

# **Fact Sheet Amendment for State Waste Discharge Permit ST0005397 Liberty School District #362**

## **Purpose of this Fact Sheet Amendment**

This fact sheet amendment explains and documents the modifications to the permit issued to Liberty School District #362 (District) on January 23, 2018. The fact sheet that accompanied the 2018 permit has detailed information about the wastewater treatment plant and Ecology's permit decisions.

State law requires any domestic wastewater facility to obtain a permit before discharging waste or chemicals to waters of the state, which includes groundwater.

Ecology makes the draft modified permit available for public review and comment at least 30 days before issuing the final permit. Copies of the draft documents for the District's State Waste Discharge permit ST0005397, are available for public review and comment from February 10, 2020 until the close of business March 11, 2020. For more details on preparing and filing comments about these documents, please see **Appendix A - Public Involvement Information**.

After the public comment period closes, Ecology will summarize substantive comments and our responses to them. Ecology will include our summary and responses to comments to this fact sheet amendment as **Appendix C - Response to Comments**, and publish it when we issue the final State Waste Discharge permit. Ecology will not revise the rest of the fact sheet, but the full document including all appendices will become part of the legal history contained in the facility's permit file.

This fact sheet amendment explains the regulatory and technical basis for the amended conditions contained in the permit.

## **Introduction**

The legislature defined Ecology's authority and obligations for the wastewater discharge permit program in the Water Pollution Control law, chapter 90.48 RCW (Revised Code of Washington).

Ecology adopted rules describing how it exercises its authority:

- State waste discharge program (chapter 173-216 WAC)
- Water quality standards for ground waters of the state of Washington (chapter 173-200 WAC)
- Discharge standards and effluent limits for domestic wastewater facilities (chapter 173-221 WAC)
- Submission of plans and reports for construction of wastewater facilities (chapter 173-240 WAC)

These rules require any domestic wastewater treatment facility owner or operator to obtain a State Waste Discharge permit before discharging wastewater to state waters. They also help define the basis for limits on each discharge and for performance requirements imposed by the permit.

## 1. General Information

Table 1: Facility Information

Facility Information	
Applicant	Liberty School District #362
Facility Name and Address	Liberty School District #362 Wastewater Treatment Facility 29818 South North Pine Creek Road Spangle, WA 99031
Type of Treatment	Sequencing batch reactors
Discharge Location	Constructed wetlands to a natural depression wetland
Responsible Official	Brett Baum, Superintendent (509) 245-3211 ext. 2213

## 2. Background

Liberty School District's State Waste Discharge Permit was reissued on January 23, 2018. A decision was made to move the effluent sampling and point of compliance from the original point out of the constructed wetlands to the end of pipe before discharge to the constructed wetlands. The District has requested a modification to their permit that moves the effluent monitoring and limits back to the discharge point out of the wetland.

## 3. Discussion

The constructed wetlands are considered a part of the treatment process. Treatment at the Sequencing Batch Reactor (SBR) is only a portion of the total treatment the facility was designed for. The wetlands are an important part of the process, and final effluent sampling should occur after all treatment has been completed.

The District has groundwater wells installed at the wetlands that were monitored in previous permit cycles. These wells are impacted by other processes in the area (cattle, farming). Because groundwater quality in the wastewater discharge zone is impacted by these other processes, using groundwater as a basis for assessing permit compliance is not a reliable or accurate means to make a determination. A groundwater evaluation by Ecology's hydrogeologist recommends "assessing compliance at the end of pipe where treated wastewater discharges from the Liberty School wastewater treatment facility". The Groundwater Memorandum is attached to this modification for reference.

While the effluent limits and point of compliance should be moved to the discharge point from the constructed wetlands, monitoring should still occur after the SBR to give assurance that the SBR is functioning properly and to expected engineering design requirements. The constructed wetland was sized with the use of the SBR and a certain loading for BOD5, pH, and NO3, and Average Annual Flow. The flow may be determined based on influent monitoring, however the other three parameters should continue to assure the SBR is operating correctly and the loads are within parameters as designed by the engineer.

#### **4. Permit Modification**

Ecology will make the following changes to the permit:

The sampling point and limits for final effluent discharge from the wastewater treatment system will be moved back to the original location. All effluent samples will be collected from the discharge from the constructed wetlands to the infiltrating wetland. Condition S2.A.(2) will be modified to reflect this change.

Monitoring of the effluent from the SBR plant to the wetlands has been removed as a permit condition. Process control monitoring is the responsibility of the Permittee and should be included in the Operation and Maintenance Manual as a routine and regular function of treatment plant operations.

#### **5. Conclusion**

Ecology proposes to modify Liberty School District #362 permit as discussed in sections three and four above.

No other condition or requirement of the 2018 permit is hereby affected by this amendment.

#### **APPENDIX A – PUBLIC INVOLVEMENT**

#### **APPENDIX B - YOUR RIGHT TO APPEAL**

#### **APPENDIX C - RESPONSE TO COMMENTS**

#### **APPENDIX D - GROUNDWATER MEMORANDUM (September 13, 2017)**

## Appendix A – Public Involvement Information

Ecology proposes to modify the Liberty School District #362 State Waste Discharge permit. The permit modifications are described in this fact sheet amendment.

Ecology will place a public notice in the Spokesman Review on February 10, 2020 to inform the public and to invite comments on the proposed draft modified permit. Interested persons are invited to submit written comments regarding the modifications. Ecology is only accepting comments on the modified portions.

The modified permit and related documents can be viewed and copied between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to **Water Quality Program, Department of Ecology, 4601 North Monroe Street, Spokane, Washington, 99205.**

Any interested party may request a public hearing on the proposed permit within 30 days of the publication date of this notice. The request for a hearing shall state the interest of the party and the reasons why a hearing is necessary. The request should be sent to the above address. The Department will hold a hearing if it determines that there is significant public interest. If a hearing is to be held, public notice will be published at least 30 days in advance of the hearing date. Any party responding to this notice with comments will be mailed a copy of a hearing public notice.

Ecology will consider all comments received within 30 days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. Ecology's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Ecology is an equal opportunity agency. If you need this publication in an alternate format, please contact us at (509) 329-3400 or TTY (for the speech and hearing impaired) at 711 or 1-800-833-6388.

For more information, call the Department of Ecology Eastern Regional Office at (509) 329-3400 or go online to the [Department's webpage](http://www.ecy.wa.gov) at [www.ecy.wa.gov](http://www.ecy.wa.gov).

## Appendix B - Your Right to Appeal

You have a right to appeal this permit to the Pollution Control Hearing Board (P.C.H.B.) within 30 days of the date of receipt of the final permit. **You may only file an appeal on the modified portions of the permit.** The appeal process is governed by chapter 43.21B RCW and chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2) (see glossary).

To appeal you must do the following within 30 days of the date of receipt of this permit:

- File your appeal and a copy of this permit with the P.C.H.B. (see addresses below). Filing means actual receipt by the P.C.H.B. during regular business hours.
- Serve a copy of your appeal and this permit on Ecology in paper form, by mail or in person at the addresses below.

You must also comply with other applicable requirements in chapter 43.21B RCW and chapter 371-08 WAC.

### ADDRESS AND LOCATION INFORMATION

#### Deliver in person

Department of Ecology  
Attn: Appeals Processing Desk  
300 Desmond Drive SE  
Lacey, WA 98503

Pollution Control Hearings Board  
1111 Israel Road Southwest, Suite 301  
Tumwater, Washington 98501

#### Deliver by mail

Department of Ecology  
Attn: Appeals Processing Desk  
P.O. Box 47608  
Olympia, Washington 98504-7608

Pollution Control Hearings Board  
P.O. Box 40903  
Olympia, Washington 98504-0903

Effective February 17, 2015, you can file by e-mail at the following address provided you follow-up with required hard copies postmarked the same day they are e-mailed (See WAC 371-08-305(6) and 335(3)); [PCHB-SHBappeals@elaho.wa.gov](mailto:PCHB-SHBappeals@elaho.wa.gov).

Ecology only accepts copies of appeals by hand delivery or by mail. Email is not accepted.

## **APPENDIX C - RESPONSE TO COMMENTS**

Ecology did not receive comments on the draft modified permit following the 30-day public comment period.

## APPENDIX D – GROUNDWATER MEMORANDUM

### Groundwater Memorandum

**To:** Cynthia Wall  
**From:** Llyn Doremus  
**Date:** September 13, 2017  
**Re:** Liberty School groundwater conditions

You requested an evaluation of the groundwater conditions in the vicinity of the Liberty School, located approximately 3 miles southeast of Spangle and 2 miles west of Hangman Creek. (Section 24, R 43 E, T 22 N). Hydrogeologic Reports were completed by Gifford Consultants, Inc. (1999), and GeoEngineers (2000), that were used in assembling this memo, along with the DMR data submitted from 2013 to 2017 and the East Spangle and West Spangle 7.5 minute topographic maps and USGS Water Resources Investigation Report no. 88-4018. The site location is shown on Figure 1. The area is surrounding area is in agricultural production, and the nearby Pine Creek Road drain discharges near the wastewater treatment discharge wetlands.

Liberty School wastewater is treated by a Sequencing Batch Reactor Treatment Package Plant that discharges the treated wastewater to a depression and wetlands formed in an abandoned gravel pit. There are two monitoring wells currently used to assess groundwater compliance that are sampled semi-annually (MW202 and MW203). Both nitrate and total coliform content were found to be elevated in samples collected during well installations. And, these parameters continue to be randomly detected at elevated concentrations in groundwater.

The School is located in a glacial-floodwater carved channel about one mile across that trends southwest to northeast. The channel is carved into Wanapum Basalt, which is overlain by a thin veneer of soils and sediment. The three wells drilled to monitor groundwater at the Liberty School Wastewater discharge area encountered basalt at depths of six to twelve feet below ground surface (bgs). The shallow depths of basalt acts to perch groundwater near the ground surface. GeoEngineers reported groundwater depths at 1 and 14 feet bgs from 1998 and 2005, consistent with more recent facility DMR reported groundwater depths.

The groundwater gradient is relatively flat in this area, although the regional groundwater trend is to the northeast, draining to Hangman Creek. Groundwater elevations are higher in MW203 than MW202 indicating an east to west groundwater gradient, opposite to the regional southwest to northeast trending gradient. (Monitoring well locations and the hydraulic gradient are shown in Figure 2)

December 17, 2019

Nitrate and total coliform concentrations in MS202 and MW203 exceed groundwater quality standards in both wells in samples collected from 1998 to 2017. Total dissolved solids and total kjeldahl nitrogen (TKN) are consistently detected at concentrations that are compliant with the groundwater quality standards.

GeoEngineers noted in their 2000 report that the surrounding agricultural fields drain to the road ditch along the Spangle-Waverly Road, which drains to the wastewater treatment lagoon area. This configuration is shown in the East Spangle 7.5' topographic map, suggesting that drainage from the watershed north and west of the site is infiltrating in the vicinity of the wastewater lagoons, and affecting groundwater concentration of nitrate and total coliform. The relatively low concentration of total dissolved solids in groundwater support an interpretation that infiltration of treated wastewater is not the primary source of elevated nitrate and total coliform detected in groundwater.

Because groundwater quality in the Liberty School wastewater discharge zone is impacted by other processes besides the treated wastewater, using groundwater measurements as the basis for assessing permit compliance is not a reliable or accurate means of making that determination. Instead, I recommend assessing compliance at the end of pipe where treated wastewater discharges from Liberty School wastewater treatment facility.

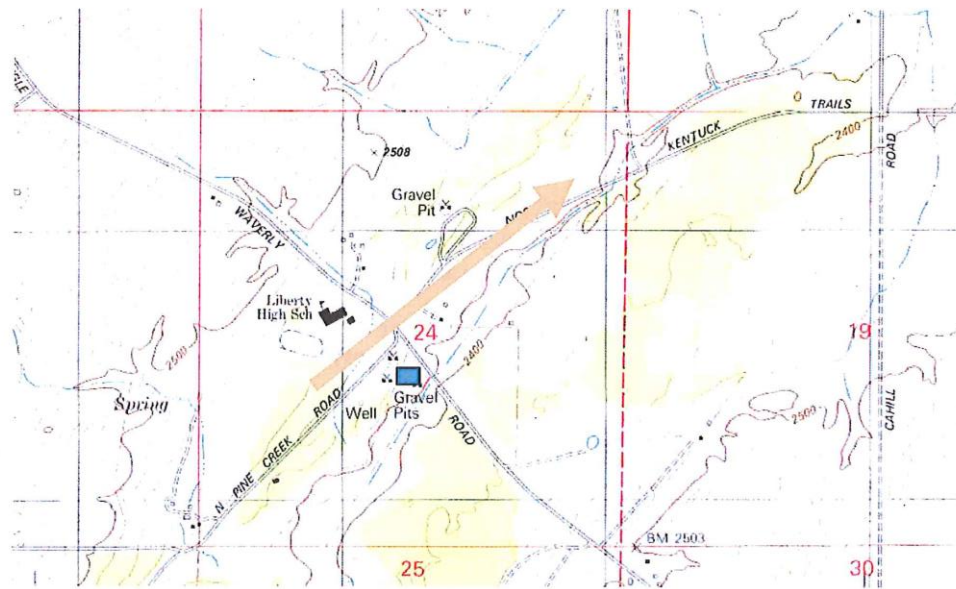


Figure 1. Liberty School vicinity and treated wastewater discharge location

■ Location of treated wastewater discharge



December 17, 2019

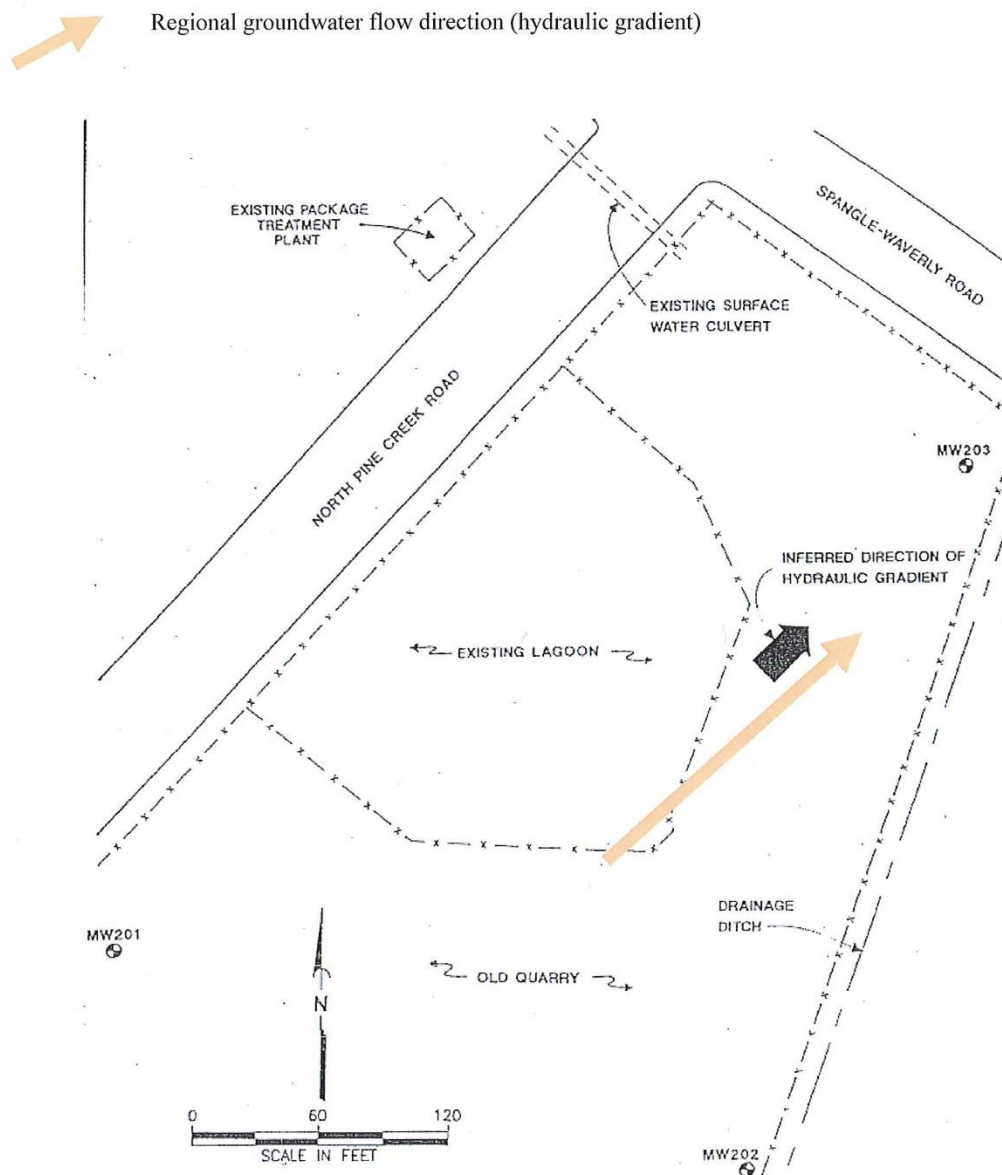


Figure 2. Treated wastewater discharge location (i.e. existing lagoon), monitoring well locations (MW201 is no longer used for groundwater data collection) and surface water drain location.