Ohio's Biosolids Program

OWEA Biosolids Workshop
December 6, 2018

Ohio Environmental Protection Agency

Biosolids Rules

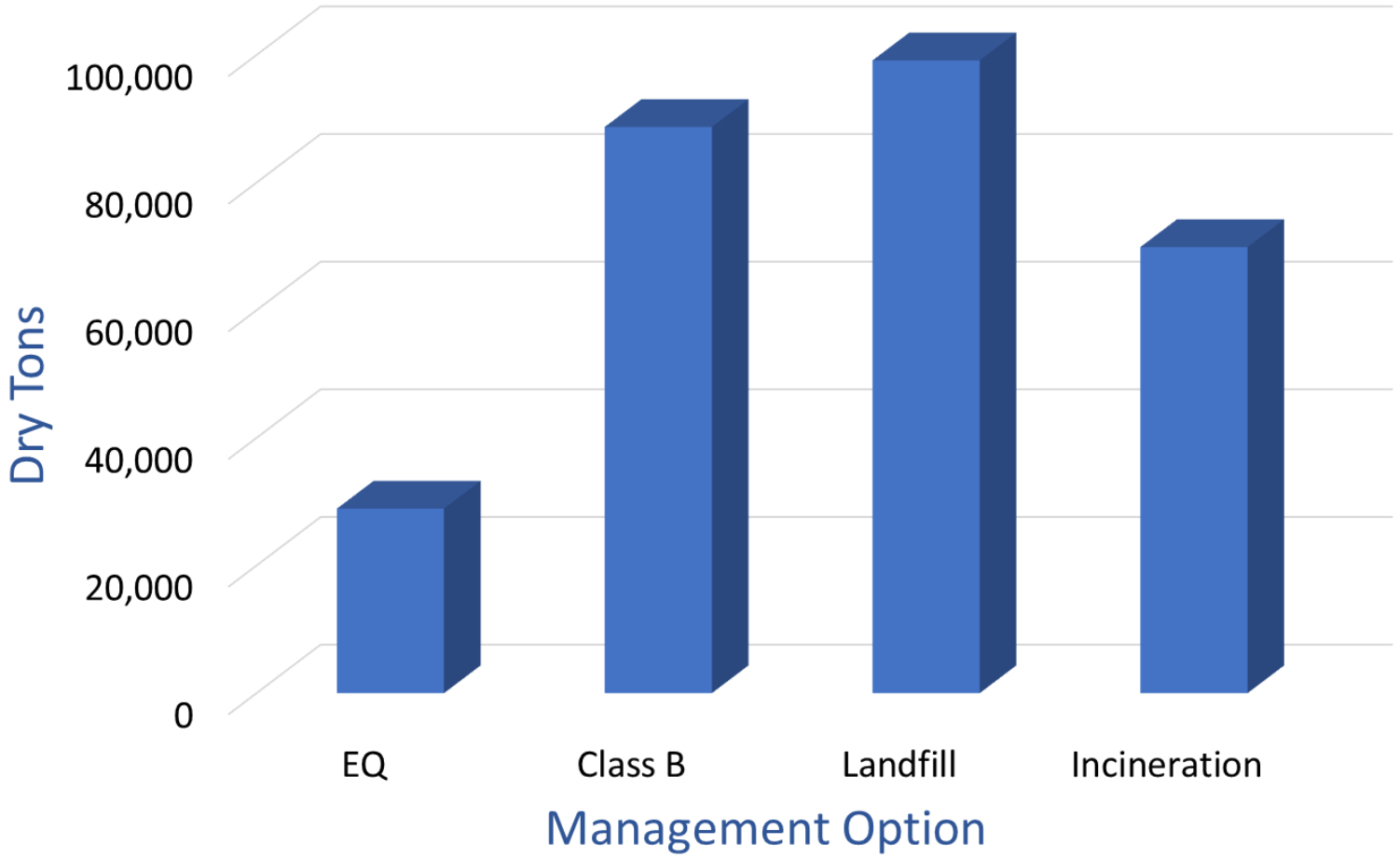
Ohio Administrative Code (OAC) 3745-40

Adopted August 22, 2018

Effective December 1, 2018

Ohio Environmental Protection Agency

2017 Ohio Sewage Sludge Management



Ohio Environmental Protection Agency

Ohio's Biosolids Program does not include:

- Grit and screenings
- Industrial wastewater sludge
- Drinking water treatment residuals
- Sewage sludge incinerator ash
- Domestic, commercial, or industrial septage
- Grease trap waste

Ohio Environmental Protection Agency

Biosolids Program

Ohio EPA's biosolids program regulates the disposal and/or beneficial use of sewage sludge and biosolids generated by non-industrial wastewater treatment plants in Ohio, as well as any sewage sludge or biosolids brought into Ohio by out-of-state, non-industrial wastewater treatment plants. The goals of the biosolids program are to protect public health and the environment, encourage the beneficial reuse of biosolids and minimize the creation of nuisance odors.

Forms | Reports | Compliance Tools | Rules | Documents | Related Sites | Contacts

- Example of Treatment Works NANI
- Example of Beneficial User (Land Applier) NANI
- Fecal Coliform Geometric Mean Calculation Spreadsheet [Excel]
  - Instructions for Using the Fecal Coliform Geometric Mean Calculation Spreadsheet
- Agronomic Rate Calculation Spreadsheet [Excel]
  - Instructions for Using the Agronomic Rate Calculation Spreadsheet
- Specific Oxygen Uptake Rate Calculation Spreadsheet [Excel]
  - Instructions for Using the Specific Oxygen Uptake Rate Calculation Spreadsheet
- CPLR Worksheet [Excel]

PERMIT PROGRAMS

- Individual Discharge Permits
- General Discharge Permits
- Pretreatment Permits
- Storm Water Discharge Permits
- Biosolids
- Concentrated Animal Feeding Operation
- Permits-to-Install
- 401 Certification and Isolated Wetlands

PERMITTING RESOURCES

- Environmental and Financial Assistance
- Application Forms
- eDMR/STREAMS
- Fee Schedule (PDF)
- Individual NPDES Technical Assistance
- Compliance Assistance Program

ODORS

3745-40-02(C)(3)(e) General Requirements:

- The *treatment, storage, transfer, disposal*, or beneficial use of biosolids shall be done in a manner as to minimize odors.

3745-40-03(A)(4) Permit conditions that:

- Minimize the creation of nuisance odors
- Establish an odor management plan

3745-40-12(A)(6) The Director may:

- Require any person treating, storing, transferring or disposing of sewage sludge or biosolids that have resulted in a nuisance odor to take measures to eliminate the nuisance odor.

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Before You Can Land Apply Biosolids

- Check your NPDES permit
- Check headworks screen
- Confirm treatment requirements have been met
- Get fields authorized for beneficial use
- Take soil samples
- Calculate the agronomic rate
- Prepare NANIs
- Put up signs at the field
- Prepare SOPs

Part I, B. - SLUDGE MONITORING REQUIREMENTS-LAND APPLICATION

1. Sludge Monitoring. During the period beginning on the effective date of this permit and lasting until the expiration date of this permit, the permittee shall monitor the treatment works' final sludge at Station Number 0PB00087581, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location to sample and monitor the sludge .

Table - Sludge Monitoring - 581 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day					
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly	Measuring Frequency	Sampling Type	Monitoring Months
00400 - pH - S.U.	-	-	-	-	-	-	-	1/Year	Grab	December
00611 - Ammonia (NH3) In Sludge - mg/kg	-	-	-	-	-	-	-	1/Year	Composite	December
00627 - Nitrogen Kjeldahl, Total In Sludge - mg/kg	-	-	-	-	-	-	-	1/Year	Composite	December
00668 - Phosphorus, Total In Sludge - mg/kg	-	-	-	-	-	-	-	1/Year	Composite	December
00938 - Potassium In Sludge - mg/kg	-	-	-	-	-	-	-	1/Year	Composite	December
01003 - Arsenic, Total In Sludge - mg/kg	75	-	-	-	-	-	-	1/Year	Composite	December
01028 - Cadmium, Total In Sludge - mg/kg	85	-	-	-	-	-	-	1/Year	Composite	December
01043 - Copper, Total In Sludge - mg/kg	4300	-	-	-	-	-	-	1/Year	Composite	December
01052 - Lead, Total In Sludge - mg/kg	840	-	-	-	-	-	-	1/Year	Composite	December
01068 - Nickel, Total In Sludge - mg/kg	420	-	-	-	-	-	-	1/Year	Composite	December
01093 - Zinc, Total In Sludge - mg/kg	7500	-	-	-	-	-	-	1/Year	Composite	December
01148 - Selenium, Total In Sludge - mg/kg	100	-	-	-	-	-	-	1/Year	Composite	December
51129 - Sludge Fee Weight - dry tons	-	-	-	-	-	-	-	1/Year	Total	December
51131 - Fecal Coliform in Sludge - CFU/gram	2000000	-	-	-	-	-	-	1/Year	Multiple Grab	December
70316 - Sludge Weight - Dry Tons	-	-	-	-	-	-	-	1/Year	Total	December
71921 - Mercury, Total In Sludge - mg/kg	57	-	-	-	-	-	-	1/Year	Composite	December
78465 - Molybdenum In Sludge - mg/kg	75	-	-	-	-	-	-	1/Year	Composite	December

Screening Requirement

"Foreign/Inert matter" means wastes such as plastics, metals, ceramics or other manufactured items that remain relatively unchanged during wastewater or biosolids treatment processes.

New Alternative Screening Method option:

3745-40-02(C)(3)(a)(iii): The alternative method may be achieved by testing biosolids to ensure they contain less than 1.0 % foreign/inert matter.

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Biosolids Classifications

- Exceptional Quality (EQ)
  - Pathogens significantly reduced
  - Must meet one of P-8 through P-16 and one of VAR-1 through VAR-8
  - Lawn & home garden use
- Class B
  - Pathogens reduced to levels that protect human health & the environment
  - Can meet any of the pathogen & vector attraction reduction alternatives
  - Site Restrictions

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Pathogen Reduction	Vector Attraction Reduction
P1 – Geometric Mean of 7 Fecal Coliform Samples	VAR1 – 38% Volatile Solids Reduction
P2 – Aerobic Digestion	VAR2 – Bench Scale Anaerobic Digestion
P3 – Air Drying	VAR3 – Bench Scale Aerobic Digestion
P4 – Anaerobic Digestion	VAR4 – Specific Oxygen Uptake Rate
P5 – Class B Composting	VAR5 – Aerobic process Time and Temperature
P6 – Lime Treatment	VAR6 – Lime Treatment
P7 – Equivalent Process to Significantly Reduce Pathogens	VAR7 – Greater Than or Equal to 75% Solids
P8 – Time and Temperature Regime	VAR8 – Greater Than or Equal to 90% Solids
P9 – High pH and High Temperature Process	VAR9 – Injection
P10 – Exceptional Quality Composting	VAR10 – Immediate Incorporation
P11 – Heat Drying	
P12 – Thermophilic Aerobic Digestion	
P13 – Beta Ray Irradiation	
P14 – Gamma Ray Irradiation	
P15 – Pasteurization	
P16 – Equivalent Process to Further Reduce Pathogens	

Exceptional Quality Biosolids

Note: Class B Biosolids can utilize any pathogen reduction alternative and vector attraction option.

Bulk EQ Biosolids

- Revised Definition:

  "**Bulk exceptional quality biosolids**" means exceptional quality biosolids that are not sold or given away in a container. ~~more than three hundred dry tons of exceptional quality biosolids beneficially used during a crop year on a beneficial use site that is utilized for the production of: Feed crops; Fiber crops; Food crops; or Pasture land.~~

- For EQ biosolids, pathogen reduction shall be met either prior to or at the same time as meeting VAR, unless using lime treatment or high percent solids for VAR.

- Removed requirement for PEC recommendation for EQ processes.

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Anaerobic Digestion

"**Feedstock**" means organic materials used in anaerobic digestion for the purpose of producing energy from methane generation, including the following:

1. Animal wastes
2. Biosolids
3. Energy crops (i.e. grain, hay, silage, spilled and soiled feed, and stover)
4. Fats, oils, and greases (FOG)
5. Food scraps
6. Food waste
7. Glycerin byproducts from bio-diesel production
8. Sewage sludge
9. Stillage byproducts from ethanol production
10. Yard waste

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Non-Traditional Feedstocks for Anaerobic Digestion

"**Non-traditional Feedstocks**", "**NTFs**", or "**alternative feedstocks**" – means organic materials not listed under "feedstocks" used in anaerobic digestion.

OAC 3745-40-02(C)(4)

General requirements for acceptance of non-traditional or alternative feedstocks for anaerobic digestion. Non-traditional feedstocks (NTFs) shall be approved by the director prior to use in anaerobic digestion.

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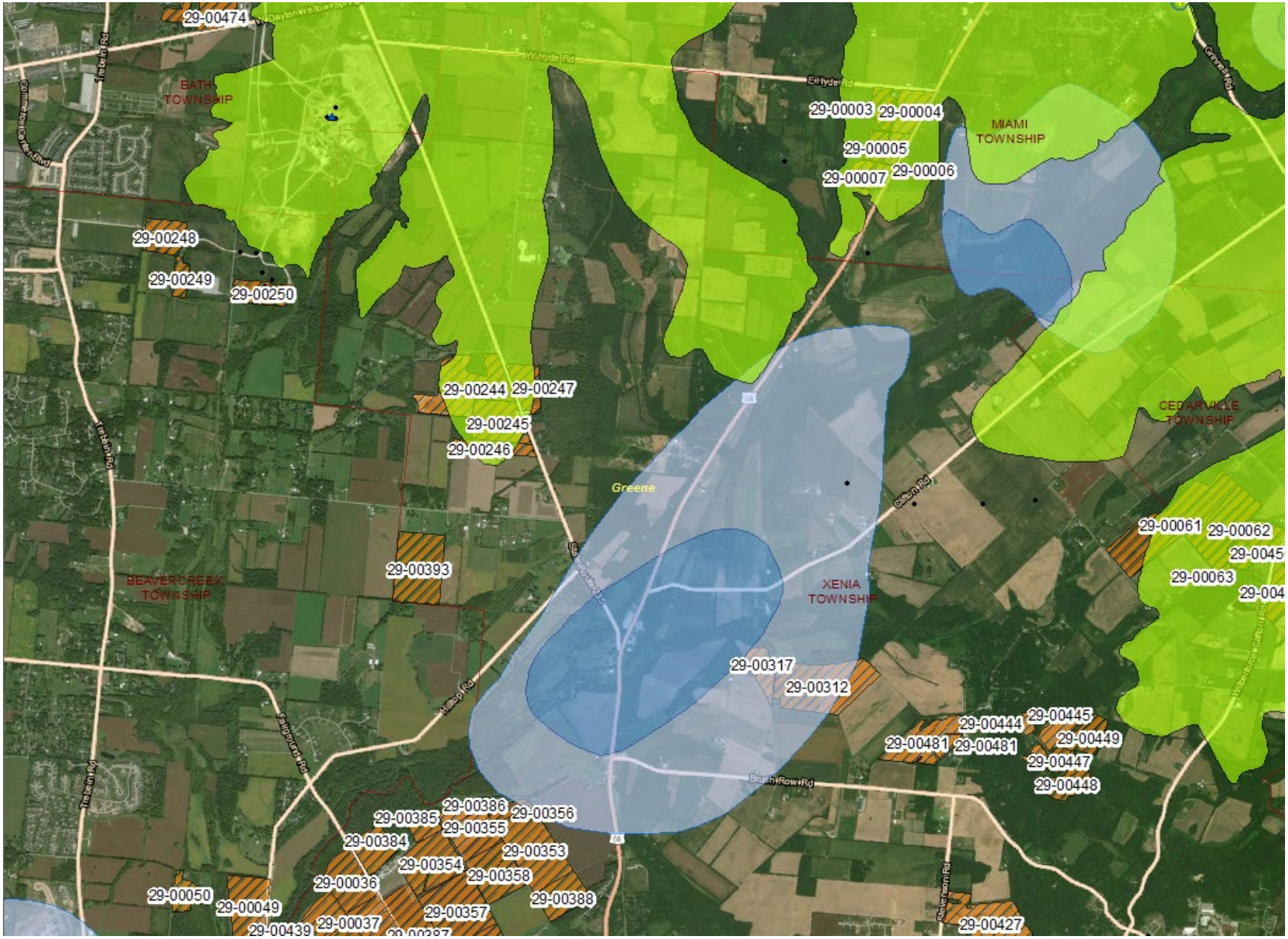
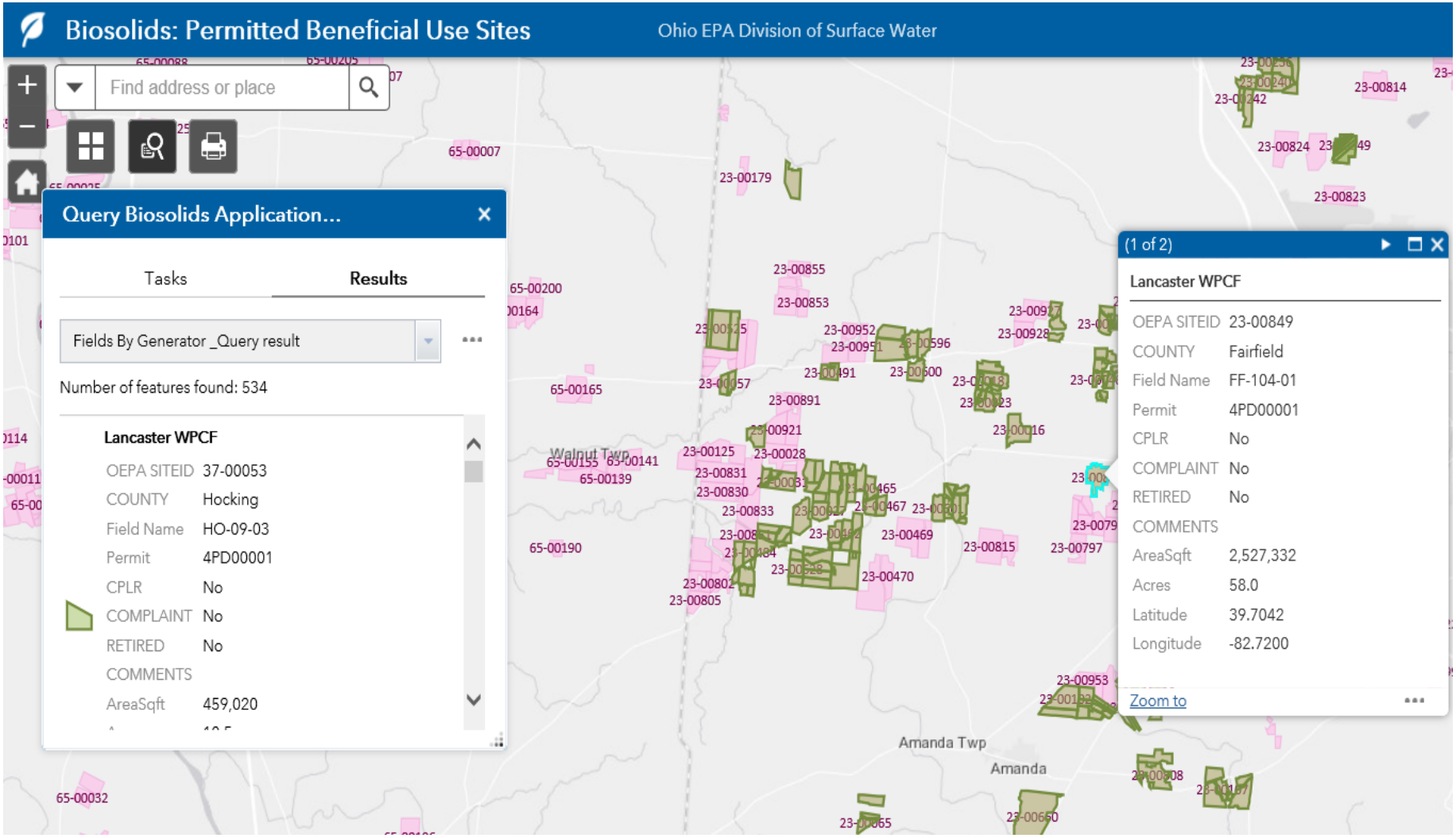
Class B Biosolids Beneficial Use Sites
Application for Authorization

Ohio Environmental Protection Agency

Ohio EPA Beneficial Use Site Tracking





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Calculate the agronomic rate before you land apply!

"Agronomic Rate" means a rate of application of nutrients from any source to the land or an amount of nutrients removed by crop based on:

(1) Nutrient content of the biosolids to be applied;

(2) Nutrient needs of the current or planned crops; and

(3) Nutrient holding capacity of the soil.

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Soil Phosphorus Level (ppm Bray-Kurtz P1 extraction)	Agronomic Rate (use most limiting)					Additional Notes
	Nitrogen Rate	< 250 lb/ac P_2O_5	250 to 500 lb/ac P_2O_5	Multi-Year P_2O_5	P-Index	
0-40	X	X	X_1		X	$_1$ Must be injected or incorporated within 24 hrs and no further P application for 3 yrs.
41-100	X			X_2	X	$_2$ Max of 5 yrs. and no further phosphorus application for number of years spread.
> 100					X	

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Biosolids Data and Beneficial Use Methods

Ammonia Nitrogen		mg/kg
Total Kjeldahl Nitrogen		mg/kg
Total Phosphorus		mg/kg
Organic Nitrogen	0.00	lbs/ton
Available Nitrogen	0.00	lbs/ton
Phosphate (P_2O_5)	0.00	lbs/ton

Beneficial Use Site Information

Soil Phosphorus		ppm			
	#N/A	ppm			
Please note that the agronomic rates and phosphorus index have been calculated within the *Calculated Agronomic Rates* section; however, based upon the above provided *Soil Phosphorus* result, you must utilize the most limiting factor or the *Phosphorus Index*:	#N/A				
County					
Soil Type					
Hydrologic Soil Group					
Year 1	Crop 1	Crop 2	Crop 3	Crop 4	Crop 5
Crop Type(s)	Corn (Grain)				
Expected Crop Yield(s)(bu/acre or tons/acre)					
Maximum Recommended Crop Yields	220	#N/A	#N/A	#N/A	#N/A
Year 2	Crop 1	Crop 2	Crop 3	Crop 4	Crop 5
Crop Type(s)					
Expected Crop Yield(s)(bu/acre or tons/acre)					
Year 3	Crop 1	Crop 2	Crop 3	Crop 4	Crop 5
Crop Type(s)					
Expected Crop Yield(s)(bu/acre or tons/acre)					
Year 4	Crop 1	Crop 2	Crop 3	Crop 4	Crop 5
Crop Type(s)					
Expected Crop Yield(s)(bu/acre or tons/acre)					
Year 5	Crop 1	Crop 2	Crop 3	Crop 4	Crop 5
Crop Type(s)					
Expected Crop Yield(s)(bu/acre or tons/acre)					
Crop Nitrogen Requirements (Year 1)		lbs/acre			
Existing Available Nitrogen		lbs/acre			
Non-Biosolids Nitrogen Application		lbs/acre			
Phosphate (P_2O_5) Fertilizer Application		lbs/acre			
Non-Biosolids Organic P_2O_5 Application		lbs/acre			
Biosolids P_2O_5 Beneficial Use	0.00	lbs/acre			
Enter Total P_2O_5 Agronomic Rate Used **Note:** Calculated in cell below after "Actual Biosolids Beneficia Use Rate Used" is entered.		lbs/acre			
Total P_2O_5 Agronomic Rate	0.00	lbs/acre			

Phosphorus Index - **THIS SECTION DOES NOT NEED TO BE COMPLETED UNLESS SOIL P EXCEEDS 100 PPM BRAY-KURTZ (130 PPM MEHLICH III) or OPTIONALLY when soil P is less than 100 PPM Bray-Kurtz (130 PPM Mehlich III).**

			Subvalue
Soil Loss	#N/A	tons/acre/year	#N/A
Connectivity to "waters of the State"			#N/A
Runoff Class - Slope Range			#N/A
Soil Phosphorus			#N/A
Application - P_2O_5 Fertilizer			0
Method - P_2O_5 Fertilizer			#N/A
Application - Organic P_2O_5 Fertilizer			0.00
Method - Organic P_2O_5 Fertilizer			#N/A
Does runoff flow through a filter strip designed per USDA Ohio-NRCS Field Office Technical Guide Standard 393?			#N/A
Total Phosphorus Index			**#N/A**

Calculated Agronomic Rates

Actual Biosolids Beneficial Use Rate Used		dry tons/acre
Calculated Nitrogen Agronomic Rate	#DIV/0!	dry tons/acre
Single Year Phosphate Agronomic Rate	#N/A	dry tons/acre
Multi-Year Phosphate Agronomic Rate	#N/A	dry tons/acre
Total P_2O_5 Agronomic Rate	0.00	lbs/acre
Phosphorus Index	#N/A	

Beneficial Use Site Records

Quantity of Biosolids Beneficially Used		dry tons			
P_2O_5 Beneficially Used Per Acre	#DIV/0!	lbs/acre			
Acreage					
Date Biosolids Delivered to Beneficial Use Site					
Dates of Beneficial Use		to			
Will Immediate Incorporation / Injection be performed?					
Total Days Biosolids Stored at Beneficial Use Site	0.00	Days			
Date Signage Posted at Beneficial Use Site			☐ Yes	Is a permanent sign posted at the beneficial use site?	
Date Signage Removed from Beneficial Use Site			☐ No		

Notice & Necessary Information (NANI)

- The treatment works provides receiver with:
  - Metal and nutrient testing results
  - PR achievement
  - VAR achievement
- Beneficial user (land applier) provides farm operator with:
  - Nutrient concentrations
  - Beneficial use rates

Ohio Environmental Protection Agency

Everyday WWTP
50 W. Town St., Columbus, OH 43215
(614) 644-2018
NPDES Permit #6PA00000

The material you are receiving is or contains biosolids that have been treated to meet the requirements in Chapter 3745-40 of the Ohio Administrative Code.

Most recent analysis of biosolids:

TKN =	35,000 mg/kg	Hg=	<1 mg/kg	As=	24 mg/kg	Cu=	500 mg/kg
NH_4=	7,000 mg/kg	Mb=	15 mg/kg	Cd=	<1 mg/kg	Pb=	75 mg/kg
Total P=	18,000 mg/kg	Zn=	1,300 mg/kg	Se=	4 mg/kg	Ni=	30 mg/kg
Total K=	3,000 mg/kg						

Pathogen Reduction Alternative P-1, Geometric Mean of Seven Fecal Colifrom Samples, has been met.
Vector Attraction Reduction Option VAR-1, 38% Volatile Solids Reduction, has been met.

The biosolids you are receiving are Class B, and shall be further treated, stored, transferred, disposed of, or beneficially used in accordance with Chapter 3745-40 of the Ohio Administrative Code, which may be found here:
http://www.epa.state.oh.us/dsw/rules/3745_40.aspx

Treatment Plant Official Name (printed) _____ Treatment Plant Official Name (signature) _____ Date _____

Biosolids Spreading, Inc.
50 W. Town St., Columbus, OH 43215
(614) 644-2018

On August 1-August 3, 2011, biosolids from the Everyday WWTP, Ohio EPA NPDES Permit #6PA00000, were beneficially used on site 25-00001, located in Jackson Township, Franklin County. Biosolids are a byproduct of wastewater treatment.

Analysis of the biosolids shows the following concentrations of nutrients to be present:

NH_4 =	7,000 mg/kg	TKN =	35,000 mg/kg	Total P =	15,000 mg/kg	Total K =	3,000 mg/kg

The beneficial use rates of nutrients applied to this site were as follows:

Total dry tons/acre of biosolids spread =	3.5 dry tons/acre	Total available nitrogen spread per acre =	113 lbs/acre
Total acres authorized for use =	55 acres	Total phosphate spread per acre =	238 lbs/acre
Total acres spread during this event=	55 acres	Total potash spread per acre =	25 lbs/acre

The above information is provided as a requirement of the Ohio EPA, Division of Surface Water, which may be reached at (877) 644-2001.

Beneficial User Official Name (printed)	Beneficial User Official Name (signature)	Date

Signage Requirements

- Signs must be posted at all Class B biosolids beneficial use sites at least one week prior to delivery.
- Signs must be posted for a minimum of 30 days
- Records of when the signs are posted and removed shall be maintained.

Ohio Environmental Protection Agency

Field Storage Requirements

Ohio Environmental Protection Agency

Precipitation Restrictions

No beneficial use of biosolids…

During a precipitation event

OR

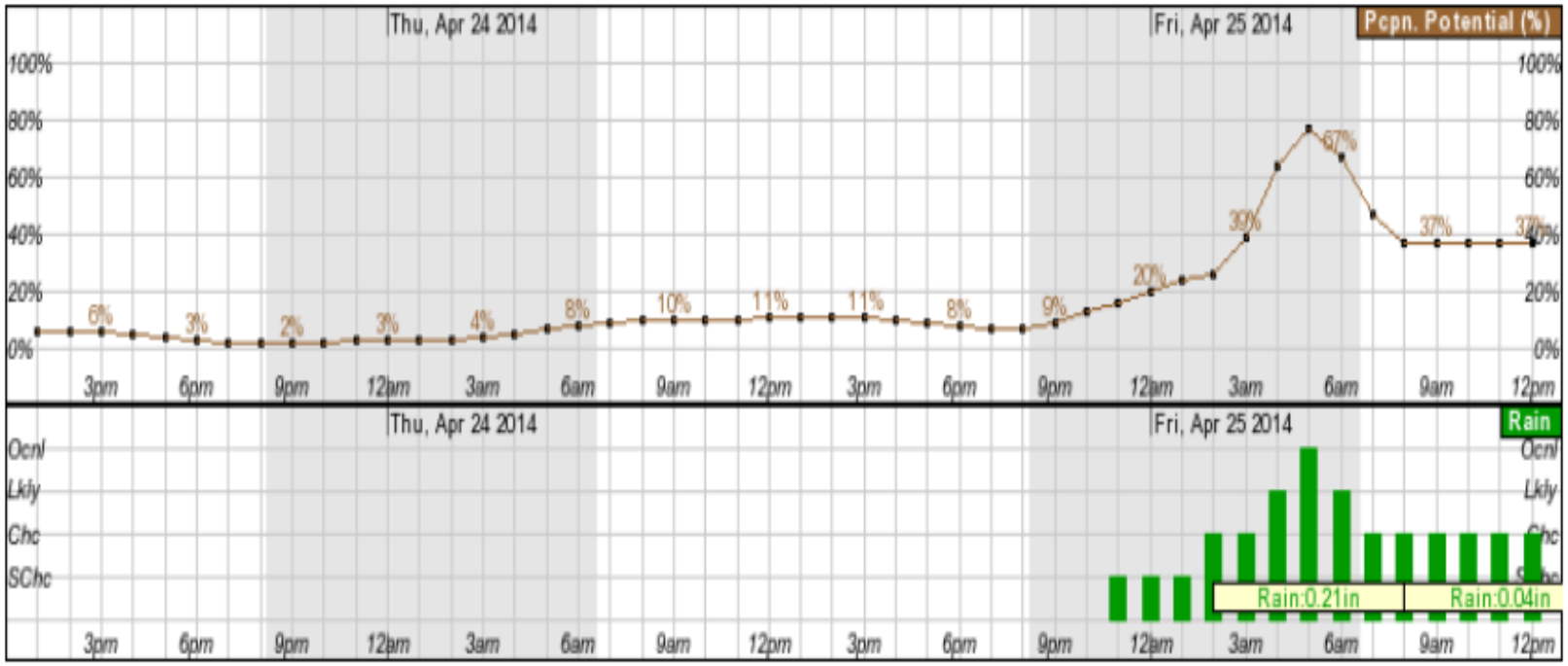
When the forecast predicts a 50% chance that ½ inch of rain will occur within 24 hours unless the biosolids are injected or immediately incorporated.

Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu]

Weather Elements		Weather/Precipitation
☐ Temperature (°F)	☐ Surface Wind mph	☐ Thunder
☐ Dewpoint (°F)	☐ Sky Coverage	☑ Rain
☐ Wind Chill (°F)	☑ Precipitation Potential	☐ Snow
	☐ Relative Humidity	☐ Freezing Rain
		☐ Sleet

48-Hour Period Starting: 1pm Wed, Apr 23 2014 Submit Back 2 Days Forward 2 Days



Friday, April 25 at 11am
Precipitation Potential: 37%
Rain: Chance (30%-50%)

No Beneficial Use on Frozen and/or Snow-Covered Ground or Saturated Soil

"Frozen Ground" means ground that is impenetrable because of frozen soil moisture. Generally, frozen ground shall meet all of the following criteria:

(a) Not easily deformed by a metal object.

(b) Does not deform to show visible imprint under downward pressure.

(c) Have a temperature below 32°F (0°C).

"Saturated Soil" means all the pore spaces in the soil are filled with water. A soil that has an available water capacity above field capacity is considered saturated.

Ohio Environmental Protection Agency

Isolation Distance Requirements

	Surface Application (feet)	Injection/Immediate Incorporation (feet)
Bedrock (Class B & Bulk EQ)	3	3
Surface Waters (Class B & Bulk EQ)	33	33
Sinkhole (Class B & Bulk EQ)	300 without grass buffer; 100 with grass buffer	300 without grass buffer; 100 with grass buffer
Occupied Structure or School (Class B)	300	100
Private Water Source (Class B)	300	100

Site Specific Requirements

Ohio Environmental Protection Agency

Sites with Subsurface Tile Drainage

- For liquid biosolids, field outlets shall be visually monitored before, during, and after beneficial use.
- Rates are limited to ½ inch or 13,000 gallons/acre/day.
- Have tools available onsite to plug tiles, if necessary.
- An SOP shall be developed for beneficial use with tile drainage.

"**Draghose**" means a liquid biosolids application system where the application unit is attached to the storage unit by a long flexible hose.

OAC 3745-40-08(E)(10)
Additional Site Restrictions - Drag hoses shall not be utilized at authorized beneficial use sites until a standard operating procedure has been developed under OAC 3745-40-09(C).

Ohio Environmental Protection Agency

“**Mobile storage tank**" means a container that is capable of being moved when empty to an authorized beneficial use site for the purposed of holding liquid biosolids.

OAC 3745-40-08(E)(10)
Additional Site Restrictions – Mobile Storage tanks shall not be utilized at authorized beneficial use sites until a standard operating procedure has been developed under OAC 3745-40-09(C) and a PTI is obtained.

Ohio Environmental Protection Agency

Crop Harvesting Restrictions

Type of Crop	Description	Time for Harvest After Beneficial Use	
Food crops	Harvested parts touch biosolids	14 months	
Food crops	Harvested parts below the surface; Biosolids on surface > 4 months	20 months	
Food crops	Harvested parts below the surface; Biosolids on surface < 4 months	38 months	
Other food, feed, and fiber crops	-	30 days	
Pasture	Animal Grazing	30 days	
Landscaping Vegetation	High potential for public exposure	1 year	

Spill Notification Requirements

Ohio Environmental Protection Agency

Annual Sludge Reports

State of Ohio | Ohio EPA | Logout

Ohio Environmental Protection Agency

eBusiness Center

eBusiness Home | My Account | Service Admin | bvanworm

Welcome to the Ohio EPA eBusiness Center

Need Help? Click this box for assistance.

Available Services (What is this?)

Service	Action	Status	Facilities	Delegations
Air Services	Request	Inactive	view/edit	
Asbestos Project Notification		Inactive	view/edit	
Conference and Events Registration	Request	Inactive	view/edit	
Division of Surface Water Credible Data	Request	Inactive	view/edit	
Division of Surface Water NPDES Permit Applications (STREAMS)		Active		
DMWM Compliance	Request	Inactive	view/edit	
DMWM License and Registration Service		Inactive	view/edit	
DMWM Solid Waste/C&DD Disposal Fees (Submit Report)	Request	Inactive	view/edit	
DSW 401 Certification and Isolated Wetlands Permit		Inactive	view/edit	
e-Discharge Monitoring Reports (eDMR)	Request	Inactive	view/edit	
e-Drinking Water Reports	Request	Inactive	view/edit	
Generic File Upload	Request	Inactive		
Hazardous Waste Report (eDRUMS)	Request	Inactive	view/edit	
OEEF Grant Service (No PIN Required)	Request	Inactive		
Pay Ohio EPA Fees Online	Request	Inactive	view/edit	
Water/Wastewater Exam Providers	Request	Inactive		
Water/Wastewater Operators	Request	Inactive		
Water/Wastewater Training Providers	Request	Inactive		

Station 581 — Beneficial Use of Class B Biosolids

Table 1 - Class B Biosolids Verification Matrix

Pathogen Reduction Alternative	Vector Attraction Reduction Options	Sewage Sludge Weight (dry tons) DMR Reporting Code 70316	Sewage Sludge Fee Weight (dry tons) DMR Reporting Code 51129	Action
Geometric Mean of Seven Fecal Coliform Samples (P-1)	Specific Oxygen Uptake Rate (VAR-4)	137.35	137.5	

Add New Class B Biosolids Verification Row

Total Class B Biosolids Sewage Sludge Weight (dry tons) DMR Reporting Code 70316

Calculated from table above	Total from DMR Reports
137.35	137.35

Total Class B Biosolids Sewage Sludge Fee Weight (dry tons) DMR Reporting Code 51129

Calculated from table above	Total from DMR Reports
137.5	137.5

Total Class B Biosolids Sewage Sludge Fee

$361.49

Ohio Environmental Protection Agency

Sewage Sludge/Biosolids Disposal Methods

Table 3 - Sewage Sludge/Biosolids Disposal Methods

Data in the table below has been pre-populated from the DMR report but may be edited.

Station Code	Disposal Method	Sewage Sludge Fee Weight (dry tons) DMR Reporting Code 51129	Sewage Sludge Weight (dry tons) DMR Reporting Code 70316	Sewage Sludge Volume (gallons) DMR Reporting Code 80991	Action
586	Landfill	50			

** indicates a correction has been made to the original Fee Weight value reported in DMR*

Add New Disposal Method

Total Disposal Sewage Sludge Fee

$131.45

Table 4 - Sewage Sludge Transfer Summary

Transfer Facility Type	Name of NPDES permittee or licensed municipal solid waste landfill that received sewage sludge or biosolids	NPDES permit No. or municipal solid waste landfill licensed No. that received sewage sludge or biosolids	Quantity of Sewage Sludge Transferred (weight or volume)		Action
			Weight (Dry Tons)	Volume (Gallons)	
Ohio Landfill	Landfill X	MSW X	50		

Add New Sewage Sludge Transfer

Ohio Environmental Protection Agency

Important Reminders for Beneficial Use

- Have the biosolids been sampled?
- Have the PR & VAR requirements been met?
- Is the site authorized?
- Are the soil samples current?
- Has the Agronomic Rate been calculated?
- Have NANIs been prepared?
- Are signs in place?
- Has the forecast been checked and printed?

Ohio Environmental Protection Agency

Ohio EPA's Biosolids Program Contacts

??????????
Northeast District Office
Division of Surface Water
2110 East Aurora Road
Twinsburg, OH 44087

Phone: ?????
Email: ?????

Andy Gall
Northwest District Office
Division of Surface Water
347 North Dunbridge Road
Bowling Green, OH 43402

Phone: (419) 373-3003
Email: andrew.gall@epa.ohio.gov

Betsy VanWormer
Central, Southeast, and Southwest District Offices
Division of Surface Water
P.O. Box 1049
Columbus, Ohio 43216-1049

Phone: (614) 644-2150
Email: betsy.vanwormer@epa.ohio.gov