



June 2, 2015

IMPORTANT DOCUMENT LAND APPLICATION AUTHORIZATION

Dave Buckwald, Principal Operator
Yachats Wastewater Treatment Plant
905 Wharf Drive
Yachats OR 97415

RE: Biosolids – Lincoln County
Yachats WWTF Contact Number 541.547.3385
NPDES Permit No. 103001; File No. 99260
Hall site, 7662 Yachats River Road, Yachats, Lincoln County, OR
Site ID: Hall 1 WR-2015-05-BS
T14 R 11W, Sec 34, TL 1200; T15 R 11W, Sec 3, TL 700
100 acres total approximately 95 acres for land application

Dear Mr. Buckwald:

The Oregon Department of Environmental Quality (DEQ or “the Department”) received a request to review the Hall land application site for the City of Yachats. On May 12, 2015 I met with you and we talked about renewing this land application site. I received your renewal packet for this site on May 29, 2015.

The City of Yachats has an activated sludge facility and produces an aerobically digested Class B biosolids. The Yachats wastewater treatment facility (WWTF) will haul Class B biosolids to the Hall property located at 7662 Yachats River Road, Yachats, Oregon (see Table 1 and attached site map). Included with the request were data characterizing the liquid biosolids from the Yachats WWTF.

Site Description. The property owned Hall is zoned as Exclusive Farm Use (EFU). The site is managed for grass pasture. Adjacent properties are also in agriculture or residential properties.

Table 1. The property reviewed for biosolids land application, located in Lincoln Co., Oregon.

Township, Range, Section	Tax Lot(s)	Total Area (acres)	Spreadable Area [†] (approx. acres)	Map* and DEQ No.
T14 R 11W, Sec 34 B and C fields	1200	6.3/5.6	11	WR-2015-05-BS
T15 R 11W, Sec 3, A field	700	1.7	1.7	WR-2015-05-BS
Total Spreadable Acres about 13 + ac			12.7	

†Spreadable acres are based upon attached maps and do not reflect site-specific setback requirements. Actual acres spread may also vary slightly based upon site conditions at time of application.

***Site Authorization Map Attachment 1.**

DEQ made an inspection of the property to evaluate the suitability of the site for biosolids land application, I reviewed site hydrology, topography and soil conditions, considered current and proposed land use and agricultural practices, and noted the locations of residences, wells and other sensitive site features. Appropriate setbacks for land application areas were also considered.

The site is located on a river terrace the west side of Yachats River Road, which is dissected by small drainages. The topography is variable with slopes ranging from 0% to 3%. Soils on the farmed portions of the site are composed primarily Kirkendall silt loam (approx. 11 acres), Eilertsen silt loam (approx. 1 acre). Soils are derived from marine deposits these soils are generally well drained (*See Attachment 1).

Based upon the site visit and supplemental information provided by the City of Yachats, the property is approved for the land application of anaerobically-digested biosolids produced by Yachats WWTF provided the following conditions are satisfied:

1. **Regulations, Rules, and Permit Requirements.** Biosolids processing and handling will comply with:
 - a. Oregon biosolids and septage rules and guidelines (OAR 340-050);
 - b. Federal biosolids and septage regulations (40 CFR Part 503);
 - c. The DEQ-issued permit to the Yachats WWTF (NPDES Permit No. 103001; File No. 99260)
 - d. The most recent DEQ-approved Biosolids Management Plan, including all subsequent amendments; and
 - e. All other applicable federal and state statutes and rules.
2. **Treatment Processes.**
 - a. Biosolids volatile solids content shall be reduced by 38% or more (or equivalent) via anaerobic digestion prior to land application.
3. **Transportation.**
 - a. Transportation of the biosolids to the land application site shall be done in accordance with Yachats's approved Biosolids Management Plan.
4. **Land Application Activities.**
 - a. The site is approved for the land application of biosolids by spreader trucks or other similar application equipment.
 - b. Biosolids shall be applied evenly and thinly in a manner that will prevent ponding and runoff during and after precipitation events.
 - c. When more than one operator conducts biosolids land application or when completion of the biosolids application on a site is interrupted for more than one week, areas where biosolids have been applied must be clearly marked by flag pins or stakes which note the date when biosolids were last applied. This

tracking method may be replaced by use of GPS equipment if it provides as accurate tracking. Written and mapped daily land application records must be maintained as described under Condition 9.b.

- d. Immediately following land application, the biosolids equipment operator shall clean off (at the application site) any equipment coated with biosolids to prevent biosolids from spilling onto public roadways.

5. Application Rates and Timing.

- a. **Effective Date.** Date of this authorization.
- b. **Application Period.** The site is approved for land application of biosolids from May 1st through October 1st of each year when field conditions allow for uniform application that will not result in ponding or runoff. Land application timing must be appropriate to the site’s land management practices and must be managed to provide benefit to crops grown on the site and minimize potential adverse environmental impacts.
- c. **Application Rate.** Biosolids shall be applied at rates up to but not exceeding, an agronomic loading limit appropriate to the crop being grown on the fields (Table 2), after accounting for supplemental sources of nitrogen and losses as described under Conditions 5.e. and 5.g.

Table 2. Crops and Plant Available Nitrogen (PAN) approved for this land application site.

Non Food Crops	Irrigated	PAN (lbs/ac/yr)
Hay mix	no	100
Pasture	no	100
Alfalfa or Clover	no	100

- d. **Agronomic Rate Calculations.** Biosolids application rates will be calculated using one of the following: (i) the method approved in Yachats’s approved Biosolids Management Plan; (ii) the method described in *Worksheet for Calculating Biosolids Application Rates in Agriculture*, published by the Oregon State University Extension Service, Publication No. PNW0511e (March 2007); or (iii) a more robust method such as that described in *Managing Nitrogen from Biosolids*, published by Washington State Department of Ecology and the Northwest Biosolids Management Association (April 1999). Any deviations from the methods and/or assumptions described in these publications must be pre-approved in writing by the DEQ Northwest Region. (Updated versions of the aforementioned documents may be used at any time.)
- e. **Routine Applications.** If biosolids applications is 2 out of 3 successive years at agronomic rates, then the site must be evaluated for carry over nitrate-nitrogen (TKN-N, NH4-N, NO₃-N) before the next application. Agronomic application rates are to be adjusted for carry over nitrogen in the soil.
- f. **Supplemental N.** If other sources of nitrogen are applied to the fields (e.g., commercial, animal manure or green chop), then the biosolids application rate must be reduced so that the supplemental nitrogen plus biosolids nitrogen does not exceed the agronomic application rate approved for this site.

- g. **Changes.** Changes in biosolids characteristics, cropping practices, or general land management will necessitate appropriate adjustments in the application rate to maintain nitrogen applications consistent with crop demands. Major changes in any of the above must be communicated to the DEQ's Western Region in writing before the changes are implemented.

6. Site Restrictions.

- a. **Wet Soils.** Care should be taken to avoid wet soil conditions, particularly in concave areas, at the time of application.
- b. **Precipitation.** Biosolids land application shall cease when precipitation exceeds ¼ inch per hour or when one inch or more of precipitation occurs in a 24-hour period. Land application shall be withheld from the site for at least 48 hours following such a precipitation event and for every consecutive day of precipitation where a ¼ inch or one-inch per 24-hour precipitation event occurs.
- c. **General Public Access.** Access to the site by the general public shall be restricted for at least 12 months after biosolids land application has ceased.
- d. **Grazing.** A 30-day interval shall follow the application of biosolids prior to grazing livestock on any field or prior to the harvesting of crops that are to be fed to animals.
- e. **Wind.** Land application shall cease if wind speed is (10 mph or more irrigation cannon) such that biosolids cannot be applied uniformly or would be thrown into buffer strips, waterways, roads, trails, or onto the application vehicle itself. Application may resume after wind speeds have decreased such that no significant blowing or drifting occurs.
- f. **Nuisance Conditions.** Biosolids land application shall cease when the potential exists for nuisance conditions or runoff. In the event an odor problem is reported to Yachats, its representative, or the DEQ after biosolids have been land applied at the site, Yachats and the DEQ will jointly determine the best method to mitigate the odor concern.

- 7. **Setbacks and Buffers.** Setbacks and buffers on the sites are listed in Table 3 and have also been identified in the attached site map(s).

Table 3. Site-specific setbacks for biosolids land application.

Feature	Setback[†] (ft.)
Property boundaries & private, unpaved roadways	10
Paved or graveled roadways & wind turbine access roads	25
Residences & occupied buildings	50
Wells	200
Intermittent surface waters & drainage swales	50

[†]The setback is determined from the edge of the feature.

8. Remedial Procedures.

- a. Yachats's biosolids hauler shall clean up any spillage of biosolids. Yachats shall consult with the DEQ for appropriate methods of protecting public health and the environment for spills that cannot be completely cleaned up.
- b. The DEQ shall be notified within one hour, through the Oregon Emergency Response System (OERS), of any spills of more than 50 gallons or other threats

to the environment that may occur. All spills adjacent to drainage ditches or drainage ways should be reported. Failure to provide prompt notification may be considered cause for taking enforcement action against Yachats. The telephone number for OERS is 1.800.452.0311 (24-hr service).

9. Monitoring and Reporting.

- a. **Soil Testing.** Soil testing for carry over nitrate-nitrogen (TKN-N, NH₄-N, NO₃-N) will occur as described under Condition 5.e. The DEQ recommends routine soil testing for soil nutrients as well as the trace pollutants listed in Table 1 of 40 CFR §503.13 for fields receiving annual biosolids applications. The Department may require soil testing if adverse environmental impacts are suspected at the site.
- b. **Site Records.** Daily site records of accumulated land applied biosolids will be maintained. Site records shall be recorded on field grid map or other readable system. Records shall indicate the date, location and quantity of biosolids applied; segments of each field that received biosolids; target plant available nitrogen (PAN) loading rate of the area receiving biosolids; and the type of crop grown. These records must be available to the DEQ for review upon request. Regardless of the format in which written and mapped records are kept, they must be readily available in hardcopy format
- c. **Annual Report.** By 19 February of each year, Yachats shall provide the DEQ with an annual report of the previous year's biosolids processing and application activities, as required under the DEQ rules (OAR 340-050-0035(6)). An annual report must also be submitted to the United States Environmental Protection Agency (USEPA) Region 10.

10. Notification.

- a. Yachats or its representatives shall promptly notify DEQ of any major changes it intends to make to its biosolids processing activities that could influence biosolids quality or quantity before anticipated modifications are initiated, as described under Condition 11.c.

11. Additional Conditions.

- a. The DEQ shall have the right to: (i) enter (at reasonable times) Yachats's (or its representatives') places of biosolids land application and record keeping to review biosolids management operations and records; (ii) obtain copies of any records required under the terms of this authorization and Yachats's approved Biosolids Management Plan; (iii) inspect any monitoring equipment required under this authorization; (iv) inspect any collection, transport, or land application vehicle; and (v) obtain any photographic documentation or evidence deemed appropriate.
- b. This authorization is subject to revocation should health hazards, environmental degradation, or nuisance conditions develop as a result of inadequate biosolids treatment or site management.
- c. Any variations from Yachats approved Biosolids Management Plan and this authorization letter must receive prior written approval from the DEQ Northwest Region Office.
- d. The DEQ may amend this Site Authorization and impose any additional restrictions or conditions deemed necessary to protect environmental and human health.

This authorization is considered to be part of your approved Biosolids Management Plan and is enforceable as part of your NPDES permit. Therefore, if operations are not conducted in accordance with terms specified under this authorization, the Department will initiate an enforcement action, which may lead to the assessment of a civil penalty. Should you have any questions about the content of this letter, please feel free to contact me in writing or by phone at 541.687.7439 or via email at kennedy.paul@deq.state.or.us.

Sincerely,

Paul Kennedy EHS
Soils/Land Application Specialist
Western Region-DEQ

Cc: Ms. Shari Kiser, 7662 Yachats River Road Yachats OR 97498 (w/encl.)
Lincoln County Health Department, 36 SW Nye St., Newport OR 97316
DEQ Biosolids Coordinator, DEQ-HQ (w/encl.)
Water Quality File, Salem DEQ (w/encl.)
File copy (w/encl.)

Attachment 1 Soils Report

6.2.15

Yachats Hall Biosolid Land application sites A, B and C.



Hall Site A, 1.7 acres



Hall Site A

Lincoln County Area, Oregon (OR638)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
15B	Eilertsen silt loam, 0 to 5 percent slopes	1.4	80.3%
57A	Treharne silt loam, 0 to 3 percent slopes	0.3	19.7%
Totals for Area of Interest		1.7	100.0%



Hall site B, 6.3 acres



Hall site B 6.3 acres

County Area, Oregon (OR638)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
15B	Eilertsen silt loam, 0 to 5 percent slopes	0.0	0.1%
30A	Kirkendall silt loam, 0 to 3 percent slopes	5.9	93.1%
57A	Treharne silt loam, 0 to 3 percent slopes	0.4	6.8%
Totals for Area of Interest		6.3	100.0%



Hall site C, 5.4 acres

Lincoln County Area, Oregon (OR638)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Totals for Area of Interest		5.6	100.0%

Lincoln County Area, Oregon
 30A—Kirkendall silt loam, 0 to 3 percent slopes
 Map Unit Setting
National map unit symbol: 258l
Elevation: 20 to 750 feet
Mean annual precipitation: 60 to 100 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 145 to 220 days
Farmland classification: Farmland of statewide importance
 Map Unit Composition
Kirkendall and similar soils: 85 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.
 Description of Kirkendall
 Setting
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Silty alluvium derived from mixed sources
 Typical profile
H1 - 0 to 17 inches: silt loam
H2 - 17 to 36 inches: silt loam
H3 - 36 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: About 30 to 72 inches

Frequency of flooding: Occasional

Frequency of ponding: None

Available water storage in profile: High (about 11.7 inches)

Interpretive groups

Land capability classification (irrigated): 2w

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C

Other vegetative classification: Well Drained < 15% Slopes (G001XY004OR)

Minor Components

Lincoln County Area, Oregon

15B—Eilertsen silt loam, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2578

Elevation: 30 to 750 feet

Mean annual precipitation: 60 to 100 inches

Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 145 to 220 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Eilertsen and similar soils: 85 percent

Minor components: 4 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Eilertsen

Setting

Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Silty alluvium derived from mixed sources

Typical profile

H1 - 0 to 13 inches: silt loam

H2 - 13 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 5 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): 2c

Land capability classification (nonirrigated): 2c

Hydrologic Soil Group: B

Other vegetative classification: Well Drained < 15% Slopes (G001XY004OR)

Minor Components

Fluvaquents

Percent of map unit: 2 percent

Landform: Flood plains

Aqualfs, poorly drained

Percent of map unit: 2 percent

Landform: Depressions