



State of Oregon
Department of
Environmental
Quality

DEQ Solid Waste Program

LANDFILL INSPECTION CHECKLIST

FACILITY:	Riverbend Landfill		
COUNTY:	Yamhill	PERMIT NO:	345
INSPECTOR(S):	Bob Schwarz	INSPECTION DATE:	May 18, 2016
	Start time:	9:30 am	End time: 1:15 pm
Site Weather Conditions: Sunny, 70s F			
Facility Representatives:	Tim Watson, Jeff O'Leary		
Inspection type:	Announced		
Facility Type:	MSW Landfill		
<u>INSPECTION SUMMARY:</u>			
<p>Runoff of potentially contaminated water. During the last inspection, on Feb. 10, 2016, we observed that waste was placed close to the inside edge of the top of the MSE berm. We expressed concern that rain water that comes in contact with this waste could reach the paved stormwater swale that runs along the inner edge of the top of the berm. In response to this comment, landfill staff dug a swale along the inside edge of the berm, and installed a sump from which any rainwater is piped to the leachate collection system. (See photo 1.) This issue has been addressed.</p>			
<p>Birds. There were far fewer birds observed than during the previous two site inspections. This may be simply seasonal variation, but could also be due to the reduced size of the landfill working face.</p>			
<p>Odors. I did not notice odors off the property.</p>			
<p>Litter. The site and the sides of Highway 18 were tidy. I did note two plastic bags clinging to the outside of the MSE berm, which I pointed out to landfill staff.</p>			
<p>Road cleanliness. Some dust was observed on the paved roads within the facility. Highway 18 had a small amount of mud on the road. Sweeper trucks were not working on the acceleration lane of Highway 18 during this inspection. Water trucks were running continuously within the facility, near the site entrance.</p>			

I.	OPERATIONS	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
1.	Ownership. Facility ownership up to date?	X			
	Notes:				
2.	Waste Acceptance. Permittee accepts authorized waste only?	X			
	Notes:				
3.	Special Waste Management. SWMP up to date?			X	
	Notes:				
4.	Prohibited Waste. Permittee accepts no prohibited waste? a) hazardous waste b) liquid wastes, lead acid batteries, used oil, vehicles, waste tires c) source separated recyclables d) asbestos e) infectious waste f) large metal jacketed appliances g) explosives	X			
	Notes:				
5.	Prohibited Waste Discovery. Permittee complies with prohibited waste discovery and reporting requirements?	X			
	Notes: Landfill staff note that asbestos waste is the most common type of waste they must turn away.				
6.	Open Burning. Does it occur?	X			
	Notes: None observed. No smoldering waste reported.				
7.	Operational Methods. Operations comply with approved operations plan?	X			
	Notes:				
8.	Operations Plan. Operations plan up-to-date and DEQ-approved?	X			
	Notes:				
9.	Permittee Self-Reporting. Permittee reports and corrects non-compliance conditions?	X			
	Notes:				
10.	Permit. Copy of Permit displayed and accessible to facility personnel?	X			
	Notes:				

I.	OPERATIONS	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
11.	Visual Screening. Landfill screened from public view?	X			
	Notes: Landfill does				
12.	Waste Unloading. Signs, fences, barriers clearly define waste unloading areas?	X			
	Notes:				
13.	Litter. Litter controlled and picked up?	X			
	Notes: Site and nearby roadway were tidy. Two plastic bags observed clinging to outside of MSE berm.				
14.	Vector control. Active landfill area has minimal birds, insects, rodents?	X			
	Notes: Very few birds. No other vectors seen.				
15.	Air Quality, Noise. Dust, odors and noise controlled?				X
	Notes: There is a minor amount of mud on the road. This requires ongoing maintenance. Water trucks were operating during the entire time I was at the site.				
16.	Access. Entry roads are safe, provide all weather access and are well maintained?	X			
	Notes:				
17.	Entrance Signs. Entrance signs indicate facility name, emergency phone #, schedule, acceptable and prohibited wastes, and restrict site access?	X			
	Notes:				
18.	Public Access. Adequate security, prevents unauthorized entry and dumping?	X			
	Notes:				
19.	Cover Methods. Cover (including ADC) complies with DEQ- approved operations plan?	X			
	Notes:				
20.	Records. Permittee keeps records and reports of waste types and amounts of recyclables received and types reported to DEQ	X			
	Notes:				

I.	OPERATIONS	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
21.	Records retention. Permittee keeps all records for at least 5 years?			x	
	Notes:				
22.	Tire Storage. Permittee stores no more than 100 whole tires on site? No more than 2000 tires with continuous contract with removal contractor?	X			
	Notes: See photo 3.				
23.	Fire Protection. Permittee provides adequate on-site fire control measures? Has arranged for assistance from local Fire Department if needed?	X			
	Notes:				
24.	DEQ Fees. Permittee pays annual per-ton fees to DEQ?			X	
	Notes:				

II.	SITE DESIGN AND DEVELOPMENT	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
25.	Site Development. Landfill development meets DEQ-approved site development plan?	X			
	Notes:				
26.	Engineering Plans. Permittee submitted engineering plans for DEQ review and approval at least 6-months before constructing new cells, final closure features, environmental control systems or ancillary facilities?			X	
	Notes:				

III	FACILITY CONSTRUCTION	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
27.	Design Conformance. All landfill facility construction conforms to DEQ-approved plans and specifications?			X	
	Notes: no construction ongoing				

III	FACILITY CONSTRUCTION	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
28.	Construction CQA. Facility Construction complies with DEQ-approved CQA plan?			X	
Notes: no construction ongoing					
29.	Construction Certification. Permittee submitted construction certification reports to DEQ for review and approval after constructing new facilities?			X	
Notes: no construction ongoing					
30.	New Approved Disposal Units. DEQ approved placement of waste in new cell?			X	
Notes: no construction ongoing					

IV	<u>LEACHATE MANAGEMENT</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
31.	Leachate Prevention. Permittee effectively minimizes leachate generation in active and inactive cells through systematic use of daily cover, intermediate (plastic) cover and phased final closure (close-as-you-go) strategies?	X			
Notes:					
32.	Leachate Seeps. No leachate seeps present beyond lined cell footprints?	X			
Notes:					
33.	Leachate collection system (LCS). Permittee maintains 1-foot or less hydraulic head in primary leachate collection system and continuously removes leachate from collection systems? All LCS systems and equipment in good condition and well maintained?	X			
Notes: WM provides this information quarterly. No exceedances during most recent quarter.					
34.	Leak Detection system (LDS). No leachate or other fluids detected in LDS? Permittee reports to DEQ any incidents of leakage through the primary liner system? LDS Systems well maintained?			X	
Notes: Fluid quantities in leak detection system are reported annually.					

<u>IV</u>	<u>LEACHATE MANAGEMENT</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
35.	Leachate Storage/Treatment Ponds. Permittee maintains at least 3-feet of pond-dike freeboard above liquid surface? Access restricted by fencing and locked gates? Signs posted indicating pond contents and “no trespassing”? Ponds well maintained, structurally stable, no significant soil erosion, slope failures leaks or seeps? Odor control measures effective?	X			
Notes:					
36.	Leachate Treatment/Disposal. Leachate treatment methods comply with DEQ-approved leachate management plan? Existing facilities adequate or plans in development to address long-term leachate treatment and disposal? Treatment systems well maintained and functional?			X	
Notes: leachate is not treated onsite.					

<u>V</u>	<u>STORMWATER MANAGEMENT</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
37.	Stormwater Pollution Control Plan (SPCP). Up-to-date SPCP maintained in the Operating Record. Plan reflects site-specific conditions at the landfill?			X	
Notes: Stormwater permit writer evaluating this issue.					
38.	Stormwater Drainage Structures. Pipes, culverts, ditches, swales, berms, dikes, straw bales, erosion control matting, riprap, and other structures are well maintained, constructed per DEQ-approved design plans and specifications?	X			
Notes:					
39.	Flood Control Structures. Perimeter flood control dikes are well maintained, structurally sound, in good condition?				X
Notes: Some soil sloughing remains an issue on the north side of the landfill. Two areas were repaired. The area between those two areas also will require repair.					

VI	<u>LANDFILL GAS MANAGEMENT</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
40.	Landfill Gas Extraction System. Vertical wells and horizontal collectors are well maintained and sufficient in number to prevent excessive odors and subsurface gas migration? Header pipes, valves and associated equipment are functional and well maintained? Landfill-wide odors not excessive?	X			
Notes: Based on discussions with gas-to-energy staff onsite, the six engines are working properly. No odors were observed offsite. Landfill generates approximately 2,600 standard cubic feet per minute (scfm), of which approx 1,900 scfm goes to the six engines and the rest goes to the enclosed flare. The candlestick flare is also onsite, and is reserved for when landfill gas levels are too low for the enclosed flare. This has not been used in some time.					
41.	Condensate Collection/Disposal. Condensate collection system well maintained, functional? Condensate sumps and storage tank(s) well maintained, no fluid leaks, odors not excessive? Permittee has records of condensate volumes and its chemical characteristics? Permittee routinely tests underground condensate sumps for subsurface leakage?	X			
Notes:					
42.	Landfill Gas Blower/Flare station. Blower/flare station equipment functional and well maintained? Equipment installed reflects DEQ-approved design? No fluid leaks from condensate knockout tanks or other sources, no excessive odors?	X			
Notes:					
43.	Equipment safety. Landfill gas system test equipment and ancillary structures are intrinsically safe (no confined spaces susceptible to landfill gas accumulation)?	X			
Notes:					
44.	On-site, buildings offices. On-site structures setback adequately from the landfill or have engineering controls and monitoring to prevent and detect landfill gas intrusion and explosion hazards?	X			
Notes:					
45.	Landfill Gas to Energy Facilities. Facilities are well maintained, no excessive odors, no fluid leaks from pipes or other equipment?	X			
Notes:					

<u>VII</u>	<u>ENVIRONMENTAL MONITORING</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
46.	Groundwater Monitoring Program. Permittee conducts groundwater monitoring program in accordance with the DEQ-approved EMP? a) EMP updated to incorporate new or replacement monitoring wells? b) Site characterization reports for new disposal cells submitted for DEQ review and approval? c) Permit specific concentration limits established for the site? d) Annual Environmental Monitoring Reports (AEMR) submitted to DEQ on schedule?	X			
Notes:					
47.	Groundwater Sampling Program. Sampling techniques comply with DEQ-approved EMP? a) DEQ notified at least 10 working days before scheduled sampling event? b) DEQ lab notified at least 45 days before split-sampling event? c) DEQ Lab split-sampling report supports permittee's results?	X			
Notes:					
48.	Groundwater Monitoring Well Network. All DEQ-approved detection and compliance wells are properly constructed, functional, and well maintained? a) Well casings vertical, in good condition and stable? b) Concrete pads in good condition, sealed to casings, and stable? c) Well caps on and locked? d) Wells properly identified and labeled? e) Any evidence of surface water ponding or erosion around well locations? f) Any damage to wells? Was it reported appropriately to DEQ within 14 days? g) Any unused wells are properly decommissioned?	X			
Notes:					
49.	Stormwater Monitoring Program. Established stormwater monitoring stations have identifiable field markings, and are maintained for repeat monitoring events per NPDES stormwater permit requirements and DEQ-approved EMP?			X	
Notes: This is included in stormwater inspector's report.					
50.	Leak detection System. Access risers and collection sumps and pumps are functional and well maintained? No fluids present in the leak detection system? Permittee has reported to DEQ and investigated the source of any seepage into the leak detection system?	X			
Notes:					

<u>VII</u>	<u>ENVIRONMENTAL MONITORING</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
51.	Surface Water Monitoring. Designated monitoring stations established and maintained for streams, ponds, lakes or other water bodies of interest per the DEQ-approved EMP?			X	
Notes:					
52.	Landfill Gas Monitoring Program. Methane gas monitored in accordance with DEQ approved EMP? a) Monitoring results reported in AEMR and maintained in facility operating record? b) Probes are adequately placed and designed to monitor gas migration toward onsite and off-site structures and confined spaces? c) Permittee has inventoried susceptible confined spaces on and near the landfill, identified their locations on a site map, described their characteristics, and monitored for methane at these locations. d) Permittee monitors for landfill gas in liner leak detection system?			X	
Notes: This will be evaluated during review of the annual report.					
53.	Landfill Gas Monitoring Probes or Devices. All gas monitoring probes or sensors are properly constructed, labeled and maintained? a) Probes casings are vertical, in good condition, have locked security caps? b) Gas testing meter is properly calibrated before each monitoring event and maintained by manufacturer. c) Gas monitoring procedures conform to DEQ-approved EMP?			X	
Notes:					

<u>VIII</u>	<u>LANDFILL CLOSURE</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
54.	Closure Process. Permittee has DEQ-approved closure plan and implements plan appropriately and effectively? Phased closure conforms to DEQ approved plans and schedule?			X	
Notes:					

55.	Final Landfill Cover. Final cover system constructed in conformance with DEQ-approved plans and specs? a) Cover system in good condition and well maintained? b) Maintenance procedures consistent with DEQ approved O&M manual? c) Surface contours promote efficient drainage, prevent storm-water ponding?			X	
Notes:					

<u>IX</u>	<u>FINANCIAL ASSURANCE</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
56.	Financial Assurance Plan. Has permittee updated the FA plan and documented the update in the facility operating record?			X	
Notes:					
57.	Annual Certification. Has permittee submitted annual update certification to DEQ by the annual review date?			X	
Notes:					
58.	Financial Assurance Expenditures. FA funds used only for closure, post-closure and corrective action?			X	
Notes:					
59.	Continuous Financial Assurance. Permittee maintains continuous FA for the landfill?			X	
Notes:					

Bob Schwarz

May 20, 2016

DEQ Representative Signature

Date

Photo Log:



1 Two sumps were recently installed to collect runoff and divert it to leachate collection system. Also shown is a shallow swale to prevent potentially contaminated stormwater from reaching top of MSE berm. This work was done in response to comments during our previous site inspection.



2. Stormwater pond near scale house. Photo shows relatively low water level.



3. Tires stored prior to offsite recycling.



3. Leachate pond, as seen from MSE berm.



4. Current working face (Module 9), viewed from top of MSE berm.



5. Leachate collection piping controls for Module 9. Air relief valve had been releasing some leachate, so hose was connected to direct this liquid to the concrete containment area. WM notes they are working to repair this. Leachate collecting in this containment structure drains to the leachate collection pond.



6. Landfill gas "pin well". Approximately 30 such wells have been installed to reduce odors where needed. As shown these are connected to a lateral pipe that is part of the landfill gas collection system.



7. Photo shows a limited number of birds observed during this inspection.



8. View of stormwater management area west of the landfill, as seen from module 9 working face. This stormwater basin is in the area proposed for future development as landfill module 11.



9. Outside face of perimeter berm on north side of landfill. This area is under repair to address soil sloughing.



10. Outer face of MSE berm, to show state of vegetative cover.



11. Paved roads onsite, near site entrance.



12. Panel display at one of the leachate collection stations.