



State of Ohio Environmental Protection Agency

Northwest District Office

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www.epa.state.oh.us

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

Re: Crawford County
Wagon Wheel Campground
NPDES – *Notice of Violation*

February 5, 2008

Mr. Gary Cole
Wagon Wheel Campground
6787 Baker 47
Shelby, Ohio 44875-9103

Dear Mr. Cole:

On August 1, 2007, an inspection was made of the Wagon Wheel Campground wastewater treatment plant. The facility is located at 3787 Baker 47, Shelby, Crawford County. At the time of inspection the plant appeared to be in good condition. Our observations and recommendations are as follows:

1. The aeration tanks were a chocolate brown color, indicating a good microbial growth in the tanks. The tanks were receiving an adequate amount of aeration.
2. The clarifier had some solids floating on the top.
3. The plant's effluent to the creek was clear.

A review of your monthly reports from March 2006 through December 2007, indicates violations of the terms and conditions of your NPDES permit. The specific instances of noncompliance are enclosed. In addition, we have not received your monthly reports for October 2006.

Please be advised that failure to comply with the effluent limitations and/or monitoring requirements, including adequate laboratory controls, appropriate quality assurance procedures, and records retention, as specified in Part III of your NPDES permit may be cause for enforcement action pursuant to Ohio Revised Code, Chapter 6111. If these violations continue to occur and your monthly reports are not submitted, it may be necessary to initiate enforcement action to achieve compliance.

Our completed inspection report is enclosed. In addition, I have enclosed a copy of the land application rule fact sheet and the rule for sand requirements for sand filters.

Mr. Gary Cole
February 5, 2008
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We received your NPDES permit renewal application and you will be receiving a draft copy of the permit renewal in the near future. You should review it carefully, as there is a 30 day comment period to respond to any permit conditions. If you have any questions, please feel free to call me at (419) 373-3019.

Sincerely,

Michelle Sharp

Michelle Sharp
Division of Surface Water

/llr

Enclosure

pc: Crawford County Health Department w/enclosure
DSW-NWDO w/enclosure

July 2007

Fact Sheet

Land Application Systems

Rule 3745-42-13 of the Ohio Administrative Code

Note: This fact sheet is provided to assist the reader with understanding the land application systems rule and is not intended to be used in lieu of the rule.

What does OAC 3745-42-13 cover?

Ohio Administrative Code (OAC) 3745-42-13 covers the permit application and the operating and maintenance requirements for a land application of treated sewage system. Any existing or proposed disposal system that includes the land application of treated, domestic sewage will be covered by this new rule.

What is land application of treated sewage?

Land application of treated sewage is a process that reuses or recycles treated sewage in a manner that minimizes or eliminates the discharge of pollutants to waters of the state, including Ohio's streams, rivers and lakes.

A land application of treated sewage system consists of a sewage treatment works that typically utilizes spray-irrigation to land apply all or a portion of the treated sewage to sites such as golf courses, recreational fields or farmland.

What DOESN'T the rule cover?

This rule does not cover:

- Soil absorption systems (such as leach field systems, sub-surface drip irrigation systems or mound systems); or
- The land application of:
 - Domestic, commercial or industrial septage;
 - Sludge;
 - Grease; or
 - Industrial waste.

Is land application new?

No.

- Deer Creek State Park has practiced effluent reuse since the 1970s.
- The Union City, Ohio WWTP has practiced spray irrigation since the mid 1980s.
- Since 1996, there have been several installations in Ohio, including Scioto Reserve, a golf course community located in Delaware County.

What are the features of a land application system?

A land application system can:

- Reduce potable water use for irrigation for targeted receptors (e.g. nurseries, golf courses, parks, etc.);

- Offer another option to on-lot disposal systems & small package plants;
- Be a "short-term" option until sewers reach an area;
- Offer a decentralized "cluster" of "farm village" developments, placing fewer burdens on a public utility to extend public sewers in areas where they are not feasible; or
- Be coupled with a controlled discharge to offer flexibility.

What is the regulatory "big picture"?

- Rule 3745-1-05 of the OAC requires an applicant to evaluate alternatives other than a point source discharge.
- Rule 3745-42-13 of the OAC provides the regulatory oversight for the design, construction and operation and maintenance of land application systems.
- Chapter 3745-42 of the OAC contains other rules relevant to a permit to install application.
- Chapter 3745-33 of the OAC contains other rules relevant to an NPDES permit.

What are the application



Fact Sheet

Land Application Systems – July 2007

OAC Rule 3745-42-13

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submittal requirements?

The following is required for any land application system installed after July 1, 2007:

- A soil and site evaluation;
- A permit to install; and
- A land application management plan.

1. The following may be required for any land application system installed after July 1, 2007:

- An NPDES permit;
- A ground water monitoring program; or
- A land application contract.

How do I find the permit to install requirements for my project?

The permit to install requirements are based on the following:

- The design flow; and
- The land application rate, in inches per acre per year.

A **Quick Reference Table** that will assist you with determining the requirements is provided at the end of this fact sheet.

What are the key points of a land application management plan (LAMP)?

A LAMP:

- Is always required;
- Is initially effective for 5 years;
- Is renewable every 5 to 10 years; and
- Has a fee of \$200.00, unless submitted as part of an NPDES permit. If submitted as part of an NPDES permit, the NPDES permit fee of \$200.00 covers both.

Is an NPDES permit always required?

No. An NPDES permit is required for a "discharging land application system".

Does the rule apply to existing systems?

Yes. However, the requirements for land application systems installed prior to July 1, 2007 can vary, based on the individual case. There are LAMP and NPDES submittal requirements by July 1, 2012.

What are some important definitions?

1. "Discharging land application system" means a land application system that:

(a) Regardless of whether a land application contract allows isolation distance requirements to be waived, does not meet the isolation distance requirements in this rule;

(b) Proposes to land apply on sites where drain tiles are, or will be, less than two vertical feet below final grade;

(c) Proposes to land apply on frozen or snow covered ground;

(d) Proposes to land apply during precipitation events; or

(e) Proposes a point source discharge to waters of the state.

2. "Karst" means a terrain with an assemblage of landforms such as sinkholes and caves that are due to weathering of predominantly carbonate bedrock.

3. "Lagoon" means any earthen or partially earthen

impoundment that is used for the treatment of sewage.

4. "Land application contract" means a deed showing ownership, or a contract or agreement that describes the land where treated sewage will be applied and that allows treated sewage to be land applied.

5. "Occupied building" means any building that is regularly occupied by people, is owned by a person other than the owner of the disposal system, and is located on a plat of land separate from the plat of land on which the disposal system is installed or operated. (This definition can be found in OAC 3745-42-01.)

6. "Professional soil scientist" means an individual with a baccalaureate degree with a major in agronomy, soils, or a closely allied field of principles of pedology to soil classification, investigation, education, and consultation and on the effect of measured, observed and inferred soil properties and their use, and who is a member of the Ohio association of pedologists (AOP) or the American registry of certified professionals in agronomy in crops and soil (ARCPACS).

[Comment: A list of the professional soil scientists in Ohio can be obtained from the association of Ohio pedologists' web site. The web link for this site is:
[http://www.ohiopedologist.org/.](http://www.ohiopedologist.org/)]

7. "Storage facility" means the

part of a treatment works, such as an earthen or man-made impoundment, that is used solely for the storage of treated sewage.

8. "Total inorganic nitrogen" means the sum of nitrite-nitrogen, nitrate-nitrogen and ammonia-nitrogen.

What are the treatment classifications?

There are three treated sewage classifications:

- Class A. (Table K-2)
- Class B. (Table K-3)
- Class C. (Table K-4)

There are effluent limits and monitoring frequencies for each treated sewage classification. A **Quick Reference Table**, provided at the end of this fact sheet, summarizes the big differences between the treatment classifications.

Where do the effluent limits need to be met?

The effluent limits for any treatment class shall be met prior to entering a storage facility, or prior to land application, if a storage facility does not exist.

When is a ground water monitoring program NOT required?

There is a ground water monitoring exemption for:

1. Land application areas, provided:
 - Class A treated sewage is land applied;
 - Less than 12 inches/acre/year of Class B is land applied; or

- Less than 12 inches/acre/year of Class C is land applied.
2. Storage facilities, provided:
 - A WWTP is designed for < 1,000 g.p.d.; or
 - A WWTP is designed for < 10,000 g.p.d., and storage facility contains Class A and includes a liner per paragraph (H).

What are the ground water monitoring requirements?

If the permit to install does not meet a ground water monitoring exemption, a ground water monitoring program is required for:

- Land application areas;
- Storage facilities; and
- Lagoons.

What shall the ground water monitoring program include?

A ground water monitoring program shall include:

- At least three monitoring wells (one up-gradient and two down-gradient) for each land application area, storage facility or lagoon;
- A schedule for semi-annual samples analyzed in the field;
- A schedule for semi annual samples processed at a lab;
- A contingency plan for downstream receptors; and
- Monitoring well abandonment procedures, in accordance with rule 3745-9-10 of the OAC.

What are the record retention requirements?

Record retention is required for at least five years, including records for:

- Pollutant sampling;
- Inflow and outflow monitoring; and
- Storage impoundment monitoring for freeboard and the number of days of remaining storage.

When shall the director be notified?

- The director shall be notified in writing within seven days of any person discovering noncompliance with a land application management plan or an NPDES permit.
- The director shall be notified at least six months prior to the expiration date of a land application contract.

Where can I get a copy of the complete rule?

This rule is located on the internet at:
www.epa.state.oh.us/dsw/rules/3745-42.html.

Where can I get additional information?

Go to the Division of Surface Water's Web site at:
www.epa.state.oh.us/dsw, or contact Elizabeth Bailik by e-mail at elizabeth.bailik@epa.state.oh.us, or by phone at (614) 644-2039.

Quick Reference Tables

1. Permit to install application requirements:

Design Flow (g.p.d.)	Land Application Rate (inches/acre/year)	Refer to Paragraph:
< 10,000	≤ 12	(F)(1)
	> 12	(F)(2)
≥ 10,000	≤ 12	(F)(3)
	> 12	(F)(4)

2. Differences between the sewage treatment classifications*:

	<u>Class A</u>		<u>Class B</u>		<u>Class C</u>	
	30 day average	Daily max	30 day average	Daily max	30 day average	Daily max
TSS	12 mg/l	--	45 mg/l	--	45 mg/l	--
CBOD ₅	10 mg/l	--	40 mg/l	--	40 mg/l	--
Fecal coliform	ND in 4 of 7	14 cfu/100 ml	--	1,000 cfu/100 ml	--	2,000 cfu/100 ml
E. coli	ND in 4 of 7	2 cfu/100 ml	--	126 cfu/100 ml	--	298 cfu/100 ml

*Please refer to the rule for a complete list of the effluent limitations for each sewage treatment classification.

3745-42-09 Requirements for filter sand.

(A) Applicability.

- (1) No person shall install or replace sand-filter sand without first providing the director with written certification that the standards identified in this rule are met. The certification statement shall be obtained from the sand manufacturer or any professional engineer and shall be supported by laboratory analysis.
- (2) This rule shall apply to owners and operators of the following treatment works:
 - (a) Conventional subsurface sand filters;
 - (b) Conventional surface sand filters;
 - (c) Recirculating sand filters; and
 - (d) Other similar sand filter technologies.

(B) Owners and operators of facilities described in paragraph (A)(2) of this rule shall use only sand that has:

- (1) Undergone a sieve analysis and met the criteria of one of the following standards:
 - (a) ASTM C136, "Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates;" or
 - (b) ASTM D451, "Standard Method for Sieve Analysis of Granular Mineral Surfacing For Asphalt Roofing Products;"
- (2) An effective size and uniformity coefficient, in conformance with table B-1 of this rule:

Table B-1

Sand filter technology	Effective size (millimeters)	Uniformity coefficient
Conventional subsurface sand filters *	0.4 to 1.0	less than 3.0
Conventional surface sand filter *	0.4 to 1.0	less than 3.0
Recirculating Sand Filter *	1.2 to 2.5	less than 2.0

*Sand shall be washed and free of clay and silt to minimize the amount of fines in the sand.

- (3) Been quantified using ASTM C117, "Standard Test Method for Materials Finer than 75- μm (No. 200) Sieve in Mineral Aggregates by Washing." The percentage of the material passing the seventy-five-micrometer sieve shall not exceed 1.5 per cent of the total sample weight.
- (4) Been analyzed using ASTM D4318, "Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils," and classified as nonplastic.

Effective: 12/1/2005

R.C. 119.032 review date: 10/17/2008

Promulgated Under: R.C. 119.03

Statutory Authority: R.C. 6111.03

Rule Amplifies: R.C. 6111.03, 6111.44

Prior Effective Dates: None

Reporting Period	Station	Reporting Code	Parameter	Limit Type	Limit	Reported Value	Violation Date
June 2006	001	00610	Nitrogen, Ammonia (NH3)	30D Conc	1.....	3.51	6/1/2006
June 2006	001	00610	Nitrogen, Ammonia (NH3)	30D Qty..	0.06..	.07148	6/1/2006
June 2006	001	31616	Fecal Coliform	30D Conc	1000..	1000.	6/1/2006
June 2006	001	00610	Nitrogen, Ammonia (NH3)	7D Conc..	1.5...	3.51	6/22/2006
July 2006	001	00610	Nitrogen, Ammonia (NH3)	30D Conc	1.....	.18.	7/1/2006
July 2006	001	00610	Nitrogen, Ammonia (NH3)	30D Qty..	0.06..	.29637	7/1/2006
July 2006	001	31616	Fecal Coliform	30D Conc	1000..	5600.	7/1/2006
August 2006	001	00530	Total Suspended Solids	30D Conc	12....	33.	8/1/2006
July 2007	001	31616	Fecal Coliform	30D Conc	1000..	3000.	7/1/2007
July 2007	001	31616	Fecal Coliform	7D Conc..	2000..	3000.	7/8/2007
July 2007	001	00300	Dissolved Oxygen	1D Conc..	6.0...	5.1	7/9/2007
August 2007	001	00610	Nitrogen, Ammonia (NH3)	30D Conc	1.....	6.28	8/1/2007
August 2007	001	00610	Nitrogen, Ammonia (NH3)	30D Qty..	0.06..	.17067	8/1/2007
August 2007	001	31616	Fecal Coliform	30D Conc	1000..	4100.	8/1/2007
August 2007	001	00610	Nitrogen, Ammonia (NH3)	7D Conc	1.5...	6.28	8/8/2007
August 2007	001	00610	Nitrogen, Ammonia (NH3)	7D Qty...	0.09..	.17067	8/8/2007
August 2007	001	31616	Fecal Coliform	7D Conc	2000..	4100.	8/8/2007
August 2007	001	00300	Dissolved Oxygen	1D Conc	6.0...	5.1	8/9/2007
October 2007	001	00610	Nitrogen, Ammonia (NH3)	30D Conc	1.....	5.51	10/1/2007
October 2007	001	80082	CBOD, 5 day	30D Conc	10.....	24.	10/1/2007
October 2007	001	00610	Nitrogen, Ammonia (NH3)	7D Conc..	1.5...	5.51	10/15/2007
October 2007	001	80082	CBOD, 5 day	7D Conc..	15.....	24.	10/15/2007

OHIO ENVIRONMENTAL PROTECTION AGENCY
 OPERATION AND MAINTENANCE INSPECTION
 WWTP'S LESS THAN 25,000 GPD

NPDES Permit No. 2PRO0187

Facility Name Wagon Wheel Campground Expiration Date 5-31-2008

Facility Address 6787 Baker 47 Date 8-1-07 Time 2:15 am pm

City Shelby County Crawford Township _____

Name and Address of Owner Garry Cole 6787 Baker 47 Shelby OH 44875

Person Contacted Garry Cole Owner Phone 419-347-1392

Flow: Design 15,000 GPD Present _____ GPD (metered - estimated)

Trib. Pop. _____ (actual - estimated) Weather at time of inspection: Temp _____ ° Sunny

OEPA Personnel Michelle Sharp District NWDO

1. Plant Effluent - Mark Severity No.

No.	Severity Description	No.	Turbidity	No.	Odor	No.	Color
0	None	0	Clear	0	None	0	Colorless
1	Mild						
2	Moderate		Light Solids		Musty		Grey
3	Serious						
4	Extreme		Heavy Solids		Septic		Black

2. Effect of effluent on Receiving Stream Name: Honey Creek

No.	Severity Description	No.	Turbidity	No.	Odor	No.	Color
0	None	0	Clear	0	None	0	Colorless
1	Mild						
2	Moderate		Light Solids		Musty		Grey
3	Serious						
4	Extreme		Heavy Solids		Septic		Black

3. a. Plant has _____ excellent X good _____ fair _____ poor operation
 b. Plant has _____ excellent X good _____ fair _____ poor maintenance
 c. Sand filters have _____ excellent _____ good X fair _____ poor maintenance

d. Not operating at expected efficiency due to:

- (1) _____ hydraulic overload
 (2) _____ organic/ solids overload
 (3) _____ personnel inefficiency
 (4) _____ equipment failure
 (5) _____ wastes
 (6) _____

Disinfection: (Required May 1 thru Oct.31.)		
IN	OUT	
<u>X</u>	_____	Chlorination Tablets
_____	_____	Dechlorination Tablets
_____	_____	U.V.

Yes No

4. X _____ Compliance with NPDES Permit

Periodic Violations X Y N Parameters: _____

Chronic Violations _____

5. X _____ Adequate plant safety

6. X _____ Operation and Maintenance Service Name _____

Frequency of Visits _____

Facility Name: Wagon Wheel Campground

Process	# Units	Unit	If Needed - Description and Comments
Preliminary		Trash Trap	Pumping Frequency:
		Grease Trap	Pumping Frequency:
		Bar Screen	
		Comminutor	
		Flow Equalization	
Aeration Equipment	X	Plant Timer: <u>X</u> Y. <u> </u> N Motor/Blower Unit	Cycle Time: <i>Constant during busy camping season</i>
Secondary Treatment	X	Aeration Tank	Color: <i>Good</i> Adequate Aeration: Y. <u>X</u> N. <u> </u>
Final Settling	X	Clarifier	<i>Solids on top</i>
	X	Sludge Return	In <u>X</u> Out <u> </u>
	X	Surface Skimmer	In <u> </u> Out <u>X</u>
		Fixed Media Clarifier	
Tertiary Treatment	X	Surface Sand Filter	<i>Some solids on 2 filters</i>
		Polishing Pond	
		Other	
Disinfection	X	Contact Tank	
	X	Chlorine Tube Feeder	<i>cln</i>
		Dechlorination Tube Feeder	
		Ultraviolet (UV)	
Flow Metering		Elapsed Pump Time	
		Recorder (continuous total)	
Pumps		Raw Wastewater (type)	
		Sand Filter Effluent Dosing	
Sludge Handling		Aerated Storage Tank	
		Sludge Drying Bed	
Sludge Disposal		Municipal POTW	
		Landfill	
		Land Application	
Advanced Treatment		Post Aeration	
		Spray Irrigation	
		Other	