e)	Waste from hydrovac excavation operations.	X						Not applicable	Information only.

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Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.6.51 (f)	Any other waste authorized by the Alberta User Guide for Waste Managers, May 1995, as amended.	X						Not applicable	Information only.
4.6.52	The approval holder shall inspect the landfill, at a minimum:	X						Not applicable	Information only.
4.6.52 (a)	Weekly.		X					Verbal confirmation	Daily landfill inspection.
4.6.52 (b)	Immediately after each storm event to: - Detect evidence of deterioration of any infrastructure components, including the composite liner. - Detect any malfunction or improper operation of the run-on and runoff control systems, leachate collection system, or leak detection system. - Take corrective measures to repair any damage to infrastructure components, including the composite liner.		X					Verbal confirmation	Daily landfill inspection.
4.6.53	The approval holder shall do the following, the Director in writing along with any corrective measures taken or proposed:	X						Not applicable	Information only.
4.6.53 (a)	Keep a record of inspections conducted pursuant to 4.6.52.		X					Landfill inspection records	Made available electronically.
4.6.53 (b)	Have the record of inspections available for review upon written request from the Director.		X					Landfill inspection records	Made available electronically.
4.6.53 (c)	Immediately report any deficiencies detected by the inspection in 4.6.52 to the Director in writing along with any corrective measures taken or proposed		X					Landfill inspection records	Reported if contravention, if not, a work ticket is created and the issue is fixed.
4.6.54	The approval holder shall not stockpile waste exceeding the maximum designated waste elevation of the landfill for a period of more than two (2) weeks, unless otherwise authorized in writing by the Director.		X					June 30, 2018 Site Survey	The site is surveyed twice per year, and no contours exceed the maximum designated waste elevation.
4.6.55	The approval holder shall take all practical measures to prevent off-site tracking of waste from vehicles and equipment leaving the facility.		X					Verbal confirmation	Wheel wash for trucks carrying asbestos installed on the outbound road from where asbestos is deposited.
Monitoring and Reporting									
4.6.56	The approval holder shall monitor the landfill operations as required in Table 4.6-D.		X					Annual Landfill Operations Report	All criteria in Table 4.6-D is included.
4.6.57	The approval holder shall report to the Director the results of the landfill operations monitoring as required in Table 4.6-D.		X					Annual Landfill Operations Report	Submitted to AEP.

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Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.6.58	The Annual Landfill Operations Report required in Table 4.6-D shall include, at a minimum, all of the following:	X						Not applicable	Information only.
4.6.58 (a)	the name and contact information of the person responsible for the facility.		X					Annual Landfill Operations Report	Addressed in Section 2.0 of Annual Report.
4.6.58 (b)	A summary of all information collected as required in Table 4.6-D.		X					Annual Landfill Operations Report	All criteria in Table 4.6-D is included.
4.6.58 (c)	A summary of the results of any audit conducted in accordance with 4.1.7.				X			Not applicable	Audit not yet completed for reports which are available.
4.6.58 (d)	A summary of the operations of the waste stabilization area.		X					Annual Landfill Operations Report	Addressed in Section 5.0 of Annual Report.
4.6.58 (e)	A summary of the performance of the run-on and runoff control systems, including a comparison to the limits in Tables 4.3-8 and 4.3-C.		X					Annual Landfill Operations Report	Addressed in Section 6.0 of Annual Report.
4.6.58 (f)	A summary of the performance of the leachate collection system, including a comparison to the maximum acceptable leachate head.		X					Annual Landfill Operations Report	Addressed in Section 7.0 of Annual Report.
4.6.58 (g)	A summary of the performance of the leak detection system, including a comparison to the action leakage rate limit.		X					Annual Landfill Operations Report	Addressed in Section 8.0 of Annual Report.
4.6.58 (h)	The Response Action Plan for the leak detection system pursuant to 4.4.1 O.		X					Annual Landfill Operations Report	Addressed in Section 9.0 of Annual Report.
4.6.58 (i)	The Annual Dugout and Water Well Sampling Program Report pursuant to 4.5.4.		X					Annual Landfill Operations Report	Addressed in Section 10.0 of Annual Report.
4.6.58 (j)	A summary of all revisions to the Landfill Operations Plan pursuant to 4.6.33(b).		X					Annual Landfill Operations Report	Addressed in Section 11.0 of Annual Report.
4.6.58 (k)	Any groundwater remedial action taken pursuant to 4.6.34(p).		X					Annual Landfill Operations Report	Addressed in Section 12.0 of Annual Report.
4.6.58 (l)	A summary of records of landfill inspections pursuant to 4.6.53.		X					Annual Landfill Operations Report	Addressed in Section 13.0 of Annual Report.
4.6.58 (m)	A summary of: - Operational issues encountered. - Emergencies occurred. - Measures or actions taken.		X					Annual Landfill Operations Report	Addressed in Section 14.0 of Annual Report.

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Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.6.58 (n)	A summary of records of: - Public complaints. - The approval holder's responses		X					Annual Landfill Operations Report	Addressed in Section 15.0 of Annual Report.
4.6.58 (o)	An up-to-date financial security estimate pursuant to 5.1.2.		X					Annual Landfill Operations Report	Addressed in Section 16.0 of Annual Report.
4.6.58 (p)	An updated site development plan showing the status of the landfill progression at the end of the operating year, including but not limited to: - Contour mapping. - The location of active and inactive disposal areas. - Areas where a final cover has been placed. - The location of new landfill cell(s) constructed.		X					Annual Landfill Operations Report	Addressed in Section 17.0 of Annual Report.
4.6.58 (q)	The Annual Landfill Cell Closure Report pursuant to 7.1.7.		X					Annual Landfill Operations Report	Addressed in Section 18.0 of Annual Report.
4.6.58 (r)	A summary of contraventions reported pursuant to 2.1.1 related to landfill operations.		X					Annual Landfill Operations Report	Addressed in Section 19.0 of Annual Report.
4.6.58 (s)	Any other information as required in writing by the Director.				X			Not applicable	No additional requirements from AEP.
4.6.59	The approval holder shall submit the Annual Landfill Operations Report to the Director.		X					Verbal confirmation	Confirmation of submission prior to deadline.
Section 4.7 - Domestic Wastewater									
Operations									
4.7.1	The approval holder shall not release any substances from the domestic wastewater system to the surrounding watershed except as authorized by this approval.		X					Verbal confirmation	Wastewater is directed to an isolated holding tank.
4.7.2	The approval holder shall direct all domestic wastewater to the domestic wastewater system.		X					Verbal confirmation	Wastewater is directed to an isolated holding tank.
4.7.3	The approval holder shall only dispose of substances from the domestic wastewater system:	X						Not applicable	Information only.
4.7.3 (a)	To facilities holding a current Act authorization.		X					Verbal confirmation	Wastewater from holding tank taken across the street to authorized treatment lagoon.
4.7.3 (b)	To facilities approved by a local environmental authority outside of Alberta.		X					Verbal confirmation	Wastewater from holding tank taken across the street to authorized treatment lagoon.

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		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.7.3 (c)	As otherwise authorized in writing by the Director.		X					Verbal confirmation	Wastewater from holding tank taken across the street to authorized treatment lagoon.
Section 4.8 - Waterworks									
	Not used at this time.				X			Not applicable	No Waterworks at this time.
Section 4.9 - Groundwater									
Monitoring									
4.9.1	The approval holder shall continue to implement the existing Groundwater Monitoring Program as authorized in writing by the Director, unless and until otherwise authorized in writing by the Director pursuant to 4.9.4.		X					2017 GW Monitoring Report	Groundwater reporting is being conducted in conformance with the Groundwater Monitoring Program.
4.9.2	The approval holder shall submit a revised Groundwater Monitoring Program to the Director on or before September 30, 2017, unless otherwise authorized in writing by the Director.		X					Verbal Confirmation	Submitted before the September 30th, 2017 deadline.
4.9.3	If the revised Groundwater Monitoring Program submitted pursuant to 4.9.2 is found deficient by the Director, the approval holder shall correct all deficiencies as outlined in writing by the Director within the timeline specified in writing by the Director.				X			Verbal confirmation	AEP did not identify any deficiencies with the program.
4.9.4	The approval holder shall implement the revised Groundwater Monitoring Program submitted pursuant to 4.9.2 as authorized in writing by the Director within the timeline specified in writing by the Director.		X					Verbal confirmation	Implemented after submittal.
4.9.5	The approval holder shall:	X						Not applicable	Information only.
4.9.5 (a)	Collect a representative groundwater sample from each of the groundwater monitor wells specified in the Groundwater Monitoring Program, including the groundwater monitoring wells designated as points of compliance.		X					2017 GW Monitoring Report	All wells in monitoring program have been sampled.
4.9.5 (b)	Analyze each sample for the parameters listed in Table 4.9-A.		X					2017 GW Monitoring Report	All parameters in Table sampled for.
4.9.6	The monitoring required in 4.9.5 shall be conducted at the following frequencies, unless otherwise authorized in writing by the Director:	X						Not applicable	Information only.
4.9.6 (a)	A minimum of once per year during each of the active landfill life, landfill cell closure, final landfill closure, and post-closure periods.		X					2017 GW Monitoring Report	Groundwater is monitored once per year.

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Part 4 - Operations, Limits, Monitoring, and Reporting									
4.9.6 (b)	A minimum of four times per year following detection of leachate constituents in groundwater at levels above those specified in 4.9.7, and until the levels specified in 4.9.7 have been met.				X			Verbal confirmation	No leachate constituents have ever been found.
4.9.7	The groundwater quality in the monitoring wells, designated as points of compliance in the Groundwater Monitoring Program, shall not exceed the higher of:	X						Not applicable	Information only.
4.9.7 (a)	The objectives established in the water quality objectives in the Canadian Environmental Quality Guidelines (CEQG) for drinking water published by the Canadian Council of Ministers of the Environment (CCME), as amended.		X					2017 GW Monitoring Report	Several exceedences noted in GW report, however these are due to the natural composition of the groundwater in the area.
4.9.7 (b)	Background groundwater chemistry as determined through a statistical analysis, as a derived alternate groundwater performance standard.		X					2017 GW Monitoring Report	Several exceedences noted in GW report, however these are due to the natural composition of the groundwater in the area.
4.9.8	The approval holder shall implement the Remediation Plan as specified in the Landfill Operations Plan, when groundwater quality exceeds the groundwater performance criteria in 4.9.7.				X			2017 GW Monitoring Report	Remediation Plan has not been required to be implemented. Exceedences are normal for the groundwater in the area.
4.9.9	The samples extracted from the groundwater monitor wells shall be collected using scientifically acceptable purging, sampling and preservation procedures so that a representative groundwater sample is obtained.		X					2017 GW Monitoring Report	Acceptable procedures are being followed.
4.9.10	The approval holder shall for all groundwater monitoring wells:	X						Not applicable	Information only.
4.9.10 (a)	Protect from damage.			X				Site field observations	- Well MW-10 (near waste storage and HWRSP Facility) had casing damaged with exposed well cap and missing lock. - All other wells were observed to be protected and locked.
4.9.10 (b)	Keep locked except when being sampled.			X					
4.9.11	If a representative groundwater sample cannot be collected because the groundwater monitoring well is damaged or is no longer capable of producing a representative groundwater sample, the approval holder shall:	X						Not applicable	Information only.
4.9.11 (a)	Clean, repair or replace the groundwater monitoring well.						X	Site field observations	As per above, MW-10 requires repair.
4.9.11 (b)	Collect and analyse a representative groundwater sample prior to the next scheduled sampling event.		X					2017 GW Monitoring Report	Groundwater monitoring consistent with schedule.

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		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.9.12	In addition to the sampling information recorded in 2.2.1, the approval holder shall record the following sampling information for all groundwater samples collected:	X						Not applicable	Information only.
4.9.12 (a)	A description of purging and sampling procedures.		X					2017 GW Monitoring Report	Refer to Section 5.2.
4.9.12 (b)	The static elevations above sea level, and depth below ground surface of fluid phases in the groundwater monitoring well prior to purging.		X					2017 GW Monitoring Report	Groundwater levels were recorded.
4.9.12 (c)	The temperature of each sample at the time of sampling.		X					2017 GW Monitoring Report	Temperature was recorded at the time of sampling.
4.9.12 (d)	The pH of each sample at the time of sampling.		X					2017 GW Monitoring Report	pH was recorded at the time of sampling.
4.9.12 (e)	The specific conductance of each sample at the time of sampling.		X					2017 GW Monitoring Report	Recorded as mS at the time of sampling.
4.9.13	The approval holder shall carry out remediation of the groundwater in accordance with the following:	X						Not applicable	Information only.
4.9.13 (a)	Alberta Tier 1 Soil and Groundwater Remediation Guidelines, Alberta Environment, February 2009, as amended.				X			Not applicable	Groundwater remediation has not been deemed necessary.
4.9.13 (b)	Alberta Tier 2 Soil and Groundwater Remediation Guidelines, Alberta Environment, February 2009, as amended.				X			Not applicable	Groundwater remediation has not been deemed necessary.
Reporting									
4.9.14	The approval holder shall compile an Annual Groundwater Monitoring Program Report which shall include, at a minimum, all of the following information:	X						Not applicable	Information only.
4.9.14 (a)	A completed Record of Site Condition Form, Alberta Environment, 2009, as amended.		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (b)	A legal land description of the facility and a map illustrating the facility boundaries.		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (c)	A topographic map of the facility.		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (d)	A description of the industrial activity and processes.		X					2017 GW Monitoring Report	Included in Report.

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		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.9.14 (e)	A map showing the location of all surface and groundwater users, and a listing describing surface water and water well use details, within at least a 1.6 kilometre radius of the facility.		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (f)	A general hydrogeological characterization of the region within a five kilometre radius of the facility.		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (g)	A detailed hydrogeological characterization of the facility, including an interpretation of groundwater flow patterns.		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (h)	Cross-sections showing depth to water table, patterns of groundwater movement and hydraulic gradients at the facility.		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (i)	Borehole logs and completion details for groundwater monitoring wells.		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (j)	A map showing locations of all known buried channels within at least five kilometre of the facility.		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (k)	A map of surface drainage within the facility and surrounding area to include nearby water bodies.		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (l)	A map of groundwater monitoring well locations and a table summarizing the existing groundwater monitoring program for the facility.		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (m)	A summary of any changes to the groundwater monitoring program made since the last groundwater monitoring report.		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (n)	Analytical data recorded as required in 4.9.5 and 4.9.11(b).		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (o)	A summary of fluid elevations recorded as required in 4.9.12(b) and an interpretation of changes in fluid elevations.		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (p)	An interpretation of QA/QC program results.		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (q)	An interpretation of all the data in this report, including the following: - Diagrams indicating the location and extent of any contamination. - A description of probable sources of contamination. - A site map showing the location and type of current and historical potential sources of groundwater contamination		X					2017 GW Monitoring Report	Included in Report.

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Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.9.14 (r)	A summary and interpretation of the data collected since the groundwater monitoring program began including: - Control charts which indicate trends in concentrations of parameters. - The migration of contaminants.		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (s)	A description of the following: - Contaminated groundwater remediation techniques employed. - Source elimination measures employed. - Risk assessment studies undertaken. - Risk management studies undertaken.		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (t)	A proposed sampling schedule for the following year(s).		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (u)	A description of any contaminant remediation, risk assessment or risk management action conducted at the facility.		X					2017 GW Monitoring Report	Included in Report.
4.9.14 (v)	Recommendations for: - Changes to the groundwater monitoring program to make it more effective. - Remediation, risk assessment or risk management of contamination identified.		X					2017 GW Monitoring Report	Included in Report.
4.9.15	The approval holder shall submit the Annual Groundwater Monitoring Program Report to the Director.		X					2017 GW Monitoring Report	Submitted to AEP.
4.9.16	If the Annual Groundwater Monitoring Program Report is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director, within the timeline specified in writing by the Director.				X			Not applicable	AEP did not identify any deficiencies.
Section 4.10 - Soil									
4.10.1	In addition to any other requirements specified in this approval, the approval holder shall conduct all of the following activities related to soil monitoring and soil management required by this approval in accordance with the Soil Monitoring Directive, Alberta Environment, 2009, as amended:		X					Soil Management Program Proposal, including Soil Monitoring Program (Tetra Tech, 2017)	- Mar. 21, 2017 - Soil Management Program Proposal (incl. monitoring program submitted to AEP). - Sept. 11, 2017 - Supplemental Information to Soil Management Program Proposal (revisions), submitted to AEP. - Sept. 13, 2017 - Approval letter from AEP regarding Soil Management Program Proposal.
4.10.1 (a)	Designing and developing proposals for the Soil Monitoring Program.		X						
4.10.1 (b)	Designing and developing proposals for the Soil Management Program.		X						

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Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.10.1 (c)	All other actions, including sampling, analysing, and reporting, associated with the Soil Monitoring Program.						X	Not applicable	To be completed in the summer of 2019.
4.10.1 (d)	All other actions, including sampling, analysing and reporting, associated with the Soil Management Program.						X	Not applicable	To be completed in the summer of 2019.
Soil Monitoring and Reporting									
4.10.2	The approval holder shall submit the Soil Monitoring Program proposal to the Director according to the following schedule: - For the first soil monitoring event on or before January 31, 2019. - For the second soil monitoring event on or before January 31, 2024.		X					Soil Management Program Proposal, including Soil Monitoring Program (Tetra Tech, 2017)	- Mar. 21, 2017 - Soil Management Program Proposal (incl. monitoring program submitted to AEP. - Sept. 11, 2017 - Supplemental Information to Soil Management Program Proposal (revisions), submitted to AEP. - Sept. 13, 2017 - Approval letter from AEP regarding Soil Management Program Proposal.
4.10.3	If any Soil Monitoring Program proposal is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.		X						
4.10.4	Subject to 4.10.3, the approval holder shall implement the Soil Monitoring Program as authorized in writing by the Director.						X	Not applicable	To be completed in the summer of 2019.
4.10.5	If an authorization or a deficiency letter is not issued within 120 days of the applicable date required by 4.10.2, the approval holder shall implement the Soil Monitoring Program in accordance with the program as set out in the proposal submitted by the approval holder and within 270 days after the applicable date required by 4.10.2						X	Not applicable	To be completed in the summer of 2019.
4.10.6	The approval holder shall submit to the Director each Soil Monitoring Program Report obtained from the soil monitoring referred to in 4.10.4 and 4.10.5 according to the following schedule:						X	Not applicable	To be completed in the summer of 2019.
4.10.6 (a)	For the first Soil Monitoring Program Report on or before January 31, 2020.						X	Not applicable	To be completed in the summer of 2019.
4.10.6 (b)	For the second Soil Monitoring Program Report on or before January 31, 2025.						X	Not applicable	To be completed in the summer of 2019.
4.10.7	If any Soil Monitoring Program Report is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.						X	Not applicable	To be completed in the summer of 2019.
Soil Management Program									

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Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 4 - Operations, Limits, Monitoring, and Reporting									
4.10.8	If the Soil Monitoring Program, or any other soil monitoring, reveals that there are substances present in the soil at concentrations greater than any of the applicable concentrations set out in the standards in the Soil Monitoring Directive, Alberta Environment, 2009, as amended, the approval holder shall develop a Soil Management Program Proposal.							X Not applicable	To be completed in the summer of 2019.
4.10.9	If a Soil Management Program Proposal is required pursuant to 4.10.8, the approval holder shall submit a Soil Management Program Proposal to the Director according to the following schedule:							X Not applicable	To be completed in the summer of 2019.
4.10.9 (a)	For Soil Management Program Proposal that is triggered by the findings from the first soil monitoring event on or before the date in 4.10.6(a).							X Not applicable	To be completed in the summer of 2019.
4.10.9 (b)	For Soil Management Program Proposal that is triggered by the findings from a second soil monitoring event on or before the date in 4.10.6(b).							X Not applicable	To be completed in the summer of 2019.
4.10.9 (c)	For any other soil monitoring event not specified in this approval within six months of completion of the soil monitoring event.							X Not applicable	To be completed in the summer of 2019.
4.10.10	If any Soil Management Program Proposal is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.							X Not applicable	To be completed in the summer of 2019.
4.10.11	The approval holder shall implement the Soil Management Program as authorized in writing by the Director.							X Not applicable	To be completed in the summer of 2019.
4.10.12	If the approval holder is required to implement a Soil Management Program pursuant to 4.10.11, the approval holder shall submit a written Soil Management Program Report to the Director on or before March 31 of each year following the year in which the information was collected.							X Not applicable	To be completed in the summer of 2019.
4.10.13	If any Soil Management Program Report is found deficient by the Director, the approval holder shall correct all deficiencies identified by the Director by the date specified in writing by the Director.							X Not applicable	To be completed in the summer of 2019.

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Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 5 - Financial Security Requirements									
5.1.1	The approval holder shall annually review and revise the cost estimate for reclamation of the facility including decommissioning and land reclamation.		X					2017 and 2018 Cost Spreadsheets	Financial security is reviewed annually in-line with the documents specified.
5.1.2	The annual revised cost estimate for the facility shall be submitted to the Director by March 31 of each year.		X					CHUBB insurance Bond letter	Received bond on March 6, 2018 - Cost estimate must have been submitted on or before this date.
5.1.3	The approval holder shall review and revise the cost estimate for reclamation of the facility when one or more of the following occurs:	X						Not applicable	Information only.
5.1.3 (a)	The cost estimate of future conservation and reclamation of the facility changes.				X			Not applicable	No changes to future conservation/reclamation activities have been expected in the timeframe of this audit period.
5.1.3 (b)	The extent of the operation of the facility is increased or reduced.		X					2017 Cell 4 Amendment Spreadsheet	Costs were recalculated based on the facility expanding its operations to a new cell.
5.1.3 (c)	The facility or any portion of it is conserved and reclaimed.				X			Not applicable	Although some cells have been fully reclaimed, and some are in the process of being capped (Cell 3A ~50%) none have been reclaimed in the examination period of this audit.
5.1.3 (d)	The conservation and reclamation plan required by this approval is changed.				X			Not applicable	No changes to the conservation and reclamation plan were made upon the issuance of the amended approval in 2017.
5.1.3 (e)	The activities conducted at the facility for which security is required is increased or decreased.		X					2017 Cell 4 Amendment Spreadsheet	Costs were recalculated based on the facility expanding its operations to include Cell 4.
5.1.4	The approval holder shall submit the revised cost estimate arising from 5.1.3 to the Director within 30 days after the occurrence of any of the circumstances described in 5.1.3.		X					Submission for Cell 4 construction.	Submission dates were reviewed and found to be within this timeline.
5.1.5	The approval holder shall provide additional financial security as required in writing by the Director.				X			Not applicable	AEP has not asked for the facility to increase it's financial security.

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Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 5 - Financial Security Requirements									
5.1.6	The approval holder shall renew the financial security for the facility at least 30 days prior to the date it expires.		X					Financial security communications	Financial security does not expire. Amendments to financial security are conducted at least annually.
5.1.7	The approval holder shall maintain the financial security for the facility until returned in accordance with the Act or the regulations.		X					Financial security communications	Financial security does not expire. Amendments to financial security are conducted at least annually.

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Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 6 - Decommissioning and Land Reclamation									
Section 6.1 - General									
6.1.1	The approval holder shall apply for an amendment to this approval to reclaim the HWRSP Facility by submitting to the Director: - A Decommissioning Plan. - A Land Reclamation Plan.				X			Not applicable	Facility is still operational and expanding.
6.1.2	The approval holder shall submit the Decommissioning Plan and Land Reclamation Plan referred to in 6.1.1 within six (6) months of the HWRSP Facility ceasing operation, except for repairs and maintenance, unless otherwise authorized in writing by the Director.				X			Not applicable	Facility is still operational and expanding.
Section 6.2 - Decommissioning									
6.2.1	The Decommissioning Plan referred to in 6.1.1 shall include, at a minimum, all of the following:				X			Not applicable	Facility is still operational and expanding.
6.2.1 (a)	A plan for dismantling the HWRSP Facility.				X			Not applicable	Facility is still operational and expanding.
6.2.1 (b)	A comprehensive study to determine the nature, degree and extent of contamination at the HWRSP Facility and affected lands.				X			Not applicable	Facility is still operational and expanding.
6.2.1 (c)	A plan to manage all wastes at the HWRSP Facility.				X			Not applicable	Facility is still operational and expanding.
6.2.1 (d)	Evaluation of remediation technologies proposed to be used at the HWRSP Facility and affected lands.				X			Not applicable	Facility is still operational and expanding.
6.2.1 (e)	A plan for decontamination of the HWRSP Facility and affected lands in accordance with the following: - For soil or groundwater, Alberta Tier 1 Soil and Groundwater Remediation Guidelines, Alberta Environment, February 2009, as amended. - For soil or groundwater, Alberta Tier 2 Soil and Groundwater Remediation Guidelines, Alberta Environment, February 2009, as amended. - For drinking water, Canadian Environmental Quality Guidelines, Canadian Council of Ministers of the Environment, PN 1299, 1999, as amended. - For surface water, Surface Water Quality Guidelines for Use in Alberta, Alberta Environment, November 1999, as amended.				X			Not applicable	Facility is still operational and expanding.
6.2.1 (f)	Confirmatory testing to indicate compliance with the remediation objectives.				X			Not applicable	Facility is still operational and expanding.
6.2.1 (g)	A plan for maintaining and operating contaminant monitoring systems.				X			Not applicable	Facility is still operational and expanding.
6.2.1 (h)	A schedule for activities (a) through (g) above.				X			Not applicable	Facility is still operational and expanding.

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Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
6.2.1 (i)	Any other information as required in writing by the Director.				X			Not applicable	Facility is still operational and expanding.
6.2.2	If the Decommissioning Plan is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.				X			Not applicable	Facility is still operational and expanding.
Section 6.3 - Land Reclamation									
6.3.1	The Land Reclamation Plan referred to in 6.1.1 shall include, at a minimum, all of the following:				X			Not applicable	Facility is still operational and expanding.
6.3.1 (a)	The final use of the reclaimed area and how equivalent land capability will be achieved.				X			Not applicable	Facility is still operational and expanding.
6.3.1 (b)	Removal of infrastructure.				X			Not applicable	Facility is still operational and expanding.
6.3.1 (c)	Restoration of drainag.				X			Not applicable	Facility is still operational and expanding.
6.3.1 (d)	Soil replacement.				X			Not applicable	Facility is still operational and expanding.
6.3.1 (e)	Erosion control.				X			Not applicable	Facility is still operational and expanding.
6.3.1 (f)	Revegetation and conditioning of the HWRSP Facility including: - Species list, seed source and quality, seeding rates and methods. - Fertilization rates and methods. - Reclamation schedule.				X			Not applicable	Facility is still operational and expanding.
6.3.1 (g)	Reclamation schedule.				X			Not applicable	Facility is still operational and expanding.
6.3.1 (h)	Any other information as required in writing by the Director.				X			Not applicable	Facility is still operational and expanding.
6.3.2	If the Land Reclamation Plan is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.				X			Not applicable	Facility is still operational and expanding.

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Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not-applicable	Opportunity for Improvement	Pending		
Part 7 - Final Landfill Closure and Post-Closure									
Section 7.1 - Landfill Cell Closure and Maintenance									
7.1.1	The approval holder shall submit a Landfill Cell Closure Plan for individual landfill cell closure to the Director on or before September 30, 2017, unless otherwise authorized in writing by the Director.				X			Not applicable	Last closure was performed in 2016 for Cell 3. To be monitored for next closure.
7.1.2	The Landfill Cell Closure Plan submitted pursuant to 7.1.1 shall be signed and stamped by a professional registered with APEGA.				X			Not applicable	Last closure was performed in 2016 for Cell 3. To be monitored for next closure.
7.1.3	If the Landfill Cell Closure Plan submitted pursuant to 7.1.1 is found deficient by the Director, the approval holder shall correct all deficiencies as outlined in writing by the Director within the timeline specified in writing by the Director.				X			Not applicable	Last closure was performed in 2016 for Cell 3. To be monitored for next closure.
7.1.4	The approval holder shall implement the Landfill Cell Closure Plan submitted pursuant to 7.1.1 as authorized in writing by the Director.				X			Not applicable	Last closure was performed in 2016 for Cell 3. To be monitored for next closure.
7.1.5	The approval holder shall maintain the closed landfill cells to:		X					Field observations	<ul style="list-style-type: none"> - Surface run-off goes to perimeter ditch system. - Vegetated final caps. - Sloping and drainage per approved designs. - Leachate collection system and storage tanks. - No subsidence or settlement observed. Monitoring consistent with Operations Plan.
7.1.5 (a)	Protect and maintain the integrity of the final cover and surface water drainage systems.		X						
7.1.5 (b)	Prevent erosion.		X						
7.1.5 (c)	Prevent surface water ponding.		X						
7.1.5 (d)	Remediate areas affected by subsidence and differential settlement.		X						
7.1.5 (e)	Prevent leachate break out.		X						
7.1.6	If the approval holder completes landfill cell closure in a year, the approval holder shall prepare an Annual Landfill Cell Closure Report, and include, at a minimum, all of the following information in the Report:				X			Not applicable	Last closure was performed in 2016 for Cell 3. To be monitored for next closure.
7.1.6 (a)	As-built plans and details on the location of landfill cells that have been closed.				X			Not applicable	Last closure was performed in 2016 for Cell 3. To be monitored for next closure.
7.1.6 (b)	Certified construction QA/QC procedures employed during cover construction and installation.				X			Not applicable	Last closure was performed in 2016 for Cell 3. To be monitored for next closure.

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Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not-applicable	Opportunity for Improvement	Pending		
7.1.6 (c)	Survey reports showing the final cover depths.				X			Not applicable	Last closure was performed in 2016 for Cell 3. To be monitored for next closure.
7.1.7	The approval holder shall submit the Annual Landfill Cell Closure Report with the Annual Landfill Operations Report required in 4.6.58.				X			Not applicable	Last closure was performed in 2016 for Cell 3. To be monitored for next closure.
Section 7.2 - Final Landfill Closure and Post-Closure									
7.2.1	The approval holder shall apply for an amendment to this approval for final landfill closure by submitting to the Director: - A Detailed Final Landfill Closure Plan. - A Landfill Post-Closure Plan.				X			Not applicable	The landfill is still operational and expanding.
7.2.2	The approval holder shall submit the Detailed Final Closure Plan and Landfill Post-Closure Plan referred to in 7.2.1 within six (6) months of the landfill ceasing operations, unless otherwise authorized in writing by the Director.				X			Not applicable	The landfill is still operational and expanding.
Detailed Final Closure Plan									
7.2.3	The Detailed Final Landfill Closure Plan shall be developed in accordance with sections 6.1 (b) and 6.1 (c) of the Standards for Landfills in Alberta, as amended.				X			Not applicable	The landfill is still operational and expanding.
7.2.4	In addition to 7.2.3, the Detailed Final Landfill Closure Plan shall include, at a minimum, all of the following:				X			Not applicable	The landfill is still operational and expanding.
7.2.4 (a)	A plan for replacement of soil.				X			Not applicable	The landfill is still operational and expanding.
7.2.4 (b)	A QA/QC Program.				X			Not applicable	The landfill is still operational and expanding.
7.2.4 (c)	Any deviations from the most recently submitted closure plan.				X			Not applicable	The landfill is still operational and expanding.
7.2.5	The Detailed Final Landfill Closure Plan shall be signed and stamped by a professional registered with APEGA.				X			Not applicable	The landfill is still operational and expanding.
7.2.6	If the Detailed Final Landfill Closure Plan is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.				X			Not applicable	The landfill is still operational and expanding.
7.2.7	The approval holder shall implement the Detailed Final Landfill Closure Plan as authorized in writing by the Director.				X			Not applicable	The landfill is still operational and expanding.

Audit Checklist

Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not-applicable	Opportunity for Improvement	Pending		
Landfill Post-Closure Plan									
7.2.8	The Landfill Post-Closure Plan shall be developed in accordance with sections 6.2 and 6.3 of the Standards for Landfills in Alberta, as amended.				X			Not applicable	The landfill is still operational and expanding.
7.2.9	In addition to 7.2.8, the Landfill Post-Closure Plan shall include, at a minimum, all of the following:				X			Not applicable	The landfill is still operational and expanding.
7.2.9 (a)	The groundwater monitoring program including performance standards and points of compliance.				X			Not applicable	The landfill is still operational and expanding.
7.2.9 (b)	The subsurface landfill gas monitoring program and performance standards at points of compliance.				X			Not applicable	The landfill is still operational and expanding.
7.2.9 (c)	A plan for erosion control.				X			Not applicable	The landfill is still operational and expanding.
7.2.9 (d)	A plan for maintaining vegetative cover.				X			Not applicable	The landfill is still operational and expanding.
7.2.9 (e)	Any other information requested in writing by the Director.				X			Not applicable	The landfill is still operational and expanding.
7.2.10	The Landfill Post-Closure Plan shall be signed and stamped by a professional registered with APEGA.				X			Not applicable	The landfill is still operational and expanding.
7.2.11	If the Landfill Post-Closure Plan is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.				X			Not applicable	The landfill is still operational and expanding.
7.2.12	The approval holder shall implement the Landfill Post-Closure Plan as authorized in writing by the Director.				X			Not applicable	The landfill is still operational and expanding.

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Approval Line Item	Action	Finding						Documents Reviewed	Details
		Information	Compliant	Non-Compliant	Not applicable	Opportunity for Improvement	Pending		
Part 8 - Decommissioning and Land Reclamation of Old Surface Water Detention Pond									
8.1.1	The approval holder shall decommission and reclaim the old surface water detention pond prior to construction of Cell 4.		X					Verbal confirmation by multiple parties, submitted documentation	Old surface water detention pond did not exist at the time of the audit.
8.1.2	The approval holder shall submit a Decommissioning and Land Reclamation Plan for the old surface water detention pond to the Director a minimum of six (6) months prior to decommissioning and land reclamation of the pond.					X		Verbal confirmation by multiple parties, submitted documentation	Appropriate documentation submitted and approved by AEP, but documentation is not specifically referenced as a "Decommissioning and Land Reclamation Plan" for the old pond, and is instead included in the Soil Management Program and Sampling Proposal. This could be split out as a standalone document for better tracking in future.
8.1.3	If the Decommissioning and Land Reclamation Plan is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.				X			Not applicable	AEP did not comment on any deficiencies.