Operation and Maintenance Plan

Penn Cove Shellfish, LLC
Samish Bay Plant
11317 Blue Heron Rd.
Bow, Washinton 98232

NPDES Permit No. WA0029262

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1. Contacts

Position	Name	Contact
Maintenance Manager	Tommy Hawkins	(360) 672-9219 (360) 632-3035
Operations Manager	Tom Glaspie	(360) 391-9504
EHS Divisional Manager	Daniel Brazeal	(360) 905-4276

2. Facility Description

The Penn Cove Shellfish, LLC – Samish Bay Plant (the Facility) processes live oysters and clams.

Clams are harvested from Samish Bay, bagged and delivered to the Facility where they are toted and sent to an off-site storage facility. Clams do not enter the Facility and all rinse water is captured via floor drains and conveyed to the treatment system.

Oysters are harvested from Samish Bay and delivered to the Facility where they first go to a hopper, then into an elevated conveyer belt, that are then sprayed from above and below then rinsed oysters are then toted. Rising removes any lingering residual sediments, vegetation and organisms that were not removed in the initial rinsing that occurs at time of harvest. The recirculated water is continually filtered through the mesh, where clean water at the top of the tank is discharged to the floor drains and all accumulated sediment remains in the tank, and is scooped out and disposed of properly when full. Oysters are then graded and using a vision grading system before being bagged and chilled in preparation for shipment to a dealer or shell stock shipper. This workflow is very efficient as much of the processes are automated, with the hopper, rinse water recycling, grading, sizing and bagging are all mechanical processes. All generated wastewater flows into the wastewater conveyance system through floor drains. The wastewater lines all feed into the sediment trap for comingled discharged out of the permitted outfall. A map of the Facility with process flow is included in Appendix A.

3. Wastewater Treatment

The criteria developed for the design of the wastewater treatment components was to remove excessive solids rendered from the oyster rinsing process prior to discharge. The treatment consists of two main units: a mesh screen and a sediment trap. Both treatment units are passive, and gravity fed and thus provide consistent results regardless of flow rate.

3.1 Sediment Trap

The sediment trap is a 65-inch by 33-inch by 24-inch rectangular concrete trap with two 3-inch inlet pipes and one 4-inch outlet pipe. Due to the invert elevation of the outlet pipe, the trap has an operating depth of 10 inches, with a capacity to hold 93 gallons. This design allows for 10 minutes of hydraulic retention with a flow rate of 9.3 gallons per minute. The typical operational instantaneous flow rate is, however, lower than the max capacity of the trap. The trap serves to slow down discharge and allow for the settlement of solids in all comingled wastewaters prior to discharge out of the outfall.

3.2 Screen

The mesh screen is a stainless-steel screen with 2-milimeter openings located inside the washer and serves to capture larger particles in the recycled water used to rinse the oysters prior to discharge to the wastewater conveyance system.

4. Maintenance

4.1 Spill Prevention

No maintenance procedures of treatment systems would generate process wastewater. However, when conducting maintenance that has the potential to impact wastewater, floor drains will be covered to prevent unauthorized discharges and drain plugs are installed. Absorbent pads and other spill materials are also kept accessible onsite in the event a spill occurs.

4.2 Material Inventory

Spare parts for materials used in the sediment trap and mesh screen are common materials and can be found at local home improvement stores. The nearest of which is approximately 16 miles away in Burlington, Washinton.

4.3 Equipment Failure

The only component subject to a failure that could negatively impact surface water or harm health is the capacity of the sediment trap. In the unlikely event of a large discharge that exceeds the maximum capacity of the trap, production would cease so as to stop the overflow, and samples would be taken at the outfall point to ensure there are no water quality standard exceedances. However, sediments captured by the treatment systems do not present a contamination hazard and as the wastewater generated by the Facility is not subject to additional treatments, typical discharge falls within water quality standards.

The sediment trap is subject to at least one visual weekly inspection and a more thorough inspection monthly during scheduled clean outs. If deficiencies are observed, they will be noted and addressed immediately.

4.4 Safety

The sediment trap is to remain covered using the surface grate at all times, unless active maintenance or cleaning is occurring, to prevent slip, trip and fall hazards. When cleaning up sediments in any capacity, team members will use the appropriate PPE. Team members undergo monthly safety training and are knowledgeable on the Facility's Emergency Action Plan.

4.5 Maintenance Schedule

The sediment trap is cleaned monthly and as needed pending if the sediment depths reach 4 inches prior to the scheduled cleaning or if lackadaisical drainage is observed during processing. The sediment is cleaned out by removing the surface grate and manually digging out the sediment build-up. Sediments are removed from the stainless-steel mesh screen daily, typically at the end of the shift, where it is also observed for deficiencies. All collected sediment materials are then sent to an off-site storage area. A summary of the monitoring schedule can be found in Table 4.1. Because

treatment is passive, in both the cases of the mesh screen and sediment trap, a minimum of one person is required to maintain the treatment processes and conduct monitoring.

Table 4.1

Treatment Type	Monitoring Schedule	Areas of Observation
Sediment Trap	x1 week	- Flooding - Excessive blockages
Sediment Trap	x1 monthly	- Structural integrity
Screen	x1 daily	- Flooding - Excessive blockages

5. Wastewater Monitoring

The operational goal of the Facility is to remain in compliance with permit limits and monitoring frequencies set by the Washington Department of Ecology. A summary of permit limits and monitoring requirements is included in Table 5.1. All samples are taken as grab samples consisting of a single aliquot and are collected only when active discharge is occurring by trained team members. pH is analyzed on-site using a handheld meter by trained team members and results are documented using the form in Appendix B. Sample analysis BOD, TSS, and Fecal Coliform are conducted at the following accredited lab:

Edge Analytical
1620 South Walnut St.
Burlington, WA 98233

Table 5.1

Outfall 001 Effluent Limits					
Parameter		Daily Minimum		Daily Maximum	
pH		6.0		9.0	
Outfall 001 Monitoring Requirements					
Parameter	**Unit**	**Method**	**Sampling Frequency**	**Sample Type**	**Location**
Flow	gpd	Metered	Monthly	Recorded	Outfall 001
pH	standard unit	USGS I-1586-85	Monthly	Grab	Outfall 001
BOD 5-day	mg/L	SM5210-B	Monthly	Grab	Outfall 001
TSS	mg/L	USGS I-3765-85	Monthly	Grab	Outfall 001
Fecal Coliform	#/100 ml	SM9222-D	Monthly	Grab	Outfall 001

6. Recordkeeping

All records of and documents pertaining to wastewater compliance are maintained onsite either physically or electronically for a minimum of 5 years. Forms used for internal analyses are included in Appendix B.

7. Emergency Response

Emergency procedures are outlined in the Facility's Emergency Action Plan. In the event of wastewater system upset or failure the Facility will respond accordingly:

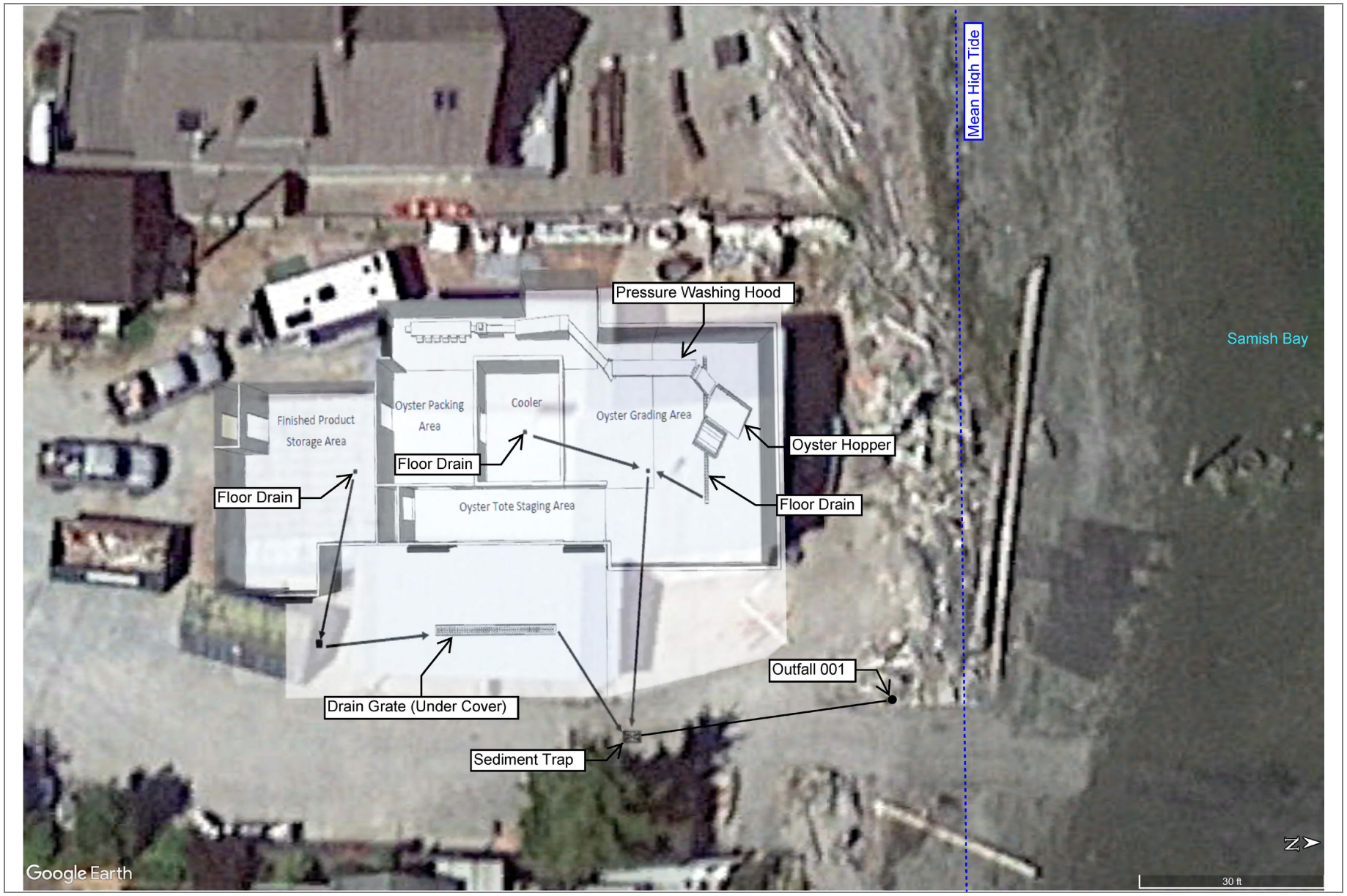
1. Stop and control the discharge by ceasing wastewater producing activities, turning off valves and stopping leaks
2. Protect surface waters by covering storm drains and creating barriers around catch basins with absorbent materials
3. Contain the spill by building barriers and dams using absorbent materials to prevent the spill from spreading
4. Clean up spill with absorbent materials or by pumping into empty drums
5. If the spill was of a hazardous substance, the cleanup material must be characterized and disposed of in accordance with State and Federal regulations
6. Repair the equipment or container that led to the spill
7. As needed, notify the appropriate agencies.
    - Northwest Region Ecology Office
        - 1-800-360-255-4400
    - Washington Emergency Management Division
        - 1-800-258-5990
    - National Response Center
        - 1-800-424-8802

8. Appendices

Appendix A ..... Facility Map

Appendix B ..... pH QA+QC and Analysis Form

Appendix A. Facility Map



Filepath: https://anchorqea-my.sharepoint.com/personal/kknight_anchorqea_com/Documents/Documents/Penn Cove/Final/Figure 1b - PCS Samish Bay Plant Site Plan 042623.docx

ANCHOR QEA

Figure 1b
Site Plan

Industrial Wastewater Facility Engineering Report
Penn Cove Shellfish Samish Bay Plant

Appendix B. pH QA+QC and Analysis Form

pH and Temp: QA/QC and Analysis Form

Technician Name (print): _____ Date: _____

Technician Signature: _____

Equipment

- Items to collect:
  - pH meter
  - SOP (instructions)
  - Sample (see below)
- Wearing gloves and using a clean and dry collection cup, collect the sample of water from the sample port. Let the water run at least 20 seconds before collecting a sample.
  - Sample must be analyzed within 15 minutes of collection.

Calibration - *Complete once per measurement event*

Calibration Date and Time: _____ AM / PM

Note Buffer Solutions Used:

- pH 4.0, Expiration Date: _____
- pH 7.0, Expiration Date: _____
- pH 10.0, Expiration Date: _____

Quality Assurance – *Complete after each calibration procedure.*
Record the readings of the buffer solutions after performing the calibration procedure.

pH 4.0 Buffer: _____ pH 7.0 Buffer: _____ pH 10.0 Buffer: _____
If any pH reading is more than ±0.2, calibrate the probe again.

Sample Analysis – *Use additional sheets if necessary for more samples*

Sample Collection Date and Time: _____AM /PM

Sample Analysis Time: _____ AM / PM
if more than 15 minutes have elapsed since sample collection, a new sample must be collected

Sample pH reading: _____

Sample Temp: _____ C / F