



COMPOSTING FACILITY

Checklist for Review of Solid Waste Permit Application per WAC 173-350-220

Name of Applicant:	Name of Facility:																								
Permit # assigned by Health Department:	Date Received:																								
Lead Agency Reviewer Name: Phone: Signature:	Determination of Compliance with: The Site or Facility: <input type="checkbox"/> meets all solid waste, air and other applicable laws and regulations <input type="checkbox"/> conforms with the approved comprehensive solid waste handling plan <input type="checkbox"/> complies with zoning requirements (JHD only)																								
<input type="checkbox"/> Applicability <i>WAC 173-350-220(1)(c)</i>																									
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<input type="checkbox"/> Design Standards permit requirements <i>WAC 173-350-220(3)</i>	Page/section location	Complete	Meets Requirements	Date & Initials of Reviewer
(a)(ii) Facility designed with process parameters and management procedures that promote aerobic composting taking into account porosity, nutrient balance, pile oxygen, pile moisture, pile temperature, and retention time of composting.				
(b) Prepare and provide to JHD: engineering reports, engineering plans, and engineering specifications that address design standards of this subsection. Engineering documents must be prepared by an engineer licensed in Washington State.				
(i) Engineering report with design basis and calculations for engineered features of facility including but not limited to pad, impoundments, storm water management features, leachate management features, aeration and emission control features where applicable. Engineering report must demonstrate that the proposed design will meet performance standards of this chapter.				
(ii) Scale drawings of the facility including the location and size of feedstock and composted material storage areas, compost processing areas, fixed equipment, buildings, storm water management features if applicable, access roads, traffic patterns and other constructed areas and buildings integral to facility operations.				
(iii) Design specifications for compost pads, storm water management features, leachate management features, and aeration and emission features.				
(iv) Construction quality assurance plan describing monitoring, testing, documentation procedures performed during facility construction in accordance with approved design.				
3(c) Public access all-weather roads designed to prevent traffic congestion, traffic hazards, dust and noise pollution.				
3(d) Compost facilities must manage storm water and leachate to meet all federal, state and local water and air quality permits including:				
3(e) Storm water run-on prevention systems designed to divert storm water from areas of feedstock preparation, active composting and curing.				
(i) Leachate must be collected from areas of feedstock storage and preparation, active composting, and curing and be conveyed to leachate storage structure or treatment system; waste discharge permit if water discharged to ground or sewer system.				
(ii) Storm water and leachate collection and conveyance structures designed to handle water from twenty-five-year storm.				

(iii) Leachate storage structures such as ponds or tanks must be of adequate capacity to store normal maximum volume of leachate generated by the facility. Volume calculations based on facility design; precipitation/evaporation data; monthly leachate reuse/removal; safety factor to account for variability from normal conditions.				
(iv) Leachate holding ponds and tanks designed accordingly:				
(A) For registered dairies, design and installation meet Natural Resources Conservation Service standards in place at the time of construction of the pond. NA <input type="checkbox"/>				
(B) Leachate holding ponds at compost facilities other than registered dairies:				
(I) Liner consists of a minimum 30-mil thickness geomembrane on a subgrade that supports the liner and the contents of the pond, <u>or</u> a high density polyethylene geomembrane at least 60-mil thick to allow for proper welding <u>or</u> an alternative design approved by the JHD during the permitting process.				
(II) Dikes and slopes designed to maintain their structural integrity under conditions of a leaking liner and capable of withstanding erosion from wave action, overfilling, or precipitation.				
(III) Freeboard equal to or greater than eighteen inches to avoid overtopping from wave action, overfilling, or precipitation, or other engineering controls approved by JHD during the permitting process.				
(IV) Review and approval by Ecology's Dam Safety Section for ponds designed to impound more than 10 acre feet. NA <input type="checkbox"/>				
(C) Tanks used to store leachate meet design standards in WAC 173-350-330 (3) (b). NA <input type="checkbox"/>				
(3)(f) Compost pads for incoming feedstocks, active composting, and curing meet the following requirements:				
(i) Pad curbed or graded in a manner to prevent ponding, run-on and runoff, and separately collect and convey storm water and leachate to separate storage or holding systems. Storm water combined with leachate must be managed as leachate.				
(ii) Pad constructed on subgrades sufficient to support the weight of the pad, the materials placed on them, and processing equipment.				
(iii) Entire surface area of the pad designed to maintain structural and hydraulic integrity under any machinery used for feedstock and compost handling, and from surface wear or damage caused by feedstock, and compost handling or by active composting at the facility.				

(iv) Pad may be constructed of materials such as concrete (with sealed joints), asphaltic concrete, or soil cement to prevent subsurface soil and ground water contamination.				
(v) JHD approved other materials for compost pad construction. NA <input type="checkbox"/>				
Agency Comments:				
<input type="checkbox"/> Operating Standards WAC 173-350-220(4) (See also section (f): Plan of Operation)	Page/section location	Complete	Meets Requirements	Date & Initials of Reviewer
(a) Describe facility features, operations or programs that:				
(i) Control dust and odors from migrating off-site				
(ii) Prevent attraction of vectors.				
(iii) Prevent migration of agricultural pests.				
(iv) Restrict access to facility when closed.				
(vi) Ensure the facility operates under supervision and control of properly trained individual(s) during all hours of operation.				
(A) Facility operator training certification provided or training timeline identified.				
(vii) Implement and document pathogen reduction activities, including compost pile temperatures, turnings (as appropriate). Pathogen reduction activities must at a minimum include:				
(A) In vessel composting: process identified to promote pathogen reduction (temperature of active compost maintained at fifty-five degrees Celsius (131 degrees Fahrenheit) for three consecutive days). <input type="checkbox"/> N/A				
(B) Aerated static piles: Description of how piles will be managed (covered with synthetic material or finished compost and reach fifty-five degrees Celsius or higher for three consecutive days). <input type="checkbox"/> N/A				
(C) Windrow composting: description of how pile temps maintained (55 degrees Celsius or higher for at least 15 days with a minimum of 5 turnings of the windrow). <input type="checkbox"/> N/A				
(D) Alternative method of composting demonstrating equivalent pathogen reduction.				
(ix) Description of process to collect composted material samples for analysis that are representative of the pile;				
(x) Description of process to analyze composted material for parameters listed in Table 220-B				
(b) Facility inspection plan (regular facility inspections - at least weekly or other schedule approved by JHD) to identify/ prevent malfunctions, operator error, discharges.				

(c) If facility has leachate pond(s), pond liner inspection plan provided (inspection at least every five years or as determined by JHD). <input type="checkbox"/> N/A				
(f) Plan of Operation: submitted with the permit application will include:				
(i) List of feedstocks to be composted, including a general description of the source of feedstocks;				
(ii) Odor Management Plan (air quality control plan) including:				
(A) Description of how staff will document and respond to nuisance odor complaints. Plan must include a method for recording date and time of complaints, weather conditions, and operations at the facility at the time of complaint, and a summary of actions taken;				
(B) Description of facility and operational features to prevent nuisance odors beyond the facility's property boundary as determined by the JHD, the department, or the air authority. Description must address receiving, composting, curing, and storage areas of facility;				
(C) Description of facility maintenance activities that encompass nuisance odor prevention and control, such as acquiring critical backup equipment, schedules for aeration lines purging, changing biofilter media, cleaning leachate ponds/tanks;				
(D) Description of how feedstocks with high moisture or the potential for high odors will be managed to reduce nuisance odors upon receipt and through the composting process.				
(iii) A description of how wastes are to be handled on-site during the facility's active life including:				
(A) Maximum capacity in cubic yards for all materials on-site at any one time. JHD may require cumulative capacity for materials or separate capacities for incoming feedstocks, composting, curing, and composted materials, or any combination;				
(B) Throughput in tons or cubic yards of solid waste feedstocks processed in a given amount of time. JHD may require monthly or annual throughput;				
(C) Procedures for ensuring that only the feedstocks described will be accepted. This includes a plan for rejecting feedstocks contaminate with greater than five percent physical contaminants by volume, or a plan to accept and separate contaminated loads from non-contaminated loads, and reduce physical contaminants to an acceptable level prior to composting; <i>(Also listed at 173-350-220 (4)(a)(v))</i>				
(D) Procedure to reduce physical contaminants in composted material to meet testing parameters in Table 220-B (grinding to reduce size of contaminant not acceptable);				
(E) Procedures for handling unacceptable wastes;				

(F) Types and amounts of feedstocks including basic calculations showing that the facility will be able to achieve an acceptable mix of materials for efficient decomposition;				
(G) Material flow plan describing general procedures to manage all materials on-site from incoming feedstock to composted material;				
(H) A description of equipment, including equipment to add water to compost as necessary;				
(I) Compost process monitoring plan, including compost mix (C:N), temperature, moisture, and porosity; <i>(Specifics listed at 173-350-220 (4)(a)(viii))</i>				
(J) Pathogen reduction plan; <i>(Specifics listed at 173-350-220 (4)(a)(vii))</i>				
(K) Representative sampling and analysis plan for the composted material; <i>(Specifics listed at 173-350-220(4)(a)(ix)(x))</i>				
(L) Leachate management plan, including monthly precipitation and evaporation data, and, if applicable, monthly leachate reuse and removal; <i>(Specifics begin at 173-350-220(3)(d))</i>				
(M) Storm water management plan; <i>(Specifics begin at 173-350-220(3)(d))</i>				
(iv) A description of how equipment, structures and other systems are to be inspected and maintained, including the frequency of inspections and inspection logs; <i>(Specifics listed at 173-350-220(4)(b))</i>				
(v) Description of how facility employees are trained in facility operation and odor identification and management; <i>(Specifics listed at 173-350-220(4)(a)(vi)(B))</i>				
(vi) A community relations plan describing how the owner or operator will manage complaints;				
(vii) Safety, fire and emergency plans;				
(viii) Forms for recordkeeping of daily volumes or weights of incoming feedstocks by type, outgoing composted material and process monitoring results;				
(ix) Other details to demonstrate that the facility will be operated in accordance with subsection this subsection and as required by the JHD.				
(g) Description of how composted material piles that have met testing standards are managed to:				
(i) Comply with the performance standards of WAC 173-350-040; and				
(ii) Minimize and control run-off from composted material piles; and				
(iii) Minimize odor from composted material piles.				
Agency Comments:				

<input type="checkbox"/> Ground Water Monitoring Requirements WAC 173-350-220(5)	Page/section location	Complete	Meets Requirements 173-350-040(5)	Date & Initials of Reviewer
There are no specific ground water monitoring requirements for composting facilities subject to this chapter; however, composting facilities must meet the requirements provided under WAC 173-350-040(5).				
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<input type="checkbox"/> Closure plan WAC 173-350-220(6)	Page/section location	Complete	Meets Requirements	Date & Initials of Reviewer
(a) Owner or operator is financially responsible for removal of all solid waste, raw or partially composted , composted material, and leachate (b) Develop, keep, and follow a closure plan approved by the JHD. At a minimum, closure plan must include methods of removing solid waste, leachate, and other organic materials from the facility.				
Steps taken for decontamination if necessary				
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<input type="checkbox"/> Financial Assurance Requirements WAC 173-350-220(7)	Page/section location	Complete	Meets Requirements 173-350-040(5)	Date & Initials of Reviewer
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