

Compost Operations: Regulations and Best Management Practices Workshop



State Regulation Overview: Water Resources Division

Presented by:

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Goal

- The WRD is committed to partnering with the yard clippings composting industry in order to advise operators of the appropriate options for handling compost wastewater and storm water discharged to waters of the state.



Outline

- Definitions
- Background
- Environmental Impacts of Compost Wastewater Discharges
- WRD 2013 Study
- Storm Water National Pollution Discharge Elimination System (NPDES) Permitting
- Individual Wastewater NPDES Discharge Permit
- Groundwater Discharge Permit
- WRD Commitment

Definitions

- **Yard Clippings** – compost material that consists of leaves, grass clipping, vegetable or other garden debris, shrubbery, or brush and tree trimmings, that can be converted to compost humus.
- **Process Water** – water used to wet the compost piles
- **Leachate** – liquid that has moved through the compost pile and exits the bottom of the pile
- **Compost Wastewater** – a liquid that is comprised of process water; wash water; and/or leachate that ponds, flows laterally from the base of the compost pile, or collects in an under-drainage system.
- **Waters of the State** – groundwater, lakes, rivers, wetlands, streams, and all other watercourses and waters, including the Great Lakes, within the jurisdiction of the State of Michigan.

Background

- Yard clippings prohibited from disposal in landfills in 1995
- Numerous yard clippings composting facilities have been established since then
- WRD became aware of issues associated with yard clippings composting facilities - primarily discharges of compost wastewater to waters of the state
- A workgroup comprised of WRD and OWMRP staff was formed to address these issues

Surface Water Concerns

- Quality of discharges
 - Dark color
 - Solids
 - Organics
 - Nutrients
 - Fecal coliform

Groundwater Concerns

- Piles of organic matter has the potential to negatively impact the groundwater
 - Nitrates
 - Metals
- Vent into surface waters and storm water sewer system
- Impact to drinking water wells

2013 WRD Study

- Included six yard clippings compost sites
- The purpose of the study was to characterize the compost wastewater
- Compost wastewater samples were collected from each site
- Samples were analyzed for potential pollutants of concern

2013 WRD Study Cont.



- Compost wastewater sample collection areas

2013 WRD Study Cont.



- Compost wastewater samples collected were dark in color

2013 WRD Study Cont.

- Sample results revealed solids (organic matter), Fecal Coliform, and nutrients were present at concentrations exceeding Water Quality Standards
- Metals were detected at levels of potential concern
- Sample results revealed that yard clipping compost facilities generate wastewater

Applicable Discharge Permits

- Storm Water Discharge Permitting
 - Industrial Storm Water
 - Municipal Separate Storm Sewer System (MS4)
- Compost Wastewater Discharge Permitting
 - NPDES Individual Permit
 - Groundwater Discharge Permit

Storm Water Discharge Permit: Industrial Storm Water Permit

- When is a permit needed?
 - Regulated Standard Industrial Classification (SIC) code and / or meets the definition of a yard clippings composting facility under the Part 115 rules
 - Exposure of industrial materials and / or activities to storm water
 - Storm water from regulated areas discharges to the surface waters

Storm Water Discharge Permit: Industrial Storm Water Permit

- When is a permit not needed?
 - No discharge of storm water to surface waters
 - Meet the conditions of a No Exposure Certification

Storm Water Discharge Permit: MS4 Storm Water Permit

- Municipalities with MS4 permit coverage are required to appropriately manage their compost facilities
- Contaminated storm water and / or compost wastewater discharges to an MS4 or the waters of the state are prohibited under the MS4 permit

Compost Wastewater Discharge Permitting: Groundwater Permit

- Discharges of compost wastewater to the ground would require Groundwater Discharge Permit
- A Groundwater Discharge Permit is site specific and would include:
 - Effluent limitations
 - Sampling requirements
 - An acceptable compost wastewater collection and discharge system – lined collection pond(s)

Compost Wastewater Discharge Permitting: Individual NPDES Permit

- Discharges of compost wastewater to surface waters require an individual NPDES permit
- Individual NPDES permits are:
 - Facility specific
 - Tailored to facility-specific discharges
 - Specific to the receiving water the facility discharges to

Compost Wastewater Discharge Permitting: Individual NPDES Permit

- The NPDES permit would include:
 - Effluent limitations
 - Sampling requirements
 - Storm water management language and requirements



Compost Wastewater Discharge Permitting

- Manage the yard clippings composting facility in a manner that compost wastewater is not generated
- If compost wastewater is generated:
 - Pump and haul
 - Discharge to a sanitary sewer system (with proper approval)
 - Controlled reapplication of the compost wastewater to actively composting piles

WRD Commitment

- Assist operators in evaluating options for reducing or eliminating process wastewater or storm water discharges from yard clippings composting facilities
- Allocate appropriate resources to make sure yard clippings composting industry operators have the necessary tools and knowledge to be leaders in environmental stewardship
- If discharges cannot be eliminated, the WRD will work with operators on solutions to protect water quality through existing permitting processes



Questions?

Program Contacts

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