

Prepared by

Waste Management Disposal Services of Maine, Inc. – Crossroads Landfill

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Norridgewock, Maine 04957

2019 ANNUAL REPORT

Crossroads Landfill
Norridgewock, Maine

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TABLE OF CONTENTS
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Waste Management Disposal Services of Maine, Inc. - CROSSROADS LANDFILL

1.	GENERAL	1
1.1	Introduction	1
1.2	Summary of 2019 Site Activities	1
1.3	Compliance Evaluation	5
2.	OPERATIONS	5
2.1	Wastes Received	5
2.2	Secure Landfill	5
2.3	Commercial Transfer Station and Airport Road (Residential) Transfer Station	6
2.4	Woodwaste Recycling Facility	6
2.5	Tire Processing Facility	6
2.6	Secure Landfill Activity and Capacity	6
2.7	Landfill Cover Material	7
2.8	Transfer Stations and Material Recovery Facility (MRF) - Specific Operations and Facility Site Changes	7
2.9	Woodwaste Recycling Facility - Specific Operations and Facility Site Changes	7
2.10	Tire Processing Facility - Specific Operations and Facility Site Changes	8
2.11	Operational Changes	8
2.12	Spills, Fires, Responses, and Unusual Events	8
2.13	Updated Landfill Sequencing Plan	9
2.14	Exclusion of Unacceptable Waste	10
2.15	Routine Maintenance and Inspections	10
2.16	Systems Failures	12
2.17	Accidents, Injuries, and Personnel Training	12
3.	OTHER SITE ALTERATIONS	13
4.	MONITORING	13
4.1	Monthly	14
4.2	Annually	14
5.	FINANCIAL ASSURANCE	15

TABLE OF CONTENTS
(Continued)

APPENDICES

- Appendix A Wastes Managed Within On-Site Secure Landfill
- Appendix B Redirected Wastes (Non-Landfilled Wastes)
- Appendix C Airport Road (Residential) Transfer Station
- Appendix D 2019 Leachate Management System Maintenance Log
- Appendix E Summary of 2019 Site Wide Stability Monitoring Prepared by Geosyntec Consultants
- Appendix F Summary of 2019 Groundwater and Other Environmental Data Prepared by Golder Associates
- Appendix G 2019 Annual Solid Waste Management Report for Licensed Landfills
- Appendix H Projected Waste Configurations for 2020 and 2021 Prepared by Geosyntec Consultants

1. GENERAL

1.1 Introduction

This submittal serves as the 2019 Annual Report for the Waste Management Disposal Services of Maine, Inc. (WMDSM) – Crossroads Landfill facility located in Norridgewock, Maine. This report was prepared in accordance with Paragraph 400.3.E(2); Paragraph 401.4.D; Paragraph 402.5; and Paragraph 409.4.H of the Maine Solid Waste Management Regulations dated November 2, 1998 and revised April 6, 2015 (Regulations). A single annual report for the entire facility is being submitted in accordance with the schedule set forth for landfill facilities in Paragraph 400.3.E(2) of the Regulations. This report includes information similar to that submitted with previous WMDSM annual reports for 2002 through 2018. No formal correspondence regarding the 2003 through 2010 annual reports was received from the Maine Department of Environmental Protection (MEDEP), however, the Department issued a letter stating that WMDSM’s 2002 Annual Report adequately addressed the reporting requirements set forth in Chapters 401 and 402 of the Regulations. On June 7, 2013 WMDSM received formal comments from the MEDEP regarding WMDSM’s 2011 and 2012 annual reports. Those comments were addressed in the 2013 annual report. No formal correspondence regarding the 2013 through 2018 annual reports has been received from the MEDEP.

This report follows the basic outline set forth in Paragraph 401.4.D of the Regulations for landfills, and addresses the transfer stations, storage sites, processing facility, and remaining overall site. As such, the suggested form for transfer station annual reports (Appendix B to Chapter 402 of the Regulations) is not included. In addition to the basic outline annual reporting requirements, WMDSM is required to complete the “Annual Solid Waste Management Report for Licensed Landfills” as part of its annual reporting requirement to the MEDEP. This report was completed and is presented in Appendix G of this 2019 Annual Report.

The annual reporting fee of \$361 associated with the Tire Processing Facility has been previously paid by WMDSM. Four checks in the amount of \$7,948 to cover the facility-wide annual reporting fee for the two transfer stations (Commercial and Airport Road (residential)) and two secure landfills (Phase 8 and Phases 9, 11 & 12), have also been previously submitted.

In 2019, the Crossroads Landfill facility consisted of the active secure landfill (Phase 8); multiple inactive secure landfills (Phases 1-6, Phase 7, Phase 9, Phase 10, Phase 11 and Phase 12); a closed asbestos landfill; an inactive commercial transfer station; an active residential transfer station; an active material recovery facility; an active tire processing facility; an active woodwaste recycling operation; active container storage areas; an active leachate storage tank facility; and an operational Landfill Gas to Energy (LFGTE) facility. A summary of site activities in 2019 is provided below.

1.2 Summary of 2019 Site Activities

In 2019, WMDSM continued to operate at the Crossroads Landfill facility by placing waste in the Phase 8 Secure Landfill, which includes filling over (“piggybacking”) portions of Phases 1-6, 7 and 9 landfills. WMDSM also continued to operate a residential transfer station, a material recovery facility, container storage areas, and a Leachate Storage Tank Facility in accordance

with the WMDSM Site Operations Manual and site licenses. As part of its operations, WMDSM also performed inspections, routine maintenance, and servicing of site facilities and infrastructure. BDS Waste Disposal, Inc. (BDS) operated the Tire Processing Facility.

In 2019, Waste Management Renewable Energy Group, LLC., a subsidiary of Waste Management, continued to operate the LFGTE facility, which officially went “on-line” in March 2009.

The following provides a summary of 2019 operations at the Crossroads Landfill facility:

- Active landfilling was conducted within Phase 8A, 8B, 8C’, and 8C” PM footprints throughout 2019. Active landfilling until June 30, 2019 occurred in accordance with the following documents:
 - *Phase 8A Sideslope Modification* prepared by Geosyntec and dated 16 January 2009;
 - Proposed Waste Placement Submittal No. 3, Phases 7 & 9 and 8B prepared by Geosyntec and dated 8 December 2010 submittal;
 - Proposed Waste Placement Submittal No. 1, Phase 1 and 8C' East Sideslope Modification prepared by Geosyntec and dated 13 July 2012;
 - Proposed Waste Placement Submittal No. 2, Phase 1 and 8C' East Sideslope Modification prepared by Geosyntec and dated 25 September 2012; and
 - Phase 8C” Permit Modification prepared by Geosyntec and dated May 2014.

Beginning on June 30, 2019 landfilling was conducted in accordance with grades presented in the following documents:

- Phase 8 Upper Sideslope and Topdeck Modification – Submittal #1 prepared by Geosyntec and dated 17 June 2016;
 - Phase 8 Upper Sideslope and Topdeck Modification – Submittal #2 prepared by Geosyntec and dated 24 August 2016; and
 - Phase 8 Upper Sideslope and Topdeck Modification – Submittal #3 prepared by Geosyntec and dated 11 November 2016 with associated responses to MEDEP comments dated 6 December 2016 and 19 December 2016¹.
- Throughout 2019, asbestos containing waste was placed within the Asbestos Disposal Area (ADA) constructed in 2010 and 2011 in accordance with Geosyntec’s 13 December 2010 submittal titled, *Modification 5 to Stage 1 Grades, Asbestos Disposal Area Waste Placement Grades*. The ADA footprint and elevation has increased since its original construction and is located within the grades presented in the *Phase 8 Upper Sideslope and Topdeck Modification – Submittal #3*.

¹ Note that WMDSM did not begin filling to the grades represented by the Phase 8 Upper Sideslope and Topdeck Modification (Submittals 1, 2 and 3) until June 30, 2019 and was concurrently filling to grades presented in the Phase 8C” Permit Modification in 2019.

- Cell Development plans for 2020 and 2021 are included within Appendix H of this Annual Report as conditioned by the Phase 8 – Final Cover System Change Amendment license (#S-010735-WD-XH-A).
- Modifications to portions of the Phase 8 gas collection and control systems occurred during 2019. Landfill gas construction in Phase 8 consisted of the installation of 6 horizontal collectors (HC-890, HC-891, HC892, HC893, HC894, and HC895) as well as associated laterals. Further, 6” HDPE laterals were installed to 3 future extraction wells (EW872, EW871, and EW878). The 6” and 10” HDPE headers were installed and connected to horizontal collectors and extraction wells. A condensate trap and drain were installed in conjunction with the Phase 10 HDPE header construction to manage landfill gas condensate. The construction of the 10” HDPE header and condensate trap occurred during the month of June 2019. The installation of the 6” HDPE header, laterals and horizontal collectors occurred from October 29th to November 20th, 2019.
- WMDSM maintained perimeter and interior litter fence around Phase 8. Litter fence has been removed at strategic locations to allow Operations to remove silt/vegetation that has collected within the HDPE lined (liner skirt) perimeter drainage swale in order to improve drainage flow.
- Bird control lines were maintained within the active landfilling area of Phase 8 during 2019. WMDSM continued to implement strict bird control measures on the site, working in cooperation with USDA and the Norridgewock Central Maine Regional Airport.
- The Airport Road (residential) Transfer Station operated with no changes to its operations during 2019. The universal waste and mercury-containing waste collection programs were maintained at the transfer station. In addition, WMDSM continued to provide storage areas for gas cylinders and CFC-containing materials. In 2019, WMDSM continued to offer Single Stream Recycling (SSR) (newspaper, plastic, glass, cardboard, etc.) at the residential transfer station. In September of 2013, WMDSM began its participation in the Maine Residential Lamp Recycling Program.
- BDS operated the Tire Processing Facility to produce tire-derived fuel for shipment to off-site end users and WMDSM as necessary for construction projects.
- The Woodwaste Recycling Facility was active in 2019 specific to handling/transferring product through the Woodwaste Recycling Facility. With that said, the facility did not chip woodwaste in 2019 due to limited end user recycling options. The facility has been maintained and remains a viable option for woodwaste chipping should recycling markets return.
- The Material Recovery Facility (MRF) recycling process continued to operate with no changes in 2019 within the Commercial Transfer Station building. Dry recyclables, such as corrugated cardboard was sorted and baled in the MRF and shipped to end users. MRF operations also include temporary storage of Single Stream Recycling before being loaded and hauled to end users.
- The Commercial Transfer Station (CTS) did not operate during 2019. However, its ability to operate remained available should weather or other conditions arise requiring its re-activation.

- The Container Storage Areas (CSA) around the perimeter of Phase 11 and the temporary relocation of empty containers from Phase 11 to the perimeter of Phase 12 were utilized during 2019.
- Maintenance, inspections, stability, and environmental monitoring of Phases 8, as well as the remainder of the site, were performed in accordance with the WMDSM Site Operations Manual. Further information about routine maintenance and inspections is provided in Section 2.15.
- The Site Operations Manual (SOM) was formally updated by WMDSM in December of 2016 and submitted to the MEDEP on January 6, 2017. The MEDEP directed WMDSM during the 3rd Quarter 2017 to wait for approval of the recently provided SOM, prior to completing another update for submission to the Department.
- Stability monitoring was completed in accordance with the sitewide Stability Monitoring Plan (SMP) dated December 2016. A summary of the 2019 Site Wide Stability Monitoring is located within Appendix E of this report. Refer to Section 4 for information pertaining to the stability and environmental monitoring programs.
- Waste Management Renewable Energy Group, LLC operated the LFGTE at the Crossroads Landfill during 2019. The LFGTE facility became officially operational in March 2009. The facility is located east of the Maintenance Facility.
- WMDSM completed erosion repairs associated with the Phase 11 Final Closure construction in 2019.
- Based on discussions with the Federal Aviation Administration (FAA), WMDSM proactively submitted Notices of Proposed Construction or Alteration (i.e., FAA Form 7460-1) for FAA's aeronautical study for 28 locations to ensure the operations of Phase 8 will not be a hazard to air navigation associated with the Central Maine Regional Airport. These FAA notice locations included one location at the gas flare (Location #GF-1), twelve locations along the Phase 8 perimeter berm (Locations #P1 through #P12), eleven locations on the Phase 8 sideslopes (Locations #M1 through #M11), three locations at the corners of the proposed Phase 8 topdeck area (Locations #A, B, and C), and the eventual peak point (Location #D) of Phase 8. WMDSM obtained Determinations of No Hazard to Air Navigation for all of these locations. The FAA Determinations of No Hazard for Locations #P4, P5, and M3 (issued in January and February 2020) included a condition to install a steady burning, red obstruction lights at each of these three locations; WMDSM installed these lights in April 2020.
- As part of the Phase 14 Solid Waste permit application, WMDSM obtained FAA's Determinations of No Hazard to Air Navigation for nine proposed perimeter and peak locations of Phase 14 (Locations #LF1 through #LF 9) in 2019.
- On August 24, 2019, WMDSM held a Household Hazardous Materials Collection Event as part of its Phase 14 Hazardous Materials Diversion Program. Residents of nine member communities were encouraged to participate.

1.3 Compliance Evaluation

As set forth in the Site Operations Manual and established by company policies, WMDSM's objective is to operate the site in accordance with the site licenses, as well as Local, State, and Federal regulations. Throughout 2019, site operations were conducted in compliance with the site licenses, WMDSM Site Operations Manual, State and Federal regulations, local ordinances, and company policies.

WMDSM utilizes a computer/web-based compliance tracking system that itemizes inspection requirements and provides a means of documenting routine inspections conducted by site personnel. CYCLE, an acronym for *Compliance: Your Complete Link to Excellence*, is a database of all applicable environmental permits and regulations in a user-friendly computer program that enables facility personnel to review the requirements and schedule specific compliance-related tasks, such as those associated with annual reports, inspections, and sampling. The facility's database is customized to provide Federal, State, Local, and site-specific information. CYCLE functions as a system to remind personnel of scheduled activities with due dates for completion of the tasks.

2. OPERATIONS

2.1 Wastes Received

Scale reports that summarize the incoming waste materials, including type, quantity, and origin, are provided in Appendices A and B. The scale reports included in Appendix A are for incoming waste that was disposed of in the Phase 8. These reports include special wastes (including asbestos waste), construction/demolition debris, municipal solid waste (MSW), and Alternate Daily Cover (ADC). ADC is also referred to as Revenue Generated Cover (RGC) in the report presented in Appendix A. The scale report included in Appendix B is for "redirected waste," which is incoming waste that was not disposed of in the secure landfill and includes tires and recyclables. The scale reports located within Appendix A and B as discussed above are entitled "Material Summary Report" and "Waste Origin Listing". These reports provide waste origin, material type, and quantity information.

2.2 Secure Landfill

The following gate receipt waste was managed in WMDSM's Phase 8 landfill unit between January 1 and December 31, 2019:

- 101,656 tons of special waste, including asbestos-containing waste;
- 76,602 tons of construction/demolition debris;
- 184,737 tons of Alternate Daily Cover (ADC) consisting of approved special waste streams, including utility poles; and
- 187,807 tons of MSW.

On-site generated special waste consisted of approximately 0.29 cubic yards of absorbent pads, 3.25 cubic yards of speedy-dry, 1 cubic yard of sludge/grit from the Maintenance Facility floor drain, 104 cubic yards of waste sludge/grit from the Maintenance Facility floor drain temporary

holding tank and 56 cubic yards of waste from the underground holding tank at the MRF. We note that 7,011 tons of whole utility poles received as part of the above-reported ADC, were ground within the limits of the Phase 8 Secure Landfill and the resulting wood chips were used as internal landfill roadway base material and ADC material as necessary.

2.3 Commercial Transfer Station and Airport Road (Residential) Transfer Station

As indicated in Section 1.1, no waste materials were managed through WMDSM's Commercial Transfer Station in 2019. Approximately 6,148 tons of waste materials were received at and managed through the Airport Road (residential) Transfer Station. A scale report that summarizes the incoming waste materials that were managed through the Airport Road Transfer Station is included in Appendix C. Also, included in Appendix C is summaries of the universal waste and other specific waste types that were managed through the Airport Road Transfer Station.

2.4 Woodwaste Recycling Facility

Approximately 767 tons of clean woodwaste was handled/transferred through the Woodwaste Recycling Facility or directly placed within the active landfill in 2019. Incoming woodwaste is included on the scale report provided in Appendix A.

2.5 Tire Processing Facility

Approximately 46,739 tons of scrap whole tires and 15,440 tons of incoming tire shreds were handled through the Tire Processing Facility in 2019. Incoming whole tires are included on the scale report provided in Appendix B. Of this material, approximately 24.82 tons of Aluminum Rims, 518.35 tons of Steel Rims, 59.85 tons of Scrap Steel, 186.52 tons of OTR Tire Segments and 437.65 tons of Tire Wire Disposal were shipped off-site as saleable by-product. From the incoming tire waste and inventory on-hand at the end of 2019, the Tire Processing Facility generated approximately 29,457.36 tons of tire-derived fuel (1.5" x 1.5" tire shreds), 26,918.25 tons of tire-derived fuel (2" x 2" tire shreds), 186.52 tons of tire chips shipped to Sargent Corporation for engineered applications, and 226.00 tons of other material which were shipped to off-site end users.

2.6 Secure Landfill Activity and Capacity

In 2019, WMDSM disposed of gate receipt special waste, construction and demolition debris, and MSW in Phase 8. WMDSM disposed of gate receipt asbestos waste in designated areas in Phase 8. Active landfilling within Phase 8 occurred within Phases 8A, Phase 8B, Phase 8C', Phase 8C'' PM and over the Phase 1-6, footprints, considered to be Phase 8A landfilling.

In 2019 Phase 8 active landfilling was in conformance with the approved waste placement sequence plans described under Section 1.2 above. The operation of the Phase 8 Secure Landfill was in general conformance with the WMDSM Site Operations Manual.

A summary of the gate receipt waste landfilled during 2019 is outlined in Section 2.1 and is tabulated in Appendix A of this report. Approximately 545,461 cubic yards (550,802 tons) of Phase 8 waste capacity was consumed by gate receipt waste from 1 January 2019 through 31 December 2019. The resulting density was approximately 2,019 pounds per cubic yard. As of

31 December 2019, the remaining Phase 8 capacity in the permitted WMDSM secure landfill units for gate receipt waste was approximately 1,559,885 cubic yards

2.7 Landfill Cover Material

For 2019 landfilling operations, WMDSM used approximately 7,554 cubic yards of daily cover soil. The cover was used for placement of internal access roads within Phases 8 and for placement of daily cover material. Daily cover soil was generated by on-site clean-up activities or purchased. WMDSM also utilized 184,737 tons of MEDEP approved ADC. ADC included boiler ash; auto shredder residue; urban fill; chips from treated utility poles; and other approved waste streams.

2.8 Transfer Stations and Material Recovery Facility (MRF) - Specific Operations and Facility Site Changes

The Commercial Transfer Station did not operate in 2019. As such, the MRF operation continued to be located within the Commercial Transfer Station building, which has a concrete slab work area with floor drains and a holding tank. Liquid pumped from the holding tank is managed as leachate. No changes were made to the MRF operation in 2019.

The Airport Road Transfer Station (ARTS) continued to operate in 2019. WMDSM's universal waste and mercury-containing waste collection programs continued throughout 2019 at the ARTS and storage areas for gas cylinders and CFC-containing materials were maintained throughout the year as well. Annual clean-up and on-going maintenance of the ARTS facility were completed in 2019. A Single Stream Recycling program was continued at the ARTS in 2019. In September of 2013, WMDSM began participating in the Maine Residential Lamp Recycle Program.

2.9 Woodwaste Recycling Facility - Specific Operations and Facility Site Changes

- In 2019, the Woodwaste Recycling Facility remained located on the paved Phase 9 truck turnaround, immediately north of Phase 9B. Creosote and pressure-treated wood is not accepted at the Woodwaste Recycling Facility but is handled through and disposed of in the secure landfill. Typically, approved clean woodwaste entering the facility is stored until a sufficient volume has accumulated for mobilization of a subcontractor to grind the material on-site and ship the wood chips off-site to end users or to transport to the active landfill for daily cover purposes. Woodwaste is ground as needed to ensure sufficient storage area and to limit the length of time woodwaste is stored. Alternatively, clean wood is hauled to the active landfill whereby grinding occurs for daily cover purposes or stored temporarily at the Woodwaste Recycling Facility and reloaded for transport to an acceptable end-user, as was done in 2019. The Woodwaste Recycling Facility operated largely as a storage area in 2019, managing a small volume of wood chips and therefore not requiring annual clean-up of the facility. Historically, material generated from the clean-up activities (tailings and soil) are typically used in the active landfill as base material for internal access roads and/or as daily cover. No changes were made to the Woodwaste Recycling Facility operation in 2019 and it remained available to grind woodwaste material for shipment to recycling end-users and/or generation of a daily cover product used at the active landfill.

2.10 Tire Processing Facility - Specific Operations and Facility Site Changes

BDS Waste Disposal, Inc. (BDS) continued to operate the Tire Processing Facility during 2019, under agreement with WMDSM.

Most of the tire-derived fuel and tire-derived aggregate that was generated by the facility was shipped to off-site end users.

The stockpiles of Type B tire shreds located in the field near the main office were created in 2005. This material has been and will be reshredded into Tire Derived Fuel (TDF) by BDS for resale to their customers.

Routine clean-up of the Tire Processing Facility was completed in 2019. This included maintaining the two erosion control structures located adjacent to the facility. Material generated by the clean-up activities was used in the secure landfill as base material for internal access roads and/or as daily cover.

2.11 Operational Changes

- Operational changes that occurred at the Crossroads Landfill facility in 2019 included the following: Placement of new landfill gas infrastructure within the Phase 8 Secure Landfill.
- On June 12, 2019, WMDSM in conjunction with Sargent Corp., decommissioned the Asbestos Landfill Pump Station during Phase 8C^{PM} Landfill Cell Construction.
- In 2018, WMDSM initiated an upgrade to the Leachate Management System (LMS)/ Supervisory Control and Data Acquisition (SCADA). The upgrade continued in 2019. Specifically, the LMS/SCADA was enhanced by replacing the existing radio communication (i.e. line-of-site) method with site-wide fiber optics infrastructure. Provisions were included for the proposed Phase 14 landfill as well. In addition, existing Programmable Logic Controllers (PLCs) were replaced and upgraded. Lastly, initiated in 2019 and to be completed in 2020, the existing Primary Collection Bubbler System was enhanced at each Leachate Pump Vault with Pressure Transducers, (i.e., Level Probes) in order for the PLC to acquire more reliable leachate levels in the sumps.

2.12 Spills, Fires, Responses, and Unusual Events

On May 20, 2019 a WFT driver at the Phase 12 Container Storage Area experienced a broken lift cylinder, spilling approximately 20 gallons of hydraulic fluid. The spill was cleaned up using booms, absorbent pads and speedy dry. WM personnel conducted the clean-up and disposed of the material in the landfill.

On June 12, 2019 at the Airport Road (Residential) Transfer Station a customer's diesel container tipped over in the bed of their pick-up truck when they pulled into the transfer station. The WM attendant noticed the container and set it upright. Approximately one gallon of diesel fuel spilled onto the asphalt surface. WM personnel applied two bags of speedy dry, swept up and disposed of in the landfill.

On September 3, 2019 at the paved Container Storage Area, a WM truck had an object come from under the truck and strike the fuel valve on the right-side of the fuel tank. Approximately ten gallons of diesel fuel spilled onto the pavement. The spill was cleaned up using speedy dry and the WM street sweeper.

On September 6, 2019 a commercial hauler experienced a broken fuel line while pulling onto the in-bound scale. Approximately five gallons of diesel fuel spilled onto the asphalt and scale surface. The spill was cleaned up using speedy dry and the WM street sweeper.

On September 13, 2019 a commercial hauler experienced a broken hydraulic line while approaching the Scale House. Approximately two gallons of hydraulic fluid spilled onto the asphalt and scale surface. The spill was cleaned up using two bags of speedy dry and the WM street sweeper.

There were no fires, emergency responses, and unusual events to report in 2019.

2.13 Updated Landfill Sequencing Plan

Active landfilling occurred within Phase 8A, 8B, 8C', 8C''PM and over Phases 1-6, footprints (considered Phase 8A landfilling). In Phase 8, active landfilling was conducted in conformance with the following:

- Phase 8 Upper Sideslope and Topdeck Modification – Submittal #3 prepared by Geosyntec and dated 11 November 2016 with associated responses to MEDEP comments dated 6 December 2016 and 19 December 2016²; and
- Phase 8 Upper Sideslope and Topdeck Modification – Submittal #2 prepared by Geosyntec and dated 24 August 2016;
- Phase 8 Upper Sideslope and Topdeck Modification – Submittal #1 prepared by Geosyntec and dated 17 June 2016;
- Phase 8C'' Permit Modification dated May 2014 with associated responses to comments prepared by Geosyntec and dated 27 October 2014 and 5 December 2014.
- Proposed Waste Placement Submittal #1 Phases 1 and 8C' East Sideslope Modification prepared by Geosyntec and dated 13 July 2012.
- Proposed Waste Placement Submittal #2 Phases 1 and 8C' East Sideslope Modification prepared by Geosyntec and dated 25 September 2012.
- Proposed Waste Placement Submittal No. 3, Phases 7 & 9 and 8B prepared by Geosyntec and dated 8 December 2010 submittal.
- *Phase 8A Sideslope Modification* prepared by Geosyntec and dated 16 January 2009

² Note that WMDSM did not begin filling to the grades represented by the Phase 8 Upper Sideslope and Topdeck Modification (Submittals 1, 2 and 3) until June 30, 2019 and was concurrently filling to grades presented in the Phase 8C'' Permit Modification in 2019.

2.14 Exclusion of Unacceptable Waste

The WMDSM Site Operations Manual identifies the types of waste that are permitted for disposal at the Crossroads Landfill. Specific testing and generator certification of special waste streams are completed in accordance with the Site Operations Manual and site licenses. Hazardous waste is not permitted at Crossroads.

Site personnel conduct random inspections (i.e., spot checks) of in-coming waste to ensure exclusion of hazardous waste from the landfill. This is documented on the Random Inspection and Unacceptable Waste Log. WMDSM’s operations personnel screen incoming waste loads within the Secure Landfill as hauling vehicles off-load and as residential customers dispose of waste and recyclable material at the Airport Road Transfer Station. Refused waste is sent back with the waste truck. At times, it is necessary for unacceptable waste in the landfill to be removed from the active face and brought to the Airport Road Transfer Station to dispose properly or recycled. There were a few incidents of “refused waste” that occurred in 2019.

Provisions are included in the WMDSM’s Site Operations Manual to manage unacceptable waste.

RJ Enterprises was contracted by Bath Iron Works (BIW) to abate, remove and dispose of galbestos siding from a construction project located at BIW. On July 27, 2018, a one 30 cubic yard container with approximately 4.81 tons of BIW galbestos siding was delivered to WMDSM in Norridgewock. At the time, RJ Enterprises and BIW believed the galbestos siding to be asbestos waste and therefore the material was off-loaded at the Phase 8 Secure Landfill in grid P-26. It was determined thereafter that the galbestos siding was contaminated with PCBs and not an acceptable waste to be disposed at WMDSM. The Maine Department of Environmental Protection (MEDEP) was notified on August 10, 2018 and directed WMDSM through BIW to remove the waste from the landfill. BIW prepared a removal work plan that was submitted to the MEDEP for approval prior to excavation of the non-conforming waste. Two loads of waste were removed in July 2019 and shipped off site to Grassy Mountain Landfill in Clive, Utah.

2.15 Routine Maintenance and Inspections

Inspections of the site facilities and infrastructure were completed on a regular basis and in accordance with the WMDSM Site Operations Manual and site licenses. Collectively, the inspection and monitoring programs completed throughout the year indicated the site systems, including the following, were performing as intended:

SYSTEM	LOCATION	DATE INSPECTED/ MONITORED	PRIMARY INSPECTION/ MONITORING ACTION	FINDINGS
Lining systems	Secure landfill units	On-going	Leachate flows	Satisfactory
Leachate management system	Sitewide	On-going; annual inspection and cleaning; per WMDSM Site Operations Manual	Observations; automated leachate management system data; Phases 8A, 8B, and 8C leachate piezometer data; annual checking, televising, and cleaning	Satisfactory; maintenance / adjustments as needed
Gas management system	Phases 8, 9, 11, & 12	On-going; per WMDSM Site Operations Manual and	Observations; direct reading instruments; system performance;	Satisfactory; maintenance /

(see note 1)		Phase 8 license	surface emissions monitoring program for Phase 8	adjustments as needed
Gas migration	Perimeter of asbestos, and secure landfill units; and interior of appropriate on-site structures	Ongoing in appropriate on-site structures; part of the annual round of the tri-annual monitoring program	Continuous-read gas meters; permanent standard gas probes	Under action limits
Erosion and sedimentation control measures	Sitewide and construction areas	On-going; part of post-closure inspections; per construction-project-specific plan(s); per WMDSM Site Operations Manual	Observations	Satisfactory
Stormwater management	Sitewide	On-going; part of MPDES MSGP (SWPPP) program	Observations	Satisfactory
Waste and cover system grades and placement	Active secure landfill unit (Phases 8)	On-going; periodic survey	Observations; periodic survey	Satisfactory

NOTES:

1. In accordance with the Phase 8 license, a surface emissions monitoring program continued during 2019 in the Phase 8 Secure Landfill. WMDSM personnel completed the surface scan.

With regard to controlling waste grades, WMDSM retained a design engineer and a surveyor to provide layout information and to stake the Phase 8 landfill prior to and throughout waste placement activities.

In addition to the on-going inspections by site personnel that are indicated in the above table, portions of the site were inspected by MEDEP personnel. Representatives of the Bureau of Remediation and Waste Management were typically on site routinely (largely during the construction season), at which time the representative observed operations, including performance of the landfill gas collection and control system and leachate management systems, as well as the performance of the sitewide BMPs related to stormwater management. . In all cases, the inspections were satisfactory. The Air Bureau performed an air inspection at Crossroads Landfill on February 27, 2019 and found the site to be in-compliance of all license conditions. Additionally, The MDEP Solid Waste representatives performed a site inspection at WMDSM on August 13, 2019 and October 21, 2019 and found the facility to be in-compliance.

During the last week of July 2019, WMDSM conducted their annual emergency practice drill. Documentation of the drill are kept on-file at WMDSM's office.

Integral to the satisfactory performance of the landfill systems is the on-going servicing and maintenance of the site facilities and infrastructure as discussed below. The results of inspections are maintained at the site, including the results of the annual inspection and cleaning of the leachate management system.

As part of operations, site facilities and infrastructure were serviced and maintained as needed and in accordance with the WMDSM Site Operations Manual. The following list of activities is a summary of the routine servicing and maintenance work completed in 2019. A copy of the 2019 leachate management system maintenance log is provided as Appendix D. A list of

operational changes that occurred in 2019 is provided in Section 2.11 of this report. Minor alterations are discussed in Section 3.0.

- Maintained litter fence around Phase 8.
- Maintained and installed bird control lines at the Phase 8 landfill.
- Maintained the auto-tarpers used as alternative daily cover.
- Completed the annual cleaning, inspection, and maintenance of the sitewide leachate management system. (WMDSM retained ACV Environmental for this work.)
- Cleaned the leachate pump stations and manholes, as necessary. Inspected and repaired operational final cover systems, as necessary.
- An outside consultant was hired to trap animals that burrowed at the base of MSE berms and perimeter berms adjacent to Erosion Control Structures.
- Mowed portions of Phases 1-6, 7, 8A, 9, 10, 11, 12 and the Asbestos Landfill as required by Regulations.
- Inspected and repaired holes burrowed by small animals in the upper soils of the Phase 1-6, 7, 8A, 9, 10, 11 and 12 landfill cover system.
- Maintained the site access roads and shoulders.
- Maintained and repaired site signage.
- Maintained site culverts and stormwater management structures.
- Completed annual clean-up and maintenance of the Container Storage Areas, Tire Processing Facility, Airport Road Transfer Station, and Maintenance Facility.
- WMDSM retained Mettler Toledo to perform necessary inspections, maintenance, and calibrations for both scales in 2019. WMDSM retained ACME Scales to conduct repairs on truck weight display modules. The State of Maine Department of Agriculture completed an inspection of scales on November 8, 2019. Both scales were approved for use.
- Tested and maintained the fire suppression system within the Commercial Transfer Station building semi-annually. (WMDSM retained Maine Fire Protection Systems for this work.)

2.16 Systems Failures

No system failures occurred during 2019 that resulted in an inability for the facility to operate.

2.17 Accidents, Injuries, and Personnel Training

A copy of the 2019 U.S. Department of Labor, OSHA Form 300A, listing work-related injuries and illnesses was posted at the site in January 2020, as required. There was one work-related injury and no work-related illnesses in 2019.

As part of the routine operation of the facility and in accordance with company policies, WMDSM continued its on-going personnel training program. This training program includes a number of operational and health and safety topics. During 2019, the training was conducted on a monthly basis, or more frequently, by outside consultants or qualified site personnel. Special

training sessions were added in 2019 in response to WM corporate-initiated system safety advisories. Topics included the following:

MONTH	TRAINING TOPIC	AUDIENCE
JANUARY	Tipping Floor, Blood Pressure, Safety Briefing, Emergency Response	Supervisors, Operations, Maintenance
FEBRUARY	Backing, Defensive Driving, Heart Disease, Fire Extinguisher Training	Supervisors, Operations, Maintenance
MARCH	Obesity/Diet, Vehicle Spacing, Seat Belts, Hazardous Energy Control Program	Supervisors, Operations, Maintenance
APRIL	Injury and Illness Prevention Plan, Severe Weather, Diabetes, Fire Prevention	Supervisors, Operations, Maintenance
MAY	Fall Protection, Heat Injury & Illness, Ladder Safety	Supervisors, Operations, Maintenance
JUNE	Asbestos, First Aid, Respiratory Protection	Supervisors, Operations, Maintenance
JULY	Blood Borne Pathogens, Service Call & Towing, DOT Drugs & Alcohol, Stress, Incident Reporting	Supervisors, Operations, Maintenance
AUGUST	Electrical Safety, Equipment Operations and Special Conditions, PPE, Modifying Equipment, Pushing & Pulling, Safe Lifting	Supervisors, Operations, Maintenance
SEPTEMBER	Stretching & Ergonomics, Driving in Adverse Weather, Refueling, Powered Industrial Trucks, Landfill Equipment	Supervisors, Operations, Maintenance
OCTOBER	Cold Stress, Compressed Gas, Pre/Post-Trip Inspection, Trench Protection	Supervisors, Operations, Maintenance
NOVEMBER	Confined Spaces, Sprains and Strains, Hot Work/Welding, Tipper Safety, Jack Stands and Chocks, Hazard Communication (Globally Harmonized System)	Supervisors, Operations, Maintenance
DECEMBER	Slips, Trips & Falls for Landfill, Equipment Housekeeping, Hand Safety, Housekeeping	Supervisors, Operations, Maintenance

3. OTHER SITE ALTERATIONS

Site operational changes are identified in Sections 2.11.

4. MONITORING

The following routine submittals were made to the MEDEP under separate cover throughout 2019 in accordance with the WMDSM Site Operations Manual. A copy of these submittals is

kept on file at the site. Except for the annual submittals, these reports are not being resubmitted with this Annual Report.

4.1 Monthly

Leachate Monitoring Results (06-096 CMR 401.4.D (4) (b) and (c)) were submitted to Ms. Kathy Tarbuck of the MEDEP.

Special Waste Report was submitted to Ms. Linda J. Butler of the MEDEP.

Stability Monitoring Data (06-096 CMR 401.4.D (4) (h)) was posted to a secure website that MEDEP could access to review and download the data. Stability monitoring was completed in accordance with the latest approved sitewide (Phases 8/7/9, 11, and 12) Stability Monitoring Plan. Interpretation of the data and report preparation was completed by Geosyntec. A memorandum providing a summary of the 2019 stability monitoring program has been prepared by Geosyntec and is presented in Appendix E.

4.2 Annually

Annual Report (06-096 CMR 401.4.D) was submitted to Ms. Linda J. Butler of the MEDEP.

Annual update of the WMDSM Site Operations Manual (06-096 CMR 401.4.A.(4)) was submitted to Ms. Linda J. Butler of the MEDEP in early 2017.

WMDSM retained TRC Environmental Corporation (TRC) of South Portland, Maine to perform quarterly landfill gas (LFG) sampling and analysis effort at the Crossroads Landfill in Norridgewock, Maine. Sampling and analysis were conducted to determine the total reduced sulfur (TRS) concentrations in LFG collected from the engine plant. The purpose of the program is to comply with air licensing requirements. LFG samples were collected at the engine plant inlet sampling location on March 25, July 30, September 24 and December 12, 2019. Sampling consisted of the collection of triplicate Tedlar bag samples using the evacuated canister technique described in EPA Method 18. Each of the three samples was analyzed for TRS content by a gas chromatograph/flame photometric detector (GC/FPD) in accordance with a standard operating procedure (SOP) based on EPA Method 16. The average result for the four samples obtained for each sampling event was 317, 214, 413 and 550 ppm. Quarterly testing will continue in 2020.

WMDSM personnel conducted Surface Emission Monitoring (SEM) for landfill gas at the Phase 8 Secure Landfill consistent with NSPS regulations. The surface scan was completed utilizing a TVA-1000B flame ionization detector (FID) to measure the concentration of methane above the surface of the landfill. There were 12 areas with exceedances. These areas were repaired/remediated within a 10-day time period as confirmed during the 10 and 30-day re-scans in accordance with NSPS regulation.

A Water Quality Monitoring Report (06-096 CMR 401.4.D (4) (a), (b), (c), (d), (f), and (g)) is being submitted to Ms. Linda J. Butler of the MEDEP as part of this Annual Report. The Report included monitoring well inspection checklists; surface water monitoring point inspection checklists; groundwater and surface water analytical data (current and historical) and statistical trend analyses; gas monitoring data; and leachate and underdrain flow summaries. Conclusions

are provided within the report also referred to as the Summary of 2019 Environmental Monitoring Information which is contained with Appendix F. Water quality monitoring work occurred tri-annually at WMDSM in 2019 and reported annually within the Summary of 2019 Environmental Monitoring Information document. Katahdin Analytical Services performed water quality sampling for WMDSM in 2019. Analytical laboratory work was completed by Test America Inc. Analysis of data and report preparation were completed by Golder Associates (Golder).

Post-Closure Landfill Inspection Results were submitted to Ms. Linda J. Butler of the MEDEP.

5. FINANCIAL ASSURANCE

WMDSM has reviewed the closure/post closure (C/PC) cost estimates previously provided to MEDEP for approval. The C/PC cost estimates were derived for the following:

- Asbestos PC Costs
- Phase 1-6 PC Costs
- Phase 8, Cells A, B, and C' C/PC Costs
- Phase 10 PC Costs
- Phase 11 C/PC Costs
- Phase 12 PC Costs

WMDSM currently has a surety bond in the aggregate amount of \$14,966,775. The updated financial assurance information was transmitted to MEDEP via correspondence dated February 1, 2019.

In fulfillment of Condition Number 4 of the Phase 8 license, WMDSM submitted an updated/current Certificate of Insurance to MEDEP in early 2019.