Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
Western Region - Salem Office
750 Front St. NE, Ste. 120
Salem, OR 97301-1039
(503) 378 8240
OTRS (TTY) 711 or 1-800-735-2900

September 30, 2010

Frank Sheridan
City of Sheridan
120 SW Mill St
Sheridan, OR 97378-1832

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RE: Issuance NPDES Permit Number 101625
File Number: 80920
EPA No. OR002064-8
Facility: Sheridan STP, 139 NW Yamhill Street, Sheridan
Yamhill County

Dear Mr. Sheridan:

The Department has completed its review of your application for a National Pollutant Discharge Elimination System (NPDES) Permit and the comments received regarding the preliminary draft permit. Your NPDES permit has been issued and is enclosed.

This permit will be considered the final action on permit application number 972325.

You are urged to carefully read the permit and take all possible steps to comply with conditions established to help protect Oregon's environment against pollution.

If you are dissatisfied with the conditions or limitations of this permit, you have 20 days to request a hearing before the Environmental Quality commission or its authorized representative. Any such request shall be made in writing to the Director and shall clearly state the grounds for the request.

Questions regarding the permit, Discharge Monitoring Reports, inspections and other technical questions may be addressed to Mary Pfauth in the Salem Office at (503) 378-4978.

Sincerely,

Zachary J. Loboy
Water Quality Manager
Western Region North

Enclosure
ZJL:cce

cc: EPA, Seattle
Mary Pfauth, DEQ - Salem Office
DMR Processing Unit, DEQ-OIS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT

Department of Environmental Quality
Western Region – Salem Office
750 Front Street NE, Suite 120, Salem, OR 97301-1039
Telephone: (503) 378-8240

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

ISSUED TO:

City of Sheridan
120 W. Mill St.
Sheridan, OR 97378

SOURCES COVERED BY THIS PERMIT:

Type of Waste	Outfall Number	Outfall Location
Treated Wastewater	001	R.M. 36.6
Recycled Water	002	Irrigation

FACILITY TYPE AND LOCATION:

Stabilization Lagoons without Aeration
Sheridan STP
957 Sheridan Rd.
Sheridan
Treatment System Class: Level I
Collection System Class: Level II
EPA REFERENCE NO: OR-002064-8

RECEIVING STREAM INFORMATION:

Basin: Willamette
Sub-Basin: Yamhill
Receiving Stream: South Yamhill River
LLID: 1231445452258 36.6 D
County: Yamhill

Issued in response to Application No. 972325 received 12/1/2008.

This permit is issued based on the land use findings in the permit record.

Zachary J. Loboy
Western Region Water Quality Manager

October 4, 2010
Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify, or operate a wastewater collection, treatment, control and disposal system and discharge to public waters adequately treated wastewaters only from the authorized discharge point or points established in Schedule A and only in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

Page

Unless specifically authorized by this permit, by another NPDES or WPCF permit, or by Oregon Administrative Rule, any other direct or indirect discharge of waste is prohibited, including discharge to waters of the state or an underground injection control system.

SCHEDULE A

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

a. Treated Effluent Outfall 001

(1) May 1 - October 31: No discharge to waters of the State

(2) November 1 - April 30:

Parameter	Average Effluent Concentrations Monthly	Weekly	Monthly* Average lb/day	Weekly* Average lb/day	Daily* Maximum lbs
BOD_5	30 mg/L	45 mg/L	810	1200	1600
TSS	50 mg/L	75 mg/L	1300	2000	2700

* Average dry weather design flow to the facility equals 0.42 MGD. Mass load limits based upon the winter discharge rate of 3.23 MGD to allow for disposal of summer accumulations of treated wastewater as well as winter stormwater impacting lagoon surface.

(3) Year round:

Other parameters	Limits
E. coli Bacteria	May not exceed 126 organisms per 100 mL monthly geometric mean, no single sample may exceed 406 organisms per 100 mL. (See Note A1)
pH	Must be within the range of 6.3 - 9.0
BOD_5 and TSS Removal Efficiency	May not be less than 65% monthly average for BOD_5 and 65% monthly average for TSS.
Total residual chlorine	May not exceed a daily maximum of 0.04 mg/L and a monthly average of 0.02 mg/L (see Note A2 for compliance level)
Ammonia (interim)	May not exceed a daily maximum of 8.0 mg/L and a monthly average of 3.1 mg/L when receiving stream flow is 175 cfs or less (see Note A3)

(4) **Mixing Zone**

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 following regulatory mixing zone:

> The regulatory mixing zone is that portion of South Yamhill River contained within a 15-foot band centered on the point of discharge and extending from a point ten (10) feet upstream of the outfall to a point one hundred (100) feet downstream from the point of discharge. The Zone of Immediate Dilution (ZID) is defined as that portion of the regulatory mixing zone that is within ten (10) feet of the point of discharge.

(5) **Recycled Wastewater Outfall 002**

a) No discharge to state waters is permitted. All recycled water must be distributed on land, for dissipation by evapotranspiration and controlled seepage by following sound irrigation practices so as to prevent:

- Prolonged ponding of treated recycled water on the ground surface;
- Surface runoff or subsurface drainage through drainage tile;
- The creation of odors, fly and mosquito breeding, or other nuisance conditions;
- The overloading of land with nutrients, organics, or other pollutant parameters; and,
- Impairment of existing or potential beneficial uses of groundwater.

b) Prior to land application of the recycled water, it shall receive at least Class C treatment as defined in OAR 340-055 to:

Reduce Total Coliform to 240 organisms per 100 mL in two consecutive samples, and a 7-day median of 23 organisms per 100 mL.

c) Irrigation must conform to the Recycled Water Use Plan approved by the DEQ

6. **Overflows**

Raw sewage overflows are prohibited.

7. **Yamhill TMDL**

DEQ may re-open and modify this permit to comply with waste load allocations contained in the final Yamhill TMDL.

8. **Groundwater**

No activities may be conducted that could cause an adverse impact on existing or potential beneficial uses of groundwater. All wastewater and process related residuals are to be managed and disposed in a manner that will prevent a violation of the Groundwater Quality Protection Rules (OAR 340-040).

NOTES:

A1. 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.

A2. When the total residual chlorine limit is lower than 0.10 mg/L, DEQ will use 0.10 mg/L as the compliance evaluation level (i.e. daily maximum concentrations below 0.10 mg/L will be considered in compliance with the limit).

A3. DEQ will conduct another Reasonable Potential Analysis for ammonia after the permittee completes its process change and will re-evaluate the potential for toxicity in the receiving water. DEQ may modify the permit based on the results of this analysis.

SCHEDULE B

1. **Minimum Monitoring and Reporting Requirements.**

The permittee must monitor the parameters as specified below at the locations indicated. The laboratory used by the permittee to analyze samples must have a quality assurance/quality control (QA/QC) program to verify the accuracy of sample analysis. If QA/QC requirements are not met for any analysis, the results must be included in the report, but not used in calculations required by this permit. When possible, the permittee must re-sample in a timely manner for parameters failing the QA/QC requirements, analyze the samples, and report the results.

a. Influent

Influent samples and measurements are taken just after the headworks and just before the influent Parshall flume.

Parameter	Minimum Frequency	Sample Type
Total Flow (MGD)	Daily	Measurement
Flow Meter Calibration	Annually	Verification
BOD_5	1 per 2 weeks	Composite
TSS	1 per 2 weeks	Composite
pH	2 per Week	Grab

b. Treated Effluent Outfall 001

Effluent samples and measurements are taken from just after the chlorine contact chamber as the water discharges over a weir.

November 1 – April 30

Parameter	Minimum Frequency	Sample Type
Total Flow (MGD)	Daily	Measurement
Flow Meter Calibration	Annually	Verification
BOD_5	1 per 2 weeks	Composite
TSS	1 per 2 weeks	Composite
Pounds Discharged (BOD_5 and TSS)	1 per 2 weeks	Calculation
Average Percent Removed (BOD_5 and TSS)	Monthly	Calculation
pH	2 per Week	Grab
E. coli	1 per Week	Grab
Quantity Chlorine Used	Daily	Measurement
Total Chlorine Residual	Daily	Grab
Ammonia	Weekly	Grab
Temperature	2 per Week	Grab

c. Receiving stream (November 1 – April 30)

Parameter	Minimum Frequency	Sample Type
Flow	Weekly	Calculation **(see Note B2)**

d. Recycled Wastewater Outfall 002

Effluent samples for total coliform bacteria are taken from a spigot located just after the irrigation pump prior to being irrigated on the fields.

Parameter	Minimum Frequency	Type of Sample
Quantity Irrigated (inches/acre)	Daily	Measurement
Flow Meter Calibration	Annually	Verification
Quantity Chlorine Used	Daily	Measurement
Total Chlorine Residual	Daily	Grab
pH	2 per Week (see Note B1)	Grab
Total Coliform	1 per Week	Grab
Nutrients : TKN, NO_2+NO_3-N, NH_3, Total P	Quarterly (during irrigation)	Grab

d. Lagoon

Parameter	Minimum Frequency	Sample Type
Sludge Depth	Annually	Measurement
Water Level in Lagoons	Weekly	Measurement
Perimeter Inspection	Daily	Observation

2. **Reporting Procedures**

a. Monitoring results must be reported on approved forms. The reporting period is the calendar month. Reports must be submitted to the appropriate DEQ office by the 15th day of the following month.

b. State monitoring reports must identify the name, certificate classification, and grade level of each principal operator designated by the permittee as responsible for supervising the wastewater collection and treatment systems during the reporting period. Monitoring reports must also identify each system classification as found on page one of this permit.

c. Monitoring reports must also include a record of the quantity and method of use of all sludge removed from the treatment facility and a record of all applicable equipment breakdowns and bypassing.

3. **Report Submittals**

a. The permittee must have in place a program to identify and reduce inflow and infiltration into the sewage collection system. An annual report must be submitted to DEQ by February 1 each year which details sewer collection maintenance activities that reduce inflow and infiltration. The report must state those activities that have been done in the previous year and those activities planned for the following year.

b. By no later than January 15 of each year, the permittee must submit to DEQ an annual report describing the effectiveness of the recycled water system to comply with approved recycled water use plan, the rules of Division 55, and the limitations and conditions of this permit applicable to reuse of recycled water.

Notes:

B1. During irrigation, a minimum of one pH sample is required any time the recycled water is applied to irrigation sites. Two pH samples are required any time that the recycled water is applied for three or more days in a calendar week.

B2. There is no USGS gage at Sheridan, therefore, flow data from the USGS gages located on the South Yamhill at Willamina and the South Yamhill River at McMinnville should be used by first determining the flows at each gage. Then, calculate a value mid-way between the flows for Yamhill and Willamina. Use this calculated value for daily flows at Sheridan STP.

SCHEDULE D

Special Conditions

1. Six (6) months prior to the removal of accumulated solids from the lagoon, the permittee must submit to the DEQ a revised biosolids management plan developed in accordance with Oregon Administrative Rule 340-050-0031, "Biosolids and Domestic Septage Management Plans." The plan must be implemented by the permittee upon its approval by the DEQ.

2. If the permittee upgrades to produce Class A or B recycled water, then it must submit an updated Recycled Water Use Plan (RWUP) to DEQ for review and approval.

3. The permittee must meet the requirements for use of recycled water under Division 55, including the following:

   a. All recycled water shall be managed in accordance with the approved Recycled Water Use Plan. No substantial changes may be made in the approved plan without written approval of DEQ.

   b. No recycled water may be released by the permittee to another person, as defined in Oregon Revised Statute (ORS) 468.005, for use unless there is a valid contract between the permittee and that person that meets the requirements of OAR 340-055-0015(9).

   c. The permittee must notify DEQ within 24 hours if it is determined that the treated effluent is being used in a manner not in compliance with OAR 340-055. When DEQ offices are not open, the permittee must report the incident of noncompliance to the Oregon Emergency Response System (Telephone Number 1-800-452-0311).

   d. No recycled water may be made available to a person proposing to recycle unless that person certifies in writing that they have read and understand the provisions in these rules. This written certification must be kept on file by the sewage treatment system owner and be made available to DEQ for inspection.

4. The permittee must comply with Oregon Administrative Rules (OAR), Chapter 340, Division 49, "Regulations Pertaining To Certification of Wastewater System Operator Personnel" and accordingly:

   a. The permittee must have its wastewater system supervised by one or more operators who are certified in a classification <u>and</u> grade level (equal to or greater) that corresponds with the classification (collection and/or treatment) of the system to be supervised as specified on page one of this permit.

Note: A "supervisor" is defined as the person exercising authority for establishing and executing the specific practice and procedures of operating the system in accordance with the policies of the permittee and requirements of the waste discharge permit. "Supervise" means responsible for the technical operation of a system, which may affect its performance or the quality of the effluent produced. Supervisors are not required to be on-site at all times.

   b. The permittee's wastewater system may not be without supervision (as required by Special Condition 4.a. above) for more than thirty (30) days. During this period, and at any time that the supervisor is not available to respond on-site (i.e. vacation, sick leave or off-call), the permittee must make available another person who is certified in the proper classification <u>and</u> at grade level I or higher.

   c. The permittee is responsible for ensuring the wastewater system has a properly certified supervisor available at all times to respond on-site at the request of the permittee and to any other operator.

   d. The permittee must notify DEQ in writing within thirty (30) days of replacement or re-designation of certified operators responsible for supervising wastewater system operation. The notice must be filed with the Water Quality Division, Operator Certification Program, 400 East Scenic Drive, Suite 307, The Dalles, OR 97058. This requirement is in addition to the reporting requirements contained under Schedule B of this permit.

   e. Upon written request, DEQ may grant the permittee reasonable time, not to exceed 120 days, to obtain the services of a qualified person to supervise the wastewater system. The written request must include justification for the needed time, a schedule for recruiting and hiring, the date the system supervisor availability ceased, and the name of the alternate system supervisor(s) as required by 4.b. above.

5. The permittee must notify the appropriate DEQ office in accordance with the response times noted in the General Conditions of this permit, of any malfunction so that corrective action can be coordinated between the permittee and DEQ.

6. All raw sewage discharges/overflows must be reported within 24 hours to DEQ via the Oregon Emergency Response System (OERS) at 800-452-0311. Additional reporting requirements are contained in Schedule F of this permit.

SCHEDULE F
NPDES GENERAL CONDITIONS – DOMESTIC FACILITIES

SECTION A. STANDARD CONDITIONS

1. 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 the Department to terminate, modify and reissue, revoke, or deny renewal of a permit.

2. 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 33 USC §1365. DEQ enforcement is generally based on provisions of state statutes and EQC rules, and EPA enforcement is generally based on provisions of federal statutes and EPA regulations.

   ORS 468.140 allows the Department to impose civil penalties up to $10,000 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 $32,500 and administrative penalties not to exceed $11,000 per day for each violation of any condition or limitation of this permit.

   Under ORS 468.943, unlawful water pollution, if committed by a person with criminal negligence, 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, a person who knowingly discharges, places, or causes to be placed any waste into the waters of the state or in a location where the waste is likely to escape into the waters of the state is subject to a Class B felony punishable by a fine not to exceed $200,000 and up to 10 years in prison. 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 shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both.

3. 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 that has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, 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.

4. 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.

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

5. 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 that addresses CSOs that is adopted or promulgated subsequent to the effective date of this permit
   (2) If new information, 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.

6. Toxic Pollutants

The permittee must comply with any applicable effluent standards or prohibitions established under Oregon Administrative Rules (OAR) 340-041-0033 and 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 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.

7. 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.

8. 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 Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

9. Permit Fees

The permittee must pay the fees required by Oregon Administrative Rules.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. 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.

2. 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.

3. 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 the Department 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 B.3.c.
(2) The Department may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the Department determines that it will meet the three conditions listed above in General Condition B.3.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 the Department 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 D.5.

4. 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 B.4.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 D.5, hereof (24-hour notice); and,
  (4) The permittee complied with any remedial measures required under General Condition A.3 hereof.

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. 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 Clean Water Act effluent discharge pollutant parameter. A single operational upset does not include 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.

6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

a. Definitions
  (1) "Overflow" means any spill, release or diversion of sewage including:
    i. An overflow that results in a discharge to waters of the United States; and
    ii. 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. Prohibition of overflows. Overflows are prohibited. The Department may exercise enforcement discretion regarding overflow events. In exercising its enforcement discretion, the Department may consider various factors, including the adequacy of the conveyance system's capacity and the magnitude, duration and return frequency of storm events.

c. Reporting required. All overflows must be reported orally to the Department within 24 hours from the time the permittee becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D.5.

7. 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 (e.g., public water systems) about the extent and nature of the discharge in accordance with the notification procedures developed under General Condition B.8. 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.

8. 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.

9. 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

1. Representative Sampling
Sampling and measurements taken as required herein shall 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 shall be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points may not be changed without notification to and the approval of the Department.

2. 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 ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

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

4. Penalties of Tampering
The 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.

5. Reporting of Monitoring Results
Monitoring results must be summarized each month on a Discharge Monitoring Report form approved by the Department. 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.

6. 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 use and disposal, 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 (e.g., Total Chlorine Residual), only the average daily value must be recorded unless otherwise specified in this permit.

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

8. Retention of Records
Records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities shall be retained for a period of at least five 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 shall 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 the Department at any time.

9. 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.

10. Inspection and Entry
The permittee must allow the Department 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.

11. 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 will not be classified as confidential. 40 CFR 122.7(b).

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes
The permittee must comply with OAR chapter 340, division 52, "Review of Plans and Specifications" and 40 CFR Section 122.41(l) (1). Except where exempted under OAR chapter 340, division 52, 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 the Department. The permittee must give notice to the Department as soon as possible of any planned physical alternations or additions to the permitted facility.

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

3. 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 the rules of the Commission. No permit may be transferred to a third party without prior written approval from the Department. The Department 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 Section 122.61. The permittee must notify the Department when a transfer of property interest takes place.

4. 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.

5. 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 DEQ or to the 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 DEQ.

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 (e.g., 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 Department's Regional office within 24 hours, or during normal business hours, whichever is first:

a) The OERS incident number (if applicable) along with a brief description of the event.

(2) Written reporting within 5 days.

i. The following information must be provided in writing to the Department's 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.

The Department 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 the Department in this permit; and
   iv. Any noncompliance that may endanger human health or the environment.

(2) During normal business hours, the Department's Regional office must be called. Outside of normal business hours, the Department 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 B.7

(4) The Department may waive the written report on a case-by-case basis if the oral report has been received
within 24 hours.

6. Other Noncompliance

The permittee must report all instances of noncompliance not reported under General Condition D.4 or D.5, 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.

7. Duty to Provide Information

The permittee must furnish to the Department within a reasonable time any information that the Department 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 the Department, 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 the Department, it must promptly submit such facts or information.

8. Signatory Requirements

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

9. 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 $100,000 per violation and up to 5 years in prison. 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 shall, 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.

10. Changes to Indirect Dischargers

The permittee must provide adequate notice to the Department 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 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 shall 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

1. *BOD* means five-day biochemical oxygen demand.
2. *CBOD* means five day carbonaceous biochemical oxygen demand
3. *TSS* means total suspended solids.
4. "*Bacteria*" includes but is not limited to fecal coliform bacteria, total coliform bacteria, and E. coli bacteria.
5. *FC* means fecal coliform bacteria.
6. *Total residual chlorine* means combined chlorine forms plus free residual chlorine
7. *Technology based permit effluent limitations* means technology-based treatment requirements as defined in 40 CFR Section 125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR Chapter 340, Division 41.
8. *mg/l* means milligrams per liter.
9. *kg* means kilograms.
10. m^3/d means cubic meters per day.
11. *MGD* means million gallons per day.
12. 24-hour *Composite sample* means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow. The sample must be collected and stored in accordance with 40 CFR part 136.
13. *Grab sample* means an individual discrete sample collected over a period of time not to exceed 15 minutes.
14. *Quarter* means January through March, April through June, July through September, or October through December.
15. *Month* means calendar month.
16. *Week* means a calendar week of Sunday through Saturday.
17. *POTW* means a publicly owned treatment works

National Pollutant Discharge Elimination System
(NPDES)
Fact Sheet & Permit Evaluation Report

DEQ
State of Oregon
Department of Environmental Quality
Water Quality
Western Region
750 Front St. #120
Salem, OR 97301-1039
(503) 378-8240
(800) 349-7677

City of Sheridan Wastewater Treatment Plant

Source location	957 Sheridan Rd.. Sheridan
Permittee	City of Sheridan 120 W. Mill St. Sheridan, OR 97378 *contact:* Daryl Davis (503) 843-3775
Proposed action	Renew NPDES permit Application no. 972325 Received date: 12/1/2008
Source category	NPDES Minor Domestic
Permit writer	Mary Pfauth
File number	80920
Permit number	101625
Expires	6/30/2015

Introduction

The Federal Water Pollution Control Act of 1972, also known as the Clean Water Act, and Oregon Revised Statutes (ORS 468B.050) require a discharger to obtain a National Pollutant Discharge Elimination System (NPDES) permit to discharge wastewater to surface waters. The permit is designed to allow a discharge as long as it protects the designated beneficial uses of the receiving surface waters.

The State of Oregon has developed human health and aquatic life water quality criteria to protect these beneficial uses. The criteria fall into two broad categories, toxic and non-toxic. Toxic criteria deal with chemicals that have poisonous effects. Chlorine, for example, is commonly used to disinfect treated sewage. Chlorine is a powerful oxidizer that kills bacteria but is also harmful to other organisms at high enough levels. Non-toxic criteria deal with conditions or substances that can have harmful effects but are not poisonous. Dissolved oxygen, for example, must be sufficient to maintain aquatic life in a water body. Low enough levels can cause fish kills.

During permit development, DEQ evaluates whether water quality criteria are being or can be met by a discharge. DEQ gathers data on the discharge and on the receiving waters. It uses these data to model the discharge and the receiving water as well as to determine if there is a reasonable potential for the discharge to exceed water quality criteria. If there is a reasonable potential, then the permit sets limits on the discharge.

There are two categories of effluent limits for NPDES permits: 1) technology based effluent limits, and 2) water quality based effluent limits. Technology based effluent limits require a minimum level of treatment for industrial or municipal sources using available technology. Technology based effluent limits are developed by applying EPA guidelines for specific industrial categories. Water quality based effluent limits are independent of the available treatment technology.

Federal regulations and Oregon Administrative Rules allow DEQ to suspend all or part of the water quality standards in small, designated areas within receiving waters around a discharge. These small areas allow treated wastes and receiving waters to thoroughly mix and dilute the treated wastes. These are known as "allocated impact zones" or "mixing zones." 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 mixing zone." The ZID must be designed to prevent lethality to organisms drifting through it and the mixing zone must be designed to protect the integrity of the entire water body.

In addition to limiting what is discharged into the receiving water, DEQ requires a discharger to monitor the discharge and report the monitoring results. DEQ may require additional studies and set special conditions unique to the discharge. There is also a set of standard requirements included in every NPDES permit that address reporting, the duty to reapply, operation, etc.

Both the permit applicant and the public can review and comment on the draft version of the NPDES permit. DEQ responds to each comment. The permit goes into effect (is "issued") upon signature by DEQ's authorized representative. The maximum term of a NPDES permit is five years from the date it was issued.

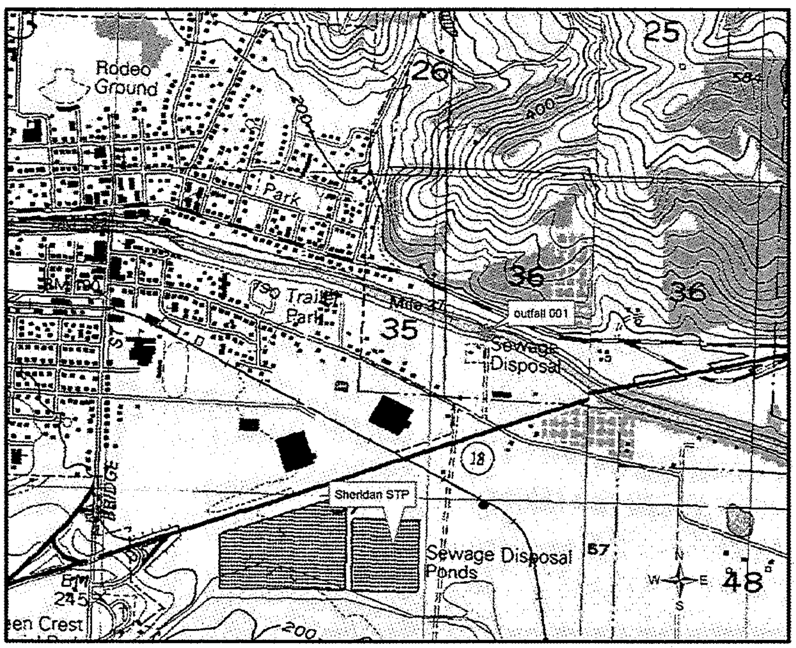
Facility

Facility: Background

The City of Sheridan (City) owns and operates a wastewater treatment plant (WWTP) located on the southeast side of Sheridan, south of the intersection of State Highway 18 and the Willamette Pacific railroad line (see figure below). The City treats sewage in a 4 cell facultative lagoon and discharges treated, disinfected wastewater to the South Yamhill River at river mile 36.6 during the winter and irrigates adjacent agricultural land during the summer. The WWTP, at 957 Sheridan Rd., operates under National Pollutant Discharge Elimination System (NPDES) permit number 101625. DEQ issued the current permit on June 17, 2004 and it expired on May 31, 2009. The City submitted a timely renewal application on December 1, 2008 thus, the current permit remains in effect until DEQ acts on the renewal application. DEQ proposes to renew this permit. This permit evaluation report describes the basis and methodology used to develop the permit and proposes effluent limitations and special conditions necessary to carry out state and federal law.

Facility: Description

The City's current WWTP was constructed in the early 1970's although, at that time, there were only two lagoon cells. Two additional cells were added in the early 1990's to accommodate the sewage from the new Federal Correctional Institute (FCI). Most of the wastewater from Sheridan reaches the treatment plant by gravity flow. The western edge of town north of the River relies on a pump station to lift its wastewater to the gravity sewer. All wastewater in the City flows to the influent pump station that is located on the south bank of the River. This pump station moves the wastewater to the headworks and into the primary lagoon cell. The FCI has a privately owned gravity collection system that conveys its wastewater to the FCI headworks near the southeast corner of the City's primary lagoon cell. The City and FCI not only have separate headworks but the two lagoon systems also operate in parallel. The two systems have only the chlorine contact chamber and outfalls in common. The City added a sodium metabisulfite dechlorination system, changed the chlorination system from chlorine gas to liquid sodium hypochlorite, and. installed an emergency backup generator in 2004. The City installed a new,



magnetic flow meter upstream of the existing influent Parshall flume on the City side in March, 2010. The City measures effluent flow using an existing electromagnetic flow meter.

There are automatic, 24-hour composite samplers at both the City and FCI headworks. City staff takes pH, temperature, and total chlorine residual grab samples.

The City intends to re-configure the lagoon operation during the next permit cycle so that the four cells operate in series. This should improve wastewater treatment.

Facility: Treatment Plant Flows

The City has had continuing problems with influent flow measurement of the City's influent. The City installed a new magnetic flow meter upstream of the Parshall flume on the City influent. The new meter has been measuring City flows at about 60% of previous flow measurements. Surcharging of the flume is thought to have significantly influenced the accuracy of previous readings. Readings from the new meter agree with flows calculated using influent pump run times and volume. Therefore, actual average dry weather flow based on pre-March, 2010 influent data is likely not accurate and DEQ does not list it in this evaluation report. The average dry weather design flow to the Sheridan WWTP is 0.422 million gallons per day (mgd).

Facility: Outfalls

The City has two outfalls for its treated wastewater. Outfall 001, located almost one mile from the disinfection point, comprises a 30-inch diameter pipe extending approximately 35 feet into the South Yamhill River at river mile 36.6. The pipe is equipped with a duck bill type of diffuser. The City discharges treated, disinfected wastewater through this outfall from November 1 through April 30. Between May 1 and October 31, the City pumps treated, disinfected wastewater through outfall 002 and uses it to irrigate some 230 acres of privately owned, agricultural land. The current permit is for Level II reclaimed water. The Division 55 Rules governing reclaimed water have changed such that Sheridan's reclaimed water would now be considered Class C recycled water.

Facility: Pollutants discharged

The current permit allows the City to discharge treated effluent from November 1 through April 30 each year and limits the following pollutants and parameters: Five-day Biochemical Oxygen Demand (BOD_5), Total Suspended Solids (TSS), *E. coli* bacteria, pH, pollutant removal efficiency, and Total Residual Chlorine (TRC). The proposed renewal permit will regulate these as well as ammonia.

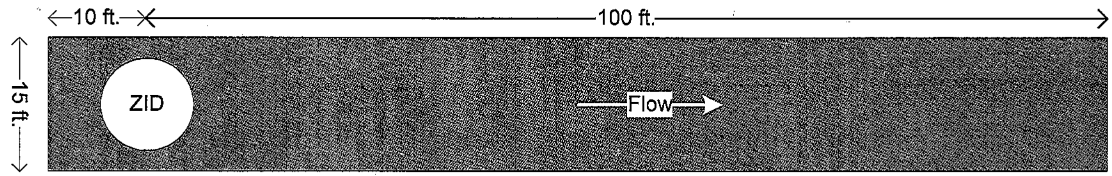
The proposed permit allows for reclaimed water to be distributed on land for dissipation by evapotranspiration and controlled seepage by following sound irrigation practices. Prior to land application of the reclaimed water, it must receive at least Class C treatment as defined in Oregon Administrative Rules (OAR) 340-055. The permit sets limits on Total Coliform bacteria prior to irrigation.

Facility: Mixing zone and zone of initial dilution

The size of the regulatory mixing zone is based upon the size of the discharge relative to the receiving water, the beneficial uses of the receiving water, location of other discharges nearby, location of drinking water intakes, and other considerations.

The current regulatory mixing zone was defined relative to the riverbank rather than the point of discharge. DEQ proposes to change the definition so that the point of discharge is the reference point:

> The regulatory mixing zone is that portion of the South Yamhill River contained within a fifteen (15) foot band centered on the point of discharge and extending from a point ten (10) feet upstream of the point of discharge to a point one-hundred (100) feet downstream from the point of discharge. The Zone of Immediate Dilution (ZID) is defined as that portion of the regulatory mixing zone that is within ten (10) feet of the point of discharge (see figure below).



Not to scale

DEQ staff conducted a mixing zone study in October, 2010. During the study, DEQ collected conductivity data with which to calculate dilutions within the ZID and mixing zone. DEQ calculated dilutions of 2 and 4 for the ZID and mixing zone, respectively. DEQ used these dilution values in the Reasonable Potential Analyses cited below.

Facility: Sludge and biosolids management

The City does not plan to land apply biosolids under the term of the renewed permit.

Facility: Inflow and infiltration

The City installed a new, magnetic influent flow meter upstream of the Parshall flume in March, 2010 and found that the influent flow from the City, as measured by this method, is about half of that measured by the old influent flow meter and Parshall flume. These results call into question the accuracy of previous influent flow measurements. It is likely that the City's Inflow and Infiltration (I/I) rates may not be as high as once thought.

Facility: Overflows

DEQ has no record of sanitary sewer overflows in the City since the last permit renewal.

Facility: Groundwater

DEQ's hydrogeologist reviewed whether the Sheridan WWTP treatment lagoons could pose a "likely adverse groundwater quality impact" as defined under DEQ groundwater rules. The hydrogeologist does not recommend groundwater monitoring during this permit cycle for the following reasons:

- There are not that many water wells in the vicinity of the lagoons;
- The aquifer in use in the area is confined, and there appears to be at least a ~40+ foot thick sequence of silts/clays above it;
- There do not appear to be any public drinking water supply wells that could be affected by the lagoons (i.e., the outside of any wellhead protection areas);
- The lagoons are within the city limits, and city water is supplied;

- The public water supplier is not aware of anyone within the vicinity of the lagoons who is not on city-supplied water;
- The soils (Wapato and Cove Silty Clay Loams) are poorly drained, it does not appear that bacteria are likely to travel significant distances.

Facility: Recycled water

The City irrigates treated, disinfected wastewater onto privately owned agricultural land during the non-discharge season. The City has sometimes not been able to irrigate this water because the farmers have no demand for it. The City currently produces Class C recycled water. If the City upgrades to produce Class A or B recycled water, then it is required to submit an updated Recycled Water Use Plan to DEQ for its review and approval.

Facility: Stormwater

This renewal does not address stormwater because general NPDES permits for stormwater are not required for facilities with a design flow of less than 1 MGD, as is the case for the Sheridan WWTP.

Facility: Pre-treatment

The City does not have a pre-treatment program and none is required.

Facility: Compliance History

The City entered into a Mutual Agreement and Order (MAO) with DEQ concurrently with the last permit renewal in June, 2004. The MAO required the City to upgrade the WWTP so that its discharge would meet final effluent limits for chlorine. The City chose to install dechlorination equipment and also changed from chlorine gas to liquid sodium hypochlorite. The project was completed in November, 2005. DEQ inspected the facility on February 21, 2008. DEQ has issued several Notices of Non-Compliance to the City since the last permit renewal. Violations that triggered the Notices included failure to achieve minimum per-cent removal for 5-day Biochemical Oxygen Demand (BOD_5) and Total Suspended Solids (TSS). (see Appendix A).

Receiving stream

Receiving Stream: Description

The South Yamhill River originates in the northern Oregon Coastal Mountain Range near the border between Yamhill and Tillamook Counties. It flows generally eastward then north to join the North Yamhill River. After this junction, the river is referred to as the Yamhill River. It flows for another 11 miles before entering the Willamette River.

The City of Sheridan lies within the Lower South Yamhill-Deer Creek sub-watershed of the Yamhill River Basin in the northwestern Willamette Valley. The 76,230-acre sub-watershed is on the eastern side of the Coastal Mountain range. The human population is concentrated in the town of Sheridan that is situated on the South Yamhill River. The climate is marine-influenced with extended winter rainy seasons and hot, dry summers. Snow and ice do not accumulate in the higher elevations during winter because it is not usually cold enough for long enough. Rainfall amounts vary from north to south in the watershed. The highest elevations in the north receive 80 to 100 inches of precipitation annually, the middle elevations receive 60 to 80 inches annually, and the low elevations receive 40 to 60 inches annually. As is typical for the west side of the state, the rainfall is not spread evenly over the calendar year, but falls during the winter and spring months.

According to Oregon Department of Fish and Wildlife Fish Use Designation and Fish Use and Spawning maps (OAR 340 - 041, Tables 340A & 340B), the section of the South Yamhill River into which the City discharges its treated effluent is not used for fish spawning but is used for fish rearing and migration.

Receiving Stream: Anti-degradation

DEQ did not do an in-depth anti-degradation review because the City discharges into an existing mixing zone. Oregon Administrative Rules (OAR 340-0004-3 through 5) state that this does not degrade the water quality of the receiving stream (see Appendix B).

Receiving Stream: 303(d) List

The South Yamhill River in the vicinity of the Sheridan WWTP outfall is on the 2004-2005 303d List for dissolved oxygen and phosphorus (see Appendix C). The dissolved oxygen listing is no longer valid. The dissolved oxygen listing was based on the determination that the South Yamhill River in the vicinity of the City's outfall supported salmonid spawning. The 2006 Temperature Criteria revision resulted in a designated use list which does not include salmonid spawning. The ODFW regional fish biologist confirmed that there are no active salmon redds in this area. The listings for these substances will not be in the 2010 303d list. Phosphorus is listed in the 2004-2006 303d list because it causes aesthetic degradation. A TMDL for phosphorus in the basin already exists although it applies in the summer season (May 1 – October 31) when the City does not discharge to the River.

The South Yamhill River from R.M. 18.1 to 42.6 is water quality limited for fecal bacteria during the Sheridan WWTP discharge period (November 1- April 30).

DEQ is currently developing Total Maximum Daily Loads (TMDL) for the Yamhill basin (a TMDL has already been established for phosphorus). The proposed permit contains a provision to allow modification of the permit to comply with waste load allocations contained in the Final Yamhill TMDL.

Receiving Stream: Beneficial Uses

The beneficial uses of the South Yamhill River, a tributary to the Willamette River, are:

- public domestic water supply
- private domestic water supply
- industrial water supply
- irrigation
- livestock watering
- fish and aquatic life
- wildlife and hunting
- fishing
- boating
- water contact recreation
- aesthetic quality
- hydro power
- commercial navigation
- commercial transportation

Receiving Stream: Bacteria

The current permit contains bacteria limits that are the same as the water quality bacteria standard. DEQ proposes to retain these limits in the renewal permit. The proposed permit limits are 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.

The proposed limits are taken directly from the Oregon bacteria rule which is found in OAR 340-041-0009. This rule establishes numeric in-stream water quality standards (OAR 340-041-0009(1)), establishes a prohibition against discharging raw sewage, establishes effluent limitations and the methodology for establishing a violation (OAR 340-041-0009(5)). Regarding the general condition 6 found in Section B of Schedule F in this permit which prohibits overflows from wastewater conveyance systems, the Environmental Quality Commission (EQC) recognizes that it is impossible to design and construct a conveyance system that will prevent overflows under all storm conditions. The applicant is not seeking permit coverage for overflows and the permit does not authorize such discharges. The State of Oregon has determined that all wastewater conveyance systems should be designed to transport storm events up to a specific size to the treatment facility. Therefore, in exercising its enforcement discretion regarding Sanitary Sewer Overflows, the Department will consider the following:

(1) Whether the permittee has conveyance and treatment facilities adequate to prevent overflows except during a storm event greater than the one-in-five-year, 24-hour duration storm from November 1 through May 21 and except during a storm event greater than the one-in-ten-year, 24-hour duration storm from May 22 through October 31. In addition, DEQ will also consider using enforcement discretion for overflows that occur during a storm event less than the one-in-five-year, 24-hour duration storm from November 1 through May 21 if the permittee had separate sanitary and storm sewers on January 10, 1996, had experienced sanitary sewer overflows due to inflow and infiltration problems, and has submitted an acceptable plan to the Department to address these sanitary sewer overflows by January 1, 2010;

(2) Whether the permittee has provided the highest and best practicable treatment and/or control of wastes, activities, and flows and has properly operated the conveyance and treatment facilities;

(3) Whether the permittee has minimized the potential environmental and public health impacts from the overflow; and

(4) Whether the permittee has properly maintained the capacity of the conveyance system.

DEQ will review the permittee's determination of the one-in-five-year, 24-hour duration winter storm and the one-in-ten year, 24-hour duration summer storm as described above in the permit holder's facilities plan. In the event that a permit holder reports an overflow event associated with a storm event and DEQ does not have information from the permit holder sufficient to determine whether or not the storm event exceeds storm events as specified in OAR 340-041-0009(6) & (7), DEQ will perform the determination using the information contained in Figure 26 of the 1973 NOAA Atlas 2 entitled "Precipitation-Frequency Atlas of the Western United States, Volume X – Oregon". This figure is entitled "Isopluvials of 5-yr 24-hr precipitation in tenths of an inch". The Atlas can be obtained on line at http://hdsc.nws.noaa.gov/hdsc/pfds/other/or_pfds.html, however the file is very large. A scanned version of Figure 26 is available at: http://www.wrcc.dri.edu/pcpnfreq/or5y24.gif. DEQ will compare the information in this figure with rainfall data available from the National Weather Service, or other source as necessary.

Receiving Stream: Biochemical oxygen demand and Total suspended solids

Biochemical Oxygen Demand (BOD_5) is a measure of the oxygen used by microorganisms when they break down organic matter. If too much organic matter is in the water, then microorganisms use up all the available oxygen in the water. The result is water having no dissolved oxygen which fish and other organisms require for survival.

Total Suspended Solids (TSS) is a measure of organic and inorganic solid materials that are suspended in the water. High concentrations of suspended solids can lower water quality by absorbing light. Waters then become warmer and, because warmer water holds less oxygen than cooler water, aquatic life can suffer. If aquatic plants live in the water body, the suspended solids allow less light to reach their leaves and they will photosynthesize less. This also reduces the amount of oxygen in the water body because photosynthesis produces oxygen. Suspended solids affect aquatic life in other ways. They can clog fish gills, reduce growth rates, decrease resistance to disease, and prevent egg and larval development. Particles that settle out can smother fish eggs and those of aquatic insects, as well as suffocate newly hatched larvae. The material that settles also fills the spaces between rocks and makes these microhabitats unsuitable for various aquatic insects.

The Willamette Basin minimum design criteria for wastewater treatment vary depending on the season (receiving stream low flow season of May 1 – October 31, receiving stream high flow season of November 1 – April 3) and the location of the WWTP within the basin. The Sheridan WWTP discharges to the South Yamhill River, a tributary of the Willamette, only during the high flow (winter) season for which the design criteria require a minimum of secondary treatment or equivalent control. DEQ proposes to retain the current BOD and TSS concentration limits which were set in accordance with equivalent-to-secondary treatment limits per 40CFR 133(105).

The mass load limits for the facility are based upon the winter discharge rate of 3.23 MGD. DEQ proposes to retain the current mass load limits. Calculations are as follows:

$$\text{Flow} \times BOD_5 \text{ Concentration} \times \text{Conversion Factor} = BOD_5 \text{ Mass load limit}$$

$$\left(\frac{3.23 \times 10^6 \text{ gal}}{\text{day}}\right) \times \left(\frac{30 \times 10^{-3} \text{ g}}{\text{L}}\right) \times \left(\frac{2.2 \text{ lbs}}{10^3 \text{ g}}\right) \times \left(\frac{1 \text{ L}}{0.264 \text{ gal}}\right) = 810 \text{ lbs/day*} \quad \text{(Monthly average)}$$

$$\left(\frac{810 \text{ lbs}}{\text{day}}\right) \times 1.5 = 1200 \text{ lbs/day*} \quad \text{(Weekly average)}$$

$$\left(\frac{810 \text{ lbs}}{\text{day}}\right) \times 2.0 = 1600 \text{ lbs/day*} \quad \text{(Daily maximum)}$$

$$\text{Flow} \times \text{TSS Concentration} \times \text{Conversion Factor} = \text{TSS Mass load limit}$$

$$\left(\frac{3.23 \times 10^6 \text{ gal}}{\text{day}}\right) \times \left(\frac{50 \times 10^{-3} \text{ g}}{\text{L}}\right) \times \left(\frac{2.2 \text{ lbs}}{10^3 \text{ g}}\right) \times \left(\frac{1 \text{ L}}{0.264 \text{ gal}}\right) = 1300 \text{ lbs/day*} \quad \text{(Monthly average)}$$

$$\left(\frac{1300 \text{ lbs}}{\text{day}}\right) \times 1.5 = 2000 \text{ lbs/day*} \quad \text{(Weekly average)}$$

$$\left(\frac{1300 \text{ lbs}}{\text{day}}\right) \times 2.0 = 2700 \text{ lbs/day*} \quad \text{(Daily maximum)}$$

*Note: Calculated values rounded to 2 significant figures.

The Code of Federal Regulations (CFR) secondary treatment standards (40 CFR, Part 133) require a minimum percent removal of BOD_5 and TSS by municipal dischargers. In accordance with the federally approved standards for Oregon contained in 40 CFR 133.105, certain types of treatment facilities, including waste stabilization ponds such as the Sheridan WWTP, are eligible for lower percent removal limits. The proposed renewal permit requires a minimum monthly average BOD_5 and TSS removal efficiency of 65 percent – the same as the current permit.

Receiving Stream: pH

The pH is a measure of how acidic or basic a solution is. A solution is considered neutral at a pH of 7.0 standard units (s.u). The general purpose of an in-stream water quality pH standard is to protect aquatic life because most aquatic organisms can tolerate only a fairly narrow range - around 7.0 s.u.

DEQ analyzed the potential effect of the City's effluent on the pH of the South Yamhill River. The analysis showed that, in order for the pH at the edge of the regulatory mixing zone to remain between 6.5 s.u. and 8.5 s.u. (inclusive), the pH of the City's effluent will be required to be no lower than 6.3 s.u. and no higher than 9.0 s.u (see Appendix D). DEQ proposes these limits in the renewal permit.

Receiving Stream: Ammonia

Ammonia is toxic to fish and aquatic organisms, even in very low concentrations. Ammonia toxicity varies with other water quality parameters: the higher the pH and the temperature, the more toxic the ammonia.

DEQ conducted a Reasonable Potential Analysis for the effect of ammonia in the Sheridan WWTP effluent on receiving stream ammonia. The analysis indicated that there is reasonable potential for the effluent to cause violations of ammonia water quality standards under critical flow conditions (see Appendix E). The City of Sheridan plans to change the operation of the treatment lagoon so that the four cells operate in series. This change should improve treatment and, possibly, lower effluent ammonia levels. DEQ proposes interim ammonia limits of 3.1 mg/L monthly average and 8.0 mg/L daily maximum (see Appendix F). These limits would apply when receiving stream flows are 175 cfs or less. DEQ used the RPA spreadsheet to calculate the dilutions at which no Reasonable Potential exists, then used the data in the Sheridan Mixing Zone Study to calculate the receiving stream flow necessary to achieve those dilutions. DEQ also proposes weekly ammonia and receiving stream flow monitoring for one full discharge season after the process change and renewal permit issuance. DEQ will conduct another RPA using these data and will re-evaluate the potential for toxicity in the receiving water. Based on the results of this analysis, DEQ may modify the permit as needed.

Receiving Stream: Chlorine

Chlorine is a strong chemical oxidizer and is toxic to many aquatic organisms. Its oxidizing properties also make it an effective disinfectant. This facility de-chlorinates its treated wastewater with sodium meta-bisulfate. DEQ does not perform a chlorine RPA on facilities that dechlorinate their effluent.

DEQ proposes to keep the current total residual chlorine limits of 0.04 mg/L (daily maximum) and 0.02 mg/L (monthly average) in the proposed renewal permit.

Receiving Stream: Temperature and excess thermal load

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.

DEQ uses Fish Use Designation maps and Salmon and Steelhead Spawning Use Designations maps to identify applicable temperature criteria for each basin. The Yamhill Basin maps are contained in OAR 340-041, Figures 340A and 340B respectively. According to these maps, salmon and steelhead spawning are not designated uses. The South Yamhill River at Sheridan is designated as salmon and trout rearing and migration habitat for which the applicable numeric temperature criterion is 18 °C during the entire year.

The effluent temperature during the City's winter discharge season is lower than 18°C, therefore there is no reasonable potential for the City's effluent to increase the temperature of the receiving water. Because the effluent temperature is lower than 18°C, the effluent does not pose reasonable potential to cause acute impairment or instantaneous lethality (32°C), thermal shock (25°C), or migration blockage (21°C) to salmon and steelhead. DEQ conducted a reasonable potential analysis of mixing zone temperature for the winter discharge season (November 1 through April 30). This analysis of the Sheridan WWTP discharge showed no reasonable potential to violate the temperature standard at the edge of the mixing zone (See Appendix G). Therefore, DEQ does not propose temperature or excess thermal load limits in this renewal permit.

Permit

Permit: Facility classification

The plant operation and collection system classifications were re-evaluated to determine the appropriateness of the current operator certification requirements (Appendix H). The plant is currently classified as Level I and the collection system as Level II. The re-evaluation does not result in any change to these classification levels. The plant must be supervised by one or more operators who hold valid certification at or above Level I (plant) and Level II (collection).

Permit: Proposed Limits (Schedule A)

Proposed effluent limits are summarized below:

BOD and TSS limits (November 1 - April 30, no discharge allowed May 1- October 31)

Parameter	Average effluent concentration		Average effluent loading		
	Monthly	Weekly	Monthly	Weekly	Daily
BOD_5	30 mg/L	45 mg/L	810 lb/day	1200 lb/day	1600 lb/day
TSS	50 mg/L	75 mg/L	1300 lb/day	2000 lb/day	2700 lb/day

Other parameters

Parameter	Limits
E. coli bacteria	May not exceed a monthly geometric mean of 126 organisms per 100 mL, no single sample may exceed 406 organisms per 100 mL
pH	Must be within the range of 6.3 – 9.0 s.u.

Total residual chlorine	May not exceed a daily maximum of 0.04 mg/L and a monthly average of 0.02 mg/L
Removal efficiency (BOD and TSS)	May not be less than a monthly average of 65% for BOD and TSS
Ammonia (Interim limit)	May not exceed a daily maximum of 8.0 mg/L and a monthly average of 3.1 mg/L when receiving stream flow is 175 cfs or less

Recycled water

Parameter	Limits
Total coliform bacteria	Reduce total coliform to no more than 240 organisms per 100 mL in two consecutive samples and a 7-day median of no more than 23 organisms per 100 mL

Permit: Proposed Required Monitoring (Schedule B)

In 1988, DEQ developed a monitoring matrix for commonly monitored parameters. Proposed monitoring frequencies for all parameters are based on this matrix and, in some cases, may have changed from the current permit. The proposed monitoring frequencies for all parameters correspond to those of facilities of similar size and complexity in the state. Refer to the table below for a summary of proposed monitoring and reporting requirements.

Parameter		Minimum Frequency	Sample Type
Influent			
Flow	total (mgd)	daily	measurement
Flow	meter calibration	annual	verification
BOD_5	concentration	1 per 2 weeks	composite
TSS	concentration	1 per 2 weeks	composite
pH		2 per week	grab
Effluent- Outfall 001 (November 1 – April 30)			
Flow	total (mgd)	daily	measurement
Flow	meter calibration	annual	verification
BOD_5,	concentration	1 per 2 weeks	composite
BOD_5,	pounds discharged	1 per 2 weeks	calculation
BOD_5,	average removal efficiency	monthly	calculation
TSS	concentration	1 per 2 weeks	composite
TSS	pounds discharged	1 per 2 weeks	calculation
TSS	average removal efficiency	monthly	calculation
pH		2 per week	grab
Bacteria	*E. coli*	1 per week	grab
Ammonia		weekly	grab
Chlorine	quantity used	daily	measurement
Chlorine	total residual	daily	grab
Temperature		2 per week	grab
Receiving Stream (November 1 – April 30)			

Flow		weekly	calculation
Recycled water - Outfall 002			
Quantity irrigated	inches/acre	daily	calculation
Flow meter	calibration	annually	verification
Chlorine	quantity used	daily	measurement
Chlorine	total residual	daily	grab
pH		2 per week	grab
Coliform	total	1 per week	grab
Nutrients:			
TKN		quarterly	grab
$NO_2 + NO_3$-N		quarterly	grab
NH_3		quarterly	grab
Total P		quarterly	grab

Permit: Compliance Conditions (Schedule C)

N/A

Permit: Proposed Special Conditions (Schedule D)

Schedule D includes special conditions requiring the permittee to manage recycled water in accordance with DEQ approved management plans and to retain DEQ certified staff to supervise the treatment and collection systems

Permit: Pre-treatment (Schedule E)

N/A

Permit: General Conditions (Schedule F)

All NPDES permits issued in the State of Oregon contain General Conditions that remain the same regardless of the type of discharge and the activity causing the discharge. They can be changed or modified only on a statewide basis.

Section A contains standard conditions which include compliance with the permit, assessment of penalties, mitigation of non-compliance, permit renewal application, enforcement actions, toxic discharges, property rights and referenced rules and statutes. Section B contains requirements for operation and maintenance of the pollution control facilities. This section includes conditions for proper operation and maintenance, duty to halt or reduce activity in order to maintain compliance, bypass of treatment facilities, upset conditions, treatment of single operational events, overflows from wastewater conveyance systems and associated pump stations, public notification of effluent violation or overflow, and disposal of removed substances. Section C contains requirements for monitoring and reporting. This section includes conditions for representative sampling, flow measurement, monitoring procedures, penalties of tampering, reporting of monitoring results, additional monitoring by the permittee, averaging of measurements, records retention, records contents, and inspection and entry. Section D contains reporting requirements and includes conditions for reporting planned changes, anticipated non-compliance, permit transfers, progress on compliance schedules, non-compliance which may endanger public health or the environment, other non-compliances, and other information.

Section D also contains signatory requirements and the consequences of falsifying reports. Section E contains the definitions used throughout the permit.

The General Conditions were revised in 2008. 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.
- Overflow language has been modified. Formerly the language stated that overflows in response to the five or ten year event would not violate the permit. Now it states that overflows are prohibited. DEQ will continue to exercise enforcement discretion with respect to overflows consistent with the provisions of the Bacteria Rule (OAR 340-041-0009).
- 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.

Permit: Processing/Public Comment/Appeal Process

The beginning and end date of the public comment period to receive written comments regarding this permit, and the contact name and telephone number are included in the public notice. If the permittee is dissatisfied with the conditions of the permit when issued, they may request a hearing before the EQC or its designated hearing officer, within twenty days of the final permit being mailed. The request for hearing must be sent to the Director of DEQ. Any hearing held shall be conducted pursuant to regulations of DEQ.

Appendix A
Notices of Non-compliance
City of Sheridan

Program/Region	Source Name	Staff Initials	Violation Date	NON Date	County	Location	Description	NON Class	Permit #
WATER QUALITY, MUNICIPAL WESTERN REGION ROSEBURG	CITY OF SHERIDAN	PEK	2/21/2008		YAMHILL	139 YAMHILL ST.	VIOLATIONS OF NPDES, PERMIT SCHED. A AND B		101625
WATER QUALITY, MUNICIPAL WESTERN REGION ROSEBURG	CITY OF SHERIDAN	PEK	2/14/2008	4/14/2008	YAMHILL	120 W MILL ST.	FINDINGS FROM NPDES INSPECTION AND DMR REVIEW OF THIS FACILITY WERE AS FOLLOWS: MULTIPLE CHLORINE RESIDUAL VIOLATIONS, SEVERAL % REMOVAL VIOLAITONS.	Class 1	89020
WATER QUALITY, DOMESTIC WESTERN REGION SALEM	SHERIDAN, CITY OF TERRY LIEB	RVN	2/15/2007	4/13/2007	YAMHILL	SHERIDAN, CITY OF	WQ/D VIOLATION CLASS: 3 OAR-340-012-0055(3)© FAILURE TO ACHIEVE A REMOVAL EFFICIENCY AS ESTABLISHED IN AN NPDES PERMIT. TSS & BOD REMOVAL	Class 3	101625
WATER QUALITY, DOMESTIC WESTERN REGION SALEM	SHERIDAN, CITY OF, FRANK SHERIDAN	RVN	1/6/2006	9/20/2006	YAMHILL	820 SW ASH STREET, SHERIDAN OR	WQ VIOLATION CLASS: 2 PERMITTEE FAILED TO SUBMIT I/I REPORT; VIOLATED OAR 340-045-0015(5)(B), ORS 468B.025(2) ORS 468B.050. JAN. 06 BOD5, FEB. 2006 BOD5 & TSS, MARCH 2006 BOD5 & TSS, APRIL 2006 BOD5.	Class 2	101625
WATER QUALITY, DOMESTIC WESTERN REGION SALEM	SHERIDAN, CITY OF, TERRY LIEB	RVN	3/15/2007	5/31/2007	YAMHILL	SHERIDAN, CITY OF	WQ VIOLATION CLASS: 3 DMR VIOLATION FOR THE MONTH OF MARCH 2007. TSS AND BOD PERCENT REMOVAL AS PER OAR 340-012-0055(3)©.	Class 3	101625
WATER QUALITY, DOMESTIC WESTERN REGION SALEM	SHERIDAN, CITY OF, FRANK SHERIDAN	RVN	1/15/2007	3/16/2007	YAMHILL	SHERIDAN STP, SHERIDAN OR	WQ/D VIOLATION CLASS: 3 JANUARY 2007, TSS VIOLATION CLASS 3, FAILING TO ACHIEVE TSS REMOVAL AS PER OAR 340-012-0055(3)©.	Class 3	101625
WATER QUALITY, DOMESTIC WESTERN REGION EUGENE	TERRY LIEB / CITY OF SHERIDAN	PEK	2/28/2009	6/23/2009	YAMHILL	CITY OF SHERIDAN WASTE WATER FACILITY	FOR THE MONTHS OF FEBRUARY, MARCH AND APRIL 2009: THE CITY ACHIEVED 63.01%, 55.8% AND 57.7% TSS REMOVAL RESPECTIVELY. TSS REMOVAL EFFICIENCY SHALL NOT BE LESS THAN 65% MONTHLY AVERAGE FOR TSS.	Class 3	100998
WATER QUALITY, DOMESTIC WESTERN REGION EUGENE	TERRY LIEB / CITY OF SHERIDAN	PEK	3/31/2009	6/23/2009	YAMHILL	CITY OF SHERIDAN WASTE WATER FACILITY	FOR THE MONTH OF MARCH 2009, THE CITY ACHIEVED 62.46% BOD (5) REMOVAL. BOD(5) REMOVAL EFFICIENCY SHALL NOT BE LESS THAN 65% MONTHLY AVERAGE. FOR TSS.	Class 3	100998
WATER QUALITY, DOMESTIC WESTERN REGION EUGENE	TERRY LIEB / CITY OF SHERIDAN	PEK	3/31/2009	6/23/2009	YAMHILL	CITY OF SHERIDAN WASTE WATER FACILITY	FOR THE MONTH OF MARCH 2009, THE CITY ACHIEVED 62.46% BOD (5) REMOVAL. BOD(5) REMOVAL EFFICIENCY SHALL NOT BE LESS THAN 65% MONTHLY AVERAGE.	Class 3	100998

Appendix B
Anti-degradation Review Worksheet
City of Sheridan

Applicant: City of Sheridan

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

Briefly describe the proposed activity: The City of Sheridan wastewater treatment plant treats and discharges the city's wastewater into the South Yamhill River between from May through November.

This review is for a ☒ Renewal ☐ New

Go to step 2.

2. Is this surface water an **Outstanding Resource Water** or **upstream** from an **Outstanding Resource Water**?

☐ Yes. Go to Step 5. ☒ No. Go to Step 3.

3. Is this surface water a **High Quality Water**?

☐ Yes. Go to Step 8. ☒ No. Go to Step 4.

4. Is this surface water a **Water Quality Limited Water**?

☒ Yes. Go to Step 14. ☐ No. Go to Step 2.

Note: The surface water must fall into one of 3 categories: Outstanding Resource Water (Step 2), High Quality Water (Step 3), or Water Quality Limited Water (Step 4).

5. 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 21.

☐ No. Please provide basis for conclusion:Click here to enter text. Go to Step 6.

6. 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, Please provide basis for conclusion:Click here to enter text. Go to Step 7.

☐ No, Please provide basis for conclusion:Click here to enter text. Go to Step 18.

7. 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 21.

☐ No, Recommend Preliminary Decision to <u>deny</u> proposed activity (subject to Interagency Coordination and Public Comment). Go to Step 18.

8. 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 9.

☐ No, Proceed with Permit Application. Applicant should provide basis for conclusion:Click here to enter text. Go to Step 21.

9. 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, Please provide basis for conclusion:Click here to enter text. Proceed with Application Process to Interagency Coordination and Public Comment. Go to Step 10.

☐ No, Please provide basis for conclusion. Recommend Preliminary Decision to <u>deny</u> proposed activity (subject to Interagency Coordination and Public Comment). Go to Step 21.

10. 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, please provide basis for conclusion (see below for information requirements): Click here to enter text. Recommend Preliminary Decision that applicant use alternative. Go to Step 8.

☐ No, please provide basis for conclusion (see below for information requirements):Click here to enter text. Go to Step 11.

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.

11. 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, please provide basis for conclusion (see below for information requirements):Click here to enter text. Go to Step 12.
☐ No, please provide basis for conclusion (see below for information requirements):Click here to enter text. Go to Step 21.
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

and 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

12. 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):Click here to enter text. Go to Step 21.
☐ No, please provide basis for conclusion (see below for information requirements):Click here to enter text. Go to Step 13.
13. 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 18.
☐ No, recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). Go to Step 21
14. Will the proposed activity 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 15.
☒ No, proceed with Permit Application. Applicant should provide basis for conclusion:The City discharges into an existing mixing zone. Go to Step 21.

15. 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:Click here to enter text. Go to Step 16.

☐ No, please provide basis for conclusion. Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). Go to Step 21.

16. 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:Click here to enter text. Go to Step 17.

☐ No, please provide basis for conclusion:Click here to enter text. Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). Go to Step 21.

17. 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: 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:Click here to enter text. Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). Go to Step 21.

☐ No, please provide basis for conclusion:Click here to enter text. Go to Step 18.

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:Click here to enter text. Go to Step 18.

☐ No, please provide basis for conclusion:Click here to enter text. Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). Go to Step 21.

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: Click here to enter text. Go to Step 18.

☐ No, please provide basis for conclusion:Click here to enter text. Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). Go to Step 21.

Will the activity solve an existing, immediate, and critical environmental problem?

☐ Yes, please provide basis for conclusion:Click here to enter text. Go to Step 18.

☐ No, please provide basis for conclusion:Click here to enter text. Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). Go to Step 21.

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

☐ Yes, go to Step 19.

☐No, please provide basis for conclusion:Click here to enter text. Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). Go to Step 21.

19. 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):Click here to enter text. Recommend Preliminary Decision that applicant use alternative. Go to Step 14.

☐ No, please provide basis for conclusion (see below for information requirements:Click here to enter text.. Go to Step 20.

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.

20. 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, please provide basis for conclusion:Click here to enter text. Proceed with Application Process to Interagency Coordination and Public Comment. Go to Step 21.

☐ No, please provide basis for conclusion:Click here to enter text. Recommend Preliminary Decision to deny proposed activity (subject to Interagency Coordination and Public Comment). Go to Step 21.

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

and 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

21. 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 toDEQ info ☐ Other, go to Other info

DEQ info
Section: WR-Salem
Name: Mary Pfauth
Phone: 503-378-4978
Date Prepared: 4/23/2010

Appendix C
303d List
South Yamhill River

South Yamhill River 1231445452258 0 to 41	Dissolved Oxygen	January 1 - May 15	Spawning: Not less than 11.0 mg/L or 95% of saturation	Resident trout spawning	Cat 5: Water quality limited, 303(d) list, TMDL needed	2004 Added to database
South Yamhill River 1231445452258 18.1 to 42.6	Fecal Coliform	Fall/Winter/Spring	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	Water contact recreation	303(d)	1998 Added to database
South Yamhill River 1231445452258 18.1 to 42.6	Fecal Coliform	Summer	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	Water contact recreation	303(d)	1998 Added to database
South Yamhill River 1231445452258 18.1 to 42.6	Temperature	Summer	Rearing: 17.8 C	Anadromous fish passage Salmonid fish rearing	303(d)	1998 Added to database
South Yamhill River 1231445452258 18.1 to 42.6	Phosphorus	May 1 - October 31	Biocriteria: Waters of the state must be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities.	Aesthetics	TMDL approved	1998 Added to database

Appendix D
City of Sheridan
pH Analysis

Calculation of pH of a mixture of two flows.
Based on the procedure in EPA's DESCON program (EPA, 1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington D.C.)

	RPA for pH	
INPUT	Lower pH Criteria	Upper pH Criteria
1. DILUTION FACTOR AT MZ BOUNDARY - (Qe+Qr)/Qe	4	4
2. UPSTREAM/BACKGROUND CHARACTERISTICS		
Temperature (deg C):	10.0	10.0
pH:	6.9	7.4
Alkalinity (mg CaCO3/L):	30.0	30.0
3. EFFLUENT CHARACTERISTICS		
Temperature (deg C):	13.0	13.0
pH:	6.3	9.0
Alkalinity (mg CaCO3/L):	134.0	134.0
4. APPLICABLE PH CRITERIA	6.5	8.5
OUTPUT		
1. IONIZATION CONSTANTS		
Upstream/Background pKa:	6.46	6.46
Effluent pKa:	6.44	6.44
2. IONIZATION FRACTIONS		
Upstream/Background Ionization Fraction:	0.73	0.90
Effluent Ionization Fraction:	0.42	1.00
3. TOTAL INORGANIC CARBON		
Upstream/Background Total Inorganic Carbon (mg CaCO3/L):	40.99	33.48
Effluent Total Inorganic Carbon (mg CaCO3/L):	317.65	134.37
4. CONDITIONS AT MIXING ZONE BOUNDARY		
Temperature (deg C):	10.75	10.75
Alkalinity (mg CaCO3/L):	56.00	56.00
Total Inorganic Carbon (mg CaCO3/L):	110.16	58.70
pKa:	6.46	6.46
pH at Mixing Zone Boundary:	**6.5**	**7.8**
Is there Reasonable Potential?	**No**	**No**

Appendix E
City of Sheridan
Ammonia RPA

Dilution Values? (Y/N)	y	calculated
Low Flow Dilution @ ZID (1Q10)	*	*
Low Flow Dilution @ MZ (7Q10)		*
Low Flow Dilution @ MZ (30Q5)	*	*
High Flow Dilution @ ZID (1Q10)	2	*
High Flow Dilution @ MZ (7Q10)	4	*
High Flow Dilution @ MZ (30Q5)	*	*
Enter data below if no dilution data is available		
Data to estimate dilution	**Summer**	**Winter**
Effluent Flow (mgd) =	*	*
1Q10 (CFS) =	*	*
7Q10 (CFS) =	*	*
30Q5 (CFS) =	*	*
% dilution at MZ =	*	*
% dilution at ZID =	*	*

Confidence Level =	99%
Probability Basis =	95%

Summer data	Effluent	Stream	Mixed		
			ZID	MZ	
pH * =	*		*	*	(6.5-9)
Temp * =	*		*	*	° C
Alkalinity =	*				
Salmonids Present? (Y/N)	n/a				
Salmonid Spawning? (Y/N)	n/a				
Fresh Water ? (Y/N)	n/a	Y			
Salinity (ppt)	*	*	*	*	
Winter data					
pH * =	9	7.5	8.2	7.9	(6.5-9)
Temp * =	16	10	13.0	11.5	° C
Alkalinity =	134	30			
Salmonids Present? (Y/N)	n/a	Y			
Salmonid Spawning? (Y/N)	n/a	N			
Fresh Water ? (Y/N)	n/a	Y			
Salinity (ppt)	*	0	*	*	

PARAMETER	# of Samples	Highest Conc. mg/l	Coef. of Variance	Calculated Maximum Conc. mg/l	Background Conc. mg/l	Maximum Conc. at ZID mg/l	Maximum Conc. at MZ mg/l	WQ CRITERIA Acute (CMC) mg/l	WQ CRITERIA Chronic (CCC) mg/l	REASONABLE POTENTIAL ? ACUTE	REASONABLE POTENTIAL ? CHRONIC	ZID	MZ
Low Flow Season													
CHLORINE				#DIV/0!		#DIV/0!	#DIV/0!	0.019	0.011	*	*	**#DIV/0!**	**###**
AMMONIA - Freshwater				#DIV/0!		#DIV/0!	#DIV/0!	*	*	*	*	**#DIV/0!**	**###**
AMMONIA - Saltwater	*	*	*	*		*	*	n/a	n/a	*	*		
AMMONIA - Proposed 1hr/4day	*	*	*	*	*	*	*	*	*	*	*		
*AMMONIA - Proposed 30day**	*	*	*	*	*	n/a	*	n/a	#VALUE!	**n/a**	*		**###**
High Flow Season													
CHLORINE				#DIV/0!		#DIV/0!	#DIV/0!	0.019	0.011	*	*	**#DIV/0!**	**###**
AMMONIA - Freshwater	10	7.600	0.73	18.24	0.02	9.13	4.58	4.0	1.4	**YES**	**YES**	**ZID**	**MZ**
AMMONIA - Saltwater	*	*	*	*	*	*	*	n/a	n/a	*	*		
AMMONIA - Proposed 1hr/4day	*	*	*	*	*	*	*	4.1	8.91	*	*		
*AMMONIA - Proposed 30day**	*	*	*	*	*	n/a	*	n/a	3.6	**n/a**	*		

Appendix F
City of Sheridan
Ammonia Limits Worksheet

Dilution Values? (Y/N)	y	calculated
Low Flow Dilution @ ZID (1Q10)		*
Low Flow Dilution @ MZ (7Q10)	*	*
Low Flow Dilution @ MZ (30Q5)	*	*
High Flow Dilution @ ZID (1Q10)	2	*
High Flow Dilution @ MZ (7Q10)	4	*
High Flow Dilution @ MZ (30Q5)	*	*
If no dilution values		
Enter flow rates here	**Summer**	**Winter**
Effluent Flow (MGD)	*	*
1Q10 (CFS)	*	*
7Q10 (CFS)	*	*
30Q5 (CFS)	*	*
% dilution at MZ	*	*
% dilution at ZID	*	*
probability basis	99%	
(WLA multipliers)		

Summer data	Effluent	Stream	Mixed			
			ZID	MZ	MZ	
			1Q10	7Q10	30Q5	
pH * =	*	*	#VALUE!	*	*	(6.5-9)
Temp * =	*	*	*	*	*	° C
Alkalinity =	*	*				
Salmonids Present? (Y/N)	n/a	*				
Salmonid Spawning? (Y/N)	n/a	*				
Fresh Water ? (Y/N)	n/a	*				
Salinity	*	*	*	*		
Winter data						
pH * =	9	7.5	8.1	7.9	*	(6.5-9)
Temp * =	16	4.8	10.4	7.6	*	° C
Alkalinity =	134	30				
Salmonids Present? (Y/N)	n/a	y				
Salmonid Sapwning (Y/N)	n/a	n				
Fresh Water ? (Y/N)	n/a	y				
Salinity	*	0	*	*		

	WATER QUALITY CRITERIA													Concentration Limits		Mass Limits	
	1 Hour	4 Day	30 Day	Back-	Allocations				#	Acute	4 day	30 day	Min	95%	99%	95%	99%
PARAMETER	(CMC)	(CCC)	(CCC)	ground	Acute	4 Day	30 Day		Samples	LTA	LTA	LTA	LTA	Monthly	Daily	Monthly	Daily
	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/L	CV	/Mo	mg/l	mg/l	mg/L	mg/l	mg/l	mg/l	lb/day	lb/day
Low Flow Season																	
CHLORINE	0.019	0.011	n/a		0.00	####	n/a	*	*	*	*	n/a	*	*	*	**#VALUE!**	**#VALUE!**
AMMONIA - Freshwater	n/a	n/a	n/a	*	*	*	n/a	*	*	*	*	n/a	*	*	*	*	*
AMMONIA - Saltwater	n/a	n/a	n/a	*	*	*	n/a	*	*	*	*	n/a	*	*	*	*	*
AMMONIA - Proposed	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
High Flow Season																	
CHLORINE	0.019	0.011	n/a		0.04	0.04	n/a			0.04	0.04	n/a	0.04	**####**	**0.04**	*	*
AMMONIA - Freshwater	4.3	1.5	n/a	0.02	8.61	5.92	n/a	0.73	10	2.33	2.77	n/a	2.33	**3.3**	**8.6**	**#VALUE!**	**#VALUE!**
AMMONIA - Saltwater	n/a	n/a	n/a	*	*	*	n/a	*	*	*	*	n/a	*	*	*	*	*
AMMONIA - Proposed	4.3	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Appendix G
City of Sheridan
Temperature RPA

Enter data into white cells below:

Dilution =	4	
Ambient Temperature or Criterion	18	°C
Effluent Temperature	16	°C
Allowable increase =	0.3	°C
Effluent Flow Rate =	0.422	mgd

ΔT at edge of MZ= -0.50 °C No Reasonable Potential

Thermal Load Limit = N/A Million Kcals

Equation used to calculate ΔT 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:

Qe = Effluent Flow in mgd
S = Dilution
ΔT_{all} = Allowable temperature increase at edge of MZ (°C)
Cp = Specific Heat of Water (1 cal/g °C)
ρ = Density of Water (1 g/cm^3)
3785.41 = Flow conversion from mgd to m^3/day

Appendix H
Wastewater System Classification Worksheet for Operator Certification

General Requirements (OAR 340-049-0015) - Each owner of a regulated wastewater system must have its system supervised by one or more operators who hold a valid certificate for the type of system, wastewater treatment or collection, at a grade equal to or greater than the wastewater system classification as defined in OAR-340-049-0020 and 0025. **Because classification establishes the operator certificate type and grade required for compliance, it must be determined prior to start-up of a new or upgraded facility.**

Wastewater treatment system classifications are derived from the total points assigned based on criteria shown in OAR 340-049-0025 (see Step 1 of the worksheet). Pursuant to OAR 340-049-0020(4), if the complexity of a treatment system is not reflected in -0025, DEQ may classify a system higher as long as the designation is consistent with the intent of the classification system (see Step 2 of the worksheet).

Collection system classifications are based on a service area design population to be handled by the wastewater treatment facility (see footnote on page 1 of worksheet). Like treatment, if deemed appropriate, DEQ may classify the system higher than by population alone (OAR 340-049-0020(5)). For example, the design service area population for "X" Sanitary District is 1350 (Class I), but there are 280 city-maintained STEP or STEG units and a chemical feed system for control of hydrogen sulfide. A Class II designation may be appropriate to meet the intent of the classification system to establish minimum operator requirements for experience and knowledge.

Upon written notice to the wastewater system owner, DEQ may change the classification of a wastewater system and give the owner reasonable time to comply with requirements of the new classification (OAR 340-049-0020(6)). If you have any questions, please contact the Operator Certification Program office in The Dalles at (541) 298-7255 x35.

Classification of Wastewater Systems (OAR 340-049-0020) All wastewater systems regulated under OAR 340-049 will be classified by DEQ as wastewater treatment systems and/or wastewater collection systems, as appropriate, in accordance with the following classification system:

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 to 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**

Definitions used in these regulations unless otherwise required by context (see OAR 340-049-0010):

"Average Dry Weather Flow" (ADWF) means the design average dry weather flow capacity of the wastewater treatment system in gallons per day or Million Gallons per Day (MGD), as approved by the Department.

"Industrial Waste" means liquid wastes from an industrial or commercial process discharged into a wastewater system for conveyance and treatment.

"NPDES Permit" means a waste discharge permit issued in accordance with requirements and procedures of the National Pollutant Discharge Elimination System authorized by Section 402 of the Federal Clean Water Act and OAR 340, Division 45.

"Population" means the design population of the wastewater system represented as the number of people or the population equivalent the system is designed to serve. Equivalent population ordinarily is determined based on 70 gallons per person per day average dry weather flow (ADWF) or 0.17 lbs. BOD5 per person per day, whichever is greater.

"Wastewater" or "sewage" means the water-carried human or animal waste from residences, buildings, industrial establishments or other places, together with such groundwater infiltration and surface water as may be present. The admixture of domestic and industrial waste or other by-products, such as sludge, is also considered wastewater or sewage.

"Wastewater Treatment System" or "Sewage Treatment System" means any structure, equipment or process for treating and disposing of, or recycling or reusing wastewater and sludge (including industrial waste) that is discharged to the wastewater system.

"Wastewater Collection System" or "Sewage Collection System" means the trunks, arterials, pumps, pump/lift stations, piping and other appurtenances necessary to collect and carry away wastewater or other liquid waste treatable in a community or private wastewater treatment facility.

"Wastewater System" means "Sewage Treatment Works" defined in ORS 448.405 as any structure, equipment or process required to collect, carry away and treat domestic waste and dispose of sewage as defined in ORS 454.010. Typically, components of a wastewater system include a wastewater collection system and a wastewater treatment system.

"WPCF Permit" means a Water Pollution Control Facilities permit to construct and operate a collection, treatment and/or disposal system with no discharge to navigable waters.

Appendix H
Wastewater System Classification Worksheet

WW System Common Name: Sheridan STP

Facility ID: 80920 **Location:** Sheridan

Total Points (from page 3): 28.5 **WWT Class (check):** ☒ I ☐ II ☐ III ☐ IV

Design Population[1]: ______ **WWC Class (check):** ☐ I ☒ II ☐ III ☐ IV

Design ADWF load (Influent MGD) 0.422 **Design BOD load (Influent lbs./day)** 200 lbs/day

Classified by: Mary Pfauth **Date:** May 25, 2010

Date this classification filed with the Operator Certification Office: ______

System start-up date for this classification (new, upgrade or expansion): ______

Is this a change from a prior classification? (check): ☐ Yes ☐ No

STEP 1 - Criteria for Classifying Wastewater Treatment Systems (OAR 340-049-0025)

(1) Design Population or Population Equivalent Points (10 Points Maximum)

☐ Less than 750	0.5 points
☒ 751 to 2000	1 point
☐ 2001 to 5000	1.5 points
☐ 5001 to 10,000	2 points
☐ Greater than 10,000	3 points+1 pt. for ea. add. 10k
Part 1 Subtotal	1 points

(2) Average Dry Weather Flow (Design Capacity) Points (10 points Maximum)

☐ Less than 0.075 MGD	0.5 point
☐ Greater than 0.075 to 0.1 MGD	1 point
☒ Greater than 0.1 to 0.5 MGD	1.5 points
☐ Greater than 0.5 to 1.0 MGD	2 points
☐ Greater than 1.0 MGD	3 points+1 pt. for ea. add. MGD
Part 2 Subtotal	1.5 points

(3) Unit Process Points (Check all that apply)

Preliminary Treatment and Plant Hydraulics: See also STEP 2

☐ Comminution (cutter, shredder, grinder, barminutor, etc.)	1 point
☐ Grit Removal, gravity	1 point
☐ Grit Removal, mechanical	2 points
☐ Screen(s), in-situ or mechanical (coarse solids only)	1 point
☒ Pump/Lift Station(s) (pumping of main flow)	2 points

---

[1] **See "Population" definition. Use the design average daily equivalent load per person for Influent Flow or Influent BOD5, whichever is greater. This value is used to determine the Collection System Classification.**

☐ Flow Equalization (any type)	1 point
Subtotal	2 points

Primary Treatment: _____

☐ Community Septic Tank(s) (STEP, STEG, etc)	2 points
☐ Clarifier(s)	5 points
☐ Flotation Clarifier(s)	7 points
☐ Chemical Addition System	2 points
☐ Imhoff Tanks, (large septic tank or similar sedimentation & digestion)	3 points
Subtotal	_____ points
Page 1 Subtotal	4.5 points

Unit Process Points – Continued (Check all that apply) _____

Secondary, Advanced, and Tertiary Treatment **See also STEP 2:**

☐ Low Rate Trickling Filter(s) (no recirculation)	7 points
☐ High Rate Trickling Filter(s) (recirculation)	10 points
☐ Trickling Filter - Solids Contact System	12 points
☐ Activated Sludge (includes SBR & basic MBR process)	15 points
☐ Pure Oxygen Activated Sludge	20 points
☐ Activated Bio Filter Tower less than 0.1 MGD	6 points
☐ Activated Bio Filter Tower greater than 0.1 MGD	12 points
☐ Rotating Biological Contactors 1 to 4 shafts	7 points
☐ Rotating Biological Contactors, 5 or more shafts	12 points
☒ Stabilization Lagoons, 1 to 3 cells without aeration	5 points
☐ Stabilization Lagoons, 1 or more cells with primary aeration	7 points
☐ Stabilization Lagoons, 2 or more cells with full aeration	9 points
☐ Recirculating Gravel Filter	7 points
☐ Chemical Precipitation Unit(s)	3 points
☐ Gravity Filtration Unit(s)	2 points
☐ Pressure Filtration Unit(s)	4 points
☐ Nitrogen Removal, Biological (BNR) or Chemical/Biological System	4 points
☐ Nitrogen Removal, Designed Extended Aeration Only (Nitrification)	2 points
☐ Phosphorus Removal Unit(s)	4 points
☐ Effluent Microscreen(s)	2 points
☐ Chemical Flocculation Unit(s)	3 points
☐ Chemical Addition System @ 2 points (describe): ________________	_____ points
Subtotal	5 points

Solids Handling (Excludes long-term storage in lagoons above) **See also STEP 2:**

☐ Anaerobic Primary Sludge Digester(s) w/o Mixing and Heating	5 points
☐ Anaerobic Primary Sludge Digester(s) with Mixing and Heating	7 points
☐ Anaerobic Primary and Secondary Sludge Digesters	10 points
☐ Sludge Digester Gas reuse	3 points
☐ Aerobic Sludge Digester(s)	8 points
☐ Sludge Storage Lagoon(s) (List Basin(s) or Tank(s) under STEP 2)	2 points
☐ Sludge Lagoon(s) with aeration	3 points
☐ Sludge Drying Bed(s)	1 point
☐ Sludge Air or Gravity Thickening	3 points

☐ Sludge Composting, In Vessel	12 points
☐ Sludge Belt(s) or Vacuum Press/Dewatering	5 points
☐ Sludge Centrifuge(s)	5 points
☐ Sludge Incineration	12 points
☐ Sludge Chemical Addition Unit(s) (alum, polymer, alkaline stab. etc.)	2 points
☒ Non-Beneficial Sludge Disposal (landfill or burial)	1 point
☐ Beneficial Sludge Utilization (see also STEP 2)	3 points
Subtotal	1 points

Disinfection:

☒ Liquid Chlorine Disinfection	2 points
☐ Gas Chlorine Disinfection	5 points
☒ Dechlorination System	4 points
☐ Other disinfection systems including ultraviolet and ozonation	5 points
Subtotal	6 points
Page 2 Subtotal	12 points

(4) **Effluent Permit Requirement Points** (Check as applicable) **See also STEP 2**:

☒ Minimum of secondary effluent limitations for BOD and/or TSS	2 points
☐ Minimum of 20 mg/L BOD and/or Total Suspended Solids	3 points
☐ Minimum of 10 mg/L BOD and/or Total Suspended Solids	4 points
☐ Minimum of 5 mg/L BOD and/or Total Suspended Solids	5 points
☐ Effluent limitations for effluent oxygen (For other limits see Step 2)	1 point
Part 4 Subtotal	2 points

(5) **Variation in Raw Waste Points**. Points in this category will be awarded only when conditions are extreme to the extent that operation and handling procedure changes are needed to adequately treat waste due to variation of raw waste (strength or flow)

☐ Recurring deviations or excessive variations 100% to 200%	2 points
☐ Recurring deviations or excessive variations of more than 200%, **or** conveyance and treatment of industrial wastes by pretreatment program	4 points
☐ Septage or truck-hauled waste	2 points
Part 5 Subtotal	0 points

(6) **Sampling and Laboratory Testing Points** (check as applicable)

☒ Sample for BOD, Total Suspended Solids performed by outside lab or	2 points
☐ BOD or Total Suspended Solids analysis performed at treatment plant	4 points
☐ Bacteriological analysis performed by outside lab or	1 point
☒ Bacteriological analysis performed at WWT plant lab	2 points
☒ Nutrient, Heavy Metals or Organics analysis performed by outside lab or ($\leq$1/mo. 1 pt)	3 points
☐ Nutrient, Heavy Metals or Organics analysis performed at WWT plant	5 points
Part 6 Subtotal	7 points
Parts 4-6 Total	9 points*

Appendix H
Wastewater System Classification Worksheet

OAR 340-049-0025 Accumulated Points, pg1 4.5, **pg2** 12 **& pg3*** 12 = 28.5 **Go to Step 2▼**

STEP 2 - Complexity Not Reflected Above (OAR 340-049 0020(4))

Note: This step may justify a higher classification. Points shown are given as guidance.

- ☐ Fine Screen Preliminary Treatment (includes washing & compaction) 2 points
- ☐ SCADA or similar instrumentation providing data w/ process op. (2-4 pts) ______ points
- ☐ Post aeration, includes mechanical and diffused aeration (not cascade) 1 point
- ☐ Class A recycled water (storage, distribution & monitoring) 6 points
- ☒ Class B, C, D and non-disinfected recycle (surface & subsurface) 3 points
- ☐ Sludge dewatering using bag or tube system 1 point
- ☐ Composting, ASP or windrow 6 points
- ☐ Land application of biosolids by system operator (add to BSU pts. Pg. 2) 5 points
- ☐ Odor or corrosion control (separate or combined) 2 points
- ☐ Chemical/Physical advanced waste treatment (10 -15 points) ______ points
- ☐ Reverse Osmosis or Electro-dialysis 15 points
- ☐ Other Effluent Requirements @ 1 pt (describe): ____________________ ______ point(s)
- ☐ Other (describe): ____ ______ point(s)

OAR 340-049-0020(4) points 12 points

Accumulated Point Total - Steps 1 and 2 (enter here and on page 1) **28.5 points**

A COPY OF THIS COMPLETED WORKSHEET TO BE FILED WITH THE OPERATOR CERTIFICATION PROGRAM OFFICE, WQ DIVISION, PRIOR TO SYSTEM START-UP