

Attachment C

**Inn at Otter Crest
Biosolid Site Authorization Letter**

May 20, 2015

John Wiegardt III, Principal Operator
Inn at Otter Crest-H2O&S Wastewater
Treatment Plant
Otter Crest Loop Road
Otter Rock, OR 97369



Figure 1. Site Authorization Map
Wyscaver property 7373 Logsdan rd. Logsdan OR.

RE: Inn at Otter Crest-H2O WWTF Contact Number 541.921.7377
NPDES Permit No. 101269; File No. 414740
Wyscaver site located at 7373 Logsdan Rd. Logsdan OR
Site ID: Wyscaver WR-2015-02-BS
T10S R9W, Sec 4, 33 TL 100, 500
5 acres total approximately 5 acres for land application
Lincoln County

Dear Mr. Wiegardt III:

The Oregon Department of Environmental Quality (DEQ or “the Department”) received a request to review two biosolid land applications sites for the Inn at Otter Crest. On July 14, 2014 I met with you and we reviewed this proposed land application site.

The Inn at Otter Crest (Otter Crest) has an activated sludge facility and produces an aerobically digested Class B biosolids. The Otter Crest wastewater treatment facility (WWTF) hauls Class B biosolids to the Wyscaver property located off Logsdan Road, Logsdan Oregon (see Table 1 and attached site map). Included with the request were data characterizing the liquid biosolids from the Otter Crest WWTF.

Site Description. The property owned Wyscaver 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.
--------------------------	------------	--------------------	----------------------------------	------------------

Wyscaver T10S R9W, Sec 4	100, 500	100	5	WR-2015-02-BS
Total Spreadable Acres 137ac		about	5	

†**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 figure 1.**

DEQ did visit 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. There is a church to the west of this site which is over 400' form this site.

The site is located on the north side of the 7373 Logsdan 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 Logsdan silt loam 0-3 percent slope, Meda loam and Quillamook silty loam (approx. 5 acres), which are consistent with the NRCS soil maps for the area(**See Attachment 1**). Soils are derived from alluvium derived from mixed sources these soils are generally deep and moderately well drained.

Based upon the site visit and supplemental information provided by the Inn at Otter Crest, the property is approved for the land application of aerobically-digested biosolids produced by Otter Crest 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 Otter Crest WWTF (NPDES Permit No. 101269; File No. 41740)
 - 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 must be reduced by 38% or more (or EPA 40 CFR Part 503 equivalent) via aerobic digestion prior to land application.
3. **Transportation.**
 - a. Transportation of the biosolids to the land application site must be done in accordance with Otter Crest'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 must 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 must clean off (at the application site) any equipment coated with biosolids to prevent biosolids from spilling onto public roadways.
- e. Land application site must be signed, “no trespassing / biosolid land application site” **(See Attachment 2 for example)**.

5. Application Rates and Timing.

- a. **Effective Date.** Date of authorization issuance.
- 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 maximum benefit to crops grown on the site and minimize potential adverse environmental impacts.
- c. **Application Rate.** Biosolids must 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
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 Otter Crest’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 exceed 2 out of 3 successive years at agronomic rates, the site will 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), 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 must cease when precipitation exceeds ¼ inch per hour or when one inch or more of precipitation occurs in a 24-hour period. Land application must 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 must be restricted for at least 12 months after biosolids land application has ceased.
- d. **Grazing.** A 30-day interval must 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 must 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 must cease when the potential exists for nuisance conditions. In the event an odor problem is reported to Otter Crest, its representative, or the DEQ after biosolids have been land applied at the site, Otter Crest 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, neighbors driveways	25
Residences & occupied buildings	50
All wells and Siletz River (drinking water source)	200
Intermittent surface waters & drainage swales	50

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

8. Remedial Procedures.

- a. Otter Crest's biosolids hauler must clean up any spillage of biosolids. Otter Crest must 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 must 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 Otter Crest. 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 must be recorded on field grid map or other readable system. Records must 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, Otter Crest must 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)). For major facilities the annual report must also be submitted to the appropriate United States Environmental Protection Agency (USEPA) Region Office.

10. Notification.

- a. Otter Crest or its representatives must 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 must have the right to: (i) enter (at reasonable times) Otter Crest'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 Otter Crest'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 Otter Crest 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-Eugene DEQ

Cc: Mr. Wycaver, 7373 Logsden Rd., Logsden OR 97 (w/encl.)
Lincoln County Environmental Health 36 S Nye Rd., Newport OR 97365
DEQ Biosolids Coordinator, DEQ-HQ Portland (w/encl.)
Bob Dicksa, Water Quality File, Salem DEQ (w/encl.)
File copy (w/encl.)

Attachment 1 Soil Report

May 20, 2015

Inn at Otter Crest-H2O WWTF

Contact Number 541.921.7377

NPDES Permit No. 101269; File No. 414740

Wyscaver Biosolid Land application Site 7373 Logsdan Rd., Logsdan OR



Figure 1. Wyscaver land application site.

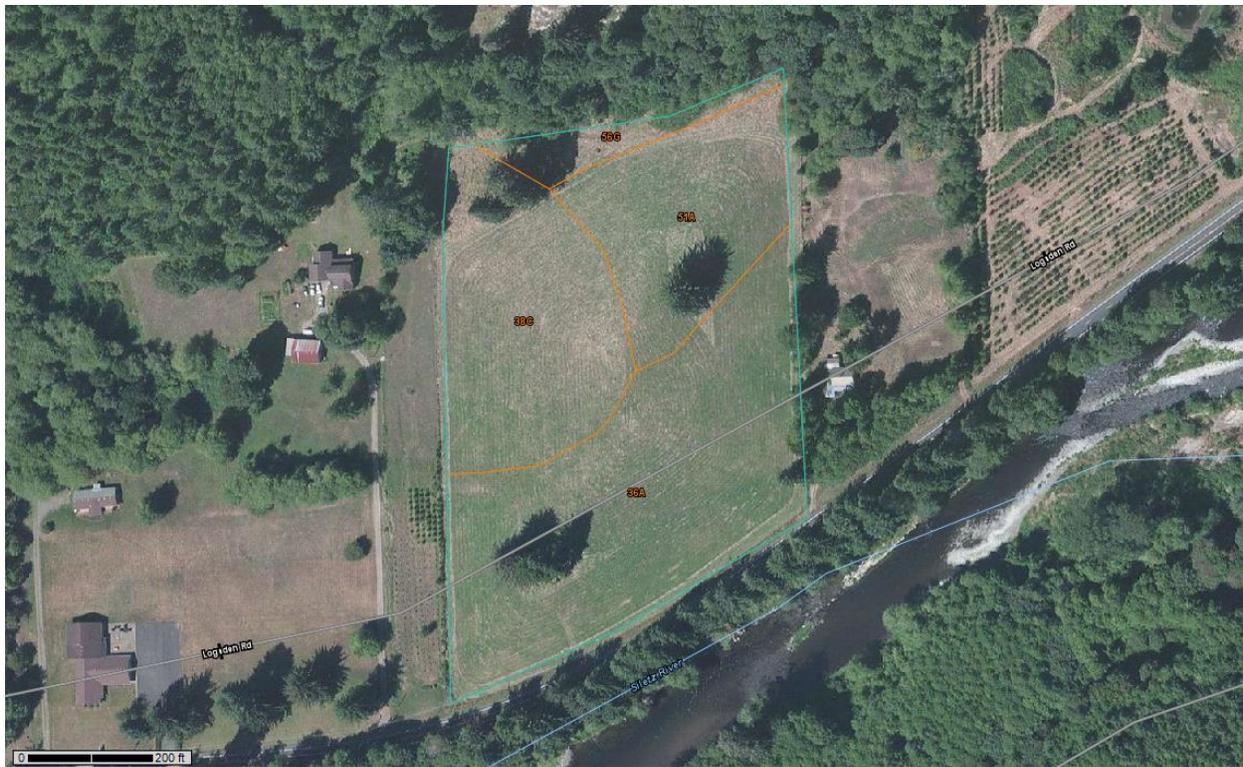


Figure 2. Soil map units Wyscaver land application site.

Lincoln County Area, Oregon (OR638)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
36A	Logsden silt loam, 0 to 3 percent slopes	5.0	47.6%
38C	Meda loam, 3 to 12 percent slopes	2.8	27.0%
51A	Quillamook silt loam, 0 to 3 percent slopes	2.2	20.7%
56G	Tolovana-Reedsport complex, 35 to 60 percent slopes	0.5	4.7%
Totals for Area of Interest		10.4	100.0

Lincoln County Area, Oregon

36A—Logsden silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2596

Elevation: 40 to 300 feet

Mean annual precipitation: 70 to 100 inches

Mean annual air temperature: 48 to 52 degrees F

Frost-free period: 160 to 210 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Logsden and similar soils: 80 percent

Minor components: 2 percent

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

Description of Logsden

Setting

Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Stratified silty and loamy alluvium derived from mixed sources

Typical profile

O_i - 0 to 1 inches: slightly decomposed plant material

H₁ - 1 to 20 inches: silt loam

H₂ - 20 to 43 inches: silty clay loam

H₃ - 43 to 61 inches: stratified loamy sand to fine sandy 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 (K_{sat}): Moderately high to high (0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Rare

Frequency of ponding: None

Available water storage in profile: High (about 11.3 inches)

Interpretive groups

Land capability classification (irrigated): 2c

Land capability classification (nonirrigated): 2c

Hydrologic Soil Group: B

Other vegetative classification: Well Drained <15% Slopes (G004AY014OR)

Minor Components

Aquepts, poorly drained

Percent of map unit: 2 percent

Landform: Depressions

Lincoln County Area, Oregon

38C—Meda loam, 3 to 12 percent slopes

Map Unit Setting

National map unit symbol: 259b

Elevation: 30 to 500 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

Meda and similar soils: 80 percent

Minor components: 5 percent

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

Description of Meda

Setting

Landform: Alluvial fans

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Concave, linear

Parent material: Loamy alluvium derived from mixed sources

Typical profile

H1 - 0 to 11 inches: loam

H2 - 11 to 30 inches: gravelly loam

H3 - 30 to 60 inches: very gravelly loam

Properties and qualities

Slope: 3 to 12 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: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

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

Minor Components

Report — Map Unit Description

Lincoln County Area, Oregon

51A—Quillamook silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 25bq

Elevation: 30 to 300 feet

Mean annual precipitation: 70 to 100 inches

Mean annual air temperature: 48 to 52 degrees F

Frost-free period: 160 to 245 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Quillamook and similar soils: 85 percent

Minor components: 3 percent

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

Description of Quillamook

Setting

Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Silty alluvium derived from mixed sources

Typical profile

H1 - 0 to 34 inches: silt loam

H2 - 34 to 58 inches: silt loam

H3 - 58 to 60 inches: loamy sand

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 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: Very high (about 22.1 inches)

Interpretive groups

Land capability classification (irrigated): 2c

Land capability classification (nonirrigated): 2c

Hydrologic Soil Group: B

Other vegetative classification: Well Drained <15% Slopes (G004AY014OR)

Minor Components

Hebo

Percent of map unit: 3 percent

Landform: Stream terraces