

## Proposed Canby Regency of Oregon Water Quality Permit Renewal

DEQ invites the public to provide written comment on the conditions of Canby Regency of Oregon's proposed renewal of their water quality permit, known officially as a National Pollutant Discharge Elimination System (NPDES) permit.

### Summary

Subject to public review and comment, DEQ intends to renew the NPDES permit, which allows Canby Regency to discharge wastewater to the Willamette River.

### Where can I get more information?

View information about this proposed permit, including the application, permit evaluation report and underlying documents beginning on page three of this notice or by contacting Kate Strohecker to make an appointment to review the documents in person:

**Phone:** 503-229-5623 or 1-800-452-4011

**Fax:** 503-229-6957

**Email:** [nwr.wqpermit@deq.state.or.us](mailto:nwr.wqpermit@deq.state.or.us)

### How do I participate?

You may submit your comments by mail, fax or email to:

Kate Strohecker - Permit Coordinator

700 NE Multnomah St. Suite 600

Portland, OR 97232

**Fax:** 503-229-6957

**Email:** [nwr.wqpermit@deq.state.or.us](mailto:nwr.wqpermit@deq.state.or.us)

**All comments are due by 5 p.m., Thurs., September 29, 2016.** All comments will become part of the public record.

DEQ will hold a public hearing on this draft permit if DEQ receives written requests for public hearing during this public comment period from at least ten persons or from an organization or organizations representing at least ten persons.

### About the facility and the receiving water

Regency of Oregon has applied for a NPDES for the Canby Regency Mobile Home Park wastewater treatment plant located at 10038 S New Era Road, Canby Oregon. DEQ last issued this permit on July 19, 2010.

This facility treats wastewater collected from a 117 space residential modular home park. Waste

water is treated by flowing through a settling basin followed by a recirculating basin which drains into textile filter pods. The water is further treated by flowing through a chlorine contact chamber followed by dechlorination prior to discharge to the Willamette River. This facility obtained a NPDES Permit in 1971 and has maintained their permits to present day.

The facility discharges to main stem of the Willamette just downstream of the city of Canby. The water quality found in this reach of the Willamette River is impaired with elevated water temperatures and elevated bacteria and mercury concentrations. Due to these impairments DEQ has established Total Daily Maximum Load (commonly described as TMDLs) to ensure the water quality of the Willamette River is not adversely affected by this facility. The proposed permit places limits on the facility to protect the water quality of the river.

DEQ has inspected Canby Regency treatment over the years and has issued the following enforcement actions:

- Warning letter with opportunity to correct – April 24, 2012 for effluent exceedance
- Warning letter - Sept 4, 2013 for bacteria exceedance
- Warning letter – June 10, 2014 for submitting a report late.

### What types of pollutants does the permit regulate?

This permit sets conditions for how the facility deals with the following pollutants: biological oxygen demand (BOD), total suspended solids, and bacterial pathogens (*E. coli*), pH, and chlorine. BOD is a water quality parameter that measures the amount of free oxygen in the water. This is to ensure there is sufficient oxygen in the effluent water to support life. Total suspended solids measures the amount of particulates in the water. This ensures the facility is discharging clear water. The effluent is monitored for *E. coli* to be sure the facility is treating the wastewater sufficiently and not adding more bacteria to the river.

The discharge water is monitored for pH to be sure it is not too acidic or basic which can harm aquatic life. The effluent water also is monitored for chlorine. Chlorine is very effective in killing



State of Oregon  
Department of  
Environmental  
Quality

### Northwest Region Water Quality

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Fax: 503-229-6957  
Contact: Pat Heins

[www.oregon.gov/DEQ](http://www.oregon.gov/DEQ)

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[subscriptions@deq.state.or.us](mailto:subscriptions@deq.state.or.us)

Please include your full name and mailing address so that we can remove you from our print mailing list.

bacteria, but it is also very poisonous to fish and aquatic wildlife. For this reason, the permit requires the facility to control and monitor the chlorine concentration in the discharge water.

**How would the draft permit change the amount of pollution the facility is allowed to release?**

The draft permit has more stringent requirements for the allowable pH range of the effluent water. All other parameters remain the same as the previous permit.

**How did DEQ determine the proposed permit requirements?**

DEQ evaluates types and amounts of pollutants and the water quality of the surface water where the pollutants are proposed to be discharged, and determines permit requirements to ensure the proposed discharges will meet applicable statutes, rules, regulations and effluent guidelines of Oregon and the U.S. Environmental Protection Agency.

DEQ relied solely on the state and federal statutes, rules, and regulations and made no other discretionary decisions for the permit action.

**How does DEQ monitor compliance with the permit requirements?**

This permit will require the facility to monitor pollutants discharged using approved monitoring practices and standards. DEQ reviews the facility's discharge monitoring reports to check for compliance with permit limits.

**What happens after the public comment period closes?**

DEQ will hold a public hearing if DEQ receives written requests for a hearing during the public comment period from at least 10 people or from an organization representing at least 10 people.

DEQ will consider and respond to all comments received and may modify the proposed permit based on comments. DEQ gives equal weight to written and oral comments.

**Accessibility information**

Documents can be provided upon request in an alternate format for individuals with disabilities or in a language other than English for people with limited English skills. To request a document in another format or language, call DEQ in Portland at 503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696; or email [deqinfo@deq.state.or.us](mailto:deqinfo@deq.state.or.us).





**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
WASTE DISCHARGE PERMIT**

Oregon Department of Environmental Quality  
Northwest Region – Portland Office  
700 NE Multnomah St., Suite 600  
Telephone: 503-229-5263

Issued pursuant to ORS 468B.050 and The Federal Clean Water Act (The Clean Water Act)

**ISSUED TO:**

Regency of Oregon, Inc  
40 N 4<sup>th</sup> Street  
Carbondale, CO 81623

**SOURCES COVERED BY THIS PERMIT:**

Type of Waste	Outfall Number	Outfall Location
Treated Wastewater	001	Willamette River 45.2926/-122.6579 River Mile: 31.6

**FACILITY LOCATION:**

Canby Regency Mobile Home Park STP  
10038 S New Era Road  
Canby, OR 97013

**RECEIVING STREAM INFORMATION:**

WRD Basin: Willamette  
USGS Sub-Basin: Lower Willamette  
Receiving Stream name: Willamette River  
LLID: 1227618456580-31.6 D  
County: Clackamas

Treatment System Class: Level I  
Collection System Class: Level I

EPA REFERENCE NO.: OR-002628-0

Issued in response to Application No. 959628 received July 18, 2014. This permit is issued based on the land use findings in the permit record.

\_\_\_\_\_  
Tiffany Yelton-Bram, Water Quality Manager  
Northwest Region

\_\_\_\_\_  
Signature Date

\_\_\_\_\_  
Effective Date

**PERMITTED ACTIVITIES**

Until this permit expires or is modified or revoked, the permittee is authorized to: 1) operate a wastewater collection, treatment, control and disposal system; and 2) discharge treated wastewater to waters of the state only from the authorized discharge point or points in Schedule A in conformance with the requirements, limits, and conditions set forth in this permit.

Unless specifically authorized by this permit, by another NPDES permit, or by Oregon statute or administrative rule, any other direct or indirect discharge of pollutants to waters of the state is prohibited.

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**SCHEDULE A: WASTE DISCHARGE LIMITS****1. Outfall 001 – Permit Limits**a. BOD<sub>5</sub> and TSS

- i. May 1 – October 31. During this time period the permittee must comply with the limits in the following table:

**Table A1: BOD<sub>5</sub> and TSS Limits**

Parameter	Average Effluent Concentrations, mg/L		Monthly Average lbs/day	Weekly Average lbs/day	Daily Maximum lbs
	Monthly	Weekly			
BOD <sub>5</sub>	10 mg/L	15 mg/L	3	4	5
TSS	10 mg/L	15 mg/L	3	4	5

- ii. November 1 – April 30: During this time period the permittee must comply with the limits in the following table:

**Table A1: BOD<sub>5</sub> and TSS Limits**

Parameter	Average Effluent Concentrations, mg/L		Monthly Average lbs/day	Weekly Average lbs/day	Daily Maximum Lbs
	Monthly	Weekly			
BOD <sub>5</sub>	30 mg/L	45 mg/L	8	11	15
TSS	30 mg/L	45 mg/L	8	11	15

- iii. Additional information for the limits in Tables A1 and A2 above.

(A) Average dry weather design flow to the facility equals 0.016 MGD. Mass load limits are based on the facility design flow of 0.03 MGD.

## b. Additional Parameters.

Permittee must comply with the limits in the following table (year-round except as noted):

**Table A2: Limits for Additional Parameters**

<b>Year-round</b>	<b>Limits</b>
BOD <sub>5</sub> and TSS Removal Efficiency	May not be less than 85% monthly average for BOD <sub>5</sub> and TSS.
<i>E. coli</i> Bacteria (see Note a.)	Monthly log mean may not exceed 126 MPN organisms per 100 ml. No single sample may exceed 406 organisms per 100 ml.
pH	May not be outside the range of 6.5 to 8.5 S.U.
Chlorine, Total Residual (see Note b.)	The monthly average effluent concentration limit is 0.01 mg/L. The daily maximum effluent concentration limit is 0.02 mg/L.
Notes: Monthly log mean is the same as geometric mean. No single <i>E. coli</i> sample may exceed 406 MPN organisms per 100 mL; however, DEQ will not cite a violation of this limit if the permittee takes at least 5 consecutive re-samples at 4 hour intervals beginning within 28 hours after the original sample was taken and the geometric mean of the 5 re-samples is less than or equal to 126 <i>E. coli</i> MPN organisms/100 mL. a. DEQ has established a minimum Quantitation Limit of 0.05 mg/L for Total Residual Chlorine. In cases where the monthly average or daily maximum limit for Total Residual Chlorine is lower than the Quantitation Limit, DEQ will use the Quantitation Limit as the compliance evaluation level.	

## 2. Regulatory Mixing Zone

Pursuant to OAR 340-041-0053, the permittee is granted a regulatory mixing zone at Outfall 001 as described below:

*The allowable mixing zone is that portion of the Willamette River contained within a band extending out 50 feet from the east bank of the river and extending from a point 6 feet upstream of the outfall to 50 feet downstream from the point of discharge.*

No wastes may be discharged or activities conducted that cause or contribute to a violation of water quality standards in OAR 340-041 applicable to the Willamette basin except as provided for in OAR 340-045-0080 and the mixing zone identified above.

## 3. Groundwater Protection

The permittee may not conduct any activities that could cause an adverse impact on existing or potential beneficial uses of groundwater. All wastewater and process related residuals must be managed and disposed of in a manner that will prevent a violation of the Groundwater Quality Protection Rules (OAR Chapter 340, Division 40).

**SCHEDULE B: MINIMUM MONITORING AND REPORTING REQUIREMENTS****1. Monitoring and Reporting Protocols**

- a. Laboratory Quality Assurance and Quality Control
- i. Laboratory Quality Assurance and Quality Control (QA/QC) – The permittee must develop and implement a written QA/QC program that conforms to the requirements of 40 CFR Part 136.7.
  - ii. If QA/QC requirements are not met for any analysis, the permittee must re-analyze the sample. If the sample cannot be re-analyzed, the permittee must re-sample and analyze at the earliest opportunity. If a sample does not meet QA/QC requirements, the permittee must include the result in the discharge monitoring report (DMR) along with a notation (data qualifier) explaining how it does not meet QA/QC requirements, but the permittee must not use the result in any calculation required by the permit unless authorized by the DEQ permit writer or inspector.
- b. Reporting Procedures
- i. Significant Figures  
Mass load limits all have two significant figures unless otherwise noted.
  - ii. Calculating Mass Loads  
The permittee must calculate mass loads on each day the parameter is monitored using the following equation:  
$$\text{Flow (in MGD)} \times \text{Concentration (in mg/L)} \times 8.34 = \text{Pounds per day}$$

**2. Influent Monitoring and Reporting Requirements**

The permittee must monitor influent at the splitter box and report results as listed below.

**Table B1: Influent Monitoring**

Item or Parameter	Time Period	Minimum Frequency <sup>a</sup>	Sample Type/Required Action	Report
BOD <sub>5</sub> and TSS (mg/L)	Year-round	Monthly	Grab	Monthly
pH (S.U.)	Year-round	2 days per week	Grab	Monthly

**3. Effluent Monitoring and Reporting Requirements**

The permittee must monitor effluent for Outfall 001 at the discharge from the de-chlorination chamber and report results as listed below.

**Table B2: Effluent Monitoring**

Item or Parameter	Time Period	Minimum Frequency <sup>a</sup>	Sample Type/Required Action	Report
Total Flow (MGD) at discharge	Year round	Daily	Measurement	Monthly
Chlorine Used	Year round	Daily	Measurement	Monthly
Chlorine, Total Residual (mg/L)	Year round	Daily	Grab	Monthly
pH (S.U.)	Year round	2/week	Grab	Monthly
Temperature (°C)	Year round	2/week	Grab	Monthly
<i>E. coli</i> (MPN/100mL)	Year round	Monthly	Grab	Monthly
BOD <sub>5</sub> and TSS (mg/L)	Year round	Monthly	24 hr composite	Monthly
BOD <sub>5</sub> and TSS Mass Load (lb/day)	Year round	Monthly	calculation	Monthly
BOD <sub>5</sub> and TSS Percent Removal (%) (see Note a. for how to calculate).	Year round	Monthly	calculation	Monthly
Ammonia (NH <sub>3</sub> -N) (mg/L)	Year round	Quarterly	24 hr composite	Monthly
Flow Meter Calibration	Year round	Annual	Verification	Plant records
Solids Removed	Year round	Each Occurrence	Measurement/ document	Monthly – date, volume (gal), hauler, transfer point
Notes:				
a. Percent removal is to be calculated on a monthly basis. Percent removal = ((BOD <sub>inf</sub> – BOD <sub>eff</sub> )/BOD <sub>inf</sub> ) x 100, where BOD <sub>inf</sub> is the monthly average influent concentration in mg/L and BOD <sub>eff</sub> is the monthly average effluent concentration in mg/L.				

**4. Outfall Inspection**

During the year **XXXX (3<sup>rd</sup> year of permit issuance)**, the permittee must inspect outfall 001 and submit a written report to DEQ within the same year regarding the integrity of the outfall. The report should include a description of the outfall as originally constructed, the current condition of the outfall and a discussion of any repairs that are necessary to return the outfall to its originally designed condition.

**5. Minimum Reporting Requirements**

The permittee must report monitoring results as listed below.

**Table B3: Reporting Requirements and Due Dates**

Reporting Requirement	Frequency	Due Date (see note a.)	Report Form (unless otherwise specified in writing)	Submit To:
1. Table B1: Influent Monitoring 2. Table B2: Effluent Monitoring	Monthly	15 <sup>th</sup> day of the month following data collection	DEQ-approved discharge monitoring report (DMR) form, electronic and hardcopy. (See Notes b. through d.)	DEQ Regional Office
Wastewater solids annual report describing quality, quantity, and use or disposal of wastewater solids generated at the facility.	Annually	February 19	2 hard copies and electronic copy in DEQ-approved format	DEQ Regional Office
Inflow and infiltration report (see Schedule D, Section 1 for description)	Annually	February 1	1 hard copy and electronic copy in DEQ-approved format	DEQ Regional Office
Outfall Inspection Report (see Schedule B, Section 4 for description)	Every 5 years	Within 36 months of permit effective date	1 hard copy and electronic copy in DEQ-approved format	DEQ Regional Office
<p>Notes:</p> <ol style="list-style-type: none"> <li>For submittals that are provided to DEQ by mail, the postmarked date must not be later than the due date.</li> <li>Name, certificate classification, and grade level of each responsible principal operator as well as identification of each system classification must be included on DMRs. Font size must not be less than 10 pt.</li> <li>Equipment breakdowns and bypass events must be noted on DMRs.</li> <li>DEQ anticipates implementing an electronic reporting system for DMRs. Once the electronic reporting system is in place, the permittee is required to submit DMRs electronically. Until the electronic reporting system is in place, the permittee must submit a hard copy of the DMR.</li> </ol>				

Expiration Date: Date, 2021

Permit Number: 101644

File Number: 97612

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### **SCHEDULE C: COMPLIANCE SCHEDULE**

This permit does not contain a Schedule C

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## **SCHEDULE D: SPECIAL CONDITIONS**

### **1. Inflow and Infiltration**

The permittee must submit to DEQ an annual inflow and infiltration report as directed in Schedule B. The report must include the following:

- a. An assessment of the facility's I/I issues based on a comparison of summer and winter flows to the plant.
- b. Details of activities performed in the previous year to identify and reduce inflow and infiltration.
- c. Details of activities planned for the following year to identify and reduce inflow and infiltration.
- d. A summary of sanitary sewer overflows that occurred during the previous year. This should include the following: date of the SSO, location, estimated volume, cause, follow-up actions and if performed, the results of ambient monitoring.

### **2. Emergency Response and Public Notification Plan**

The permittee must develop and maintain an Emergency Response and Public Notification Plan (the Plan) per Schedule F, Section B, and Conditions 7 & 8. The permittee must develop the plan within six months of permit issuance and update the Plan annually to ensure that telephone and email contact information for applicable public agencies (permit writer should include specific contacts here as needed) are current and accurate. An updated copy of the plan must be kept on file at the wastewater treatment facility for DEQ review. The latest plan revision date must be listed on the Plan cover along with the reviewer's initials or signature.

### **3. Exempt Wastewater Reuse at the Treatment System**

The permittee is exempt from the recycled water use requirements in OAR 340-055 when recycled water is used for landscape irrigation or in-plant processes at the wastewater treatment system and all of the following conditions are met:

- a. The recycled water is an oxidized and disinfected wastewater.
- b. The recycled water is used at the wastewater treatment system site where it is generated or at an auxiliary wastewater or sludge treatment facility that is subject to the same NPDES or WPCF permit as the wastewater treatment system. Land that is contiguous to the property upon which the treatment system is located is considered to be part of the wastewater treatment system site if under the same ownership.
- c. Spray or drift or both from the use does not occur off the site.
- d. Public access to the site is restricted.

#### 4. Wastewater Solids Transfers

- a. *Within state.* The permittee may transfer wastewater solids including Class A and Class B biosolids, to another facility permitted to process or dispose of wastewater solids, including but not limited to: another wastewater treatment facility, landfill, or incinerator. The permittee must monitor, report, and dispose of solids as required under the permit of the receiving facility.
- b. *Out of state.* If wastewater solids, including Class A and Class B biosolids, are transferred out of state for use or disposal, the permittee must obtain written authorization from DEQ, meet Oregon requirements for the use or disposal of wastewater solids, notify in writing the receiving state of the proposed use or disposal of wastewater solids, and satisfy the requirements of the receiving state.

#### 5. Hauled Waste Control

The permittee may accept hauled wastes at discharge points designated by the POTW after receiving written DEQ approval of a hauled waste control plan. Hauled wastes may include wastewater solids from another wastewater treatment facility, septage, grease trap wastes, portable and chemical toilet wastes, landfill leachate, groundwater remediation wastewaters and commercial/industrial wastewaters.

#### 6. Operator Certification

- a. Definitions
  - i. "Supervise" means to have full and active responsibility for the daily on site technical operation of a wastewater treatment system or wastewater collection system.
  - ii. "Supervisor" or "designated operator", means the operator delegated authority by the permittee for establishing and executing the specific practice and procedures for operating the wastewater treatment system or wastewater collection system in accordance with the policies of the owner of the system and any permit requirements.
  - iii. "Shift Supervisor" means the operator delegated authority by the permittee for executing the specific practice and procedures for operating the wastewater treatment system or wastewater collection system when the system is operated on more than one daily shift.
  - iv. "System" includes both the collection system and the treatment systems.
- b. The permittee must comply with OAR Chapter 340, Division 49, "Regulations Pertaining to Certification of Wastewater System Operator Personnel" and designate a supervisor whose certification corresponds with the classification of the collection and/or treatment system as specified on p. 1 of this permit.
- c. The permittee must have its system supervised on a part-time or full-time basis by one or more operators who hold a valid certificate for the type of wastewater treatment or wastewater collection system the operator is supervising and at a grade equal to or greater than the wastewater system's classification specified on page one of this permit.
- d. The permittee's wastewater system may not be without the designated supervisor for more than 30 days. During this period, there must be another person available to supervise who is certified at no more than one grade lower than the classification of the wastewater system. The permittee must delegate authority to this operator to supervise the operation of the system.

- e. If the wastewater system has more than one daily shift, the permittee must have another properly certified operator available to supervise operation of the system. Each shift supervisor must be certified at no more than one grade lower than the system classification.
- f. The permittee is not required to have a supervisor on site at all times; however, the supervisor must be available to the permittee and operator at all times.
- g. The permittee must notify DEQ in writing of the name of the system supervisor. The permittee may replace or re-designate the system supervisor with another properly certified operator at any time and must notify DEQ in writing within 30 days of replacement or re-designation of operator in charge. As of this writing, the notice of replacement or re-designation must be sent to Water Quality Division, Operator Certification Program, 700 NE Multnomah St, Suite 600, Portland, OR 97232-4100. This address may be updated in writing by DEQ during the term of this permit.
- h. When compliance with item (e) of this section is not possible or practicable because the system supervisor is not available or the position is vacated unexpectedly, and another certified operator is not qualified to assume supervisory responsibility, the Director may grant a time extension for compliance with the requirements in response to a written request from the system owner. The Director will not grant an extension longer than 120 days unless the system owner documents the existence of extraordinary circumstances.

#### **7. Industrial User Notification**

The permittee must notify the Department when an industrial user requests to discharge wastewaters at the treatment plant for treatment. The permittee may not accept the industrial waste water without prior written approval from the Department. This is to ensure regulatory oversight of these discharges to state waters. If the POTW has already requested authorization to treat industrial wastewater, the results of this request are to be provided to DEQ within two months of the permit effective date.

Expiration Date: Date, 2021

Permit Number: 101644

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### **SCHEDULE E: PRETREATMENT ACTIVITIES**

This permit does not contain a Schedule E

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## SCHEDULE F

### NPDES GENERAL CONDITIONS – DOMESTIC FACILITIES

#### SECTION A. STANDARD CONDITIONS

##### A1. Duty to Comply with Permit

The permittee must comply with all conditions of this permit. Failure to comply with any permit condition is a violation of Oregon Revised Statutes (ORS) 468B.025 and the federal Clean Water Act and is grounds for an enforcement action. Failure to comply is also grounds for DEQ to terminate, modify and reissue, revoke, or deny renewal of a permit.

##### A2. Penalties for Water Pollution and Permit Condition Violations

The permit is enforceable by DEQ or EPA, and in some circumstances also by third-parties under the citizen suit provisions of 33 USC § 1365. DEQ enforcement is generally based on provisions of state statutes and Environmental Quality Commission (EQC) rules, and EPA enforcement is generally based on provisions of federal statutes and EPA regulations.

ORS 468.140 allows DEQ to impose civil penalties up to \$25,000 per day for violation of a term, condition, or requirement of a permit. The federal Clean Water Act provides for civil penalties not to exceed \$37,500 and administrative penalties not to exceed \$16,000 per day for each violation of any condition or limitation of this permit.

Under ORS 468.943, unlawful water pollution in the second degree, is a Class A misdemeanor and is punishable by a fine of up to \$25,000, imprisonment for not more than one year, or both. Each day on which a violation occurs or continues is a separately punishable offense. The federal Clean Water Act provides for criminal penalties of not more than \$50,000 per day of violation, or imprisonment of not more than 2 years, or both for second or subsequent negligent violations of this permit.

Under ORS 468.946, unlawful water pollution in the first degree is a Class B felony and is punishable by a fine of up to \$250,000, imprisonment for not more than 10 years, or both. The federal Clean Water Act provides for criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment of not more than 3 years, or both for knowing violations of the permit. In the case of a second or subsequent conviction for knowing violation, a person is subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both.

##### A3. Duty to Mitigate

The permittee must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit. In addition, upon request of DEQ, the permittee must correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

##### A4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and have the permit renewed. The application must be submitted at least 180 days before the expiration date of this permit.

DEQ may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

**A5. Permit Actions**

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

- a. Violation of any term, condition, or requirement of this permit, a rule, or a statute.
- b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts.
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- d. The permittee is identified as a Designated Management Agency or allocated a wasteload under a total maximum daily load (TMDL).
- e. New information or regulations.
- f. Modification of compliance schedules.
- g. Requirements of permit reopener conditions
- h. Correction of technical mistakes made in determining permit conditions.
- i. Determination that the permitted activity endangers human health or the environment.
- j. Other causes as specified in 40 CFR §§ 122.62, 122.64, and 124.5.
- k. For communities with combined sewer overflows (CSOs):
  - (1) To comply with any state or federal law regulation for CSOs that is adopted or promulgated subsequent to the effective date of this permit.
  - (2) If new information that was not available at the time of permit issuance indicates that CSO controls imposed under this permit have failed to ensure attainment of water quality standards, including protection of designated uses.
  - (3) Resulting from implementation of the permittee's long-term control plan and/or permit conditions related to CSOs.

The filing of a request by the permittee for a permit modification, revocation or reissuance, termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

**A6. Toxic Pollutants**

The permittee must comply with any applicable effluent standards or prohibitions established under Oregon Administrative Rule (OAR) 340-041-0033 and section 307(a) of the federal Clean Water Act for toxic pollutants, and with standards for sewage sludge use or disposal established under section 405(d) of the federal Clean Water Act, within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

**A7. Property Rights and Other Legal Requirements**

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege, or authorize any injury to persons or property or invasion of any other private rights, or any infringement of federal, tribal, state, or local laws or regulations.

**A8. Permit References**

Except for effluent standards or prohibitions established under section 307(a) of the federal Clean Water Act and OAR 340-041-0033 for toxic pollutants, and standards for sewage sludge use or disposal established under section 405(d) of the federal Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

**A9. Permit Fees**

The permittee must pay the fees required by OAR.

**SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS****B1. Proper Operation and Maintenance**

The permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

**B2. Need to Halt or Reduce Activity Not a Defense**

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee must, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It is not a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

**B3. Bypass of Treatment Facilities****a. Definitions**

- (1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs b and c of this section.
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

**b. Prohibition of bypass.**

- (1) Bypass is prohibited and DEQ may take enforcement action against a permittee for bypass unless:
  - i. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
  - ii. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventative maintenance; and
  - iii. The permittee submitted notices and requests as required under General Condition B3.c.
- (2) DEQ may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, if DEQ determines that it will meet the three conditions listed above in General Condition B3.b.(1).

**c. Notice and request for bypass.**

- (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, a written notice must be submitted to DEQ at least ten days before the date of the bypass.
- (2) Unanticipated bypass. The permittee must submit notice of an unanticipated bypass as required in General Condition D5.

**B4. Upset**

- a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by

operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

- b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of General Condition B4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - (1) An upset occurred and that the permittee can identify the causes(s) of the upset;
  - (2) The permitted facility was at the time being properly operated;
  - (3) The permittee submitted notice of the upset as required in General Condition D5, hereof (24-hour notice); and
  - (4) The permittee complied with any remedial measures required under General Condition A3 hereof.
- d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

**B5. Treatment of Single Operational Upset**

For purposes of this permit, a single operational upset that leads to simultaneous violations of more than one pollutant parameter will be treated as a single violation. A single operational upset is an exceptional incident that causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one federal Clean Water Act effluent discharge pollutant parameter. A single operational upset does not include federal Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational upset is a violation.

**B6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations**

- a. Definition. "Overflow" means any spill, release or diversion of sewage including:
  - (1) An overflow that results in a discharge to waters of the United States; and
  - (2) An overflow of wastewater, including a wastewater backup into a building (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building lateral), even if that overflow does not reach waters of the United States.
- b. Reporting required. All overflows must be reported orally to DEQ within 24 hours from the time the permittee becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D5.

**B7. Public Notification of Effluent Violation or Overflow**

If effluent limitations specified in this permit are exceeded or an overflow occurs that threatens public health, the permittee must take such steps as are necessary to alert the public, health agencies and other affected entities (for example, public water systems) about the extent and nature of the discharge in accordance with the notification procedures developed under General Condition B8. Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

**B8. Emergency Response and Public Notification Plan**

The permittee must develop and implement an emergency response and public notification plan that identifies measures to protect public health from overflows, bypasses, or upsets that may endanger public health. At a minimum the plan must include mechanisms to:

- a. Ensure that the permittee is aware (to the greatest extent possible) of such events;

- b. Ensure notification of appropriate personnel and ensure that they are immediately dispatched for investigation and response;
- c. Ensure immediate notification to the public, health agencies, and other affected public entities (including public water systems). The overflow response plan must identify the public health and other officials who will receive immediate notification;
- d. Ensure that appropriate personnel are aware of and follow the plan and are appropriately trained;
- e. Provide emergency operations; and
- f. Ensure that DEQ is notified of the public notification steps taken

**B9. Removed Substances**

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must be disposed of in such a manner as to prevent any pollutant from such materials from entering waters of the state, causing nuisance conditions, or creating a public health hazard.

**SECTION C. MONITORING AND RECORDS**

**C1. Representative Sampling**

Sampling and measurements taken as required herein must be representative of the volume and nature of the monitored discharge. All samples must be taken at the monitoring points specified in this permit, and must be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points must not be changed without notification to and the approval of DEQ. Samples must be collected in accordance with requirements in 40 CFR part 122.21 and 40 CFR part 403 Appendix E.

**C2. Flow Measurements**

Appropriate flow measurement devices and methods consistent with accepted scientific practices must be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices must be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected must be capable of measuring flows with a maximum deviation of less than  $\pm 10$  percent from true discharge rates throughout the range of expected discharge volumes.

**C3. Monitoring Procedures**

Monitoring must be conducted according to test procedures approved under 40 CFR part 136 or, in the case of sludge (biosolids) use and disposal, approved under 40 CFR part 503 unless other test procedures have been specified in this permit.

For monitoring of recycled water with no discharge to waters of the state, monitoring must be conducted according to test procedures approved under 40 CFR part 136 or as specified in the most recent edition of Standard Methods for the Examination of Water and Wastewater unless other test procedures have been specified in this permit or approved in writing by DEQ.

**C4. Penalties for Tampering**

The federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit may, upon conviction, be punished by a fine of not more than \$10,000 per violation, imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both.

C5. Reporting of Monitoring Results

Monitoring results must be summarized each month on a discharge monitoring report form approved by DEQ. The reports must be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

C6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR part 136 or, in the case of sludge (biosolids) use and disposal, approved under 40 CFR part 503, or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the discharge monitoring report. Such increased frequency must also be indicated. For a pollutant parameter that may be sampled more than once per day (for example, total residual chlorine), only the average daily value must be recorded unless otherwise specified in this permit.

C7. Averaging of Measurements

Calculations for all limitations that require averaging of measurements must utilize an arithmetic mean, except for bacteria which must be averaged as specified in this permit.

C8. Retention of Records

Records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities must be retained for a period of at least 5 years (or longer as required by 40 CFR part 503). Records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit and records of all data used to complete the application for this permit must be retained for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of DEQ at any time.

C9. Records Contents

Records of monitoring information must include:

- a. The date, exact place, time, and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

C10. Inspection and Entry

The permittee must allow DEQ or EPA upon the presentation of credentials to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

C11. Confidentiality of Information

Any information relating to this permit that is submitted to or obtained by DEQ is available to the public unless classified as confidential by the Director of DEQ under ORS 468.095. The permittee may request that

information be classified as confidential if it is a trade secret as defined by that statute. The name and address of the permittee, permit applications, permits, effluent data, and information required by NPDES application forms under 40 CFR § 122.21 are not classified as confidential [40 CFR § 122.7(b)].

#### **SECTION D. REPORTING REQUIREMENTS**

##### **D1. Planned Changes**

The permittee must comply with OAR 340-052, "Review of Plans and Specifications" and 40 CFR § 122.41(l)(1). Except where exempted under OAR 340-052, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers may be commenced until the plans and specifications are submitted to and approved by DEQ. The permittee must give notice to DEQ as soon as possible of any planned physical alternations or additions to the permitted facility.

##### **D2. Anticipated Noncompliance**

The permittee must give advance notice to DEQ of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

##### **D3. Transfers**

This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and EQC rules. No permit may be transferred to a third party without prior written approval from DEQ. DEQ may require modification, revocation, and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under 40 CFR § 122.61. The permittee must notify DEQ when a transfer of property interest takes place.

##### **D4. Compliance Schedule**

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

##### **D5. Twenty-Four Hour Reporting**

The permittee must report any noncompliance that may endanger health or the environment. Any information must be provided orally (by telephone) to the DEQ regional office or Oregon Emergency Response System (1-800-452-0311) as specified below within 24 hours from the time the permittee becomes aware of the circumstances.

###### **a. Overflows.**

###### **(1) Oral Reporting within 24 hours.**

- i.** For overflows other than basement backups, the following information must be reported to the Oregon Emergency Response System (OERS) at 1-800-452-0311. For basement backups, this information should be reported directly to the DEQ regional office.
  - (a)** The location of the overflow;
  - (b)** The receiving water (if there is one);
  - (c)** An estimate of the volume of the overflow;
  - (d)** A description of the sewer system component from which the release occurred (for example, manhole, constructed overflow pipe, crack in pipe); and
  - (e)** The estimated date and time when the overflow began and stopped or will be stopped.
- ii.** The following information must be reported to the DEQ regional office within 24 hours, or during normal business hours, whichever is earlier:
  - (a)** The OERS incident number (if applicable); and

- (b) A brief description of the event.
- (2) Written reporting postmarked within 5 days.
  - i. The following information must be provided in writing to the DEQ regional office within 5 days of the time the permittee becomes aware of the overflow:
    - (a) The OERS incident number (if applicable);
    - (b) The cause or suspected cause of the overflow;
    - (c) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;
    - (d) Steps taken or planned to mitigate the impact(s) of the overflow and a schedule of major milestones for those steps; and
    - (e) For storm-related overflows, the rainfall intensity (inches/hour) and duration of the storm associated with the overflow.

DEQ may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

b. Other instances of noncompliance.

- (1) The following instances of noncompliance must be reported:
  - i. Any unanticipated bypass that exceeds any effluent limitation in this permit;
  - ii. Any upset that exceeds any effluent limitation in this permit;
  - iii. Violation of maximum daily discharge limitation for any of the pollutants listed by DEQ in this permit; and
  - iv. Any noncompliance that may endanger human health or the environment.
- (2) During normal business hours, the DEQ regional office must be called. Outside of normal business hours, DEQ must be contacted at 1-800-452-0311 (Oregon Emergency Response System).
- (3) A written submission must be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission must contain:
  - i. A description of the noncompliance and its cause;
  - ii. The period of noncompliance, including exact dates and times;
  - iii. The estimated time noncompliance is expected to continue if it has not been corrected;
  - iv. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
  - v. Public notification steps taken, pursuant to General Condition B7.
- (4) DEQ may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

D6. Other Noncompliance

The permittee must report all instances of noncompliance not reported under General Condition D4 or D5 at the time monitoring reports are submitted. The reports must contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected; and
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

D7. Duty to Provide Information

The permittee must furnish to DEQ within a reasonable time any information that DEQ may request to determine compliance with the permit or to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit. The permittee must also furnish to DEQ, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it has failed to submit any relevant facts or has submitted incorrect information in a permit application or any report to DEQ, it must promptly submit such facts or information.

D8. Signatory Requirements

All applications, reports or information submitted to DEQ must be signed and certified in accordance with 40 CFR § 122.22.

D9. Falsification of Information

Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed \$125,000 per violation and up to 5 years in prison per ORS chapter 161. Additionally, according to 40 CFR § 122.41(k)(2), any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or non-compliance will, upon conviction, be punished by a federal civil penalty not to exceed \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

D10. Changes to Indirect Dischargers

The permittee must provide adequate notice to DEQ of the following:

- a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the federal Clean Water Act if it were directly discharging those pollutants and;
- b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- c. For the purposes of this paragraph, adequate notice must include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

**SECTION E. DEFINITIONS**

E1. *BOD* or *BOD<sub>5</sub>* means five-day biochemical oxygen demand.

E2. *CBOD* or *CBOD<sub>5</sub>* means five-day carbonaceous biochemical oxygen demand.

E3. *TSS* means total suspended solids.

E4. *Bacteria* means but is not limited to fecal coliform bacteria, total coliform bacteria, *Escherichia coli* (*E. coli*) bacteria, and *Enterococcus* bacteria.

E5. *FC* means fecal coliform bacteria.

E6. *Total residual chlorine* means combined chlorine forms plus free residual chlorine

E7. *Technology based permit effluent limitations* means technology-based treatment requirements as defined in 40 CFR § 125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-041.

E8. *mg/l* means milligrams per liter.

E9. *µg/l* means microgram per liter.

E10. *kg* means kilograms.

E11. *m<sup>3</sup>/d* means cubic meters per day.

E12. *MGD* means million gallons per day.

E13. *Average monthly effluent limitation* as defined at 40 CFR § 122.2 means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

- E14. *Average weekly effluent limitation* as defined at 40 CFR § 122.2 means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.
- E15. *Daily discharge* as defined at 40 CFR § 122.2 means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge must be calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge must be calculated as the average measurement of the pollutant over the day.
- E16. *24-hour composite sample* means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.
- E17. *Grab sample* means an individual discrete sample collected over a period of time not to exceed 15 minutes.
- E18. *Quarter* means January through March, April through June, July through September, or October through December.
- E19. *Month* means calendar month.
- E20. *Week* means a calendar week of Sunday through Saturday.
- E21. *POTW* means a publicly-owned treatment works.



State of Oregon  
Department of  
Environmental  
Quality

## Permit Evaluation Report

Oregon Department of Environmental Quality  
Northwest Region Office  
700 NE Multnomah Street, Suite 600  
Portland OR 97232

Contact: Pat Heins

<b>Permittee:</b>	Regency of Oregon, Inc / Canby Regency Mobile Home Park 40 N 4 <sup>th</sup> Street Carbondale, CO 81623
<b>Existing Permit Information:</b>	File Number: 97612 Permit Number: 101644 Expiration Date: November 30, 2014 EPA Reference Number: OR-002628-0
<b>Source Contact:</b>	Curt Price, 503-421-2821 Facility Operator
<b>Facility Location:</b>	10038 S New Era Road Canby, OR Clackamas County
<b>LLID:</b>	1227618456580-31.6 D
<b>Receiving Stream/Basin:</b>	Receiving Stream: Willamette River RM 31.6  WRD Basin Middle Willamette  USGS subbasin: Middle Willamette
<b>Proposed Action:</b>	Renew Permit Application Number: 959628 Date Received: 7/18/2014
<b>Source Category:</b>	NPDES Minor – Domestic
<b>Sources Covered:</b>	Domestic wastewater
<b>Permit Type:</b>	NPDES Dom-da
<b>Permit Writer:</b>	Pat Heins NRS3/NWR/WQ 3/4/2016

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## **1.0 Introduction**

The Department of Environmental Quality (DEQ) proposes to renew the National Pollutant Discharge Elimination System (NPDES) wastewater permit for Regency of Oregon, Inc.'s Canby Regency facility located at 10038 S New Era Road just outside Canby, Oregon. This permit allows and regulates the discharge of treated domestic wastewater to the Willamette River. The permit also authorizes Canby Regency to transfer wastewater solids to another treatment facility for additional treatment and disposal.

The purpose of this permit evaluation report is to explain and provide justification for the permit.

The Federal Water Pollution Control Act of 1972 (also known as the Clean Water Act) and its subsequent amendments, as well as Oregon Revised Statutes (ORS 468B.050), require a NPDES permit for the discharge of wastewater to surface waters. This proposed permit action by DEQ complies with both federal and state requirements.

## **2.0 Permit History**

### **2.1 Issuance, Renewal and Modifications**

This facility obtained a NPDES permit in 1971 and has maintained their permits over the years. The current NPDES Permit expired on November 30, 2014. DEQ received renewal application number 959628 from Canby Regency on July 18, 2014. Because the permittee submitted a renewal application to DEQ in a timely manner, the current permit will not expire until DEQ takes final action on the renewal application as per OAR 340-045-0040.

### **2.2 Compliance History**

The facility was last inspected on February 18, 2016 and was found to be operating in compliance with permit requirements. Based on a review of DEQ's files the Canby Regency facility has had the following compliance actions since the last permit issuance on July 19, 2010.

- April 24, 2012 – Warning Letter w/Opportunity to Correct for BOD and TSS exceedence
- September 4, 2013 – Warning Letter for *E. Coli* exceedence
- June 10, 2014 – Warning Letter for failing to timely submit a report as required by the permit

## **3.0 Proposed Revisions to Permit**

The proposed permit contains the following substantive changes from the July 19, 2010 permit:

- Schedule A –
  - The proposed permit has reduced the allowable pH range for discharge water. The proposed limit is now between 6.5 and 8.5 standard units.
- Schedule B –
  - Condition 1 was added and contains standard permit language for Laboratory Quality Assurance and Quality Control, and reporting Procedures. This condition clarifies requirements contained in Condition 1 of the existing permit and includes additional reporting requirements.
  - Condition 3 Table B2 now contains the requirements for reporting temperature.
- Schedule C – This permit does not contain a Schedule C

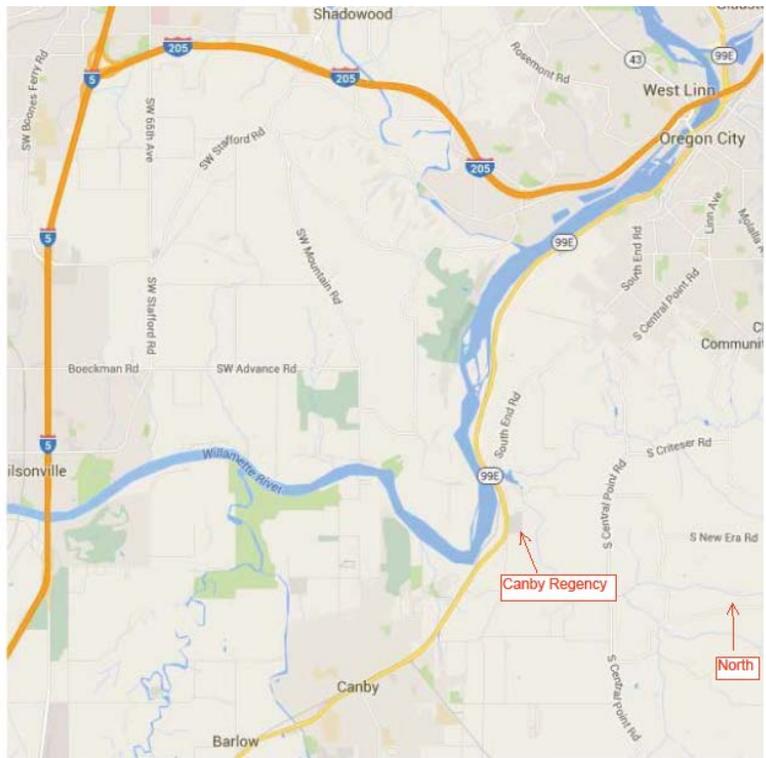
- Schedule D –
  - Condition 1 is replacement language for the inflow and infiltration program language in the previous permit.
  - Condition 2 is a new requirement to develop a plan to implement the general condition duties in Schedule F; Conditions A.3, B.7, B.8, and D.5.
  - Condition 3 is a new permit condition that expressly allows the permittee to re-use treated water within certain limitations. This condition is standard language included in renewal permits to acknowledge an existing allowed re-use of treated water.
  - Condition 4 contains requirements for transferring wastewater solids from the facility. This is standard permit language included to set requirements for transfers allowed under current rules.
  - Condition 5 is standard permit language expressly allowing and setting requirements for accepting Hauled Waste at the facility.
  - Condition 6 replaces Condition 3 of Schedule D in the previous permit. This is the standard permit language for the Operator Certification requirement that applies to all Sewage Treatment Plants.
- Schedule E – This permit does not contain a Schedule E

#### **4.0 Facility description**

##### **4.1 Wastewater Facilities Description**

Canby Regency Mobile Home Park (Regency) is a 117 space residential modular home park located in unincorporated Clackamas County about a mile from Canby toward Oregon City just off Highway 99E near the Willamette River (See Figure 1). The wastewater from Regency is collected and flows by gravity to the treatment plant on the northeast side of Regency. The wastewater flow into the treatment plant is split into two parallel 50,000 gallon septic tanks and then the septic tank effluent enters a 25,000 gallon recirculation tank which pumps to eight recirculating textile filter pods. The treated wastewater leaving the filter pods either goes into the chlorine contact tank for disinfection or back into the recirculation tank to mix with the septic tank effluent. The treated and disinfected wastewater is dechlorinated and then pumped 1,500 feet to discharge into the Willamette River. The average dry weather design flow for the wastewater facility was set at 23,500 gallons per day (gpd) based on the design service population of 300 persons. The facility currently experiences flows ranging from a minimum of 5,200 gpd to a maximum flow of 40,500 gpd and an average reported flow of 16,000 gpd.

The current treatment facility was put into service in 2009 to replace an aged activated sludge package plant that had previously treated the wastewater. The former plant had a 3-day holding pond for treated effluent that was removed with the upgrade in 2009.



**Figure 1: Facility Location**



**Figure 2: Facility and Outfall**

## 4.2 Outfalls

The effluent is pumped a short distance from the plant to the top of the grade and then flows by gravity to the Willamette River. The outfall is a four inch polyvinyl chloride pipe that protrudes from the river bank approximately three feet. The river bank at the outfall is steep and over grown with bush making it difficult to approach from the land. In addition, an active railroad line and private property isolates the outfall from general public access (See Figure 2). The outfall pipe is submerged during periods of high river levels and exposed during low river levels (See Figure3). The outfall's latitude is 45.2926 and longitude is -122.6579.



**Figure 3: Facility Outfall**

## 4.3 Sewage Collection System

Sewage collection systems are designed to collect and transport raw sewage from residences to the wastewater treatment facility. Canby Regency has a collection system that consists of approximately 6,700 linear feet of pipe and serves approximately 300 people. The average age of the system is approximately 40 years old. Some of the pipes in the system are more than 45 years old.

As collection systems age, the pipes develop cracks, allowing the infiltration of groundwater. Stormwater may also enter the system. Though no longer allowed under current plumbing codes, in the past it was common to connect stormwater drains directly to sewers. The entry of groundwater and stormwater into the collection system is known as infiltration and inflow, or I/I for short.

When a collection system experiences excessive I/I, most of the flow that makes it to the treatment plant may in fact be stormwater or groundwater that by itself does not require treatment. This can result in the following:

- Overflows from the sanitary sewer system when it rains. These are referred to as SSOs (sanitary sewer overflows).
- The release of untreated or partially treated sewage from all or a portion of the treatment plant. Such a release is termed a bypass. Bypasses may be necessary to avoid damaging the plant.
- Increased operation and maintenance costs.

The ratio of wet weather to dry weather flows measured at the treatment plant is an indication of how much I/I is occurring in the collection system. This information is summarized below.

**Table 1: Average and Peak Flow Statistics for Canby Regency**

Flow Statistic	Millions of Gallons/Day (MGD)	Ratio to Average Dry Weather Flow (ADWDF)
Average Dry Weather Flow (ADWF)	0.0151	1
Average Wet Weather Flow over last 6 years	0.0156	1.03
Highest Monthly Average over last 6 years (July, 2015)	0.0211	1.4
Peak Daily Flow over last 6 years (occurred 8/2/2015)	0.0477	3.2

The highest monthly average and the peak daily flow for the last 6 years were during the normal dry period (July and August). As can be seen from this table, the collection system and treatment plant does not exhibit high levels of I/I.

DEQ recognizes that it is not practical to attempt to build and operate treatment plants and collection systems so as to eliminate any and all bypasses or overflows, and that at some point, attempts to do so represent a poor investment of public funds. Therefore, DEQ is interested in encouraging communities to reduce the rate at which SSOs and bypasses occur. To this end, the permit requires the following:

- The municipality must develop a program to reduce I/I and submit a progress report on an annual basis (see Schedule D, Condition 1)
- The municipality must develop and maintain an emergency response and public notification plan to cover bypass and SSO events (Schedule F, sections B.7 and B.8)

The municipality must report all SSOs and bypasses (Schedule F, sections B.6, B.7 and B.8).

#### 4.4 Recycled Water

The permit holder does not currently operate a recycled water program and does not intend to do so during the term of this permit.

#### 4.5 Wastewater Solids

The purpose of this section is to describe and document how wastewater solids are handled in the treatment plant. The term wastewater solid includes sewage sludge and biosolids. Sewage sludge refers to solids from primary, secondary, or advanced treatment of domestic wastewater that have not been treated or determined to be suitable for land application as fertilizer or soil amendment. The term biosolids refers to domestic wastewater treatment facility solids that have undergone adequate treatment and are suitable for application to the land as a fertilizer or soil amendment.

Annually, the permit holder produces approximately 10,000 (gallons) of sewage sludge from primary and secondary wastewater treatment for disposal.

More detail on how the permittee has chosen to handle wastewater solids is provided in the sections below.

#### *4.5.1 Storage of Sewage Sludge*

The permit holder currently has the capacity to store sewage sludge in the two 50,000 gallon septic tanks for up to two years. Some solids accumulate in the 25,000 gallon recirculation tank and the chlorine contact chamber.

#### *4.5.2 Transfer and Disposal*

The permit holder currently contracts with River City Environmental Inc. of Portland, Oregon to transfer sewage sludge to Pacific PowerVac LLC of Portland, Oregon who maintains a discharge permit with the City of Portland. The solids are ultimately subjected to treatment and disposal at the City of Portland's wastewater facilities.

#### *4.5.3 Land Application*

The permit holder does not currently land apply biosolids or produce biosolids for sale or distribution, and does not intend to do so during the term of this permit.

#### *4.5.4 Other Beneficial Reuse*

The permit holder does not currently practice other types of beneficial reuse, such as energy recovery.

#### *4.6 Storm Water*

Stormwater is not addressed in this permit. General NPDES permits for stormwater are not required for facilities with a design flow of less than 1 MGD.

#### *4.7 Groundwater*

Based on the Department's current information, this facility is relatively new (constructed in 2009) and considered water tight which presents a low potential for adversely affecting groundwater quality. This facility is not located in a Groundwater Management Area. Shallow groundwater around this facility will move down-gradient toward the Willamette River, approximately four hundred yards away. There are no documented wells between the facility and the river and it is not likely that the shallow groundwater would ever be used as a source of drinking water. Therefore, Schedule D of the proposed permit states that no groundwater evaluations will be required during this permit cycle. The permit also includes a condition in Schedule-A to prohibit any adverse impact on groundwater quality.

#### *4.8 Industrial Pretreatment*

Municipalities that receive wastewater from certain categories of industries must have in place approved pretreatment programs. These programs are designed to reduce the discharge of pollutants from identified industries that the treatment plant is not able to treat. These pollutants can interfere with treatment plant operation, reduce the value of wastewater and biosolids for reuse, cause worker health or safety concerns, and pose a risk to the public or the environment.

The permittee does not have a DEQ-approved industrial pretreatment program. Based on current information, no industrial pretreatment program is needed.

## 5.0 Receiving Water

### 5.1 Flows

The Willamette River flow gage nearest to the Canby Regency outfall is located at Oregon City just above the falls. This is USGS flow gauge number 14207740. Flow data from this gage is available from October 2007 to present day.

The impact of Canby Regency's discharge on Willamette River is likely to be the greatest in the late summer and early fall when flows in Willamette River are lowest. This period is sometimes referred to as the critical period.

The impact of a discharge on the receiving stream is evaluated with respect the flows likely to occur during the critical period. To standardize this analysis, DEQ makes use of four different flow statistics. Each is designed to work with a different type of water quality impact and associated water quality criteria. These flow statistics and their application are summarized below.

**Table 2: Summary of Flow Statistics**

Stream flow Statistic	What It Is	Potential Impacts <sup>1</sup> Statistic is Used to Analyze	Value for Willamette River (cfs)
1Q10	The lowest one day average flow with a recurrence frequency of once in 10 years.	Acute toxicity to aquatic life	6,420
7Q10	The lowest seven day average flow with a recurrence frequency of once in 10 years.	Chronic toxicity to aquatic life	6,950
30Q5	The lowest 30 day average flow with a recurrence frequency of once in 5 years.	Impacts to human health from toxics classified as non-carcinogens	7,690
Harmonic mean	Long term mean flow value calculated by dividing the number of daily flows by the sum of the reciprocals of those daily flows. The equation is: $\frac{n}{\sum 1/Q_{i-n}}$ where n = number of daily flows and Q = flow	Impacts to human health from toxics classified as carcinogens	17,800

<sup>1</sup>Impacts are evaluated with respect to pollutants for which DEQ has developed water quality criteria. More information may be found at <http://www.deq.state.or.us/wq/standards/toxics.htm#>

### 5.2 Designated Uses

Under the Clean Water Act, DEQ is required to identify the beneficial uses of every water body in Oregon. The intent of this requirement is to insure that the water quality standards DEQ develops are consistent with how the water body is used. Permits issued by DEQ must in turn reflect the water quality standards that apply to the basin in which permits are issued.

The Canby Regency discharges to the Willamette River. The following beneficial uses have been identified for the lower Willamette River.

- public and private domestic water supply,
- industrial water supply,
- irrigation and livestock watering,
- fish and aquatic life (including salmonid rearing, migration and spawning),
- wildlife and hunting,
- fishing,
- boating,
- water contact recreation,
- aesthetic quality,
- hydro power, and
- commercial navigation and transportation

The water quality standards for the lower Willamette Basin developed to protect these beneficial uses can be found in Oregon Administrative Rules 340-041-0340.

### 5.3 Receiving Stream Water Quality

Section 303(d) of the Clean Water Act requires each state to develop a list of water bodies that do not meet state surface water quality standards after implementation of technology-based controls. This is called the “303(d) list.” The state is then required to complete a Total Maximum Daily Load (TMDL) document for water bodies on the 303(d) list. A TMDL can be thought of as an estimate of the total amount of pollution a water body can assimilate without exceeding water quality standards. For more information on TMDLs in general, and on the TMDLs developed for the Willamette in particular, go to:

<http://www.deq.state.or.us/wq/tmdls/tmdls.htm>

Oregon’s 303(d) list shows the Willamette River exceeds water quality standards for some parameters and is therefore deemed to be water quality-limited for: aldrin, DDT, dieldrin, dioxin, iron, PCBs, *E. Coli*, temperature and mercury. Most of these parameters are associated with industrial sources. Because this facility only treats domestic material the parameters of concern are reduced. The parameters for this facility are listed in Table 3 below.

**Table 3: Water Quality Limited Parameters**

Waterbody Name	River Mile	Parameter	Season
Willamette River	31.8	Temperature	Year Around
Willamette River	31.8	Bacteria	Year Around
Willamette River	31.8	Mercury	Year Around

Sections 6 and 7 of this document presents the evolution process utilized in developing the proposed renewal permit to ensure the Willamette Basin TMDL requirements for temperature, bacteria, and mercury are addressed.

## 5.4 Mixing Zone Analysis

Permits issued by DEQ sometimes specify mixing zones, also known as “allocated impact zones” or “regulatory mixing zones”. Mixing zones are allowed under both state and federal regulation. They are areas in the vicinity of outfalls in which all or some of Oregon’s water quality standards can be suspended. DEQ allows mixing zones when the overall impact, evaluated with respect to Oregon’s Mixing Zone Rule (OAR 340-041-0053) appears to be negligible.

Two mixing zones can be developed for each discharge: 1) The acute mixing zone, also known as the “zone of initial dilution” (ZID), and 2) the chronic mixing zone, usually referred to as “the Regulatory Mixing Zone.” The ZID is a small area where acute criteria can be exceeded as long as it does not cause acute toxicity to organisms drifting through it. The mixing zone is an area where acute criteria must be met but chronic criteria can be exceeded. It must be designed to protect the integrity of the entire water body.

For Canby Regency, a “zone of initial dilution” (ZID) is not necessary because monitoring results and the Reasonable Potential Analysis show the facility’s effluent does not exceed acute criteria at the outfall.

However, a Regulatory Mixing Zone (RMZ) is required. Monitoring results from the last permit term show that the effluent meets the applicable Water Quality standards for all pollutants except for temperature. The facility recorded five occurrences where the effluent had a temperature greater than 20°C, which is the basin upper limit for water temperature during the summer months. Therefore the effluent is deemed to have the potential to cause a violation of the basin standard, and a mixing zone must be established such that the basin standard is met before the edge of the RMZ.

The current permit issued to Canby Regency in 2010, identifies a mixing zone that extends fifty (50) feet out from the bank of the Willamette River and to a point fifty (50) feet downstream.

The proposed permit for Canby Regency specifies the same sized RMZ as the current permit.

Typically, a mixing zone study is conducted by the permittee and will include all of the information required in DEQ’s Regulatory Mixing Zone Internal Management Directive (IMD), Part 2. In the case of this discharge, all of the necessary information related to the mixing zone has either already been submitted to DEQ or has been collected by DEQ.

The appropriate level of effort for a MZ study for this discharge is Level 1 as the discharge has no reasonable potential to exceed acute criteria at the discharge location, and the dilution available at the receiving water is greater than 20 using only 25% of the critical flow condition (A total dilution greater than 80 at 7Q10 flow). The level 1 analysis of the mixing zone was performed by DEQ and resulted in the mixing zone description above.

### **Mixing Characteristics**

The discharge point is a shallow four inch pipe that enters the east side of the Willamette River just below the surface during most of the year. During very low flow periods the effluent pipe will discharge water above the surface of the Willamette River.

The discharge point was modeled as a four inch pipe entering the Willamette at a slightly downstream direction. At the discharge point, the Willamette River is deepest about mid channel and the river sweeps to the north/northwest. The discharge is expected to hug the west bank after initial mixing.

**Table 4: Water Quality Standards, Applicable Flow Rates and Dilutions**

<b>Water Quality Standards</b>	<b>Applicable River Flow Conditions</b>	<b>Effluent Flow Rate</b>	<b>Model-Predicted Dilution after Mixing</b>
Willamette Basin standard for temperature	6950 cfs (the 7Q10 flow)	0.03 cfs (0.016 mgd Daily average)	More than 11 at edge of RMZ

The results of the mixing zone study was used to ensure that size of the RMZ is as small as feasible to ensure that the basin standard is met at the edge of the mixing zone. Since the temperature mixing model in the RPA showed that a dilution of 11 was necessary to achieve compliance with the temperature basin standard, a distance of 50 feet was chosen to size the mixing zone. The model results showed that a bulk dilution of 11 would conservatively be achieved before the plume reached this distance.

### **Environmental Mapping**

“Environmental mapping” is done to identify the areas in and around the RMZ that may be sensitive to the impact of the discharge. It involves characterizing and mapping specific habitats, critical resources areas, and other beneficial uses within the segment of the water body receiving the discharge.

The beneficial uses investigated for the study and results are presented below:

#### **Fish migration**

This reach of the Willamette River is identified as fish migration habitat.

#### **Physical Fish Attractions**

There are no unique physical structures associated with this discharge location.

#### **Public Access**

There are no public access areas, boat ramps, docks, public beaches within 1 mile of the discharge location.

#### **Drinking Water Impacts**

There are no drinking water intakes within 0.5 miles downstream.

#### **Other Permitted Discharges**

There are no other permitted discharges within 0.5 miles.

#### **Endangered or Threatened Species**

The following federally listed threatened fish species are currently present or have been historically found in the Willamette River: Spring Chinook, Fall Chinook, Chum Salmon, Lower Columbia Winter Steelhead, and Bull Trout. The federally listed Endangered Species Oregon Chub was historically present in the river.

## 6.0 Overview of permit development

### 6.1 Types of Permit Limits

Effluent limitations serve as the primary mechanism in NPDES permits for controlling discharges of pollutants to receiving waters. Effluent limitations can be based on either the technology available to control the pollutants or limits that are protective of the water quality standards for the receiving water. These two types of permit limits are referred to as technology-based effluent limitations (TBELs) and water quality-based effluent limits (WQBELs) respectively. When a TBEL is not restrictive enough to protect the receiving stream, a WQBEL must be placed in the permit. More explanation of each is provided below.

- TBELs:
  - The intent of TBELs is to require a minimum level of treatment of pollutants based on available treatment technologies, while allowing the discharger to use any available control technique to meet the limits
  - TBELs for municipal treatment plants, also known as federal secondary treatment standards have been developed for the following parameters: biochemical oxygen demand measured over 5 days (BOD<sub>5</sub>), total suspended solids (TSS) and pH. These are found in the Code of Federal of Federal Regulations (CFR) and are known as secondary treatment standards. The CFR also allows special considerations and exceptions to these standards for certain circumstances and types of treatment facilities such as lagoons.
- WQBELs:
  - The intent of WQBELs is to ensure the water quality standards of a receiving stream are met. The water quality standards are developed to protect the beneficial uses of the receiving stream such as swimming and fishing. In many cases TBELs are not restrictive enough to ensure the receiving stream meets water quality standards. In these cases, WQBELs need to be established to protect the receiving stream.
  - Oregon is unique in that it has minimum design criteria for BOD<sub>5</sub> and TSS that are only applicable to sewage treatment plants. These design criteria vary by watershed basin and were developed to protect water quality in their respective basins. These are often times more stringent than the federal secondary treatment standards. When this is the case, the basin standards supersede the federal standards.

TBELs are likely to be the most stringent if the receiving stream is large relative to the discharge, and WQBELs are likely to be the most stringent when the receiving stream is small or does not meet water quality standards.

In some cases, both a TBEL and a WQBEL will be developed for a particular parameter. Permit writers must include the more stringent of the two in the permit.

Permit limits for bacteria are WQBELs when they are derived from the water quality standards found in OAR 340-041-0009 for freshwater, marine, and estuarine waters or 40 CFR § 131.41 for coastal recreation waters. Bacteria limits are designed to protect human health when swimming or eating shellfish. Note: When enforcing permit limits, the department categorizes bacteria exceedence in OAR 340-012 as technology-based effluent limitation violations because bacteria violations are typically due to the failure of disinfection equipment.

Each time a permit is renewed, the permit writer evaluates the existing limits to see if they need to be modified as a result of changes to technology based standards or water quality standards that may have occurred during the permit term. Anti-backsliding provisions (described in CFR 122.44(l)) generally do not allow relaxation of effluent limits in renewed/reissued permits. The more stringent of the existing or new limits must be included in the renewal permit.

## 6.2 Whole Effluent Toxicity (WET) Analysis

After appropriate TBEL and/or WQBEL permit limits (described in the previous section) have been determined for the facility, the permit writer must determine whether there is reasonable potential for the discharge to cause toxicity due to combinations of chemicals that may be present in the effluent. Section 7.3, Appendix E, of DEQ's Internal Management Directive (IMD) entitled "Reasonable Potential Analysis Process for Toxic Pollutants" (RPA IMD) (Determining if there is a risk of aquatic toxicity) contains steps to determine whether WET testing should be required for a facility. Canby Regency is not considered to have a significant risk of aquatic toxicity because it is a small domestic wastewater treatment facility without a significant input from industrial sources. DEQ has determined that the renewal permit does not need to include a WET testing requirement.

## 6.3 Existing Permit Limits

The limits from the existing permit, issued in 2010 are presented below.

### 1. **Waste Discharge Limitations not to be exceeded after permit issuance.**

#### Treated Effluent Outfall 001

a. May 1 - October 31:

Parameter	Average Effluent Concentrations		Monthly* Average lb/day	Weekly* Average lb/day	Daily* Maximum lbs
	Monthly	Weekly			
BOD <sub>5</sub>	10 mg/L	15 mg/L	3	4	5
TSS	10 mg/L	15 mg/L	3	4	5

b. November 1 - April 30:

Parameter	Average Effluent Concentrations		Monthly* Average lb/day	Weekly* Average lb/day	Daily* Maximum lbs
	Monthly	Weekly			
BOD <sub>5</sub>	30 mg/L	45 mg/L	8	11	15
TSS	30 mg/L	45 mg/L	8	11	15

\* Average dry weather design flow to the facility equals 0.03 MGD. Mass load limits based upon average dry weather design flow to the facility.

c.

Other parameters (year-round)	Limitations
<i>E. coli</i> Bacteria	Shall not exceed 126 organisms per 100 mL monthly geometric mean. No single sample shall exceed 406 organisms per 100 mL. (see Note 1)
pH	Shall be within the range of 6.0 - 9.0
Total Residual Chlorine	Shall not exceed a daily maximum of 0.02 mg/L or a monthly average of 0.01 mg/L (see Note 2)
BOD <sub>5</sub> and TSS Removal Efficiency	Shall not be less than 85% monthly average for BOD <sub>5</sub> and 85% monthly for TSS.

NOTES:

1. If a single sample exceeds 406 organisms per 100 mL, then five consecutive re-samples may be taken at four-hour intervals beginning within 28 hours after the original sample was taken. If the log mean of the five re-samples is less than or equal to 126 organisms per 100 mL, a violation shall not be triggered.
2. When total residual chlorine limitation is lower than 0.10 mg/L, the Department will use 0.10 mg/L as the compliance evaluation level (i.e. a monthly average concentration below 0.10 mg/L will be considered in compliance with the limitations)..

As part of this renewal, all of these permit limits are remaining the same. The basis for maintaining these limits is described in detail in Section 7.2.

#### 6.4 Recycled Water

Historically, the treatment facility has not produced recycled water and does not intend to during this permit cycle.

#### 6.5 Biosolids

Biosolids may be used as a soil amendment and fertilizer on agricultural land. For this beneficial use to be allowed, wastewater solids must meet federal criteria for pathogen reduction (Class A or Class B biosolids), vector attraction reduction for sludge stability, nutrients and pollutant concentrations (40 CFR Part 503). Canby Regency contracts a septic hauler to remove all solids from their facility to be processed at another DEQ permitted facility. No biosolids are produced at Canby Regency's facility.

#### 6.6 Anti-degradation

As part of renewing a permit, DEQ must demonstrate that the discharge does not lower water quality from the existing condition. DEQ is required to make this demonstration under Oregon's Anti-Degradation Policy for Surface Waters found in OAR 340-041-0004.

DEQ has performed an antidegradation review for this discharge. The proposed permit contains the same discharge loadings as the existing permit. Permit renewals with the same discharge loadings as the previous permit are not considered to lower water quality from the existing condition. DEQ is not aware of any information that existing limits are not protective of the designated beneficial uses listed in Section 5.2. These uses are very broad and include fish and aquatic life (including salmonid migration), fishing, boating, and water contact recreation. DEQ is also not aware of any existing uses present within the waterbody that are not currently protected by standards developed to protect the designated uses. Therefore, DEQ has determined that the proposed discharge complies with DEQ's antidegradation policy (see Antidegradation Review Worksheet in Appendix C).

## 7.0 Permit Draft Discussion

### 7.1 Face Page

The face page provides information about the permittee, description of the wastewater, outfall locations, receiving stream information, permit approval authority, and a description of permitted activities. The permit allows discharge to Willamette River within limits set by Schedule A and the following schedules. It prohibits all other discharges.

In accordance with state and federal law, NPDES permits will be effective for a fixed term not to exceed five years **expiring on Month, Day, Year**.

DEQ evaluated the classifications for the treatment and collection systems (see Appendix D). The treatment system is considered a Class 1 system and the collection system is considered a Class 1 system. DEQ is not proposing any changes to the system classifications.

### 7.2 Permit Limit Derivation

#### 7.2.1 Technology-Based Effluent Limits (TBELs)

The TBELs in the renewal permit are the same as current permit. Following is a demonstration showing that the proposed limits are still appropriate for the facility.

TBELs must be met at the outfall. The applicable TBELs for this facility are the most stringent of the federal secondary treatment standards and the Oregon basin standards, adjusted as necessary for the type of treatment system.

The table below shows a comparison of the federal secondary treatment standards and Oregon basin standards and also lists bacteria standards. Basin standards and bacteria standards are not strictly speaking TBELs; however they function as such when they have to be met at the end of the pipe.

**Table 5: Comparison of Federal Secondary Treatment and Basin Standards**

Parameter	Federal Secondary Treatment Standards		Applicable Willamette River Basin Standards (OAR 340-041-345)
	30-Day Average	7-Day Average	30-Day Average
BOD <sub>5</sub> and TSS	30 mg/L	45 mg/L	10 mg/L May 1 to Oct 31 30 mg/L Nov 1 to Apr 30
pH	6.0 – 9.0. (instantaneous)		6.5 to 8.5 (instantaneous)
% Removal	85% BOD <sub>5</sub> and TSS		Not specified
Bacteria	Not Specified		126 <i>E. coli</i> Most Probable Number (MPN) organisms/100 ml (as log-mean based on a minimum of 5 samples in 30 day period) and not to exceed 406 <i>E. coli</i> MPN organisms/100 ml in any single sample

To summarize, the TBELs and applicable basin standards for Canby Regency are as follows:

**Table 6: Summary of Dry Weather Permit Limits for Canby Regency**

Effluent Parameter	Concentration		Percent Removal	Comments
	Monthly	Weekly		
BOD <sub>5</sub>	10 mg/L	15 mg/L	85%	These are equal to the basin standards
TSS	10 mg/L	15 mg/L	85%	
pH	Must not be outside the range of 6.5 and 8.5			
Bacteria	126 <i>E. coli</i> organisms/100 ml (as log-mean based on a minimum of 5 samples in 30 day period) and not to exceed 406 <i>E. coli</i> organisms/100 ml in any single sample			

Note: Dry weather is from May 1 through October 21

**Table 7: Summary of Wet Weather Permit Limits for Canby Regency**

Effluent Parameter	Concentration		Percent Removal	Comments
	Monthly	Weekly		
BOD <sub>5</sub>	30 mg/L	45 mg/L	85%	These are equal to the basin standards
TSS	30 mg/L	45 mg/L	85%	
pH	Shall be within the range of 6.5 and 8.5			
Bacteria	126 <i>E. coli</i> organisms/100 ml (as log-mean based on a minimum of 5 samples in 30 day period) and not to exceed 406 <i>E. coli</i> organisms/100 ml in any single sample			

Note: Dry weather is from November 1 through April 30

### 7.2.1.1 Mass Limits

TBELS for BOD<sub>5</sub> and TSS must also be included in the permit as mass limits. A mass limit is calculated from the allowable pollutant concentration and the facility design flow:

The following equation is used to develop the monthly average mass load:

$$\text{Monthly Avg. Mass Load} = \text{POTW design flow} \times \text{Conc.-based limit} \times \text{Conversion factor}$$

The weekly average and maximum daily mass loads are developed from the monthly average by multiplying by 1.5 and 2 respectively.

Canby Regency's summer mass load limits for BOD<sub>5</sub> and TSS are based on the design flow of 0.03 MGD and a concentration of 10 mg/L. The summer calculations are:

$$\text{Monthly Average: } 0.03 \text{ MGD} \times 10 \text{ mg/L} \times 8.34 = 2.5 \text{ lbs/day rounded to 3 lbs/day}$$

$$\text{Weekly Average: } 2.5 \text{ lbs/day monthly average} \times 1.5 = 4 \text{ lbs/day (rounded)}$$

$$\text{Daily Maximum: } 2.5 \text{ lbs/day monthly} \times 2 = 5 \text{ lbs/day}$$

The facility's winter mass limits (monthly and weekly average and daily maximum) for BOD<sub>5</sub> and TSS are based on the design flow of 0.03 MGD and a concentration of 30 mg/L. The winter calculations are:

Monthly Average:  $0.03 \text{ MGD} \times 30 \text{ mg/L} \times 8.34 = 7.5 \text{ lbs/day}$  rounded to 8 lbs/day

Weekly Average:  $7.5 \text{ lbs/day} \times 1.5 = 11 \text{ lbs/day}$

Daily Maximum:  $7.5 \text{ lbs/day monthly} \times 2 = 15 \text{ lbs/day}$

All mass load limitations are again rounded to two significant figures, consistent with the number of significant figures associated with flow measurements with this facility, and with the accuracy of BOD measurements of 10 or greater.

### **7.2.1.2 Bacteria Standard**

The proposed permit limits are the *E. coli* standards contained in OAR 340-041-0009(5). The limit is a monthly geometric mean of 126 *E. coli* per 100 mL, with no single sample exceeding 406 *E. coli* per 100 mL. If a single sample exceeds 406 *E. coli* per 100 mL, the OAR allows the permittee to take five consecutive re-samples. The re-sampling must be taken at four hour intervals beginning within 28 hours after the original sample was taken. If the log mean of the five re-samples is less than or equal to 126, the initial exceedence is not considered a violation.

### **7.2.1.3 Temperature**

The Willamette Basin temperature TMDL provides a collective temperature waste load allocation (WLA) for small dischargers (small point source bubble allocation, Page 4-70) of 0.01 °C of the available 0.30 °C human use allowance (HUA). The TMDL assumes that these small dischargers have flows of approximately 0.5 MGD and effluent temperatures of 22 °C. Additionally, the TMDL states the following:

ODEQ will not assign individual effluent limits to each source within the small point source bubble allocation. Instead ODEQ will track the number of small sources within each river reach and estimate cumulative heat loads based on discharge monitoring reports or other effluent characterization approaches.

### **7.2.2 Water Quality-Based Effluent Limits**

Once TBELs and applicable basin standards have been established for the treatment facility, WQBELs must be developed. DEQ has developed several tools for calculating WQBELs. The table below provides a summary of these tools.

**Table 8: Summary of Tools to Calculate WQBELs**

Parameter	Link to Analytical Tool/Description	Application
BOD	Streeter-Phelps D.O. Spreadsheet  Use to perform a Streeter-Phelps analysis to see if discharge will result in a DO sag and/or violation of DO standard.	<ul style="list-style-type: none"> <li>For new dischargers.</li> <li>For dischargers seeking a mass load increase.</li> </ul>
pH	pH RPA Spreadsheet  Use to perform a Reasonable Potential Analysis to see if the discharge has a reasonable potential to cause or contribute to violations of basin standards of pH.	<ul style="list-style-type: none"> <li>For facilities that have a mixing zone, to see if basin standards will be met at the edge of the mixing zone.</li> </ul>
Temperature	Temperature RPA Spreadsheet XLSX  Use to perform a Reasonable Potential Analysis to see if the discharge has a reasonable potential to cause or contribute to water quality standards violations for temperature.	<ul style="list-style-type: none"> <li>Use when facility does not already have a WLA for temperature.</li> </ul>
Ammonia	For ammonia, chlorine and other toxics listed in tables 20, 33A, 33B and 40:  Reasonable Potential Analysis Calculation Workbook, Domestic; Revision 3.1 (January 2013)	Ammonia: <ul style="list-style-type: none"> <li>Use for facilities that discharge over 0.1 mgd, to insure no toxicity.</li> <li>Use for facilities that have an ammonia limit when conditions have changed.</li> </ul>
Chlorine	Use to perform a Reasonable Potential Analysis to see if the discharge has a reasonable potential to cause or contribute to water quality standards violations for toxics.	Chlorine: <ul style="list-style-type: none"> <li>Use for new facilities that do not have a limit for chlorine.</li> <li>If a facility already has a limit, and conditions have changed, use limits tab of spreadsheet to re-calculate.</li> </ul>
Other toxics listed in Tables 20, 33A, 33B and 40 of OAR 340-041		Other toxics: <ul style="list-style-type: none"> <li>Use for facilities that discharge over 1 mgd</li> <li>Use for facilities where pollutant is known to be present.</li> </ul>

As can be seen from the above table, WQBELs are generally developed as a result of a Reasonable Potential Analysis (described in more detail later in subsequent sections). An exception to this is when DEQ has developed a TMDL for the receiving stream. When there is a TMDL, the permit limit(s) must be developed based on the wasteload allocation (WLA) developed for the facility as part of the TMDL.

### 7.2.2.1 General Discussion of Reasonable Potential Analysis

EPA has developed a methodology called Reasonable Potential Analysis (RPA) for determining if there is a reasonable potential for a discharge to cause or contribute to violations of water quality standards for a particular parameter. It takes into account effluent variability, available dilution (if applicable), receiving stream water quality and water quality standards for the protection of aquatic life and human health. If the RPA results indicate that there is a potential for the discharge to cause or contribute to exceedances of water quality standards, the methodology is then used to establish permit limits that will not cause or contribute to violations of water quality standards.

DEQ has adopted EPA's methodology for RPA, and has developed spreadsheets that incorporate this analysis.

The parameters for which a RPA must be performed will vary with the size and type of discharge. They are listed in the NPDES Permit Testing Requirements for Publicly Owned Treatment Works contained in Appendix J of 40 CFR Part 122. The relevant sections are reproduced below.

**Table 9: Testing Requirements for Publicly-Owned Treatment Works**

Pollutant List	Parameters for which RPA Needed
Table 1A – Effluent Parameters for All POTWs	pH, Temperature
Table 1 – Effluent Parameters for All POTWs w. Flow $\geq$ 0.1 MGD	Ammonia, Chlorine

Each of the parameters for which a RPA was performed is discussed in the sections below.

### 7.2.2.2 Reasonable Potential Analysis for pH

The pH of water is a measure of how acidic or basic a solution is. At a pH of 7.0, the solution is considered neutral. Most aquatic organisms can tolerate a fairly narrow range around 7.0.

As indicated in the last section (7.2.1), the applicable basin standard for Canby Regency's discharge to Willamette River is 6.5 to 8.5. As a result the proposed limits for pH are 6.5 to 8.5.

### 7.2.2.3 Reasonable Potential Analysis for Temperature

Water temperatures affect the life cycles of aquatic species and are a critical factor in maintaining and restoring healthy salmonid populations. The purpose of the temperature criteria in OAR 340-041-0028 is to protect designated, temperature-sensitive beneficial uses (including salmonid life cycle stages) from adverse warming caused by human activities.

According to the Fish Use Designation maps OAR 340-041-0340 Canby Regency's outfall is in an area of the Willamette River with a designated use of salmon and steelhead migration. The applicable numeric temperature criterion for salmon and trout rearing and migration is 18 °C.

The Willamette River temperature TMDL was issued by DEQ on September 21, 2006, and approved by the EPA on September 26, 2009. The temperature TMDL applies from April 1 to October 31.

Oregon's temperature standard OAR 3430-041-0028(12) allows an insignificant increase in temperature of 0.3 °C for point sources and nonpoint sources combined. This provision, called the human use allowance, is considered a minimal, or de minimis, increase in temperature for the criterion based on

human activity. The Willamette River temperature TMDL allocates small point sources a waste load allocation called the “bubble allocation”. The cumulative effects of small point source discharges such as the Canby Regency sewage treatment system on main stem Willamette River temperature are very small. Therefore small portions of the human use allowance are allocated as aggregate loads to small point sources. The TMDL states that DEQ will not assign effluent limits to each individual source. However, DEQ will track the number of small sources within the river and estimate cumulative heat loads based on discharge monitoring reports. The critical period for the TMDL bubble allocation is from April through October<sup>1</sup>. Refer to the Appendix B for evaluation of the permittee’s estimated thermal load during this period.

DEQ evaluated the discharge to ensure compliance with temperature standard during the rest of the year (November 1 through March 31). The cold water protection criterion for spawning limits the amount of warming allowed from a point source during the spawning to emergence period when the temperature of the River is below 13°C. The purpose of the spawning cold water protection is to protect egg survival and the proper timing of the egg development and hatch and fry emergence from the stream gravels.

The criterion allows a 0.5°C increase in river temperature when the river temperature is between 10°C and 12.8°C and 1.0 °C temperature increase when it is below 10°C. DEQ’s analysis demonstrated there is no reasonable potential for the effluent to cause or contribute to a violation of the cold water protection criterion (See Appendix B). Therefore no temperature permit limit is needed to ensure compliance with the cold water protection criterion.

The thermal plume requirements were also evaluated (see Appendix B) in accordance with OAR 340-041-0053 (2)(d). According to the Oregon Department of Fish and Wildlife, there is no ESA listed spring Chinook or steelhead spawning in this reach of the (Willamette) system. Effects of treated waste water discharge would only impact spring Chinook and steelhead juveniles.

- Acute impairment or instantaneous lethality is prevented or minimized by limiting potential fish exposure to temperatures of 32.0 °C or more to less than two seconds;

The maximum reported effluent temperature for Canby Regency’s outfall is 22° C that occurred in September 2011. Therefore the discharge will not cause an acute impairment or instantaneous lethality.

- Thermal shock caused by a sudden increase in water temperature is prevented or minimized by limiting potential fish exposure to temperatures of 25 °C or more to less than five percent of the cross section of 100 percent of the 7Q10 flow of the water body; the DEQ may develop additional exposure timing restrictions to prevent thermal shock.

The maximum temperature at the 5% cross section dilution of the 7Q10 flow of the Willamette River at Canby Regency’s outfall is 18 °C. This is less than the 25 °C. Therefore the discharge does not cause thermal shock.

- Unless the ambient temperature is 21.0 °C or greater, migration blockage is prevented or minimized by limiting potential fish exposure to temperatures of 21.0 °C or more to less than 25 percent of the cross section of 100 percent of the 7Q10 low flow of the water body.

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<sup>1</sup> Page 4-68, Willamette Basin TMDL.

The maximum reported effluent temperature for Canby Regency’s discharge is greater than 21.0 °C. However, based on the temperature RPA, there is a minimal 0.01°C temperature change at 25 percent of the cross section of the 7Q10 stream flow. Therefore the discharge will not cause migration blockage.

Natural Conditions Criteria and Court Ruling

In 2012, a federal district court ruled that the portion of Oregon’s temperature standard known as the natural conditions criteria is not valid. The natural conditions criteria stated that in those cases where natural thermal potential exceeds the biologically based numeric criteria (BBNC), the natural thermal potential superseded the BBNC. In response to the court’s decision, EPA disapproved the natural conditions criteria in 2013. The portions of Oregon’s temperature standard remaining in effect for Clean Water Act purposes are the BBNC, the human use allowance and the cold water protecting criteria.

As noted in the previous section of this report, the Willamette River is listed as impaired for temperature. In 2006, DEQ issued the Willamette Basin Total Maximum Daily Load (TMDL) to address this impairment. Because the Willamette Basin TMDL targeted the natural thermal potential under the now ineffective natural conditions criteria, DEQ has calculated a water quality based effluent limitation (WQBEL) for temperature based on the TMDL. This WQBEL was then compared to a WQBEL implementing the BBNC using the pre-TMDL human use allowance. For the May 16 – October 15 period, DEQ is proposing the WQBEL based on the TMDL, which is the more stringent of the two. Because Canby Regency cannot meet this more stringent criteria this permit proposes to maintain the existing mixing zone to enable the facility to meet the water quality criteria.

**7.2.2.4 Reasonable Potential Analysis for Ammonia**

Water quality criteria for ammonia vary with pH and temperature, and with the presence of salmonids. The RPA for ammonia was performed using the data below: Salmonid fish were assumed to be present.

**Table 10: Water Quality Values for Ammonia Analysis**

Parameter	Value Used	Source
Effluent temperature	22°C	Highest value recorded for 2011 -0n data.
Effluent pH	7.9 su	Highest value recorded for 2012 -0n data.
Effluent Alkalinity	25 mg/l	Assumed, typical for domestic WWTP effluent.
River Temperature	26.23 °C	Max temperature for the period of record (Sept – June, 2009 to 2016) Monitoring Data –USGS: Willamette River at Morison Bridge, Site 14211720
River pH	8.02 su	Max pH for the period of record (Sept – June, 2009 to 2012) Monitoring Data - USGS: Willamette River at Morison Bridge, Site 14211720
River Alkalinity	16 mg/l	10 <sup>th</sup> percentile, for the period of record (Sept – June, 1995 to 2012) LASAR <sup>1</sup> Data -Clackamas at Memaloose Road, Site 14002

Note: 1 LASAR – Laboratory Analytical Storage and Retrieval

The results of the RPA for ammonia indicate that there is no reasonable potential for the discharge to cause or contribute to exceedances of the water quality criteria for ammonia. Based on these results and the reported monitoring results from Canby Regency this site is not a significant source for ammonia so there will not be a permit limit for ammonia.

RPA results are included in Attachment B.

#### ***7.2.2.5 Reasonable Potential Analysis for Chlorine***

The fresh water criteria for chlorine were used to calculate permit limitations. According to OAR 340-041, Table 33A, chlorine concentrations of 11µg/L can result in chronic toxicity in fresh water while 19µg/L can result in acute chlorine toxicity in fresh water. The RPA for Chlorine was performed using the same data as for the ammonia RPA (see table above). The results of the RPA for chlorine indicate that there is no reasonable potential for the discharge to cause or contribute to exceedances of the water quality criteria for chlorine. Because the facility uses chlorine to disinfect the effluent and anti-backsliding regulations (the previous permit provided limitations for chlorine, the permit will contain a permit limit for chlorine.

RPA results are included in Attachment B.

#### ***7.2.2.6 Reasonable Potential Analysis for Mercury***

There is a fish advisory for Willamette River due to the presence of mercury in fish tissue. For more information, consult the following website:

<http://public.health.oregon.gov/HealthyEnvironments/Recreation/Pages/fishconsumption.aspx#coastforkwillametteriver>

Oregon's water quality criterion for mercury is expressed in terms of a fish tissue concentration rather than a water column concentration. Because of this, DEQ's approach to performing the Reasonable Potential Analysis for mercury is different than that for other parameters. This approach is described in an Internal Management Directive entitled "Implementation of Methylmercury in NPDES Permits". It can be found at: <http://www.deq.state.or.us/wq/pubs/imds/IMDmethylmercuryCriterion.pdf>

According to the IMD, "Any facility contributing significant and consistent concentrations of total mercury to the receiving water body is considered to have the reasonable potential to exceed the water quality criterion unless a site-specific survey determines otherwise." Consistent with this, when mercury is detected in treated effluent on a consistent basis, the permit needs to contain a WQBEL that consists if a Mercury Minimization Plan (MMP), continuing effluent monitoring and antidegradation provisions.

Mercury is a contaminant that can be found in commercial and/or industrial waste water streams. Because Canby Regency only receives waste streams from domestic sources, mercury is not a contaminant of concern for this facility and therefore there is no reasonable potential for this facility to cause or contribute to the exceedance of the water quality standard. Accordingly Canby Regency will not be required to monitor for mercury in this permit cycle.

### 7.3 Schedule A. Waste Discharge Limits

The proposed permit limits for Canby Regency are included in Schedule A of the permit and presented below. They continue to be appropriate as shown above in the analyses described in Section 7.2. Schedule A of the permit also contains conditions relating to a prohibition on adverse impacts to groundwater.

#### **Schedule A – Waste Discharge Limits**

The proposed effluent limits for Outfall 001 are as follows:

##### **1. Outfall 01 - Treated Effluent**

###### a. BOD<sub>5</sub>, and TSS

- i. May 1 – October 31: During this time period the permittee must comply with the limits in the following table:

**Table 11: BOD<sub>5</sub> and TSS Limits**

Parameter	Average Effluent Concentrations, mg/L		Monthly Average lbs/day	Weekly Average lbs/day	Daily Maximum lbs
	Monthly	Weekly			
BOD <sub>5</sub>	10 mg/L	15 mg/L	3	4	5
TSS	10 mg/L	15 mg/L	3	4	5

- ii. November 1 – April 30: During this time period the permittee must comply with the limits in the following table:

**Table 12: BOD<sub>5</sub> and TSS Limits**

Parameter	Average Effluent Concentrations, mg/L		Monthly Average lbs/day	Weekly Average lbs/day	Daily Maximum Lbs
	Monthly	Weekly			
BOD <sub>5</sub>	20 mg/L	30 mg/L	24	36	48
TSS	20 mg/L	30 mg/L	24	36	48

- b. Additional Parameters. Permittee must comply with the limits in the following table year round:

**Table 13: Limits for Additional Parameters**

Year-round (except as noted)	Limits
BOD <sub>5</sub> and TSS Removal Efficiency	Shall not be less than 85% monthly average for BOD <sub>5</sub> and TSS
<i>E. coli</i> Bacteria (see Note a.)	Monthly log mean may not exceed 126 MPN organisms per 100 ml. No single sample may exceed 406 MPN organisms per 100 ml.
pH	May not be outside the range of 6.5 to 8.5 S.U.
Total Residual Chlorine (see	Monthly average concentration may not exceed 0.01 mg/L.

Year-round (except as noted)	Limits
Note b.)	Daily maximum concentration may not exceed 0.02 mg/L
Notes a. No single <i>E. coli</i> sample may exceed 406 MPN organisms per 100 mL; however, DEQ will not cite a violation of this limit if the permittee takes at least 5 consecutive re-samples at 4 hour intervals beginning within 28 hours after the original sample was taken and the log mean of the 5 re-samples is less than or equal to 126 <i>E. coli</i> MPN organisms/100 mL. b. DEQ has established a minimum Quantitation Limit of 0.05 mg/L for Total Residual Chlorine. In cases where the monthly average or daily maximum limit for Total Residual Chlorine is lower than the Quantitation Limit, DEQ will use the Quantitation Limit as the compliance evaluation level.	

### 7.3.2 Discussion of Permit Limits in Tables 11, 12 and 13

The limits in Tables 11, 12 and 13 as well as groundwater protection are discussed in detail below.

#### a. BOD<sub>5</sub> and TSS Concentration, Mass Load and Percent Removal Limits

BOD<sub>5</sub> and TSS can be thought of as indicators of the “strength” of the effluent. The concentration limits included in the permit are the lowest of the applicable limits as described in Section 7.2.1. The limits are the same as the previous permit. The mass load and percent removal requirements for BOD<sub>5</sub> and TSS are also the same as the previous permit, as described in Section 7.2.1. These limits are TBELs and act as performance standards for the treatment facility.

#### b. Bacteria

The Bacteria standard is a Water Quality Criteria intended to protect public health. This standard is unchanged from the previous permit.

Limits for bacteria are considered to be WQBELs. Since the Canby Regency discharges to freshwater, the permit limit for bacteria is based on the *E. coli* standard contained in OAR 340-041-0009(5). The proposed limits are a monthly geometric mean of 126 *E. coli* per 100 mL, with no single sample exceeding 406 *E. coli* per 100 mL. If a single sample exceeds 406 *E. coli* per 100 mL, then the permittee may take five consecutive re-samples. If the log mean of the five re-samples is less than or equal to 126, a violation is not triggered. The re-sampling must be taken at four hour intervals beginning within 28 hours after the original sample was taken.

#### c. pH

The pH of water is a measure of how acidic or basic the water is. At a pH of 7.0, the solution is considered neutral. pH also affects the toxicity of other compounds present in the water. Most aquatic organisms can tolerate a fairly narrow range around 7.0.

The derivation of pH limits is described in Section **Error! Reference source not found.** They are the same as the previous permit. The limits are the same as the technology standard and are considered TBELs.

#### d. Total Residual Chlorine

Canby Regency uses chlorine to disinfect the effluent before discharging to Willamette River. Along with being an effective disinfectant, chlorine is toxic to many aquatic organisms. To insure that the potential for toxicity is minimized, Canby Regency employs dechlorination equipment to reduce the presence of chlorine in the discharge. The current permit contains a limit for chlorine, where it is referred to as Total Residual Chlorine.

The RPA analysis described in Section 7.2 for chlorine resulted in permit limits of 0.01 mg/L as a monthly average and 0.02 mg/L as a daily maximum.

When the total residual chlorine limitation is lower than 0.05 mg/L, DEQ will use 0.05 mg/L as the compliance evaluation level; that is, daily maximum concentrations at or below 0.05 mg/L will be considered in compliance with the limit. In cases where an effluent limit is below the analytic range of available methods, the Quantitation Limit becomes the default compliance level. This is consistent with the example provided in Appendix D of the DEQ's RPA IMD. This IMD may be found at: <http://www.deq.state.or.us/wq/pubs/imds/rpaIMD.pdf>

The permit does not contain a mass load limit for chlorine. The primary purpose for mass limits is to prevent water quality violations from cumulative effects of conservative pollutants. Mass-based limits are particularly important for control of bioaccumulative pollutants. Chlorine is neither a conservative nor a bioaccumulative pollutant since chlorine rapidly reacts with organic matter. Therefore, cumulative effects are not a concern. Additionally, effluent limit calculations are based on critical low flow conditions without any allowance for degradation. Under these conditions, mass-based limits in addition to concentration-based limits under these conditions are unnecessary for protection on water quality.

#### **e. Groundwater Protection**

The permit contains standard language for the protection of groundwater. The treatment system is sealed and is not subject to infiltration. The Canby Regency treatment plant is not expected to impact the existing beneficial uses of the groundwater.

#### **7.4 Schedule B – Minimum Monitoring and Reporting Requirements**

Schedule B also describes the minimum monitoring and reporting necessary to demonstrate compliance with the conditions of this permit. The authority to require periodic reporting by permittees is included in ORS 468.065(5). Self-monitoring requirements are the primary means of ensuring that permit limits are being met. Other parameters may also need to be monitored when insufficient data exist to establish a limit, but where there is a potential for a water quality concern.

Condition 1 of Schedule B describes requirements to develop and implement a Quality Assurance/Quality Control (QA/QC) program. This includes:

- What the permittee must do if QA/QC requirements are not met
- Requirements pertaining to reporting procedures.
- The correct use of significant figures
- Calculating and reporting mass loads

DEQ has developed monitoring and reporting matrices that establish monitoring and reporting frequencies based on the size and complexity of the facility. These matrices may be found at:

<http://www.deq.state.or.us/wq/wqpermit/docs/TemplateGuidance/MonMatrix.pdf>

<http://www.deq.state.or.us/wq/wqpermit/docs/ReportingMatrix.pdf>

These matrices were used to establish the monitoring and reporting requirements for Canby Regency.

Monitoring requirements are found in the following tables:

Table B1: Influent Monitoring

Table B2 and B3: Effluent Monitoring

## Table B4: Reporting Requirements and Due Dates

Each of these tables is discussed in more detail below.

### **Tables B1, B2 and B3: Influent and Effluent Monitoring**

These tables specify the parameters to be monitored on a regular basis in the influent and effluent, along with associated monitoring frequencies, sample types and related reporting requirements.

### **Table B4: Reporting Requirements and Due Dates**

This table summarizes, for the convenience of the permit holder, the information contained in the previously-listed tables.

## *7.5 Schedule D - Special Conditions*

### *7.5.1 Inflow and Infiltration*

As described in Section 4.3 on the sewage collection system, it is important for the permit holder to assess and take steps to reduce the rate of infiltration and inflow of stormwater and groundwater into the sewer system. Consistent with this, Schedule D of the permit requires the permit holder to undertake activities to track and reduce I/I in the sewer system.

### *7.5.2 Emergency Response and Public Notification Plan*

Municipal wastewater treatment facilities are required, under General Condition B.8. in Schedule F, to have an Emergency Response and Public Notification Plan.

### *7.5.3 Exempt Wastewater Reuse at the Treatment System*

Schedule D exempts the permit holder from the recycled water requirements in OAR 340-055, when recycled water is used for landscape irrigation at the treatment facility or for in-plant processes, such as in plant maintenance activities. Landscape irrigation includes water applied to small-scale irrigation such as supplying supplemental irrigation to turf grass, shrubs, and ornamental trees. Landscape irrigation may include the irrigation of native vegetation along dikes, banks, and earthen impounds around wastewater lagoons—especially as needed to reduce erosion and maintain structural integrity. Landscape irrigation does not include large-scale of pasture, hayfields, or native vegetation adjacent to wastewater treatment facility (i.e., these activities are subject to OAR 340-055 and require development of a recycled water use plan). All of the conditions listed in (6)(i) through (6)(iv), Schedule D of the permit must be satisfied for an exempt use to be valid.

### *7.5.4 Wastewater Solids Transfers*

The permit allows the facility to transfer treated or untreated wastewater solids to other in-state or out-of-state facilities that are permitted to accept the wastewater solids. The permittee is required to monitor, report, and dispose of solids as required by the permit of the receiving facility. Wastewater solids that are transferred out-of-state must meet all requirements for the use of disposal or wastewater solids as required by both Oregon and the receiving state.

### *7.5.5 Operator Certification*

The permit holder is required to have a certified operator consistent with the size and type of treatment plant covered by the permit. The language in this section of the permit describes the requirements

relating to operator certification. An updated copy of the wastewater classification worksheet for Canby Regency is attached as Appendix D.

#### **7.6 Schedule E - Pretreatment**

The permittee does not have a DEQ-approved industrial pretreatment program. Based on current information, no industrial pretreatment program is needed.

#### **7.7 Schedule F - NPDES General Conditions**

These conditions are standard to all domestic NPDES permits and include language regarding operation and maintenance of facilities, monitoring and record keeping, and reporting requirements. The General Conditions for all individual permits issued by DEQ were substantially revised in August 2009. Minor modifications have been made since then. A summary of the changes is as follows:

- There are additional citations to the federal Clean Water Act and CFR, including references to standards for sewage sludge use or disposal.
- There is additional language regarding federal penalties.
- Bypass language has been made consistent with the Code of Federal Regulations and with other EPA Region 10 states.
- Reporting requirements regarding overflows have been made more explicit.
- Requirements regarding emergency response and public notification plans have been made more explicit.
- Language pertaining to duty to provide information has been made more explicit.
- Confidentiality of information is addressed.

### **8.0 Next Steps**

#### **8.1 Public Comment Period**

The proposed NPDES permit will be made available for public comment for 35 days. Public notice and links to the proposed permit will be posted on DEQ's website and sent to subscribers to DEQ's pertinent public notice e-mail lists. A Public Hearing will be scheduled if requested by 10 or more people, or by an authorized person representing an organization of at least 10 people. If a public hearing is to be held, then an additional public notice would be published to advertise the public hearing.

#### **8.2 Response to Comments**

DEQ will respond to comments received during the comment period. All those providing comment will receive a copy of DEQ's response. Interested parties may also request a copy of DEQ's response. Once comments are received and evaluated, DEQ will decide whether to issue the permit as proposed, to make changes to the permit, or to deny the permit. DEQ will notify the permittee of DEQ's decision.

#### **8.3 Modifications to Permit Evaluation Report and Fact Sheet**

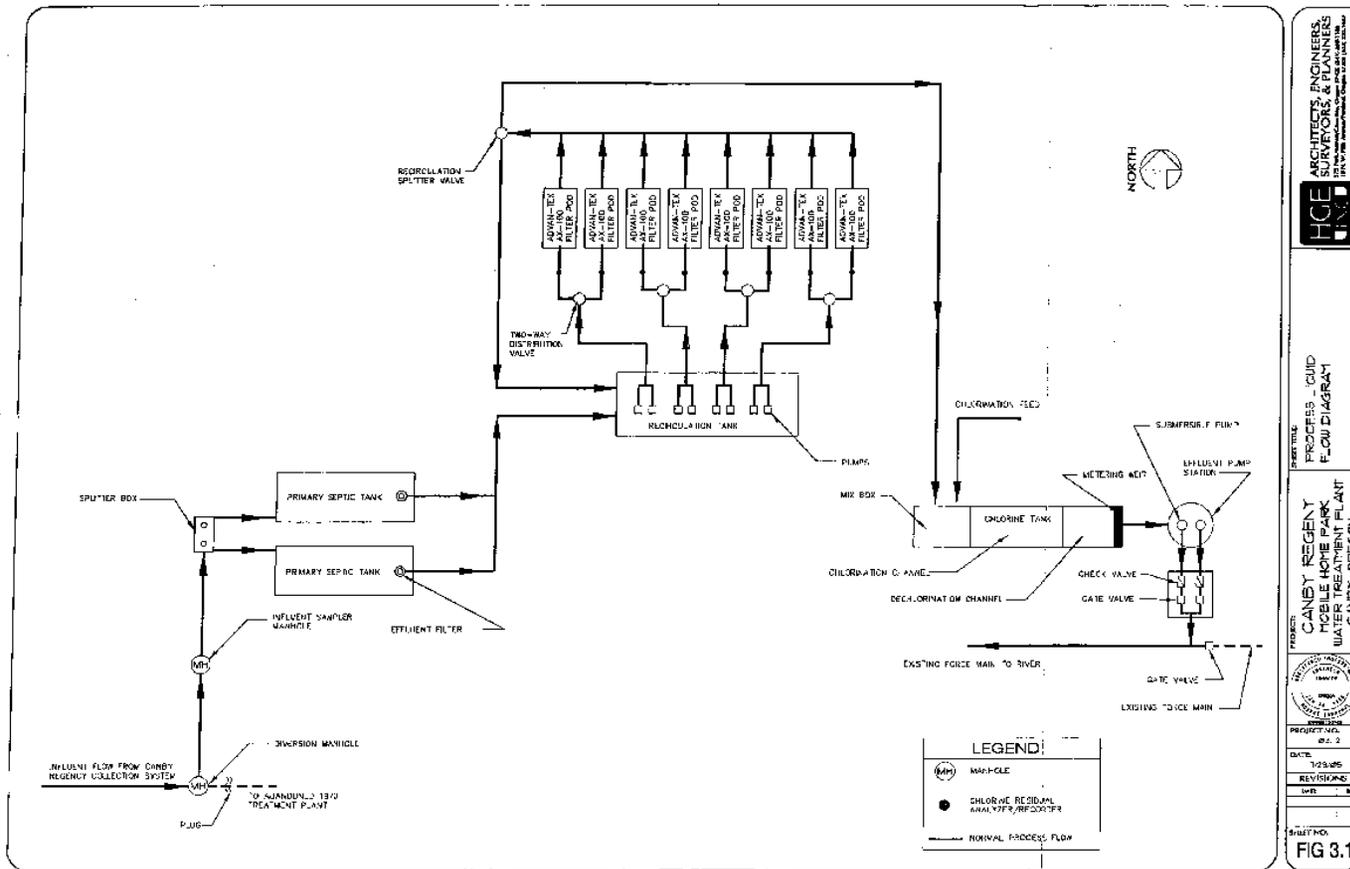
Depending on the nature of the comments and any changes made to the permit as result of comments, DEQ may modify this permit evaluation report and fact sheet. DEQ may also choose to update the permit evaluation report and fact sheet through memorandum or addendum. If substantive changes are made to the permit, then an additional round of public comment may occur.

8.4 8.4 Issuance

The DEQ mails the finalized, signed permit to the permittee. The permit is effective 20 days from the mailing date.

DRAFT

# APPENDIX A: WASTEWATER TREATMENT DIAGRAM



NORTH

**HCE**  
ARCHITECTS, ENGINEERS,  
SURVEYORS, & PLANNERS  
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Vancouver, BC V6J 1A1

PROJECT: CIBBY REGENCY  
CABLE MANHOLE  
WASTEWATER TREATMENT PLANT  
CIBBY, OREGON

PROCESS - LIQUID  
FLOW DIAGRAM

FIG 3.1

# APPENDIX B: REASONABLE POTENTIAL ANALYSIS

## Chlorine

### Reasonable Potential Analysis - Chlorine and Ammonia

Facility Name: Canby Regency

Date: 5/25/2016

Dilution Values? (Y/N)	N	calculated
Rearing Dilution @ ZID (1Q10)	6420	649.4
Rearing Dilution @ MZ (7Q10)	6950	1404.9
Spawning Dilution @ ZID (1Q10)	*	649.4
Spawning Dilution @ MZ (7Q10)	*	1404.9

Enter data below if no dilution data is available

Data to estimate dilution	Rearing	Spawning
Effluent Flow (mgd) =	0.016	0.016
1Q10 (CFS) =	6420	6420
7Q10 (CFS) =	6950	6950
% dilution at MZ =	1	1
% dilution at ZID =	0	0

Confidence Level =	99%
Probability Basis =	95%

Rearing data	Effluent	Stream
Fresh Water ? (Y/N)	n/a	Y
Spawning data		
Fresh Water ? (Y/N)	n/a	Y

PARAMETER	# of Samples	Highest Conc. mg/l	Coef. of Variance	Calculated Maximum Conc. mg/l	Ambient Conc. mg/l	Maximum Conc. at ZID mg/l	Maximum Conc. at MZ mg/l	WQ CRITERIA		REASONABLE POTENTIAL ?	
								Acute (CMC) mg/l	Chronic (CCC) mg/l	ACUTE	CHRONIC
Rearing Season											
CHLORINE	60	0.030	0.01	0.030	0.01	0.010	0.010	0.019	0.011	NO	NO
Spawning Season											
CHLORINE	60	0.030	0.01	0.030	0.01	0.010	0.010	0.019	0.011	NO	NO

# Ammonia

## Reasonable Potential Analysis - Fresh and Saltwater Ammonia Criteria

Ammonia RPA Calculation (2013 Criteria) Revision 1.3																	
RPA Run Information			Please complete the following General Facility Information														
Facility Name:	Canby Regency MH		1. Enter Facility Design Flow (MGD)			0.016			4. If answered "Yes" to Question 2, then fill in dilution factors from mixing zone study								
DEQ File Number:	97612		2. Do I have dilution values from a mixing zone study?			No			Dilution @ ZID (from study)								
Permit Writer Name:	Pat Heins		3. If answered "No" to Question 2, then fill in the following table:						Dilution @ MZ 7Q10 (from study)								
Outfall Number:	1		Stream Flow: 7Q10			CFS			6950								
Date of RPA Run:	6/10/2016		Stream Flow: 30Q5			CFS			7690								
RPA Run Notes:			Stream Flow: 10Q10			CFS			6420								
KEY:			% Dilution at ZID			%			10%								
	* Enter data here		% Dilution at MZ			%			25%								
	-- Intermediate calc.s		Calculated Dilution Values						5. Is the receiving waterbody fresh or salt water?								
	-- Calculated results		Dilution @ ZID			25938.3			Fresh								
			Dilution @ MZ (7Q10)			70197.3			6. If answered "Salt" to Question 4, then enter salinity								
			Dilution @ MZ (30Q5)			77671.5			Ambient Salinity								
									ppt								
									Effluent Salinity								
									ppt								
									7. Are Salmonids present? (Yes/No) (Mussels presumed present)								
									Yes								
									8. Please enter statistical Confidence and Probability values (note: defaults already entered)								
									Confidence Level								
									%ile								
									99%								
									Probability Basis								
									%ile								
									95%								
Dilution Calculations																	
Inputs				Outputs													
Dilution Factors				ZID	MZ (7Q10)	MZ (30Q5)	ZID					MZ (7Q10)	MZ (30Q5)				
				25938.3	70197.3	77671.5	Upstream										
Upstream Characterization				Effluent								Mixing Zone					
Temperature	deg. C	18	pH								6.4	6.4	6.4	18.0	18.0	18.0	
pH		7.5	Ionization Fraction								0.9	0.9	0.9	16.0	16.0	16.0	
Alkalinity	mg/L CaCO <sub>3</sub>	18	90%	Total Inorganic Carbon								17.3	17.3	17.3	17.3	17.3	17.3
Temperature	deg. C	18	pH								6.4	6.4	6.4	18.0	18.0	18.0	
pH		7.4	Ionization Fraction								0.9	0.9	0.9	16.0	16.0	16.0	
Alkalinity	mg/L CaCO <sub>3</sub>	75	10%	Total Inorganic Carbon								82.4	82.4	82.4	17.3	17.3	17.3
*Calculation of pH of a mixture of two flows based on the procedure in EPA's DESCOM program (EPA, 1988, Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington D.C.)																	
** Selection of alkalinity %ile is based on pH of effluent vs ambient.																	
Reasonable Potential Analysis																	
Pollutant Parameter	# of Samples	Identify Pollutants of Concern				Determine In-Stream Conc.				WQ CRITERIA							
		Highest Effluent Conc.	Coefficient of Variation	Est. Maximum Effluent Conc.	RP at end of pipe?	Ambient Conc.	Max Total Conc. at ZID	Max Total Conc. at RMZ (7Q10)	Max Total Conc. at RMZ (30Q5)	Acute CMC	Chronic Calc. (4-day avg.)	Chronic Calc. (7Q10)	Chronic Calc. (30 day avg.)				
Ammonia (Freshwater Salmonids)	49	23.1	0.5	27.7	Yes	0.007	0.09	0.09	0.09	10.90	3.56	mg/l	1.6				
Ammonia (Freshwater, Salmonids absent)	na	na	na	--	--	na	--	--	--	--	--	--	--				
Ammonia (Salt Water)	na	na	na	--	--	na	--	--	--	--	--	--	--				
Pollutant Parameter	Det. Reasonable Potential																
	Acute	Chronic (4 day avg.)	Chronic (7Q10)	Chronic (30 day avg.)													
Ammonia (Freshwater Salmonids)	NO	NO	NO	NO													
Ammonia (Freshwater, Salmonids absent)	--	--	--	--													
Ammonia (Salt Water)	--	--	--	--													
Effluent Limits																	
Pollutant Parameter	# of Req's Samples	Waste Load Allocations				Long Term Average				Effluent Limits							
		Acute WLA	Chronic WLA (4 day avg.)	Chronic WLA (7Q10)	Chronic WLA (30Q5)	Acute LTA	Chronic LTA (4 day avg.)	Chronic LTA (7Q10)	Chronic LTA (30Q5)	Min. LTA	Max Daily (MDL)	Monthly (AML)					
		#/month	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	99%	95%					
Ammonia (Freshwater Salmonids)	na	na	na	na	na	na	na	na	na	na	na	na					
Ammonia (Freshwater, Salmonids absent)	na	--	--	--	--	--	--	--	--	--	--	--					
Ammonia (Salt Water)	na	--	--	--	--	--	--	--	--	--	--	--					

# Temperature

## Willamette TMDL Small Source Bubble Assigned Thermal Load Calculation

Facility Name: Canby Regency  
RM: 31.8

Date: 5/12/2016

Enter data into white cells below:

Low Flow Scaling Factor = 1.25

High Flow Scaling Factor = 9

Effluent Temperature = 22 °C

Applicable Temperature Criterion = 20 °C

Effluent Flow = 0.016 mgd

Effluent Flow = 0.02 cfs

Low Flow Thermal Load = 0.2 Million Kcals

High Flow Thermal Load = 1.1 Million Kcals

These 2 values get reported to Doug Drake - no limit is included in the permit

Equation used to calculate thermal load

$$TL = 2.447 * Q_e * (T_e - T_c) * d$$

Where:

Q<sub>e</sub> = Effluent Flow in cfs

T<sub>e</sub> = Effluent Temperature °C

T<sub>c</sub> = Temperature Criterion °C

d = Scaling Factor

The above equation was developed by Ryan Mitchie

Temperature  
Cold Water Protection evaluation

Facility Name: Canby Regency

Date: 6/29/2016

Enter data into white cells below:

7Q10 = 6950 cfs

Ambient Temperature = 10 °C

Effluent Flow = 0.016 mgd

Effluent Temperature = 22 °C

Allowable increase = 0.3 °C

100% dilution = 280605 dilution =  $(Q_e + Q_r) / Q_e$

**ΔT at 100% Stream Flow = 0.00 °C No Reasonable Potential**

**Thermal Load Limit = N/A Million Kcals**

Equation used to calculate ΔT in 100% of the stream

$$\Delta T_{ms} = \frac{T_e + (S - 1)T_a - T_a}{S}$$

Equation

$$TLL = 3.7854 Q_e S \Delta T_{all} C_p \rho$$

Where:

Q<sub>e</sub> = Effluent Flow in mgd

S = Dilution

ΔT<sub>all</sub> = Allowable temperature increase at edge of MZ (°C)

C<sub>p</sub> = Specific Heat of Water (1 cal/g °C)

ρ = Density of Water (1 g/cm<sup>3</sup>)

3785.41 = Flow conversion from mgd to m<sup>3</sup>/day

Temperature  
Summer Criteria Protection evaluation

Facility Name: Canby Regency

Date: 6/29/2018

Enter data into white cells below:

Mixing Zone Dilution = 7

Ambient Temperature = 20 °C

Effluent Temperature = 22 °C

Applicable Temperature Criterion = 18 °C

Effluent Flow = 0.016 mgd

$\Delta T$  at MZ edge= 0.29 °C  
Temperature at MZ edge= 20.29 °C — No Reasonable Potential

Thermal Load Limit = N/A Million Kcals

Equation used to calculate  $\Delta T$  at edge of MZ

$$\Delta T_{mz} = \frac{T_e + (S-1)T_a}{S} - T_a$$

Equation used to calculate thermal load limit

$$TLL = 3.78541 Q_e S \Delta T_{all} C_p \rho$$

Where:

$Q_e$  = Effluent Flow in mgd

S = Dilution

$\Delta T_{all}$  = Allowable temperature increase

at edge of MZ (°C)

$C_p$  = Specific Heat of Water (1 cal/g °C)

$\rho$  = Density of Water (1 g/cm<sup>3</sup>)

3785.41 = Flow conversion from mgd to m<sup>3</sup>/day

Temperature  
Pre-TMDL Human Use Allowance evaluation

Facility Name: Canby Regency

Date: 8/29/2016

Enter data into white cells below:

Mixing Zone Dilution = 11

7Q10 = 6950 cfs

Effluent Flow = 0.016 mgd

Applicable Temperature Criterion = 18 °C

Effluent Temperature = 21 °C

Allowable increase = 0.3 °C

Dilution at 25% Stream Flow = 70197

$\Delta T$ at edge of MZ=	0.27 °C	No Reasonable Potential
$\Delta T$ at 25% Stream Flow=	0.00 °C	
Thermal Load Limit =	N/A	Million Kcals

Equation used to calculate  $\Delta T$  at edge of MZ

$$\Delta T_{mz} = \frac{T_e + (S-1)T_a - T_a}{S}$$

Equation used to calculate thermal load limit

$$TLL = 3.7854 Q_e S \Delta T_{all} C_p \rho$$

Where:

$Q_e$  = Effluent Flow in mgd

$S$  = Dilution

$\Delta T_{all}$  = Allowable temperature increase at edge of MZ (°C)

$C_p$  = Specific Heat of Water (1 cal/g °C)

$\rho$  = Density of Water (1 g/cm<sup>3</sup>)

3785.41 = Flow conversion from mgd to m<sup>3</sup>/day

# pH

## Calculation of pH of a mixture of two flows in Fresh Waters.

Basic calculations are based on the procedure in EPA's DESCON program (EPA, 1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modelling. USEPA Office of Water, Washington D.C.)

Facility Name: Canby Regency	RPA for pH	
	Lower pH Criteria	Upper pH Criteria
<b>INPUT</b>		
1. DILUTION FACTOR AT MZ BOUNDARY - $(Q_e+Q_r)/Q_e$	1	1
2. UPSTREAM/BACKGROUND CHARACTERISTICS @ Critical Flow		
Temperature (deg C):	12.0	20.0
pH:	6.3	7.1
Alkalinity (mg CaCO <sub>3</sub> /L):	16.0	25.0
3. EFFLUENT CHARACTERISTICS		
Temperature (deg C):	14.0	20.0
pH:	7.0	7.5
Alkalinity (mg CaCO <sub>3</sub> /L):	75.0	75.0
4. APPLICABLE PH CRITERIA	6.5	8.5
<b>OUTPUT</b>		
1. IONIZATION CONSTANTS		
Upstream/Background pKa:	6.45	6.38
Effluent pKa:	6.43	6.38
2. IONIZATION FRACTIONS		
Upstream/Background Ionization Fraction:	0.42	0.84
Effluent Ionization Fraction:	0.79	0.93
3. TOTAL INORGANIC CARBON		
Upstream/Background Total Inorganic Carbon (mg CaCO <sub>3</sub> /L):	38.38	29.79
Effluent Total Inorganic Carbon (mg CaCO <sub>3</sub> /L):	95.11	80.72
4. CONDITIONS AT MIXING ZONE BOUNDARY		
Temperature (deg C):	14.00	20.00
Alkalinity (mg CaCO <sub>3</sub> /L):	75.00	75.00
Total Inorganic Carbon (mg CaCO <sub>3</sub> /L):	95.11	80.72
pKa:	6.43	6.38
pH at Mixing Zone Boundary:	7.000	7.500
Is there Reasonable Potential?	No	No

**Step 1:** Specify the dilution factor from either the mixing zone study or Toxics RPA spreadsheet dilution calculation.

**Step 2:** Specify the upstream characteristics, including temperature, pH, and alkalinity. The 90th %iles during the critical season are recommended. If no data are available, it is desirable to collect data describing upstream temperature, pH, and alkalinity during the critical season. Where this is not practicable, an alternate ambient site could be used that has similar stream characteristics.

**Step 3:** Specify the effluent characteristics, including temperature, pH, and alkalinity. For NPDES permit limits, a reasonable worst case estimate of each may be estimated from DMR data use 90th percentile values from the DMR data for alkalinity and temperature during the critical season. If effluent data are not available, then data should be collected or alternative ambient site used.

**Output/Results:** The user does not need to enter or change any values or formulas in the Output or Results Sections. The spreadsheet calculates and displays the pH at the mixing zone boundary in the Results Section. It also will indicate if there is Reasonable Potential (RP). In the event of a finding of RP, the user should iterate the effluent pH until there is no RP and use the value as the permit effluent limit.

# APPENDIX C: ANTIDegradation REVIEW SHEET

## Appendix C: Anti-degradation Review Worksheet for a Proposed Individual NPDES Discharge

Applicant: Canby Regency MH

1. What is the name of the surface water that receives the discharge? Willamette River

Briefly describe the proposed activity: Domestic Wastewater Treatment

This review is for a: Renewal New

Go to [Step 2](#).

2. Are there any existing uses associated with the water body that are not included in the list of designated uses? Example: DEQ's Fish Use Designation Maps identify the waterbody as supporting salmonid migration; however ODFW has determined that it also supports salmonid spawning.

Yes. Identify additional use(s), the basis for conclusion, and the applicable criteria: . Go to [Step 3](#).

No. Go to [Step 3](#).

3. Was the analysis of the impact of the proposed activity performed relative to criteria applicable to the most sensitive beneficial use?

Yes. Go to [Step 4](#).

No. Re-do analysis to develop permit limits using correct criteria, and modify permit as necessary. Go to [Step 4](#).

4. Is this surface water an Outstanding Resource Water or upstream from an Outstanding Resource Water? Note: No waters in Oregon have been designated as Outstanding Resource Waters. OAR 340-041-0004(8)(a) contains criteria for designating such waters. Example: they are found in State or National parks.

Yes. Go to [Step 7](#).  No. Go to [Step 5](#).

5. Is this surface water a High Quality Water? A High Quality Water is one for which none of the pollutants are Water Quality Limited. To determine, go to the database at <http://www.deq.state.or.us/wq/assessment/rpt2010/search.asp> and under Listing Status, select "Water Quality Limited – All (Categories 4 and 5)".

Yes. Go to [Step 10](#).  No. Go to [Step 6](#).

6. Is this surface water a Water Quality Limited Water? To determine, use the same database query as Step 5.

Yes. Go to [Step 16](#).  No. Go to [Step 4](#) (you must answer "yes" to either question 4, 5, or 6)

Note: The surface water must fall into one of 3 categories: Outstanding Resource Water ([Step 4](#)), High Quality Water ([Step 5](#)), or Water Quality Limited Water ([Step 6](#)).

7. Will the proposed activity result in a permanent new or expanded source of pollutants directly to or affecting the Outstanding Resource Water? [see OAR 340-041-0004(3)-(5) for a description in rule of discharges that do not result in lowering of water quality or do not constitute a new and/or increased discharge or are otherwise exempt from anti-degradation review; otherwise see "Is an Activity Likely to Lower Water Quality?" in *Anti-*

*degradation Policy Implementation Internal Management Directive for NPDES Permits and Section 401 Water Quality Certifications.]*

Yes, Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). [Go to Step 23.](#)

No. Please provide basis for conclusion: [Go to Step 8.](#)

8. Will the proposed activity result in a lowering of water quality in the **Outstanding Resource Water**? [see OAR 340-041-0004(3)-(5) for a description in rule of discharges that do not result in lowering of water quality or do not constitute a new and/or increased discharge or are otherwise exempt from antidegradation review; otherwise see "Is an Activity Likely to Lower Water Quality?" in *Antidegradation Policy Implementation Internal Management Directive for NPDES Permits and Section 401 Water Quality Certifications.*]

Yes. Provide basis for conclusion: [Go to Step 9.](#)

No. Provide basis for conclusion: [Go to Step 20.](#)

9. If the proposed activity results in a non-permanent new or expanded source of pollutants directly to or affecting an **Outstanding Resource Water**, will the lowering of water quality in the **Outstanding Resource Water** be on a short-term basis in response to an emergency or to protect human health and welfare?

Yes. Proceed with Application Process to Interagency Coordination and Public Comment. [Go to Step 23.](#)

No. Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). [Go to Step 20.](#)

10. Will the proposed activity result in a Lowering of Water Quality in the **High Quality Water**[see OAR 340-041-0004(3)-(5) for a description in rule of discharges that do not result in lowering of water quality or do not constitute a new and/or increased discharge or are otherwise exempt from antidegradation review; otherwise see "Is an Activity Likely to Lower Water Quality?" in *Antidegradation Policy Implementation Internal Management Directive for NPDES Permits and Section 401 Water Quality Certifications.*]

Yes. [Go to Step 11.](#)

No. Proceed with Permit Application. Applicant should provide basis for conclusion: [Go to Step 23.](#)

11. OAR 340-041-0004(6)(c) of the *High Quality Waters Policy* requires that the Department evaluate the application to determine that all water quality standards will be met and beneficial uses protected after allowing discharge to **High Quality Waters**. Will all water quality standards be met and beneficial uses protected?

Yes. Provide basis for conclusion: Proceed with Application Process to Interagency Coordination and Public Comment. [Go to Step 12.](#)

No. Provide basis for conclusion. Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). [Go to Step 23.](#)

12. OAR 340-041-0004(6)(a) of the *High Quality Waters Policy* requires that the Department evaluate the application to determine if no other reasonable alternatives exist except to discharge to High Quality Waters. At a minimum, the following list must be considered:

- Improved operation and maintenance of existing treatment system
- Recycling or reuse with no discharge
- Discharge to on-site system

- Seasonal or controlled discharges to avoid critical water quality periods
- Discharge to sanitary sewer
- Land application

Were any of the alternatives feasible?

Yes. Provide basis for conclusion (see below for information requirements): [Recommend Preliminary Decision that applicant use alternative. Go to Step 10.](#)

No. Provide basis for conclusion (see below for information requirements): [Go to Step 13.](#)

In a separate statement to this application, please explain the *technical feasibility* of the alternative, explain the *economic feasibility* of the alternative, and provide an *estimated cost* of NPDES permit alternative for a five-year period from start-up.

13. OAR 340-041-0004(6)(b) of the *High Quality Waters Policy* requires that the Department evaluate the application to determine if there are social and economic benefits that outweigh the environmental costs of allowing discharge to High Quality Waters. Do the social and economic benefits outweigh the environmental costs of lowering the water quality?

Yes. Provide basis for conclusion (see below for information requirements): [Go to Step 14.](#)

No. Provide basis for conclusion (see below for information requirements): [Go to Step 23.](#)

The basis for conclusion should include a discussion of whether the lowering of water quality is necessary and important. “Necessary” means that the same social and economic benefits cannot be achieved with some other approach. “Important” means that the value of the social and economic benefits due to lowering water quality is greater than the environmental costs of lowering water quality.

Benefits can be created from measures such as:

- Creating or expanding employment (provide current/expected number of employees, type & relative amount of each type)
- Increasing median family income
- Increasing community tax base (provide current/expected annual sales, tax info)
- Providing necessary social services
- Enhancing environmental attributes

Environmental Costs can include:

- Losing assimilative capacity otherwise used for other industries/development
- Impacting fishing, recreation, and tourism industries negatively
- Impacting health protection negatively
- Impacting societal value for environmental quality negatively

14. OAR 340-041-0004(6)(d) of the *High Quality Waters Policy* requires that DEQ prevent federal threatened and endangered aquatic species from being adversely affected. Will lowering the water quality likely result in adverse effects on federal threatened and endangered aquatic species?

Yes, please provide basis for conclusion (see below for information requirements): [Go to Step 23.](#)

No, please provide basis for conclusion (see below for information requirements): [Go to Step 15.](#)

15. Will lowering water quality in the **High Quality Water** be on a short-term basis in response to an emergency or to protect human health and welfare?

Yes, [go to Step 20.](#)

No, recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). [Go to Step 23](#)

16. Will the proposed activity result in a lowering water quality in the **Water Quality Limited Water**? [see OAR 340-041-0004(3)-(5) for a description in rule of discharges that do not result in lowering of water quality or do not constitute a new and/or increased discharge or are otherwise exempt from anti-degradation review; otherwise see "Is an Activity Likely to Lower Water Quality?" in *Anti-degradation Policy Implementation Internal Management Directive for NPDES Permits and Section 401 Water Quality Certifications.*]

Yes, [go to Step 17.](#)

No, proceed with Permit Application. Permit writer should provide basis for determination in permit evaluation report. This conclusion is explained and supported by data and evaluations included with the permit evaluation report and attachments accompanying the proposed NPDES permit renewal. This is an existing discharge and there is no change in their operation. There is no request for a mass load increase. [Go to Step 23.](#)

17. OAR 340-041-0004(9)(a)(A) of the *Water Quality Limited Waters Policy* requires that the Department evaluate the application to determine that all water quality standards will be met. Will all water quality standards be met?

Yes, please provide basis for conclusion: [Go to Step 18.](#)

No, please provide basis for conclusion. Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). [Go to Step 23.](#)

18. OAR 340-041-0004(9)(a)(C) of the *Water Quality Limited Waters Policy* requires that the Department evaluate the application to determine that all recognized beneficial uses will be met and that threatened or endangered species will not be adversely affected. Will all beneficial uses be met and will threatened or endangered species be protected from adverse effects?

Yes, please provide basis for conclusion: [Go to Step 19.](#)

No, please provide basis for conclusion: Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). [Go to Step 23.](#)

19. OAR 340-041-0004(9)(a)(D)(i-iv) of the *Water Quality Limited Waters Policy* requires that the Department evaluate the application for *one of the following*:

- 19A. Will the discharge be associated (directly or indirectly) with the pollution parameter(s) causing the waterbody to be designated a Water Quality Limited Water?

Yes, please provide basis for conclusion: Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). [Go to Step 23.](#)

No, please provide basis for conclusion: [Go to Step 20.](#)

- 19B. Have TMDLs, WLAs, LAs, and reserve capacity been established, compliance plans been established, and is there sufficient reserve capacity to assimilate the increased load under the established TMDL?

- Yes, please provide basis for conclusion: [Go to Step 20.](#)
- No, please provide basis for conclusion: Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). [Go to Step 23.](#)

- 19C. Will the proposed activity meet the requirements, as specified under OAR 340-041-0004(9)(a)(D)(iii) of the *Water Quality Limited Waters Policy*, for dissolved oxygen?

- Yes, please provide basis for conclusion: [Go to Step 20.](#)
- No, please provide basis for conclusion: Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). [Go to Step 23.](#)

- 19D. Will the activity solve an existing, immediate, and critical environmental problem?

- Yes, please provide basis for conclusion: [Go to Step 20.](#)
- No, please provide basis for conclusion: Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). [Go to Step 23.](#)

20. Is the proposed activity consistent with local land use plans?

- Yes, [go to Step 21.](#)
- No, please provide basis for conclusion: Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). [Go to Step 23.](#)

21. OAR 340-041-0004(9)(c)(A) requires the Department to consider alternatives to lowering water quality. At a minimum, the following list must be considered:

- Improved operation and maintenance of existing treatment system
- Recycling or reuse with no discharge
- Discharge to on-site system
- Seasonal or controlled discharges to avoid critical water quality periods
- Discharge to sanitary sewer
- Land application

Were any of the alternatives feasible?

- Yes, please provide basis for conclusion (see below for information requirements): Recommend Preliminary Decision that applicant use alternative. [Go to Step 16.](#)
- No, please provide basis for conclusion (see below for information requirements): [Go to Step 22.](#)

In a separate statement to this application, please explain the *technical feasibility* of the alternative, explain the *economic feasibility* of the alternative, and provide an *estimated cost* of NPDES permit alternative for a five-year period from start-up.

22. OAR 340-041-0004(9)(c)(B) of the *Water Quality Limited Waters Policy* requires the Department to consider the economic effects of the proposed activity, which in this context consists of determining if the social and economic benefits of the activity outweigh the environmental costs of allowing a lowering of water quality. Do the social and economic benefits outweigh the environmental costs of lowering the water quality?

Yes. Provide basis for conclusion: Proceed with Application Process to Interagency Coordination and Public Comment. [Go to Step 23.](#)

No. Provide basis for conclusion: Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). [Go to Step 23.](#)

The basis for conclusion should include a discussion of whether the lowering of water quality is necessary and important. "Necessary" means that the same social and economic benefits cannot be achieved with some other approach. "Important" means that the value of the social and economic benefits due to lowering water quality is greater than the environmental costs of lowering water quality.

Benefits can be created from measures such as:

- Creating or expanding employment (provide current/expected number of employees, type & relative amount of each type)
- Increasing median family income
- Increasing community tax base (provide current/expected annual sales, tax info)
- Providing necessary social services
- Enhancing environmental attributes

Environmental Costs can include:

- Losing assimilative capacity otherwise used for other industries/development
- Impacting fishing, recreation, and tourism industries negatively
- Impacting health protection negatively
- Impacting societal value for environmental quality negatively

23. On the basis of the Anti-degradation Review, the following is recommended:

Proceed with Application to Interagency Coordination and Public Comment Phase.

Deny Application; return to applicant and provide public notice

ACTION APPROVED

Review prepared by

DEQ, [go to DEQ info](#)

Other, [go to Other info](#)

**DEQ info**

Name: Pat Heins

Phone: 503-229-5347

Date Prepared: 5/26/16

**Other info**

Name:

Name of Company:

Address:

Phone:

Fax:

Email:

Date prepared:

# APPENDIX D: WASTEWATER OPERATOR CLASSIFICATION WORKSHEET

Oregon Department of Environmental Quality			
Wastewater System Classification Worksheet			
for Operator Certification			
<b>STEP 1: Criteria for Classifying Wastewater Treatment Systems (OAR 340-049-0025)</b>			
Wastewater System Common Name:	Canby Regency MHP		
Location:	10083 S New Era Rd	Region:	NW
County:	Clackamas	Date:	2/29/2016
Facility ID:	97612	Classified by:	P. Heins
Design ADWF (Influent MDG):	0.0235	WWC Class:	1
Design Population*:	300	WWT Class:	1
Design BOD (Influent lbs/day):	38.6	or SWWS:	
		If SWWS, connections:	
Is this a change from a prior classification?	<input type="checkbox"/>	Total Points:	26.0
<b>1. Design Population</b>	<input type="text" value="300"/>	or Population Equivalent	<input type="text"/>
	Based on: Flow (gallons/person/day) <input type="text"/>	BOD (pounds/person/day)	<input type="text"/>
Less than 750		0.5	0.5
751 to 2,000		1.0	
2,001 to 5,000		1.5	
5,001 to 10,000		2.0	
Greater than 10,000	(3 + 1 for each additional 10 K)	3.0	
<b>2. Average Dry Weather Flow (Design Capacity)</b>			
Less than 0.075 MGD		0.5	0.5
Greater than 0.075 MGD to 0.1 MGD		1.0	
Greater than 0.1 to 0.5 MGD		1.5	
Greater than 0.5 to 1.0 MGD		2.0	
Greater than 1.0 MGD	(3 + 1 for each additional 1.0 MGD)	3.0	
<b>3. Unit Processes</b>			
<i>Preliminary Treatment and Plant Hydraulics</i>			
Comminution (cutter, shredder, grinder, barminutor, etc.)		1.0	
Grit Removal (gravity)		1.0	1.0
Grit Removal (mechanical)		2.0	
Screen(s) (in-situ or mechanical, coarse solids only)		1.0	
Pump/Lift Station(s) (pumping of main flow)		2.0	
Flow Equalization (any type)		1.0	
<i>Primary Treatment</i>			
Community Septic Tank(s) (STEP, STEG, etc.)		2.0	2.0
Clarifier(s)		5.0	
Flotation Clarifier(s)		7.0	
Chemical Addition System		2.0	
Imhoff Tanks (large septic tank or similar sedimentation & digestion)		3.0	
<i>Secondary, Advanced, and Tertiary Treatment</i>			
Low Rate Trickling Filter(s) (no recirculation)		7.0	7.0
High Rate Trickling Filter(s) (recirculating)		10.0	
Trickling Filter - Solids Contact System		12.0	
Activated Sludge (includes SBR & basic MBR process)		15.0	
Ultra Filtration Membrane(s)		15.0	
Chemical Addition System	Description: <input type="text"/>	2.0	
<i>Disinfection</i>			
Liquid Chlorine Disinfection		2.0	2.0
Gas Chlorine Disinfection		5.0	
Dechlorination System		4.0	4.0
Other Disinfection System including Ultraviolet and Ozonation		5.0	
On-Site Chlorine Generation of Disinfectants		5.0	

4. Effluent Permit Requirements		
Minimum of Secondary Effluent Limitation for BOD and/or TSS	2.0	
Minimum of 20 mg/L BOD and/or Total Suspended Solids	3.0	
Minimum of 10 mg/L and/or Total Suspended Solids	4.0	4.0
Minimum of 5 mg/L BOD and/or Total Suspended Solids	5.0	
Effluent Limitations for Effluent Oxygen	1.0	
Other Limits (see Step 2)		
5. Variation in Raw Waste		
<i>Points in this category will be awarded only when conditions are extreme to the extent that operation and</i>		
Recurring deviations or excessive variations (100 - 200 %)	2.0	
Recurring deviations or excessive variations of more than 200 %, or conveyance and treatment of industrial wastes covered by the pretreatment program.	4.0	
Septage or truck-hauled waste	2.0	
6. Sampling and Laboratory Testing		
Sample for BOD, Total Suspended Solids (performed by outside lab)	2.0	2.0
BOD or Total Suspended Solids analysis (performed at treatment plant)	4.0	
Bacteriological analysis (performed by outside lab)	1.0	1.0
Bacteriological analysis (performed at wastewater treatment plant lab)	2.0	
Nutrient, Heavy Metals, or Organic analysis (performed by outside lab)	*3.0	1.0
Nutrient, Heavy Metals or Organic analysis (performed at wastewater treatment plant)	5.0	

\* ≤ 1 per month = 1 point

STEP 2: Complexity Reflected in OAR 340-049 0020(4)		
<i>Note: This step may justify a higher classification. Points shown are given as guidance.</i>		
Fine Screen Preliminary Treatment (includes washing & compaction)	2.0	
Solids Composting (ASP or windrow)	6.0	
Land application of biosolids by system operator	5.0	
Odor or corrosion control (separate or combined)	2.0	
Chemical/physical advanced waste treatment	10 - 15.0	
Reverse Osmosis, Electro-dialysis, Membrane Filtration	15.0	
Standby power	1.0 - 3.0	1.0
Digester Gas Recovery Systems	1.0 - 3.0	
Other Effluent Limitations (describe below)	1.0	
Description:		
	<b>Total</b>	<b>26.0</b>

Small Wastewater Treatment and Collection Systems	
less than 500 design population or < 150 connections, and 30 total points or less	
Wastewater Treatment Systems	Wastewater Collection Systems
Class I: 30 total points or less	Class I: 1,500 or less design population
Class II: 31-55 total points	Class II: 1,501 15,000 design population
Class III: 56-75 total points	Class III: 15,001 to 50,000 design population
Class IV: 76 or more points	Class IV: 50,001 or more design population