CLALLAM COUNTY

CLALLAM BAY / SEKIU

GENERAL SEWER / FACILITIES PLAN

AMENDMENT

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May 2025

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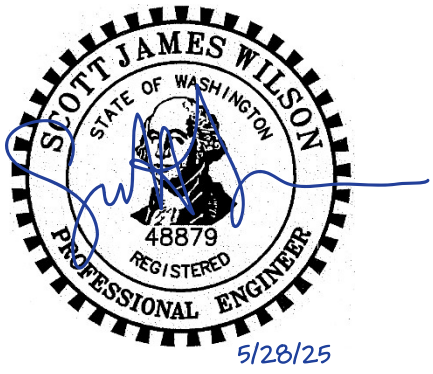

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BOD_5	5-Day Biochemical Oxygen Demand
$CBOD_5$	5-Day Carbonaceous Biochemical Oxygen Demand
cu ft	cubic feet
DO	Dissolved Oxygen
ERU	Equivalent Residential Unit
F/M	Food to Microorganism Ratio
GMA	Growth Management Act
GPD	gallons per day
GPM	gallons per minute
HRT	Hydraulic Residence Time
IFAS	Integrated Fixed-Film Activated Sludge
kW	kilowatt
kW/hr	kilowatt-hour
lbs	pounds
MBR	Membrane Bioreactor
MCRT	Mean Cell Residence Time
mg/L	milligrams per liter
MGD	million gallons per day
MLE	Modified Ludzack-Ettinger (Process)
MLSS	Mixed Liquor Suspended Solids
MLVSS	Mixed Liquor Volatile Suspended Solids
MMDF	Maximum Month Daily Flow
psi	pounds per square inch
RAS	Return Activated Sludge
rpm	revolutions per minute
SCFM	standard cubic feet per minute
sq ft	square feet
STEP	Septic Tank Effluent Pumping (System)
SVI	Sludge Volume Index
TIN	Total Inorganic Nitrogen
TKN	Total Kjeldahl Nitrogen
TN	Total Nitrogen
TSS	Total Suspended Solids
VSS	Volatile Suspended Solids
WAS	Waste Activated Sludge
WWTP	Wastewater Treatment Plant

1.0 - INTRODUCTION

Purpose

This Amendment to the 2018 General Sewer and Wastewater Facilities Plan (2018 Plan) for the Clallam Bay and Sekiu area was prepared at the request of Clallam County and in accordance with the Washington State Department of Ecology (DOE) requirements as presented in WAC 173-240-050 and 173-240-060, and the sewer-water district planning requirements as presented in RCW 57.16. This report is an amendment to the 2018 General Sewer / Wastewater Facilities Plan prepared by Gray & Osborne, Inc.

The purpose of this Amendment is to provide an updated plan for required improvements to the existing wastewater treatment facility and collection system to address aging infrastructure & challenging equipment, future flow and loading capacity, future nutrient removal requirements, and current standards for redundancy and reliability. This report evaluates the area wastewater needs based on projected residential population growth and commercial and industrial demands on the treatment system through the year 2046.

This Amendment includes a schedule for the County to provide adequate sewer collection and treatment capacity in accordance with Washington DOE requirements. In addition, this Amendment is intended to be used to apply for and receive either grants or loans from the Department of Ecology, USDA, CDBG, or other funding sources for Sewer Capital Improvement Projects.

Background

This Amendment is the result of value engineering performed at the request of Clallam County. Project costs estimated in the 2018 Plan were assumed to be extraordinarily high and value engineering was determined to be appropriate to find the most cost-effective solutions.

2.0 – LAND USE, POPULATION PROJECTIONS, AND SERVICE AREA CHARACTERISTICS

The purpose of this section is to identify the land use, population projections, and service area characteristics that affect the planning and design of sewer collection and wastewater facility improvements and the potential funding sources for these improvements.

Sewer Service Areas

No new comments regarding the existing sewer service areas for the Clallam Bay WWTP and Sekiu WWTP.

The Clallam Bay Corrections Center, located in Clallam County, has a separate WWTP that is owned and operated by the Corrections Center. This WWTP serves all flows coming from the Corrections Center, and the WWTP outfall is shared with Sekiu WWTP.

Natural Environment

No new comments.

Water System

No new comments.

Planning Period

The planning period has been updated to extend through 2046.

Land Use, Zoning, and Population

No new comments.

Sewer Connections

No new comments.

Industries in the Sewer Service Area

No new comments.

3.0 - REGULATORY REQUIREMENTS

The purpose of this section is to identify the federal, state, and local regulations that affect the planning and design of wastewater facility improvements and the potential funding sources for these improvements. Clallam Bay's and Sekiu's existing WWTPs and outfalls are located in Washington State and are therefore regulated by the Department of Ecology. Collection system projects are not covered in this chapter; however, the permitting required for these projects will likely include local and Clallam County permits and also potentially an Archeological and Cultural Resources Survey depending on the funding source. For alternative reference the Clallam Bay Corrections Center permit information has been included as well.

Federal Clean Water Act – NPDES

Please reference pages 3-1 to 3-3 in the GP.

The current NPDES Permit for Clallam Bay WWTP (WA002443) was issued on December 1, 2018 and expires November 30, 2023. See Appendix E.

The most recent NPDES Permit for Sekiu (WA0024449) was issued September 4, 2014 and expired September 30, 2019. According to the Washington State Department of Ecology (Ecology), expired permits remain in effect until either the permittee applies for renewal or Ecology requests action on the part of the permittee.

The current NPDES permit for Clallam Bay Corrections Center (WA0039845) expired January, 31, 2022. A permit renewal application has been submitted and received by Ecology, so in accordance with RCW 34.05.422(3) and WAC 173-220-180(5), the current permit and its terms and conditions are administratively extended and will remain in effect and enforceable until a new permit is issued. See Appendix E.

Puget Sound Nutrient General Permit

The Department of Ecology has instituted the new Puget Sound Nutrient General Permit (PSNGP) to limit the growth of nutrients discharged into the Puget Sound by wastewater treatment facilities. The PSNGP applies to both the Sekiu and Clallam Bay WWTPs as they are two of the 58 publicly-owned domestic wastewater treatment plants discharging into the Washington Waters of the Salish Sea. The PSNGP also applies to the Clallam Bay Corrections Center. The PSNGP went into effect April 1, 2022, for Clallam Bay WWTP and Sekiu WWTP, and March 1, 2022, for the Clallam Bay Corrections Center. See Appendix E for permits.

The PSNGP identifies the Clallam Bay WWTP, Sekiu WWTP, and Clallam Bay Corrections Center WWTP under Special Condition S6, Category S, (WWTPs with small loads).

Requirements for both Sekiu and Clallam Bay as identified in the PSNGP, include:

(1) Monitoring: Monitor and report per the requirements in PSNGP S7.C. This requirement adds sampling and reporting for Total Ammonia, Nitrate & Nitrite, TKN, and Total Inorganic Nitrogen.

(2) Nitrogen Optimization Plan: Submit one Optimization Report per the requirements in PSNGP S6.B. This consists of a developing, implementing, and maintaining a Nitrogen Optimization Plan, including treatment process performance assessment and optimization implementation. This plan must be submitted by March 31, 2026.

(3) AKART Analysis: Submit an AKART Analysis per the requirements in S6.C. This analysis shall be done in accordance with RCW 90.48 for the purposes of evaluating reasonable treatment alternatives capable of reducing Total Inorganic Nitrogen (TIN). This report must

be submitted by December 31, 2025. Permittees who maintain an annual TIN average of <10 mg/L and do not document an increase in load in their DMRs do not have to submit the AKART Analysis.

Federal Endangered Species Act

Please refer to page 3-3 in the GP.

National Environmental Policy Act (NEPA)

Please refer to page 3-4 in the GP.

State Environmental Review Process (SERP)

Per Washington State Department of Ecology Publication 20-10-024, the Clean Water Act requires Ecology to ensure a complete review of the potential environmental impacts of treatment works projects financed through the State Water Pollution Control Revolving Fund. Ecology may use the National Environmental Policy Act (NEPA) or they may provide a state equivalent review for approval by the EPA. This review is referred to as the State Environmental Review Process, or SERP.

The components of environmental review (facility plan, reasonable alternative, SEPA, permitting, mitigation, public outreach) provide the necessary items for Ecology to make a SERP determination. These components make up what is often referred to as a SERP package.

The SERP package contains elements of environmental and cultural review that Ecology can use to make a complete SERP review of the project. The SERP package requirements were updated in January 2021 and include the following components:

1. SEPA Review Documentation including the SEPA checklist and Threshold Determination
2. Evidence of public participation opportunities throughout the project
3. Documentation of the socioeconomic, Environmental Justice and Civil Rights impacts of the project
4. Completed Ecology Executive Order 21-02/Section 106 Cultural Resources Review
5. Designated Equivalency Projects Section
6. Documentation of other permits, environmental laws or consultations triggered by the project or its funding

The SERP package is submitted to the Ecology project manager and environmental coordinator for review. The SERP deadline depends on the loan type and phase of the project being funded (i.e., planning, design, construction, etc.). Table 2-1 shows the timing for various loan types and phases.

Table 2-1: SERP Timing

Loan Type/Phase	SERP Deadline
Planning Phase	Include as a deliverable in the funding agreement
Design Phase	Include as a deliverable in the funding agreement
Design & Construction Phase	Before starting construction
Construction Only Phase	Before signing the funding agreement

State Environmental Policy Act (SEPA)

Please reference page 3-9 in the GP.

A SEPA has been completed for the GP Amendments and is in Appendix G.

Investment Grade Efficiency Audit (IGEA)

Per Engrossed Substitute House Bill 1497 Section 1021 projects involving repair, replacement, or improvement of a wastewater treatment plant or other public works facility for which an investment grade audit is obtainable, the public works board must require as a contract condition that the project sponsor undertake an investment grade audit.

There are currently four ways that a project can meet the IGEA requirement:

1. Provide documentation that IGEA requirements have been met in the past
    - An audit showing potential energy savings
    - A design review
    - Documentation must be less than 3 years old
2. Provide a third-party design review of the project
    - The design review will focus on the energy intensive process: motors, pumps, blowers, etc.
    - A design firm can sub-out to a qualified third party for “peer review” on the energy components
    - The design review can also be conducted by the power provider, if available.
3. Demonstrate that the project has no “obtainable” energy savings
    - This only applies to projects receiving funding with no energy use, i.e., “pipes and pavement”
4. Complete a preliminary energy audit and/or an IGEA on the existing system
    - An IGEA will identify cost effective energy strategies to save power and money
    - The audit can be prepared by the power provider or an Energy Services Company (ESCO)

Cost and Effectiveness Analysis (CEA)

Projects receiving funding from the Clean Water State Revolving Fund (CWSRF) must certify that a Cost and Effectiveness Analysis (CEA) has been conducted. A CEA must include a comparison of the life-cycle costs of alternatives, taking into account:

- The cost of constructing the project or activity
- The cost of operating and maintaining the project or activity over the life of the project or activity
- The cost of replacing the project or activity
- The selection, to the maximum extent practicable, of a project or activity that maximizes the potential for efficient water use, reuse, recapture, and conservation, and energy conservations.

The CEA certification is completed in the Ecology Administration of Grants and Loans system (EAGL), and must occur prior to loan signing for activity projects, facility design projects, facility construction projects, and combined facility design/construction projects. The content of this plan is intended to cover the CEA requirements for the recommended projects.

Archaeological and Cultural Resources Survey

In April 2021, the Governor of Washington signed Executive Order 21-02 which requires state agencies to review capital construction projects for potential impacts to cultural resources if state funds are being used. This review is to be done in conjunction with the Department of Archaeological and Historic Preservation (DAHP) and any affected Tribes.

If the project receives federal funding, the federal counterpart to Executive Order 21-02, Section 106 of the National Historic Preservation Act will be required instead. On the part of the funding recipient the cultural review process forms are the same and are still submitted to the Ecology project manager and environmental coordinator.

Unless one has been completed recently, an archaeological and cultural resources survey will need be completed during any design phase of WWTP improvements projects where ground disturbance is required (including geotechnical testing). During design, the County will contract with a state approved archaeologist to perform the survey and to consult with the DAHP and affected Tribes. The archaeologist's report will include survey findings as well as any recommended mitigations such as construction monitoring.

Note that for projects that will be using Department of Ecology funding, the cultural resources must be completed before any ground disturbance, and Department of Ecology will need to perform its own cultural resources review, getting concurrence from DAHP and tribes.

Stormwater Permitting in the State of Washington

As part of the federal Clean Water Act, the Department of Ecology administers the State of Washington's Construction Stormwater General Permit. Construction runoff is considered a point source of water pollution and therefore an NPDES permit is required. The State of Washington has developed a General Permit for Construction Stormwater.

Construction stormwater permit coverage is required if the project disturbs more than one-acre of land and the possibility exists of stormwater runoff entering waters of the state or conveyance systems that deliver stormwater to waters of the state.

As such, depending on project size, future WWTP improvements may require coverage under the Construction Stormwater General Permit. This would entail preparation of a project-specific Stormwater Pollution Prevention Plan (SWPPP), which would be submitted to and reviewed/approved by the County during the design phase.

Shoreline Permit

Please reference page 3-10 in the GP.

Hydraulic Project Approval

Please reference page 3-11 in the GP.

Clallam County Codes

The collection systems and treatment facilities are located within Clallam County's jurisdiction. It is anticipated that the following permits will be required by the County:

- Building Permit (to include plumbing and electrical)
- Land Disturbance / Critical Areas Permit
- SEPA Checklist
- Right-of-way / Utility Encroachment Permits
- Shoreline Permit (dependent on alternative selection)
- Zoning Conditional Use Permit (dependent upon alternative selection)
- Critical Area Permit (dependent upon alternative selection)
- Cultural Resource Site Assessment

Regulatory Summary

A summary of the regulatory requirements for improvements to the Sekiu and Clallam Bay WWTPs is presented in Table 2-2.

Table 2-2: Summary of Regulatory Requirements

Permit/Report	Agency	Comments/Timeframe
NPDES Permit	Department of Ecology	The design of future improvements will meet current and anticipated future NPDES requirements.
NEPA	Federal – varies depending on project/federal trigger	To be submitted during design phase if project receives federal funding (such as USDA). Environment Assessment to be completed prior to construction.
SERP	Department of Ecology (as required by EPA)	Timeframe varies, see Table 2-1.
SEPA	County/Ecology	Planning SEPA: To be submitted with this report. Project SEPA: If required by SERP, to be submitted per Table 2-1.
IGEA	Department of Ecology	To be completed during design phase.
CEA	Department of Ecology	Certification to be completed prior to loan signing with Ecology.
Cultural/Archaeological Survey	DAHP/Clallam County	To be completed during design phase.
Shoreline Permit	Clallam County	To be submitted during design phase.
HPA	WDFW / USAC	Not required for wastewater treatment plant. Will be required for any outfall project.
Aquatic Lease	WDNR	May be required for outfall improvements, to be completed during the design phase.
Construction Stormwater Permit	Department of Ecology	To be submitted during design phase.
Building, Electrical and Plumbing Permits	Clallam County	To be submitted during design phase.

4.0 – EXISTING FACILITIES

The purpose of this section is to describe the existing facilities within the Clallam Bay – Sekiu wastewater collection and treatment systems. These facilities include pressure and gravity sewers, lift stations, wastewater treatment plants, and outfalls.

Wastewater Collection System

No new comments.

Wastewater Treatment Plants

In late May 2021 the bearings for one of the two Sekiu RBC units failed. The County contacted the equipment supplier (Walker Process Equipment) and procured new bearings and moved forward with repairs. Up until that point in time, the RBC motor and drive assemblies have performed well and planning efforts are to continue focusing on keeping the existing RBC equipment running until the proposed plant upgrade is finalized.

Inland and uphill from the communities of Sekiu and Clallam Bay is the Clallam Bay Corrections Center. The Corrections Center has a WWTP with an average daily flow of 0.116 MGD. The plant consists of a headworks, two lagoons, and chlorine disinfection. After headworks, wastewater flows to an aerated lagoon for BOD removal, and then to an unaerated lagoon for additional polishing and liquids-solids separation. The unaerated lagoon is dredged periodically to remove accumulated solids. Effluent from the unaerated lagoon flows to the chlorine contact basin for disinfection. The plant's final effluent flows toward Sekiu, paralleling Access Road, to combine with the effluent from the Sekiu Wastewater Treatment Plant and outfall to Clallam Bay.

The Corrections Center is a potential location for a new centralized WWTP to treat the combined sewage from the Clallam Bay, Sekiu, and Corrections Center Wastewater Treatment Plants. Further discussion of this centralized WWTP option can be found in Chapters 7.0 and 10.0.

Combining the wastewater from the Corrections Center with wastewater from Sekiu is another option discussed further in Chapters 7.0 and 10.0.

The Department of Corrections has provided a letter of support to Clallam County stating that they are open to discussing the possibility of collaborating with Clallam County Utilities on future sewer projects.

5.0 - EXISTING AND PROJECTED WASTEWATER FLOWS AND CHARACTERISTICS

This section describes and analyzes the existing and future flows and loadings to the wastewater treatment facility through a 24-year planning period (2046). Quantifying the existing loading to the WWTPs is necessary to determine the level at which future flows and loadings will be used to size upgrades to the WWTPs that will be required to meet the demands of future growth and regulatory requirements. This section updates the 2018 Plan Chapter 5.

Existing Wastewater Flows

Annual Average

Table 5-1 and Table 5-2 presents the annual average wastewater influent flows for the Clallam Bay WWTP and Sekiu WWTP during the years 2018 through 2022.

Table 5-1: Clallam Bay WWTP Annual Average Flow

Year	Flow (MGD)
2018	0.0291
2019	0.0293
2020	0.0351
2021	0.0378
2022	0.0417
Average =	0.0346

Table 5-2: Sekiu WWTP Annual Average Flow

Year	Flow (MGD)
2018	0.0693
2019	0.0517
2020	0.0689
2021	0.0696
2022	0.0558
Average =	0.0631

Monthly Average

Table 5-3 and Table 5-4 presents monthly average flow measured at the WWTPs for the years 2018 through 2022. It also shows wet weather (November – December) and dry weather (June – August) averages for each year.

Table 5-3: Clallam Bay WWTP Monthly Average Flow

Month / Year	Flow (MGD)				
	2018	2019	2020	2021	2022
Jan	NA	0.0589	0.0707	0.0660	0.0519
Feb	0.0363	0.0321	0.0465	0.0408	0.0291
Mar	0.0235	0.0227	0.0255	0.0376	0.0375
Apr	0.0314	0.0248	0.0213	0.0225	0.0369
May	0.0197	0.0214	0.0219	0.0194	0.0296
Jun	0.0222	0.0221	0.0229	0.0210	0.0266
Jul	0.0210	0.0239	0.0227	0.0217	0.0240
Aug	0.0199	0.0213	0.0217	0.0198	0.0212
Sep	0.0231	0.0247	0.0261	0.0251	0.0222
Oct	0.0243	0.0336	0.0283	0.0399	0.0205
Nov	0.0398	0.0322	0.0481	0.0787	0.0314
Dec	0.0611	0.0355	0.0609	0.0614	0.0673
Annual Average:	0.0293	0.0294	0.0347	0.0378	0.0332
Wet Weather (Nov-Feb) Average	0.0457	0.0397	0.0566	0.0617	0.0449
Dry Weather (June-Sep) Average	0.0215	0.0230	0.0233	0.0219	0.0235

Table 5-4: Sekiu WWTP Monthly Average Flow

Month / Year	Flow (MGD)				
	2018	2019	2020	2021	2022
Jan	0.1559	0.1204	0.1800	0.1175	0.0925
Feb	0.0669	0.0590	0.0800	0.0815	0.0497
Mar	0.0537	0.0334	0.0443	0.0658	0.0668
Apr	0.0883	0.0579	0.0350	0.0379	0.0674
May	0.0281	0.0259	0.0365	0.0276	0.0573
Jun	0.0230	0.0217	0.0361	0.0270	0.0453
Jul	0.0221	0.0289	0.0290	0.0234	0.0324
Aug	0.0202	0.0233	0.0270	0.0222	0.0219
Sep	0.0421	0.0441	0.0469	0.0460	0.0206
Oct	0.0489	0.0798	0.0746	0.1102	0.0201
Nov	0.1241	0.0580	0.1099	0.1689	0.0725
Dec	0.1487	0.0673	0.1192	0.1088	0.1298
Annual Average:	0.0685	0.0516	0.0682	0.0697	0.0564
Wet Weather (Nov-Jan) Average	0.1239	0.0762	0.1223	0.1192	0.0861
Dry Weather (June-Aug) Average	0.0268	0.0295	0.0347	0.0296	0.0300

Max Month and Peak Day

Tables 5-5 and 5-6, below, summarize the max month and peak day flows as recorded at Clallam Bay WWTP and Sekiu WWTP for the years 2018 through 2022. Max month and peak day flows for both treatment plants have historically occurred during the winter months, and typically coincide with rain events and inflow and infiltration (I&I) in the collection system.

Table 5-5: Clallam Bay WWTP Max Month and Peak Day Flows

Year	Max Month Flow (MGD)	Month	Peak Day Flow (MGD)	Month
2018	0.061	December	0.106	November
2019	0.059	January	0.156	January
2020	0.071	January	0.191	February
2021	0.079	November	0.243	December
2022	0.067	January	0.213	December
Average =	0.067	Average =	0.182	
Maximum =	0.079	Maximum =	0.243	
Percent of Limit (Avg) =	56%			
Permit Limit =	0.12			

Table 5-6: Sekiu WWTP Max Month and Peak Day Flows

Year	Max Month Flow (MGD)	Month	Peak Day Flow (MGD)	Month
2018	0.156	January	0.475	November
2019	0.120	January	0.539	January
2020	0.180	December	0.394	December
2021	0.169	November	0.493	November
2022	0.130	December	0.496	December
Average =	0.151	Average =	0.480	
Maximum =	0.180	Maximum =	0.539	
Percent of Limit (Avg) =	104%			
Permit Limit =	0.145			

Existing Wastewater Loadings (BOD_5, TSS)

The influent wastewater quality for both plants is characterized below in Tables 5-7 through 5-10 in terms of 5-day Biochemical Oxygen Demand (BOD_5) and Total Suspended Solids (TSS). BOD_5 and TSS are the primary concern due to their influence on sizing and selection of wastewater treatment facilities.

Table 5-7: Clallam Bay WWTP Influent BOD_5 and TSS Loading

Year	Average Daily BOD_5 (lb/day)	Max Month BOD_5 (lb/day)	Average Daily TSS (lb/day)	Max Month TSS (lb/day)
2018	45.0	62.5	37.8	62.1
2019	53.9	69.9	43.4	60.0
2020	62.9	85.0	52.0	86.2
2021	60.1	75.7	47.6	66.2
2022	57.3	68.1	46.4	67.5
Average =	55.8	72.2	45.4	68.4
Maximum =	62.9	85.0	52.0	86.2
Percent of Limit (Avg) =		54%		40%
Permit Limit =		135		171

Table 5-8: Clallam Bay WWTP Influent BOD Loading, Summer and Winter

Summer = June-Sep Winter = Nov - Feb	Summer BOD_{5in}	Summer BOD_{5in}	Winter BOD_{5in}	Winter BOD_{5in}
	(mg/L)	(lb/day)	(mg/L)	(lb/day)
Average =	337.5	54.0	186.0	65.4

Table 5-9: Sekiu WWTP Influent BOD_5 and TSS Loading

Year	Average Daily BOD_5 (lb/day)	Max Month BOD_5 (lb/day)	Average Daily TSS (lb/day)	Max Month TSS (lb/day)
2018	33.6	63.7	28.3	58.5
2019	40.8	103.4	35.1	73.3
2020	48.0	88.1	47.5	99.3
2021	49.4	87.7	43.8	75.6
2022	42.3	71.3	33.4	52.9
Average =	42.8	82.8	37.6	71.9
Maximum =	49.4	103.4	47.5	99.3
Percent of Limit (Avg) =		61%		42%
Permit Limit =		135		171

Table 5-10: Sekiu WWTP Influent BOD_5 Loading, Summer and Winter

Summer = July-Sep Winter = Nov - Jan	Summer BOD_{5in}	Summer BOD_{5in}	Winter BOD_{5in}	Winter BOD_{5in}
	(mg/L)	(lb/day)	(mg/L)	(lb/day)
Average =	348.9	66.5	46.3	28.2

Max month influent BOD_5 loading is currently about 72.2 lb/day, or 54% of the permit limit for Clallam Bay, and 82.8 lb/day, or 61% of the permit limit for Sekiu. Figure 5-1 below shows that January historically has

high BOD loads and the highest flows at the Clallam Bay WWTP. Figure 5-2 below shows that September historically has high BOD loads entering the Sekiu WWTP and January has high flow.

Figure 5-1: Clallam Bay Monthly Average Influent BOD_5 (lb/day) 2018-2022

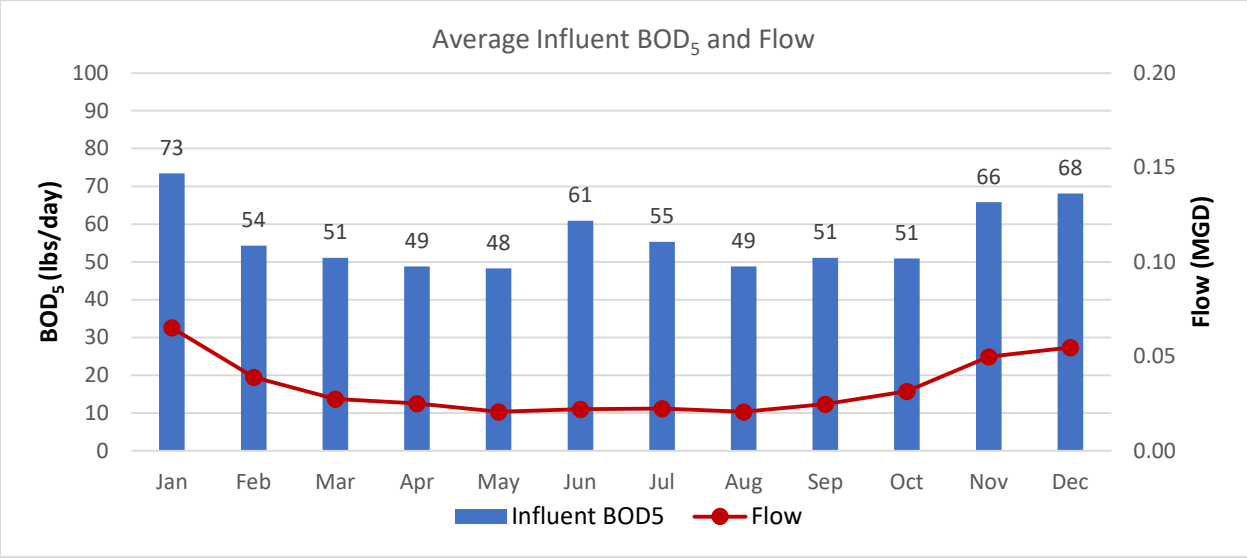
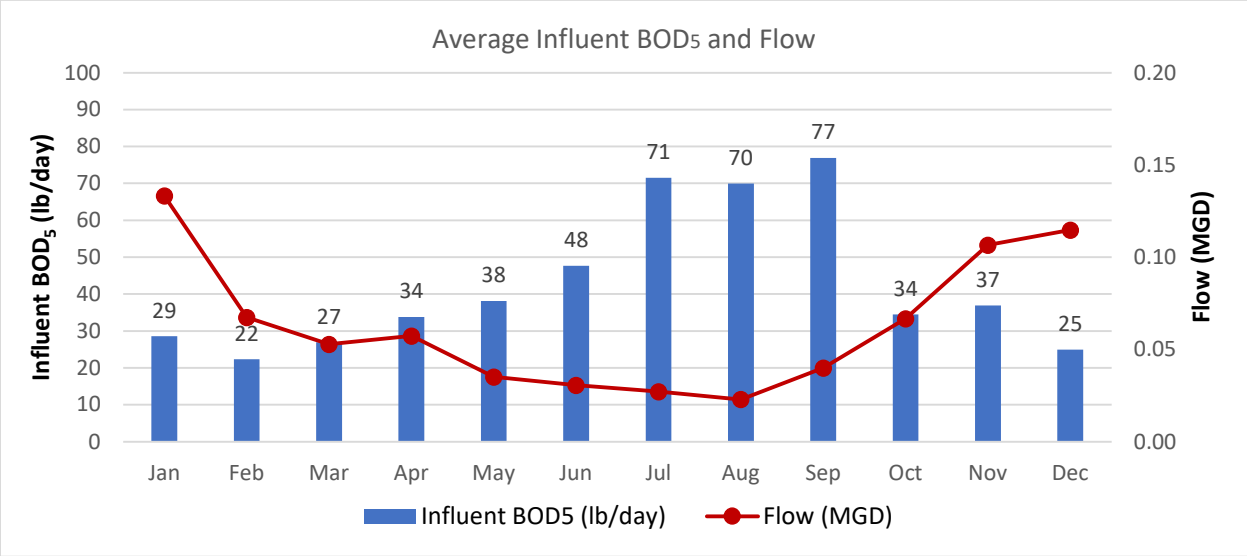


Figure 5-2: Sekiu Monthly Average Influent BOD_5 (lb/day) 2018-2022



Existing Nutrient Concentrations

Tables 5-11 and 5-12 below show the results of recent sampling analyzing influent and effluent nutrient levels for Clallam Bay WWTP and Sekiu WWTP. The data suggest that average influent nutrient and $CBOD_5$ concentrations throughout the year for both treatment plants are comparable to typical medium- to high-strength municipal wastewater. The BOD_5:TKN ratios were estimated based on a CBOD/BOD conversion factor of 0.83, as is used in WAC 173-221-050. The estimated BOD_5:TKN ratios suggest both plants should generally have the capability for denitrification year-round.

Table 5-11: Clallam Bay WWTP Nutrient Concentrations

	INFLUENT				EFFLUENT			
Sample Date	TKN (mg/L)	AMMONIA (mg/L)	$CBOD_5$ (mg/L)	BOD_5:TKN RATIO[1]	TKN (mg/L)	AMMONIA (mg/L)	NO_x (mg/L)	TIN (mg/L)
4/26/2022	31	22	87	3.4	7.01	3.82	16.9	23.91
4/28/2022	31.7	21.7	220	8.4	7.07	3.63	17.1	24.17
5/9/2022	37.1	32	140	4.5	8.35	5.46	19.1	27.45
5/17/2022	35.3	27.8	130	4.4	5.01	2.53	14.4	19.41
6/9/2022	38	37.9	210	6.7	1.81	0.415	12.4	14.21
6/13/2022	28	28	200	8.6	4.83	1.89	12.9	17.73
7/13/2022	45	34.4	180	4.8	34.9	1.6	17.7	51.5
7/27/2022	52.3	38.9	310	7.1	3.24	0.806	16.6	16.24
8/11/2022	51.8	42.8	340	7.9	2.93	1.48	13	17.83
8/22/2022	89.5	65.7	380	5.1	3.35	0.833	14.9	19.55
9/8/2022	57	43.5	260	5.5	3.95	0.813	16.2	18.75
9/27/2022	53.4	42.4	300	6.8	2.08	0.885	14.8	15.18
10/12/2022	39.6	30.5	170	5.2	3.66	0.875	13.1	16.46
10/17/2022	52.3	30.5	280	6.5	5.85	0.729	13.5	20.55
11/2/2022	40.5	41.5	190	5.7	4.69	0.635	12.8	18.29
11/9/2022	33.4	24.5	140	5.1	4.99	0.565	14.7	20.59
12/15/2022	25.4	21.1	110	5.2	4.22	0.364	13.6	15.52
12/27/2022	42.4	24.3	140	4.0	6.76	1.24	15.6	24.46
AVERAGE	43.5	33.9	210.4	5.8	6.3	1.7	14.8	21.2

[1] BOD_5:TKN ratios use measured $CBOD_5$ concentrations with the following conversion to BOD_5 as used in WAC 173-221-050: $BOD_5 = CBOD_5 / 0.83$.

Table 5-12: Sekiu WWTP Nutrient Concentrations

	INFLUENT				EFFLUENT			
Sample Date	TKN (mg/L)	AMMONIA (mg/L)	$CBOD_5$ (mg/L)	BOD_5:TKN RATIO[1]	TKN (mg/L)	AMMONIA (mg/L)	NO_x (mg/L)	TIN (mg/L)
4/26/2022	15.6	7.2	19	1.5	2.23	0.086	11.4	11.486
4/28/2022	16	7.94	120	9.0	2.06	0.08	9.26	9.34
5/9/2022	22.4	20.6	96	5.2	4.61	1.34	13.7	15.04
6/9/2022	20	20.2	110	6.6	0.872	0.394	13.3	13.694
6/13/2022	30.8	32.3	140	5.5	2.9	0.885	1.91	2.795
7/13/2022	49.2	40.4	170	4.2	13.2	5.28	26.7	31.98
7/27/2022	53.8	40.8	320	7.2	7.96	5.77	28.8	34.57
8/11/2022	41.2	36	340	9.9	4.71	1.28	20.4	21.68
8/22/2022	58.3	40.3	380	7.9	6.79	3.36	28.8	32.16
9/8/2022	53.2	46.8	200	4.5	12.8	9.88	28.6	38.48
9/27/2022	64.4	59.2	380	7.1	4.06	5.42	25	30.42
10/12/2022	29.8	19.2	180	7.3	2.45	1.18	22.5	23.68
10/17/2022	54.1	35.6	250	5.6	4.95	0.567	22.4	22.967
11/2/2022	6.08	4.05	37	7.3	3.08	0.157	4.76	4.917
11/9/2022	6.71	2.56	46	8.3	2.78	0.152	4.78	4.932
12/15/2022	7.97	3.92	32	4.8	1.27	0.054	5.46	5.514
12/27/2022	11.6	8	29	3.0	0.729	0.108	7.78	7.888
AVERAGE	48.3	40.0	146.1	4.6	5.1	3.2	11.2	14.4

[1] BOD_5:TKN ratios use measured $CBOD_5$ concentrations with the following conversion to BOD_5 as used in WAC 173-221-050: $BOD_5 = CBOD_5 / 0.83$.

Clallam Bay Corrections Center Flows and Loadings

Some of the proposed wastewater treatment alternatives discussed in Chapters 7.0 and 10.0 consider combining wastewater flows from Clallam Bay and Sekiu with flows from the Clallam Bay Corrections Center in one centralized treatment plant. For reference, existing flows for the Clallam Bay Corrections Center are listed below in Tables 5-13 and 5-14.

Table 5-13: Clallam Bay Corrections Center WWTP Annual Average Flow

Year	Influent Flow (MGD)	Effluent Flow (MGD)
2018	0.140	0.157
2019	0.118	0.129
2020	0.116	0.140
2021	0.088	0.111
2022	0.046	0.059
Average =	0.102	0.119

Table 5-14: Clallam Bay Corrections Center WWTP Max Month and Peak Day Influent Flows

Year	Max Month Flow (MGD)	Month	Peak Day Flow (MGD)	Month
2018	0.160	January	0.223	November
2019	0.155	January	0.245	January
2020	0.141	January	0.183	January
2021	0.124	February	0.176	February
2022	0.059	December	0.126	November
Average =	0.128	Average =	0.191	
Maximum =	0.160	Maximum =	0.245	
Percent of Limit (Avg) =	107%			
Permit Limit =	0.12			

Table 5-15: Clallam Bay Corrections Center WWTP Influent $CBOD_5$ and TSS Loading

Year	Average Daily $CBOD_5$ (lb/day)	Max Month $CBOD_5$ (lb/day)	Average Daily TSS (lb/day)	Max Month TSS (lb/day)
2018	170	201	232	258
2019	161	206	214	245
2020	131	160	204	239
2021	123	139	171	226
2022	82.4	102	84.8	112
Average =	134	161	181	216
Maximum =	170	206	232	258
Percent of Limit (Avg)=		58%		83%
Permit Limit =		278[(1)] (335 lb/day BOD_5)		260

(1) Permitted design criteria includes maximum month BOD_5 influent loading of 335 lb/day. Per the facility's permitted monitoring requirements, $CBOD_5$ is monitored, not BOD_5, so the permitted BOD_5 influent loading has been converted to $CBOD_5$ using the following conversion, as used in WAC 173-221-050: $BOD_5 = CBOD_5 / 0.83$.

Table 5-16: Clallam Bay Corrections Center WWTP Influent $CBOD_5$ Loading, Summer and Winter

Summer = June-Sep Winter = Nov - Feb	Summer $CBOD_{5in}$	Summer $CBOD_{5in}$	Winter $CBOD_{5in}$	Winter $CBOD_{5in}$
	(mg/L)	(lb/day)	(mg/L)	(lb/day)
Average =	193	130	153	135

Future Projected Wastewater Flows

Wastewater average daily flow is projected to increase at a growth rate of 1.0% for both Clallam Bay WWTP and Sekiu WWTP. This growth rate was determined based on historical growth and future anticipated developments within the Clallam Bay and Sekiu urban growth area, as reported in the 2018 Facilities Plan. Census data from 2020 estimates the Clallam Bay Sekiu UGA population to be 535. The average population growth rate from 2000 to 2020 is -1.5%. Table 5-17 below shows the estimated Clallam Bay – Sekiu UGA population projected for 2022 and 2046, based on the 2017 population estimate noted in the 2018 Facilities Plan.

Table 5-17: Clallam Bay and Sekiu UGA Population Projections

	Existing (2022)	Projected (2046)
UGA Population Estimate(1)	591	750

(1) Population calculated using State OFM estimated 2017 population escalated by the 1 percent annual growth rate noted in the 2007 Clallam County *Urban Growth Area Analysis and 10-Year Review*.

Tables 5-18 and 5-19 below show the existing and projected average and peak flows to the Clallam Bay WWTP and Sekiu WWTP, respectively.

Table 5-18: Clallam Bay WWTP Projected Flows

	Permit Limit	Existing (2018 – 2022)	Projected (2046)
Average Daily Flow (MGD)	--	0.033	0.042
Max Month Flow (MGD)	0.120	0.067	0.085
Peak Day Flow (MGD)	--	0.243	0.308

Table 5-19: Sekiu WWTP Projected Flows

	Permit Limit	Existing (2018 – 2022)	Projected (2046)
Average Daily Flow (MGD)	--	0.063	0.080
Max Month Flow (MGD)	0.145	0.151	0.192
Peak Day Flow (MGD)	--	0.539	0.685

Average influent flows seen at the Clallam Bay Corrections Center WWTP have been decreasing over at least the past five years, and the Clallam Bay Corrections Center is not expected to grow in the foreseeable future, so future projections for the Corrections Center WWTP have been determined using a conservative growth rate of 0.0%. The average daily flow in 2022 was 0.046 MGD. The existing and projected average

and peak flows to the Clallam Bay Corrections Center WWTP are shown below in Table 5-20. The existing flows were calculated by averaging the average daily, peak day, and max month flows observed each year from 2018 to 2022.

Table 5-20: Clallam Bay Corrections Center WWTP Projected Flows

	Permit Limit	Existing (2018 – 2022)	Projected (2046)
Average Daily Flow (MGD)	--	0.102	0.102
Peak Month Flow (MGD)	0.120 (influent)	0.128	0.128
Peak Day Flow (MGD)	--	0.191	0.191

Future Projected Wastewater Loadings (BOD, TSS)

Influent loadings of BOD and TSS are expected to increase proportionally with increase in flow for the Clallam Bay and Sekiu WWTPs. In other words, the concentration will remain the same, while the loading will increase as the flow increases. Table 5-21 and Table 5-22 show the projected loadings to the Clallam Bay WWTP and the Sekiu WWTP, respectively.

Table 5-21: Clallam Bay WWTP Projected Loadings

	Permit Limit	Existing (2018 – 2022)	Projected (2046)
Average BOD_5 (lb/day)	--	56	71
Max Month BOD_5 (lb/day)	135	72	92
Average TSS (lb/day)	--	45	58
Max Month TSS (lb/day)	171	68	87

Table 5-22: Sekiu WWTP Projected Loadings

	Permit Limit	Existing (2018 – 2022)	Projected (2046)
Average BOD_5 (lb/day)	--	43	54
Max Month BOD_5 (lb/day)	135	83	105
Average TSS (lb/day)	--	38	48
Max Month TSS (lb/day)	171	72	91

Figures 5-3 and 5-4 show the existing and projected influent flows and BOD_5 loadings up to the year 2046 using on the 1.0% growth rate, for Clallam Bay WWTP and Sekiu WWTP, respectively. Max month BOD_5 loads are below design criteria limits for both Clallam Bay WWTP and Sekiu WWTP, but average flows are above the design criteria for the Sekiu plant showing that improvements to the WWTP should be made as soon as possible.

Figure 5-3: Clallam Bay WWTP Existing Max Month Influent Loading and Flow 2018-2022. Projected Max Month Influent Flow and Loading 2023-2046.

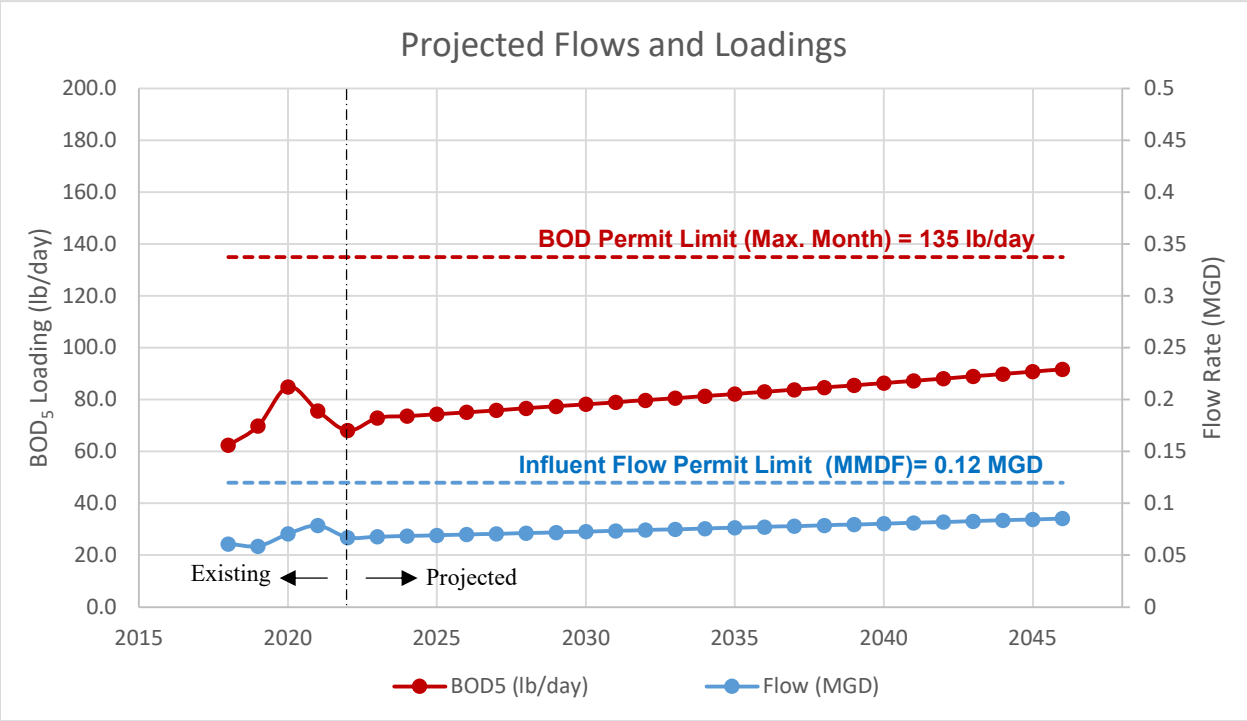
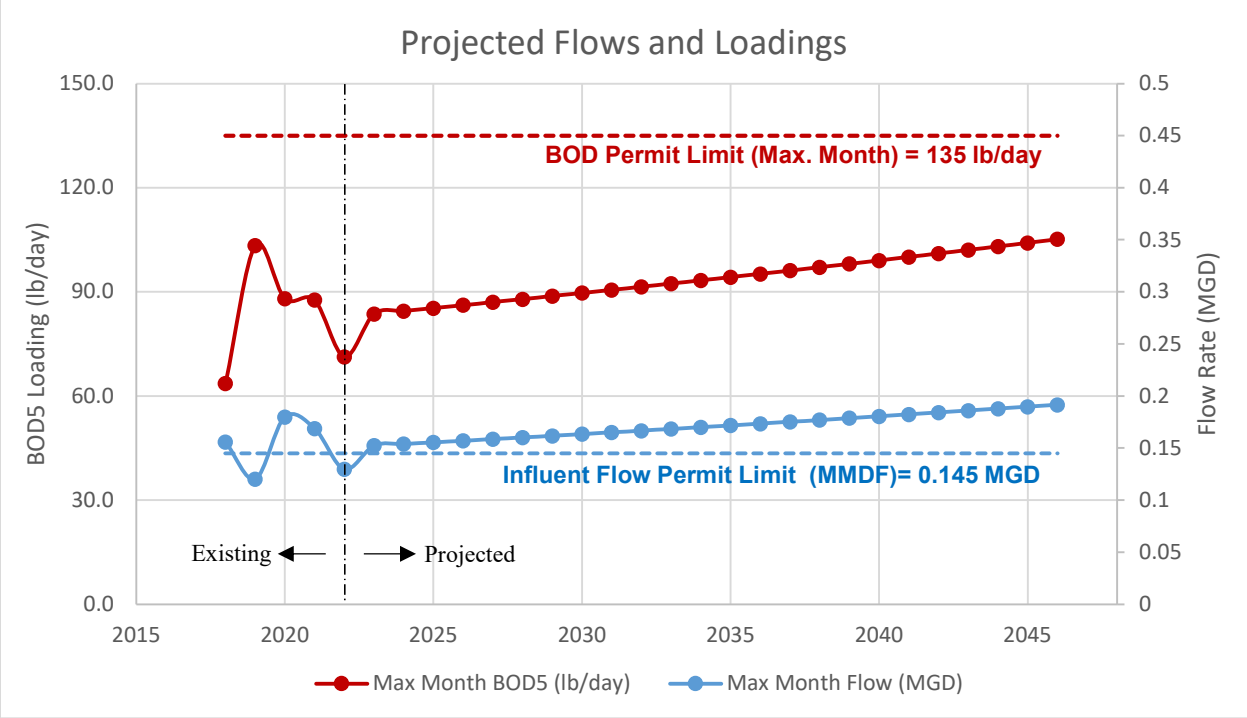


Figure 5-4: Sekiu WWTP Existing Max Month Influent Loading and Flow 2018-2022. Projected Max Month Influent Flow and Loading 2023-2046.



6.0 - COLLECTION SYSTEM EVALUATION

The purpose of this section is to evaluate the existing sewer collection system and existing sewer pumping facilities and their components with respect to capacity, reliability, and redundancy.

The collection system evaluation provided in the October 2018 General Sewer/Wastewater Facilities Plan was reviewed. Observations with respect to the 2018 evaluation are provided below.

The lift station evaluation provided in the October 2018 General Sewer/Wastewater Facilities Plan was reviewed. Observations with respect to the 2018 evaluation are provided below.

I/I Analysis

Flow Monitoring

No new comments.

Smoke Testing

No new comments.

Manhole Inspections

No new comments – repairs not identified in this section. See comments in CCTV Inspection section below.

CCTV Inspection

In reviewing the images of the concrete pipes in the October 2018 Plan, it did not appear that the concrete had been degraded sufficiently to warrant the complete replacement of the pipes “due to the age of the system”. Based on staff’s assessment that about 40% of the pipes inspected have separated or misaligned joints, we have assumed that the more cost-effective rehabilitation construction methods such as cure-in-place pipe could be used instead of pipe replacement in approximately half of the sewer mains.

Hydraulic Model

No new comments.

Lift Station Capacity Analysis

The 2018 evaluation was not clear as to the source of the lift station capacities. This analysis should be revisited after drawdown tests have been performed to confirm the pumping capacities of each lift station.

Force Main Capacity Evaluation

This analysis should be revisited after drawdown tests have been performed to confirm the pumping capacities of each lift station.

Additionally, the pumping capacity of the Westend Lift station should be increased to at least 80 gpm in order to achieve the recommended force main flushing velocity of 2.0 feet per second. Likewise, the pumping capacity of the Snob Hill Lift station cannot be decreased from 300 gpm since that flow is required to maintain the recommended force main flushing velocity of 2.0 feet per second.

Field Observations

No new comments.

Collection System Improvement Summary

The recommended projects descriptions have been updated to include rehabilitation construction methods where appropriate. Project cost estimates have also been updated to reflect the current scope, and reflect 2023 cost basis. Table 6-12 from the October 2018 General Sewer/Wastewater Facilities Plan has been updated below, and the revised detailed cost analyses for the recommended CIPs are included in Appendix F.

Table 6-12: Collection System Improvement Projects

Project No.	Project Name	Project Description	Cost
CIP 1	I/I Repair Program	Replace 81 cleanout caps in Sekiu and Clallam Bay; conduct additional CCTV inspection for 3,475 feet in in the Sekiu Airport Road Basin (no change)	$166,100
CIP 2	Funk & Ballard Pipe Repairs	Repair 6-inch side sewer located north of MH 6.02 in Funk & Ballards, repair one misaligned side sewer connection west of MH 6.02, install a flexible coupling on disjointed PVC pipes downstream of MH 6.02. (no change)	$56,900
CIP 3	Snob Hill Basin I/I and Pipe Improvements (Phase I)	Replace five sewer manholes (no change).	$147,200
CIP 4	Area Drain Disconnection	Disconnect area drain in school parking lot from the sanitary sewer; direct to a new infiltration trench west of the parking lot (no change)	$69,000
CIP 5	Middle Point LS Basin I/I and Pipe Improvements	Replace two side sewers, replace two manholes, install two new manholes and associated 120 LF of new pipe to eliminate a bend between MH 13.05 and MH 13.06 (from CCTV inspection) (no change)	$108,000
CIP 6	Sekiu LS Basin I/I Improvements	Replace three manholes (from CCTV inspection) (no change)	$98,000
CIP 7	Clallam Bay I/I Improvements	Replace two manholes (from field inspection) (no change)	$103,700
CIP 8	Sekiu LS Basin Pipe Improvements	Rehabilitate 3,340 LF of existing concrete pipe with 50% replacement and 50% CIPP; and replace 23 manholes	$1,457,100
CIP 9	Sekiu LS Airport Pipe Improvements	PROJECT COMPLETED	
CIP 10	Snob Hill Basin I/I and Pipe Improvements (Phase II)	Rehabilitate 5,845 LF of existing concrete pipe with 50% replacement and 50% CIPP; and replace 13 manholes	$2,633,500
CIP 11	West End LS Basin Pipe Improvements	Rehabilitate 1,580 LF of existing concrete pipe with 50% replacement and 50% CIPP; and replace 4 manholes	$767,600
CIP 12	Clallam Bay LS Pipe Improvements	Rehabilitate 13,665 LF of existing concrete pipe with 50% replacement and 50% CIPP; and replace 63 manholes	$6,480,900
CIP 13	Lighthouse LS Pipe Improvements	Rehabilitate 3,680 LF of existing concrete pipe with 50% replacement and 50% CIPP; and replace 14 manholes	$1,876,300
TOTAL:			**$13,964,300**

Lift Station Improvement Summary

The recommended project cost estimates have been updated to reflect our recent experience with lift stations of similar size, and reflect 2023 cost basis. Table 6-13 from the October 2018 General Sewer/Wastewater Facilities Plan has been updated below, and the revised detailed cost analyses for the recommended CIPs are included in Appendix F.

Table 6-13: Collection System Improvement Projects

Project No.	Project Name	Project Description	Cost
CIP 14	West End LS	New submersible pumps with rail system for removal, new piping and valves in new valve vault, new control and telemetry panels, rehabilitate wet well.	$777,300
CIP 15	Middle Point LS	New submersible pumps with rail system for removal, new piping and valves in new valve vault, new control and telemetry panels, rehabilitate wet well.	$821,600
CIP 16	Snob Hill LS	Convert station to submersible type with new submersible pumps with rail system for removal, new piping and valves in new valve vault, new control and telemetry panels.	$821,600
CIP 17.P2	Sekiu LS-Phase II	New discharge meter in new vault, new control and telemetry panels, connect to existing electrical.	$188,900
CIP 18	Olson LS	New submersible pumps with rail system for removal, new piping and valves in new valve vault, new control and telemetry panels, rehabilitate wet well.	$732,600
CIP 19 (1)	Lighthouse LS	New submersible pumps with rail system for removal, new piping and valves in new valve vault, new control and telemetry panels, rehabilitate wet well.	$690,200
CIP 20 (1)	Clallam Bay LS	Convert station to submersible type with new submersible pumps with rail system for removal, new piping and valves in new valve vault, new control and telemetry panels.	$878,300
TOTAL:			**$4,910,500**

(1) Note that the 2018 Facilities Plan switches CIP 19 and CIP 20 in Figure 6-20, Table 6-13, and Figure 8-4. To avoid future confusion, the labels on these figures and table have been fixed and included in Appendix D to show CIP 19 as the Lighthouse LS, and CIP 20 as the Clallam Bay LS.

WWTP Upgrade-Related Capital Improvement Summary

The various wastewater treatment plant upgrade alternatives presented in Chapter 7.0 may require additional collection system and lift station improvement projects, or revisions to the projects described above. Table 7-11 in Chapter 7.0 summarizes the CIP projects needed for each alternative. Table 6-14 below describes these projects and their associated cost estimates.

Table 6-14: Capital Improvement Projects Required for WWTP Upgrade Alternatives

Project No.	Project Name	Project Description	Subtotal Cost [1]	Total Cost
CIP 15R	Middle Point LS- Revised / Reroute	New removable submersible pumps on rails, new valve vault with new piping and valves, new control panels with telemetry, rehabilitate wet well. Pumps sized to deliver additional flows from Clallam Bay LS to Sekiu WWTP.	$564,432	$1,035,300
CIP 17R	Sekiu LS – Revised / Reroute	New control panels with telemetry, new larger pumps sized to deliver additional flows from Sekiu WWTP to new HWY 112 LS.	$347,424	$637,400
CIP 19R	Lighthouse LS – Revised / Reroute	Upgrade pumps and electrical (as needed). Pumps sized to deliver flows to Clallam Bay LS through 4"-inch FM (CIP 38).	$228,492	$419,200
CIP 20R-A	Clallam Bay LS- Revised / Reroute	Convert station to submersible type with new removable submersible pumps on rails, new valve vault with new piping and valves, new control panels with telemetry. Pumps sized to deliver flows to Middle Point LS.	$433,514	$795,100
CIP 20R-B	Clallam Bay LS- Revised / Reroute	Convert station to submersible type with new removable submersible pumps on rails, new valve vault with new piping and valves, new control panels with telemetry. Pumps sized to deliver flows to new Eagle Crest #1 LS (CIP 35).	$502,524	$818,100
CIP 30	Clallam Bay LS- New Force Main	New 8-inch HDPE force main from Clallam Bay LS to Middle Point LS (approx. 8,400 feet).	$1,995,550	$3,408,000
CIP 31-A	Sekiu LS- New Force Main to New Lot	New 8-inch HDPE force main from Sekiu LS to HWY 112 WWTP (approx. 2,585 feet).	$354,816	$600,600
CIP 31-B	Sekiu LS- New Force Main	New 8-inch HDPE force main from Sekiu LS to HWY 112 LS (approx. 1,685 feet).	$253,836	$429,800
CIP 32	New HWY 112 LS	New lift station with submersible pumps, telemetry/controls, generator.	$706,992	$1,296,600
CIP 33	New Access Rd LS	New lift station with submersible pumps, telemetry/controls, generator.	$682,968	$1,252,600
CIP 34	New: Access Rd Force Main	New 12-inch HDPE force main from HWY 112 LS to Access Rd LS, then to the Correction Facility WWTP (approx. 7,725 feet).	$985,809	$1,668,800
CIP 35	New: Eagle Crest #1 LS	New lift station with submersible pumps, telemetry/controls, generator.	$669,768	$1,228,400
CIP 36	New: Eagle Crest #2 LS	New lift station with submersible pumps, telemetry/controls, generator.	$669,768	$1,228,400
CIP 37	New: Eagle Crest Force Main	New 8-inch HDPE force main from Clallam Bay LS to Correction Facility Lagoon (approx. 14,000 feet)	$1,601,463	$2,710,900
CIP 38	Lighthouse LS – New Force Main	Install 4-inch HDPE FM to Clallam Bay LS using existing 8-inch gravity sewer as a sleeve.	$225,362	$381,700

[1] Estimated subtotal cost excludes contractor profit, engineering services, sales tax, contingencies, and legal, permitting, and county administration. Cost estimates for WWTP alternatives as shown in Chapter 7.0 use the subtotals listed here. Contractor profit, engineering services, sales tax, contingencies, and legal, permitting, and county administration is included in the overall WWTP alternatives cost estimates (Appendix F).

7.0 - WASTEWATER TREATMENT FACILITY EVALUATION

The purpose of this section is to evaluate the existing WWTP and its components with respect to performance, capacity, reliability, and redundancy.

A complete facility evaluation was performed in 2022, similar to the evaluation provided in the October 2018 General Sewer/Wastewater Facilities Plan. Additional findings that were not included in the 2018 evaluation are provided below.

Historical Plant Performance

Clallam Bay WWTP

No new comments.

Sekiu WWTP

No new comments.

Permits

Clallam Bay WWTP NPDES Discharge Permits

The Clallam Bay WWTP NPDES permit was finalized, and issued on November 19, 2018. The permit will expire on November 30, 2023. This permit contains the same effluent limits as the previous permit.

Sekiu WWTP NPDES Discharge Permits

The most recent NPDES Permit for Sekiu (WA0024449) was issued September 4, 2014 and expired September 30, 2019. According to the Washington State Department of Ecology (Ecology), expired permits remain in effect until either the permittee applies for renewal or Ecology requests action on the part of the permittee.

Nutrient Removal

The Department of Ecology has instituted the new Puget Sound Nutrient General Permit (PSNGP) to limit the growth of nutrients discharged into the Puget Sound by wastewater treatment facilities. The PSNGP applies to both the Sekiu and Clallam Bay WWTPs as they are two of the 58 publicly-owned domestic wastewater treatment plants discharging into the Washington Waters of the Salish Sea. The PSNGP went into effect April 1, 2022 for Clallam Bay WWTP, April 1, 2022 for Sekiu WWTP and March 1, 2022 for the Clallam Bay Corrections Center. See Appendix E for permits.

Facility Evaluation at Projected Design Criteria

Influent Screening and Grit Removal

It is noted that maintenance of the settling channels used for grit capture are labor intensive and it would be preferable to consider mechanical grit removal options.

Influent Flow Meter

No new comments

Primary Clarifiers

Weirs appear to be out of alignment, and corrosion is very noticeable. Equipment is approaching the end of its useful life.

Rotating Biological Contactor Basins (RBC Basin)

In late May 2021 the bearings for one of the two Sekiu RBC units failed. The County contacted the equipment supplier (Walker Process Equipment) and procured new bearings and moved forward with repairs. Up until that point in time, the RBC motor and drive assemblies have performed well and planning efforts are to continue focusing on keeping the existing RBC equipment running until the proposed plant upgrade is finalized.

Secondary Clarifiers

No new comments

Aeration Blowers

No new comments

UV Disinfection System

No new comments

Aerobic Digesters

No new comments

Non-Potable Water System

No new comments

Electrical, Control System, and Telemetry

No new comments

Outfall

No new comments

Evaluation of WWTP Alternatives

The purpose of this section is to identify and describe the improvement alternatives to the existing wastewater treatment facilities. The goal of this evaluation is to select an alternative that is cost effective, reliable and low maintenance, fits within site constraints, and has effective treatment and capacity for current and future flows and loadings. This section updates the WWTP alternatives evaluation discussed in Chapter 7 of the October 2018 General Sewer/Wastewater Facilities Plan.

Design Criteria

The Clallam Bay WWTP is not expected to reach permitted max month flow, BOD_5 influent or effluent loading, or TSS influent or effluent loading in the 24-year projected time frame. However, the plant components are up to 42 years old and are reaching the end of their useful life.

As described in Chapter 5, the Sekiu WWTP has reported instances of being out of compliance with its NPDES permit limits in the past. In 2014 and 2015, there were exceedances of the permitted maximum month BOD_5 influent loading, and there were multiple instances between 2013 and 2022 where the maximum month flow exceeded permit limits.

Permitted influent flows and loadings for each plant, including the Clallam Bay Corrections Center, are listed below in Tables 7-1 through 7-3 for reference.

Table 7-1: Clallam Current Permitted Influent Flow / Loading Limits

Current Permitted Facility Load Limits	
Maximum Month Design Flow (MMDF)	0.12 MGD
BOD5 Influent Loading for Maximum Month	135 lb/day
TSS Influent Loading for Maximum Month	171 lb/day

Table 7-2: Sekiu Current Permitted Influent Flow / Loading Limits

Current Permitted Facility Load Limits	
Maximum Month Design Flow (MMDF)	0.145 MGD
BOD_5 Influent Loading for Maximum Month	135 lb/day
TSS Influent Loading for Maximum Month	171 lb/day

Table 7-3: Corrections Center Current Permitted Influent Flow / Loading Limits

Current Permitted Facility Load Limits	
Maximum Month Design Flow (MMDF)	0.12 MGD
BOD_5 Influent Loading for Maximum Month	335 lb/day
TSS Influent Loading for Maximum Month	260 lb/day

To address aging infrastructure, permit exceedances, and the need for future nutrient removal, significant upgrades to both wastewater treatment plants are needed.

The tables below identify the design criteria used for sizing and evaluating wastewater facility alternatives.

Table 7-4: Clallam Bay Influent Flows and Loadings

DESIGN CRITERIA	Existing (2018 – 2022)	Projected 2046
Average Daily Flow	0.033	0.042
Max Month	0.079	0.085
Peak Day	0.243	0.308
Peak Hour	0.485	0.616
Peak Instantaneous	0.970	1.23
Ave Day BOD_5 (lb/day)	56	71
Ave Day TSS (lb/day)	45	58
Max Month BOD_5 (lb/day)	72	92
Max Month TSS (lb/day)	68	87
Typical Summer ADF	0.0229	0.030
Typical Winter ADF	0.051	0.066
Typical Summer BOD_5 (lb/day)	54	
Typical Winter BOD_5 (lb/day)	65	
Typical Inf Water Temperature (Degrees C)	13.83	
Average TKN (mg-N/L)	44	

*Flows Include I/I

Table 7-5: Sekiu Influent Flows and Loadings

DESIGN CRITERIA	Existing (2018 – 2022)	Projected 2046
Average Daily Flow	0.063	0.080
Max Month	0.180	0.192
Peak Day	0.539	0.685
Peak Hour	1.079	1.370
Peak Instantaneous	2.157	2.74
Ave Day BOD_5 (lb/day)	43	54
Ave Day TSS (lb/day)	38	48
Max Month BOD_5 (lb/day)	83	105
Max Month TSS (lb/day)	72	91
Typical Summer ADF	0.0302	0.039
Typical Winter ADF	0.106	0.135
Typical Summer BOD_5 (lb/day)	66	
Typical Winter BOD_5 (lb/day)	28	
Typical Inf Water Temperature (Degrees C)	12.96	
Average TKN (mg-N/L)	32	

*Flows Include I/I

Table 7-6: Corrections Center Influent Flows and Loadings

DESIGN CRITERIA	Existing (2018 – 2022)	Projected 2047
Average Daily Flow	0.102	0.102
Max Month	0.128	0.128
Peak Day	0.191	0.191
Peak Hour	0.381	0.381
Peak Instantaneous	0.763	0.76
Ave Day BOD_5 (lb/day) (1)	161	161
Ave Day TSS (lb/day)	181	181
Max Month BOD_5 (lb/day) (1)	194	194
Max Month TSS (lb/day)	216	216
Typical Summer ADF	0.0358	0.036
Typical Winter ADF	0.055	0.055
Typical Summer BOD_5 (lb/day) (1)	157	
Typical Winter BOD_5 (lb/day)	162	
Average TKN (mg-N/L)	51	

(1) $CBOD_5$ is monitored at the Corrections Center, not BOD_5, so the existing and projected BOD_5 influent loading has been converted from $CBOD_5$ using the following conversion, as used in WAC 173-221-050: $BOD_5 = CBOD_5 / 0.83$.

*Flows Include I/I

Some of the evaluated WWTP upgrade alternatives consider combining wastewater flows from Clallam Bay, Sekiu, and potentially the Clallam Bay Corrections Center. The Department of Corrections provided a letter of support, included in Appendix I, indicating that they are open to discussing the possibility of collaborating with Clallam County. Table 7-7 below lists the design criteria for treatment plant flow options that combine the wastewater flows from Sekiu and the Corrections Center (Flow Option B for Alternatives 2 and 3).

Table 7-7: Sekiu and Corrections Center Combined Influent Flows and Loadings

DESIGN CRITERIA	Existing (2018 – 2022)	Projected 2046
Average Daily Flow	0.165	0.182
Max Month	0.308	0.320
Peak Day	0.730	0.875
Peak Hour	1.460	1.751
Peak Instantaneous	2.920	3.50
Ave Day BOD_5 (lb/day)	205	216
Ave Day TSS (lb/day)	219	229
Max Month BOD_5 (lb/day)	277	300
Max Month TSS (lb/day)	288	307
Typical Summer ADF	0.0660	0.074
Typical Winter ADF	0.160	0.190
Average Influent TKN (mg-N/L)	41	

*Flows Include I/I

Table 7-8 below lists the design criteria for treatment plant flow options that combine the wastewater flows from Sekiu and Clallam Bay (Flow Option C for Alternatives 2 and 3).

Table 7-8: Sekiu and Clallam Bay Combined Influent Flows and Loadings

DESIGN CRITERIA	Existing (2018 – 2022)	Projected 2046
Average Daily Flow	0.096	0.122
Max Month	0.259	0.277
Peak Day	0.782	0.993
Peak Hour	1.564	1.986
Peak Instantaneous	3.128	3.97
Ave Day BOD_5 (lb/day)	99	125
Ave Day TSS (lb/day)	83	105
Max Month BOD_5 (lb/day)	155	197
Max Month TSS (lb/day)	140	178
Typical Summer ADF	0.0531	0.068
Typical Winter ADF	0.156	0.201
Average Influent TKN (mg-N/L)	38	

*Flows Include I/I

Table 7-9 below lists the design criteria for options that combine flow from all three facilities (Alternatives 1 and 4, and Flow Option D for Alternatives 2 and 3).

Table 7-9: Combined (Sekiu, Clallam Bay and Corrrections Center) Influent Flows and Loadings

DESIGN CRITERIA	Existing (2018 – 2022)	Projected 2046
Average Daily Flow	0.198	0.223
Max Month	0.387	0.405
Peak Day	0.973	1.184
Peak Hour	1.945	2.367
Peak Instantaneous	3.890	4.73
Ave Day BOD_5 (lb/day)	260	287
Ave Day TSS (lb/day)	264	287
Max Month BOD_5 (lb/day)	350	391
Max Month TSS (lb/day)	356	394
Typical Summer ADF	0.0889	0.104
Typical Winter ADF	0.211	0.256
Average Influent TKN (mg-N/L)	41	

*Flows Include I/I

Future Peak Day flows for Clallam Bay and Sekiu were calculated by multiplying Average Daily Flow by the observed peaking factor of existing influent flows. The observed peaking factor of the existing influent flows is 7.38 for Clallam Bay, and 8.55 for Sekiu.

Peak Hour Flow was calculated by multiplying Peak Day Flow by 2.0. Recorded peak hour flows were not used as the flow metering system has shown to be inaccurate at peak flows.

Peak Instantaneous Design Flow was calculated by multiplying Peak Hour Flow by 2.0. Recorded peak instantaneous flows were not used as the flow metering system has shown to be inaccurate at peak flows.

Design effluent criteria are listed below in Table 7-10. These criteria were used for all Clallam Bay WWTP and Sekiu WWTP alternative options, as well as all combined treatment plant options. All alternatives consider an effluent Total Inorganic Nitrogen (TIN) limit of 10.0 mg-N/L (annual average) in anticipation of future nutrient removal requirements.

Table 7-10: Effluent Design Criteria

EFFLUENT DESIGN PARAMETER	DESIGN VALUE
pH	6-9
Fecal Coliform - Monthly GM	200/100
Fecal Coliform - 7 Day GM	400/100
BOD_5 (mg/L) Ave. Monthly	30
TSS (mg/L) Ave. Monthly	30
BOD_5 (mg/L) Ave. Weekly	45
TSS (mg/L) Ave. Weekly	45
Total Residual Chlorine Average Monthly	0.5 mg/L
Total Residual Chlorine Average Weekly	0.75 mg/L
Total Inorganic Nitrogen (as N) – Annual Average	10.0 mg/L

WWTP Alternatives

As part of this amendment to the October 2018 General Sewer/Wastewater Facilities Plan, four new treatment plant alternatives have been evaluated based on Cost Effectiveness (Engineering, Construction and Operations), Treatment Effectiveness, Operations and Maintenance Demands, and Site Layout. The four evaluated alternatives use either Parkson's Biolac Biological Nutrient Removal System ("Biolac") or Aeromod's SEQUOX Biological Nutrient Removal Process ("Aeromod"), and vary in the proposed plant location(s). Two of the alternatives have multiple sub options regarding the flows to be treated at each site. These alternative sub options may combine flows from Sekiu, Clallam Bay, and/or the Corrections Center for treatment.

All evaluated WWTP include the following common elements, similar to the elements described in the 2018 Facilities Plan, page 7-25:

- New or upgraded headworks
- New or upgraded UV disinfection
- Non-potable water system improvements
- Equalization volume
- Instrumentation, telemetry, and controls.

General descriptions of two proposed treatment processes, Biolac and Aeromod, are included below.

Biolac Process Description

Parkson's Biolac Biological Nutrient Removal System is an activated sludge process that uses extended retention of biological solids and cyclical aeration in a single process basin to achieve biological nutrient removal. The treatment process consists of one HDPE-lined earthen basin in which fine bubble membrane diffusers attached to floating aeration chains provide oxygen and mixing. Each chain is controlled individually, which allows for the formation of anoxic and aerated zones within the basin to promote biological nutrient removal.

Influent combines with return activated sludge (RAS) in the anoxic zone at the front end of the basin before it flows into the first stage aeration section of the basin. The sequence of aeration in the first stage aerated and anoxic zones results in a process with sequential nitrification/denitrification reactions.

Downstream of the basin is followed by two integral clarifiers. As with a conventional activated sludge process, flow from the aeration basin enters both clarifiers, where the solids settle to the bottom and clear effluent is collected from the surface and sent to UV disinfection.

Waste activated sludge (WAS) is sent from the clarifiers to the long-term solids digestion basin.

Biolac Operations & Maintenance

Operation of the Biolac system is generally straightforward. The aeration is automated, and blowers are automatically turned up or down based on the DO levels in the aeration basins, so the plant will not require constant attention or manual adjustments.

The Biolac activated sludge process is relatively low maintenance. RAS pumping and solids wasting are performed with airlift pumps, which eliminates pump maintenance requirements. The main equipment maintenance requirements are the blowers, flow meters, and electronic actuators. The aeration system will also require occasional cleaning of diffusers, which are accessible without turning off the blowers or draining the tank, so the basin will not require draining to inspect and clean the diffusers. In addition, the clarifiers will require cleaning of the clarifier basin, weirs and launders and require inspection.

Biolac Treatment Effectiveness

The effluent from a Biolac system is typically expected to be less than 30 mg/L BOD_5, 45 mg/L TSS, and 10 mg-N/L TIN. The Biolac process uses a long hydraulic retention time (HRT) and solids retention time (SRT), which makes the system more forgiving to shock loads and hydraulic surges than conventional activated sludge.

However, the Biolac system is not effective below a minimum flow/loading, and the design flows and loadings originally used for the design of this system, which did not include flow data from 2022, were just at this threshold. After including flow data from the Corrections Center from 2022, it is apparent that projected 2046 flows will be lower than originally expected, and therefore will be too low to work with the Biolac system. The Biolac system will not be an effective treatment option for the projected flows from Clallam Bay, Sekiu, and the Clallam Bay Corrections Center.

Aeromod Process Description

The Aeromod SEQUOX process is an activated sludge process that uses cyclical aeration to achieve biological nutrient removal. The treatment process consists of an anoxic selector tank, two stages of aeration basins, two clarifier tanks, and one aerobic digester tank.

Influent combines with return activated sludge (RAS) in the anoxic selector tank before it flows into the first stage aeration basin. Aeration in the first and second stage is turned on and off on a 2-hour cycle for BOD removal and nitrification in aerobic conditions, and denitrification in anoxic conditions. The sequence of aeration in the first stage aeration basin is opposite to that of the second stage, which results in a plug flow process with sequential nitrification/denitrification reactions. Aeration is by coarse bubble diffusers installed on the basin floor.

Similar to a conventional activated sludge process, flow enters the clarifier from the second stage aeration basin, where the solids settle to the bottom and clear effluent is collected from the surface and sent to UV disinfection.

Waste activated sludge (WAS) is sent from the second stage aeration tank to the aerobic digester tank. During the wasting events, supernatant from the digester is decanted back to the aeration basin over a fixed level weir.

Aeromod Operations & Maintenance

The Aeromod process is relatively low maintenance. RAS pumping and solids wasting are performed with airlift pumps, and the clarifier has no motors, gears, or electrical components. The major equipment maintenance requirements are the blowers, flow meters, and electronic actuators. In addition, the diffusers used in the aeration basins and digester are accessible without turning off the blowers or draining the tanks, so the basins will not require draining to inspect and clean the diffusers.

The cyclic aeration is automated, and blowers are automatically turned up or down based on the DO levels in the aeration basins, so the plant will not require constant attention or manual adjustments.

This system will require routine maintenance, inspection, and cleaning of its major components. The clarifiers will require cleaning of the clarifier basin, weirs and launders and require inspection. In addition, the aeration system may require occasional cleaning of the diffusers, which can be raised to the surface without the need to take the basin offline.

Aeromod Treatment Effectiveness

The effluent from the Aeromod system is estimated to be less than 30 mg/L BOD_5 (average month), 30 mg/L TSS (average month), and 10 mg-N/L TIN (annual average). When configured with chemical addition, the process could achieve even lower effluent TIN concentrations. The Aeromod process uses a

long hydraulic retention time (HRT) and solids retention time (SRT), which makes the system more forgiving to shock loads and hydraulic surges than conventional activated sludge. Considering the variable flows and loadings at Sekiu and Clallam Bay, this process would help maintain effluent quality throughout the entire year.

The Aeromod system has a long list of US installations. From conversations with operators the system is effective and easy to operate and maintain.

The Aeromod system has an integral sludge digester, which will allow sludge to thicken over time and reduce the frequency of sludge removal from the plant. It will also allow provide a head start in biosolids handling if biosolids handling options are considered in the future, such as treating biosolids to Class B biosolids or constructing a composting system.

Alternatives Overview

The evaluated treatment alternatives are described below:

1. **Alternative 1: Biolac at Corrections Center**

   In Alternative 1, a new Biolac treatment system will be constructed at the Clallam Bay Corrections Center to treat the sewage from the Corrections Center, Clallam Bay, and Sekiu. As discussed above, the Biolac system will not be a feasible option based on updated flow data from 2022. However, information regarding this alternative has been included for informational purposes.

2. **Alternative 2: Aeromod at New Lot in Sekiu**

   In Alternative 2, an Aeromod treatment system will be constructed at a new site in Sekiu. There are four options within Alternative 2 in regards to the flows to be treated at this new site.

   a. The new Aeromod system at the new lot in Sekiu will only treat flows from Sekiu. An additional new Aeromod system will be constructed at the existing Clallam Bay WWTP to treat flows from Clallam Bay.

   b. The new Aeromod system at the new lot in Sekiu will treat flows from Sekiu and the Clallam Bay Corrections Center. An additional new Aeromod system will be constructed at the existing Clallam Bay WWTP to treat flows from Clallam Bay.

   c. The new Aeromod system at the new lot in Sekiu will treat flows from Sekiu and Clallam Bay.

   d. The new Aeromod system at the new lot in Sekiu will treat flows from Sekiu, the Clallam Bay Corrections Center, and Clallam Bay.

3. **Alternative 3: Aeromod at Sekiu WWTP**

   In Alternative 3, an Aeromod treatment system will be constructed at the existing Sekiu WWTP. There are four options within Alternative 3 in regards to the flows to be treated at this new site.

   a. The new Aeromod system at the existing Sekiu WWTP will treat flows only from Sekiu. An additional new Aeromod system will be constructed at the existing Clallam Bay WWTP to treat flows from Clallam Bay.

   b. The new Aeromod system at the existing Sekiu WWTP will treat flows from Sekiu and the Clallam Bay Corrections Center. An additional new Aeromod system will be constructed at the existing Clallam Bay WWTP to treat flows from Clallam Bay.

   c. The new Aeromod system at the existing Sekiu WWTP will treat flows from Sekiu and Clallam Bay.

d. The new Aeromod system at the existing Sekiu WWTP will treat flows from Sekiu, the Clallam Bay Corrections Center, and Clallam Bay.

4. Alternative 4: Aeromod at Corrections Center

In Alternative 4, a new Aeromod treatment system will be constructed at the Clallam Bay Corrections Center WWTP to treat the sewage from the Corrections Center, Clallam Bay, and Sekiu.

The treatment alternatives were evaluated to meet the design criteria presented in Tables 7-4 through 7-10. The applicable design criteria depend on the combined or individual plant configurations.

For each alternative, other capital improvement projects may be needed in order to implement the proposed treatment system. The improvements required for each alternative, which are discussed in more detail in Chapter 6.0, Table 6-14, are shown below in Table 7-11.

Table 7-11: Capital Improvement Projects Required for WWTP Alternatives

		Alternative									
CIP #	Description	1	2a	2b	2c	2d	3a	3b	3c	3d	4
CIP 15R	Middle Point LS – Revised / Reroute				✓	✓			✓	✓	
CIP 17R	Sekiu LS – Revised / Reroute	✓	✓	✓	✓	✓					✓
CIP 19R	Lighthouse LS – Revise/Reroute	✓			✓	✓			✓	✓	✓
CIP 20R-A	Clallam Bay LS – Revised / Reroute				✓	✓			✓	✓	
CIP 20R-B	Clallam Bay LS – Revised / Reroute	✓									✓
CIP 30	Clallam Bay LS – New Force Main				✓	✓			✓	✓	
CIP 31-A	Sekiu LS – New Force Main to New Lot WWTP		✓	✓	✓	✓					
CIP 31-B	Sekiu LS – New Force Main to HWY 112 LS	✓									✓
CIP 32	New: HWY 112 LS	✓									✓
CIP 33	New: Access Rd LS	✓									✓
CIP 34	New: Access Rd Force Main	✓									✓
CIP 35	New: Eagle Crest #1 LS	✓									✓
CIP 36	New: Eagle Crest #2 LS	✓									✓
CIP 37	New: Eagle Crest Force Main	✓									✓
CIP 38	Lighthouse LS – New Force Main	✓			✓	✓			✓	✓	✓

Plant Classification

Each alternative, and all flow options within the alternatives, will have the following classification per WAC 173-230-330 (design flow less than 1 MGD):

- Alternative 1 – Biolac at Corrections Center = Classification II
- Alternative 2 – Aeromod at New Lot in Sekiu = Classification II
- Alternative 3 – Aeromod at Sekiu WWTP = Classification II
- Alternative 4 – Aeromod at Corrections Center = Classification II

Alternative 1 – Biolac at Corrections Center

This alternative converts the Clallam Bay Corrections Center WWTP to a Biolac treatment system which would treat flows from Sekiu, Clallam Bay, and the Clallam Bay Corrections Center. Biolac's HDPE-lined earthen aeration basin and integral clarifiers would be constructed within the Corrections Center WWTP's existing first lagoon. The existing second lagoon would be converted into a long-term solids digestion basin.

The Biolac Treatment System was used as the basis of this alternative evaluation; however, other wastewater equipment vendors provide similar systems with this configuration.

As discussed above, with updated flow information from 2022, the Biolac system is no longer a feasible treatment option. The Biolac system requires a minimum volumetric load in order to denitrify effectively. Initially, the flows from the Corrections Center were high enough to achieve the required volumetric load; however, in recent years the flow has decreased year after year. Unless the flows from the Correction Center increase, the Biolac system will not be an effective option. Regardless, the evaluation of Alternative 1 has still been included below for informational purposes.

Alternative 1 Costs (Construction / Operations & Maintenance)

By combining flows with the Corrections Center, costs for this option would be shared between the County and the Corrections Center. The division of costs was estimated based on the fraction of Corrections Center influent flow to be treated compared to the total design flow of the system. The estimated capital cost for this alternative, including contingency, sales tax, and engineering, was estimated to be $24.5 million ($16.5 million estimated capital cost by the County).

The annual operations and maintenance costs for this alternative would be low relative to the other alternatives. Similar to the capital cost, combining treatment with the Corrections Center would allow the County to share O&M costs with the Corrections Center. This alternative would be expected to have an annual O&M cost of $306,200 ($206,700 estimated O&M cost by the County).

The estimated net present worth 22-year life cycle cost for this alternative is $30,840,000 ($20,817,000 by the County)

Site Layout

See Appendix B for a conceptual layout of this alternative.

Alternative 2 – Aeromod at New Lot in Sekiu

This alternative evaluates the SEQUOX activated sludge system offered by Aeromod to be constructed at a new lot in Sekiu. The Aeromod system is a package system in the configuration of a series of rectangular basins, and was used as the basis of this alternative evaluation, though other wastewater equipment vendors provide similar systems with this configuration.

This alternative has four options in regards to the flows treated at the new site in Sekiu.

a. The new Aeromod system at the new lot in Sekiu will treat flows only from Sekiu. Another new Aeromod system will be constructed at the existing Clallam Bay WWTP to treat flows from Clallam Bay.

b. The new Aeromod system at the new lot in Sekiu will treat flows from Sekiu and the Clallam Bay Corrections Center. Another new Aeromod system will be constructed at the existing Clallam Bay WWTP to treat flows from Clallam Bay.

c. The new Aeromod system at the new lot in Sekiu will treat flows from Sekiu and Clallam Bay.

d. The new Aeromod system at the new lot in Sekiu will treat flows from Sekiu, the Clallam Bay Corrections Center, and Clallam Bay.

Alternative 2 Costs (Construction / Operations & Maintenance)

Capital costs, including contingency, sales tax, and engineering, for each option presented for this alternative are summarized below in Table 7-12. For all flow options within this alternative, land acquisition for the new site is expected to add significant cost to the upgrade. Construction costs for options that include flows from Clallam Bay Corrections Center (Flow Option B and D) will be shared between the County and the Corrections Center.

Operation and maintenance (O&M) costs depend on the flow option. Options that combine flows from Sekiu and Clallam Bay have lower O&M costs than options with separate treatment plants. O&M costs for options that include flows from Clallam Bay Corrections Center (Flow Option B and D) will be shared between the County and the Corrections Center.

Table 7-12: Alternative 2 Cost Estimates

	Estimated Capital Cost	Estimated Annual O&M Cost	Estimated 22-Year Life Cycle Cost
Flow Option A: Sekiu Flows Only w/ Add'l New Aeromod at Clallam Bay	$42,485,000	$473,900	$52,335,000
Flow Option B: Sekiu + Corrections Center Flows w/ Add'l New Aeromod at Clallam Bay	$44,327,000 ($31,745,000 by County)(1)	$490,900 ($343,200 by County)(1)	$54,529,000 ($34,085,000 by County)(1)
Flow Option C: Sekiu + Clallam Bay Flows	$33,916,000	$329,100	$40,756,000
Flow Option D: Sekiu + Clallam Bay + Corrections Center Flows	$35,656,000 ($24,067,000 by County)(1)	$371,600 ($250,800 by County)(1)	$43,379,000 ($29,281,000 by County)(1)

(1) Options that include flows from the Clallam Bay Corrections Center estimated that costs for the treatment plant costs will be shared between the County and the Corrections Center based on the fraction of the max month flow coming from the Corrections Center versus the total max month design flow of the Sekiu treatment plant.

Alternative 2 Site Layout

The advantages and disadvantages of the site layout for each of the four options presented within this alternative are listed in the table below:

Table 7-13: Alternative 2 Site Layout Advantages and Disadvantages

	Advantages/Disadvantages
Flow Option A: Sekiu Flows Only w/ Add'l New Aeromod at Clallam Bay	Advantages • New site in Sekiu will remove Sekiu WWTP from tsunami zone • There will be a minimal amount of rerouting of flows required Disadvantages • New site in Sekiu will require land acquisition • Clallam Bay WWTP will remain in a floodplain
Flow Option B: Sekiu + Corrections Center Flows w/ Add'l New Aeromod at Clallam Bay	Advantages • Corrections Center will share cost of project • New site in Sekiu will remove Sekiu WWTP from tsunami zone Disadvantages • Will require coordination and negotiation with Corrections Center • New site in Sekiu will require land acquisition • Clallam Bay WWTP will remain in a floodplain
Flow Option C: Sekiu + Clallam Bay Flows	Advantages • New site in Sekiu will remove Sekiu WWTP from tsunami zone • Clallam Bay WWTP will no longer be in a floodplain Disadvantages • New site in Sekiu will require land acquisition • Adding Clallam Bay flows to process will require a force main in area of landslide hazard, along HWY 112
Flow Option D: Sekiu + Clallam Bay + Corrections Center Flows	Advantages • Corrections Center will share cost of project • New site in Sekiu will remove Sekiu WWTP from tsunami zone • Clallam Bay WWTP will no longer be in a floodplain Disadvantages • Will require coordination and negotiation with Corrections Center • New site in Sekiu will require land acquisition • Adding Clallam Bay flows to process will require a force main in area of landslide hazard, along HWY 112

See Appendix B for a conceptual layout of this alternative and all flow options presented here.

Alternative 3 – Aeromod at Existing Sekiu WWTP

Alternative 3 evaluates the Aeromod SEQUOX activated sludge system to be constructed at the existing Sekiu WWTP. Similar to Alternative 2, the Aeromod system was used as the basis of this alternative evaluation, but other wastewater equipment vendors provide similar systems with this configuration.

Alternative 3 has four options in regards to the flows treated by the new Aeromod at the existing Sekiu WWTP.

a. The new Aeromod system at the existing Sekiu WWTP will treat flows only from Sekiu. Another new Aeromod system will be constructed at the existing Clallam Bay WWTP to treat flows from Clallam Bay.

b. The new Aeromod system at the existing Sekiu WWTP will treat flows from Sekiu and the Clallam Bay Corrections Center. Another new Aeromod system will be constructed at the existing Clallam Bay WWTP to treat flows from Clallam Bay.

c. The new Aeromod system at the existing Sekiu WWTP will treat flows from Sekiu and Clallam Bay.

d. The new Aeromod system at the existing Sekiu WWTP will treat flows from Sekiu, the Clallam Bay Corrections Center, and Clallam Bay.

Alternative 3 Costs (Construction / Operations & Maintenance)

Capital costs, including contingency, sales tax, and engineering, for each option presented for this alternative are summarized below in Table 7-14. By using the site of Sekiu's existing WWTP, Alternative 3 has no costs associated with land acquisition, making the capital cost lower than the corresponding flow option presented for Alternative 2. Construction costs for options that include flows from Clallam Bay Corrections Center (Flow Option B and D) will be shared between the County and the Corrections Center.

Operation and maintenance (O&M) costs depend on the flow option. Options that combine flows from Sekiu and Clallam Bay have lower O&M costs than options with separate treatment plants. O&M costs for options that include flows from Clallam Bay Corrections Center (Flow Option B and D) will be shared between the County and the Corrections Center.

Table 7-14: Alternative 3 Cost Estimates

	Estimated Capital Cost	Estimated Annual O&M Cost	Estimated 22-Year Life Cycle Cost
Flow Option A: Sekiu Flows Only w/ Add'l New Aeromod at Clallam Bay	$29,769,000	$473,900	$39,618,000
Flow Option B: Sekiu + Corrections Center Flows w/ Add'l New Aeromod at Clallam Bay	$31,436,000 ($24,268,000 by County)(1)	$490,900 ($343,200 by County)(1)	$41,639,000 ($28,671,000 by County)(1)
Flow Option C: Sekiu + Clallam Bay Flows	$23,997,000	$329,100	$29,837,000
Flow Option D: Sekiu + Clallam Bay + Corrections Center Flows	$24,563,000 ($16,717,000 by County)(1)	$371,600 ($250,800 by County)(1)	$32,286,000 ($21,793,000 by County)(1)

(1) Options that include flows from the Clallam Bay Corrections Center estimated that costs for the treatment plant costs will be shared between the County and the Corrections Center based on the fraction of the max month flow coming from the Corrections Center versus the total max month design flow of the Sekiu treatment plant.

Alternative 3 Site Layout

The advantages and disadvantages of the site layout for each of the four flow options presented within this alternative are listed in the table below:

Table 7-15: Alternative 3 Site Layout Advantages and Disadvantages

	Advantages/Disadvantages
Flow Option A: Sekiu Flows Only w/ Add'l New Aeromod at Clallam Bay	Advantages • Using existing sites will not require land acquisition • There will be no need to reroute flows from the existing plants Disadvantages • Sekiu WWTP will remain in a tsunami hazard zone • Clallam Bay WWTP will remain in a floodplain
Flow Option B: Sekiu + Corrections Center Flows w/ Add'l New Aeromod at Clallam Bay	Advantages • Existing sites will not require land acquisition • Corrections Center will share cost for project Disadvantages • Will require coordination and negotiation with Corrections Center • Sekiu WWTP will remain in a tsunami hazard zone • Clallam Bay WWTP will remain in a floodplain

	Advantages/Disadvantages
Flow Option C: Sekiu + Clallam Bay Flows	Advantages • Using existing sites will not require land acquisition • Clallam Bay WWTP will no longer be in a floodplain Disadvantages • Sekiu WWTP will remain in a tsunami hazard zone • Adding Clallam Bay flows to process will require a force main in area of landslide hazard, along HWY 112
Flow Option D: Sekiu + Clallam Bay + Corrections Center Flows	Advantages • Using existing sites will not require land acquisition • Corrections Center will share cost for project • Clallam Bay WWTP will no longer be in a floodplain Disadvantages • Will require coordination and negotiation with Corrections Center • Sekiu WWTP will remain in a tsunami hazard zone • Adding Clallam Bay flows to process will require a force main in area of landslide hazard, along HWY 112

See Appendix B for a conceptual layout of this alternative and all flow options presented here.

Alternative 4 – Aeromod at Corrections Center

This alternative converts the Clallam Bay Corrections Center WWTP to an Aeromod treatment system which will treat flows from Sekiu, Clallam Bay, and the Clallam Bay Corrections Center. As with Alternatives 2 and 3, the Aeromod system was used as the basis of this alternative evaluation, but other wastewater equipment vendors provide similar systems with this configuration. Sekiu flows will be pumped up the Access Rd force main, and Clallam Bay flows will be pumped up the Eagle Crest force main.

Alternative 4 Costs (Construction / Operations & Maintenance)

The estimated costs for this option, including contingency, sales tax, and engineering, were determined to be approximately $37.8 million ($25.5 million estimated capital cost by the County). The major costs for this alternative are the new force mains, lift stations, excavation, backfill, concrete, and installation of the Aeromod system.

Combining flows from Sekiu, Clallam Bay, and the Corrections Center helps reduce overall maintenance requirements. In addition, combining treatment with the Corrections Center allows the County to share O&M costs with the Corrections Center. This alternative is be expected to have an annual O&M cost of $371,600 ($250,800 estimated O&M cost by the County).

The estimated net present worth 22-year life cycle cost for the County for this alternative is $45,568,000 ($30,759,000 by the County).

Alternative 4 Site Layout

This alternative has the advantages of removing the Sekiu WWTP from the tsunami hazard zone and removing the Clallam Bay WWTP from the floodplain. Also, by combining flows from all three facilities, the Corrections Center would share costs with the County for the project, though coordination and negotiation with the Corrections Center would be needed.

Locating the treatment plant at the Corrections Center would have the significant added cost of multiple new lift stations, force mains, and various revisions to existing lift stations to reroute flows from Sekiu and Clallam Bay to the Corrections Center WWTP.

See Appendix B for a conceptual layout of this alternative.

Summary of Alternatives

Table 7-16 provides an overall summary of the four presented alternatives and all associated flow options. This table also lists the

Table 7-16: WWTP Alternatives Summary

Alt.	Type of Plant	Description	Include Corrections Center?	No. of Plants	Notes
1	Biolac	Sekiu, Clallam Bay, & Corrections all treated at Corrections	Yes	1	• No longer feasible
2a	Aeromod (Flow Option A)	Build Aeromod on **new lot** in Sekiu for just Sekiu flows AND build Aeromod in Clallam Bay for just Clallam Bay flows.	No	2	• Clallam Bay would stay in floodplain • Requires land acquisition
2b	Aeromod (Flow Option B)	Build Aeromod on **new lot** in Sekiu for Sekiu & Corrections flows AND build Aeromod in Clallam Bay for just Clallam Bay flows.	Yes	2	• Clallam Bay would stay in floodplain • Requires negotiation and cooperation with Corrections • Requires land acquisition + Corrections helps pay for project
2c	Aeromod (Flow Option C)	Build Aeromod on **new lot** in Sekiu for Sekiu & Clallam Bay flows.	No	1	• Requires forcemain in slide area • Requires land acquisition
2d	Aeromod (Flow Option D)	Build Aeromod on **new lot** in Sekiu for Sekiu, Clallam Bay, and Corrections flows.	Yes	1	• Requires land acquisition • Requires forcemain in slide area • Requires negotiation and cooperation with Corrections + Corrections helps pay for project
3a	Aeromod (Flow Option A)	Build Aeromod at existing Sekiu site for just Sekiu flows AND build Aeromod at Clallam Bay for just Clallam Bay flows.	No	2	• Sekiu stays in Tsunami zone • Clallam Bay would stay in floodplain
3b	Aeromod (Flow Option B)	Build Aeromod at existing Sekiu site for Sekiu & Corrections flows AND build Aeromod at Clallam Bay for just Clallam Bay flows.	Yes	2	• Sekiu stays in Tsunami zone • Clallam Bay would stay in floodplain • Requires negotiation and cooperation with Corrections + Corrections helps pay for project
3c	Aeromod (Flow Option C)	Build Aeromod at existing Sekiu site for Sekiu & Clallam Bay flows.	No	1	• Sekiu stays in Tsunami zone • Requires forcemain in slide area
3d	Aeromod (Flow Option D)	Build Aeromod at existing Sekiu site for Sekiu, Clallam Bay, and Corrections flows.	Yes	1	• Sekiu stays in Tsunami zone • Requires forcemain in slide area • Requires negotiation and cooperation with Corrections + Corrections helps pay for project
4	Aeromod (Flow Option D)	Build Aeromod at Corrections for all three plants	Yes	1	• Requires negotiation and cooperation with Corrections + Corrections helps pay for project

Treatment Alternative Cost Estimates

The treatment alternatives discussed in above have been evaluated and a cost estimate has been established for each, presented below in Table 7-17. The construction cost considered in this evaluation is the expected cost to be borne by the County after accounting for the anticipated sharing of costs between the Corrections Center. As noted above, Alternative 1 is no longer a feasible treatment process after accounting for flow data from 2022; cost information for this alternative has been included for informational purposes only.

The estimated construction costs suggest that Alternative A – Flow Options A, B, and C, and Alternative 3 – Flow Option A may be prohibitively expensive. Excluding Alternative 1, the lowest capital cost alternative is Alternative and 3d. Detailed construction cost estimates for all the treatment alternatives are presented in Appendix F.

Table 7-17: Total Project Construction Cost Estimates for Alternatives

Process Alternatives	Total Construction Cost Estimate	Estimate of Construction Cost by County (1)
Alternative 1: Biolac at Corrections Facility	$24,563,000	$16,580,000 (1)
Alternative 2a: Aeromod at New Lot in Sekiu: Sekiu Flows Only w/ Add'l New Aeromod at Clallam Bay	$42,485,000	$42,485,000
Alternative 2b: Aeromod at New Lot in Sekiu: Sekiu + Corrections Center Flows w/ Add'l New Aeromod at Clallam Bay	$44,327,000	$31,745,000 (1)
Alternative 2c: Aeromod at New Lot in Sekiu: Sekiu + Clallam Bay Flows	$33,916,000	$33,916,000
Alternative 2d: Aeromod at New Lot in Sekiu: Sekiu + Clallam Bay + Corrections Center Flows	$35,656,000	$24,067,000 (1)
Alternative 3a: Aeromod at Existing Sekiu WWTP: Sekiu Flows Only w/ Add'l New Aeromod at Clallam Bay	$29,769,000	$29,769,000
Alternative 3b: Aeromod at Existing Sekiu WWTP: Sekiu + Corrections Center Flows w/ Add'l New Aeromod at Clallam Bay	$31,436,000	$24,268,000 (1)
Alternative 3c: Aeromod at Existing Sekiu WWTP: Sekiu + Clallam Bay Flows	$23,997,000	$23,997,000
Alternative 3d: Aeromod at Existing Sekiu WWTP: Sekiu + Clallam Bay + Corrections Center Flows	$24,563,000	$16,717,000(1)
Alternative 4: Aeromod at Corrections Facility	$37,845,000	$25,545,000 (1)

(1) Options that include flows from the Clallam Bay Corrections Center assume costs for the treatment plant costs will be shared between the County and the Corrections Center based on the fraction of the max month flow coming from the Corrections Center versus the total max month design flow of the Sekiu treatment plant. Actual distribution of costs will require coordination with Corrections Center.

As shown below in Table 7-18, with the estimated annual O&M costs, Alternative A – Flow Options A, B, and C, and Alternative 3 – Flow Option A maintain significantly higher 22-year life cycle costs. Excluding Alternative 1, Alternative 3d – Aeromod at the existing Sekiu WWTP to treat flows from Sekiu, Clallam Bay, and the Corrections Center, has the lowest total capital cost, annual O&M cost, and 22-year life cycle cost, after accounting for cost-sharing with the Corrections Center. Detailed O&M cost estimates for all the treatment alternatives are presented in Appendix F. The 22-year life cycle cost estimates for all alternatives were calculated based on the estimated capital and O&M costs, and assume a discount rate of 0.5% and a useful life of 22 years.

Table 7-18: Overall 22-Year Life Cycle Cost Estimates for Alternatives

	Estimated Capital Cost	Estimated Annual O&M Cost	Estimated 22-Year Life Cycle Cost	Estimated 22-Year Life Cycle Cost by County[(1)]
Alternative 1: Biolac at Corrections Facility	$24,521,000 ($24,476,000 by County)[(1)]	$306,200 ($206,685 by County)[(1)]	$30,840,000	$20,817,000 [(1)]
Alternative 2a: Aeromod at New Lot in Sekiu: Sekiu Flows Only w/ Add'l New Aeromod at Clallam Bay	$42,485,000	$473,900	$52,335,000	$52,335,000
Alternative 2b: Aeromod at New Lot in Sekiu: Sekiu + Corrections Center Flows w/ Add'l New Aeromod at Clallam Bay	$44,327,000 ($31,745,000 by County)[(1)]	$490,900 ($343,200 by County)[(1)]	$54,529,000	$34,085,000 [(1)]
Alternative 2c: Aeromod at New Lot in Sekiu: Sekiu + Clallam Bay Flows	$33,916,000	$329,100	$40,756,000	$40,756,000
Alternative 2d: Aeromod at New Lot in Sekiu: Sekiu + Clallam Bay + Corrections Center Flows	$35,656,000 ($24,067,000 by County)[(1)]	$371,600 ($250,800 by County)[(1)]	$43,379,000	$29,281,000 [(1)]
Alternative 3a: Aeromod at Existing Sekiu WWTP: Sekiu Flows Only w/ Add'l New Aeromod at Clallam Bay	$29,769,000	$473,900	$39,618,000	$39,618,000
Alternative 3b: Aeromod at Existing Sekiu WWTP: Sekiu + Corrections Center Flows w/ Add'l New Aeromod at Clallam Bay	$31,436,000 ($24,268,000 by County)[(1)]	$490,900 ($343,200 by County)[(1)]	$41,639,000	$28,671,000 [(1)]
Alternative 3c: Aeromod at Existing Sekiu WWTP: Sekiu + Clallam Bay Flows	$23,997,000	$329,100	$29,837,000	$29,837,000
Alternative 3d: Aeromod at Existing Sekiu WWTP: Sekiu + Clallam Bay + Corrections Center Flows	$24,563,000 ($16,717,000 by County)[(1)]	$371,600 ($250,800 by County)[(1)]	$32,286,000	$21,793,000 [(1)]
Alternative 4: Aeromod at Corrections Facility	$37,845,000 ($25,545,000 by County)[(1)]	$371,600 ($250,830 by County)[(1)]	$45,568,000	$30,759,000 [(1)]

[(1)] Options that include flows from the Clallam Bay Corrections Center assume costs for the treatment plant costs will be shared between the County and the Corrections Center based on the fraction of the max month flow coming from the Corrections Center versus the total max month design flow of the Sekiu treatment plant. Actual distribution of costs will require coordination with Corrections Center.

8.0 - CAPITAL IMPROVEMENT PROGRAM

The purpose of this section is to evaluate, identify and describe the recommended improvements to the existing sewer collection and wastewater treatment facilities. Improvements of this section will consist of site improvements and selection of the recommended treatment alternative. The goal of alternative evaluation is to select an alternative that is cost-effective, reliable, low maintenance, fits within site constraints, and has effective treatment and capacity for current and future flows and loadings.

The County has developed 6-year and 20-year capital improvement plans (CIP), which are included in Appendix D. The CIP includes the anticipated project schedule and estimated project costs based on the recommended treatment alternative. It should be noted that the Capital Improvement Plan in years 2029 – 2042 is planning level, is based on the best information available at this time, and may not include all future sewer capital projects. The CIP will continue to be financed and updated as more information becomes available. It is recommended to review and update the CIP annually.

Sewer System Capital Improvements

The recommended projects' descriptions have been updated to include rehabilitation construction methods where appropriate. Project cost estimates have also been updated to reflect the current scope, and reflect 2023 cost basis. The revised scopes and costs are included in the updated Table 6-12 and the revised detailed cost analyses for the recommended CIPs are included in Appendix F.

Lift Station Capital Improvements

The recommended projects' descriptions have been updated to include rehabilitation construction methods where appropriate. Project cost estimates have also been updated to reflect the current scope, and reflect 2023 cost basis. The revised scopes and costs are included in the updated Table 6-13 and the revised detailed cost analyses for the recommended CIPs are included in Appendix F.

Wastewater Treatment Plant Capital Improvements

WWTP Recommended Alternative

Description of Recommended System

Based on the evaluation of the treatment process alternatives, Alternative 3d, installing an Aeromod system at the existing Sekiu WWTP to treat flows from Sekiu, Clallam Bay, and the Clallam Bay Corrections Center, is recommended as the best alternative for Clallam County, provided that the County and the Corrections Center are open to combining flows and sharing costs.

Alternative 3d has the benefits of removing the Clallam Bay WWTP from the floodplain, reducing O&M costs by providing a centralized treatment plant, and reducing capital and O&M costs for the County by sharing costs with the Corrections Center. Out of all evaluated feasible alternatives, Alternative 3d is expected to have the lowest capital and O&M costs after taking into consideration cost sharing between the Corrections Center and the County.

Alternative 3c, installing an Aeromod system at the existing Sekiu WWTP to treat flows from Sekiu and Clallam Bay, is the recommended treatment process alternative in the event that the Corrections Center does not agree to combining flows and sharing costs with for the combined WWTP at Sekiu. Among the alternatives that do not include the Corrections Center, Alternative 3c has the lowest estimated construction and life cycle costs. In addition, the layout of Alternative 3c is very similar to that of Alternative 3d, so

amending the WWTP design will not be difficult if the Corrections Center decides against collaborating after the WWTP upgrade design is underway.

In the worst-case scenario, if design and construction of Alternative 3d proceed, but the partnership between the County and the Corrections Center ends up falling through, then the larger Aeromod system will still be sufficient to treat flows from Clallam Bay and Sekiu. The Aeromod system consists of two parallel process trains, so the treatment process could be reduced to one train if, with the second train potentially providing flow equalization.

The process is fundamentally an extended-aeration activated sludge process and thus is effective at treating variable flow and waste loads. The process contains typical characteristics of extended-aeration systems, including long hydraulic and solids retention times, high microorganism concentration, and low food:microorganism ratio (F/M). Primary clarification is unnecessary and would not be utilized. The treatment process consists of an anoxic selector tank, two stages of aeration basins, two clarifier tanks, and one aerobic digester tank, and can achieve denitrification by biological means to meet the anticipated future effluent limits.

A flow schematic for the recommended alternative is included in Appendix A.

Future Expansion

The recommended system has been sized and will be designed to satisfy the design criteria presented in Chapter 7.0 in Tables 7-9 and 7-10, which are based on projected 2046 flows. If future expansion becomes necessary, it may be possible to construct additional basins within the existing Sekiu WWTP.

Redundancy

The recommended treatment plant improvements will meet all reliability and redundancy requirements for a Class II WWTP as defined by Ecology in the DOE Orange Book Table G2-9. The proposed treatment system will provide two parallel trains of aeration processes.

Preliminary Schedule

Discussions with the Corrections Center	May 2025 – May 2026
Design Funding – Apply for Grants / Loans	July – September 2025
First Draft Notification of Funding Received:	January 2026
Notification of Design Funding Received:	July 2026
Design Phase[1]:	July 2026 – May 2028
Ecology Design Review:	April – September 2028
Const. Funding - Apply for Grants / Loans:	October 2028
Notification of Const. Funding Received:	July 2029
Bid Phase:	October – November 2029
Construction Phase[1]:	January 2030 – June 2031 (18 months)

[1] Start of phase could shift depending on the availability of interim financing, which would be reimbursed, for any work done before funding agreement is finalized.

Future Nutrient Effluent Limits

It is our understanding that a future Total Inorganic Nitrogen (TIN) effluent limit may be required for all plants discharging to the Salish Sea. At this time, the Department of Ecology has not provided a future numeric effluent limit for the anticipated Total Inorganic Nitrogen parameter or a timeline for when this limit may go into effect.

The evaluated treatment alternatives all include the capability of denitrification. With the recommended Aeromod treatment process, a TIN effluent level below 10 mg-N/L may be achievable. If a final numeric TIN effluent limit is determined to be below 10 mg-N/L, the County intends to re-evaluate and amend this report at that time if determined to be necessary.

Outfall Improvements

No new comments.

Staffing Requirements

Based on the treatment plant classification listed in Chapter 7.0, the recommended WWTP must have at least a Group II operator in reasonable charge of daily operation. After improvements have been made, it is expected that the WWTP will be operable by two full time employees. Two full time employees are recommended only for the operations and maintenance of the wastewater treatment plant. For additional staffing will be required for operation and maintenance of the collection system. The County currently employs one Group III operator, one Group 1 operator, and one operator-in-training for the Sekiu and Clallam Bay WWTPs, so the County's current staffing will likely be sufficient for the recommended WWTP upgrade.

Biosolids Handling

An aerobic digester is included as part of the recommended Aeromod system. The biosolids will continue to be hauled to the Port Angeles WWTP. It is anticipated that the solids from the recommended WWTP would be removed from the digester roughly twice a week in a 6,000-gallon septic truck, and it is expected that biosolids hauling costs would be shared between the County and the Corrections Center. Historical costs and estimated future costs at the projected 2046 average day flow for biosolids removal from the digester are estimated in Table 8-1 below.

Table 8-1: Biosolids Handling Costs

	Clallam County (Sekiu and Clallam Bay) 2020 Biosolids Costs	**Clallam County (Sekiu and Clallam Bay) 2021 Biosolids Costs**	**Sekiu, Clallam Bay, and Corrections Center Biosolids at Future 2046 Average Day Flow**
Estimated Volume Wasted from Digester	279 GPD	312 GPD	1550 GPD
Hauling & Tipping Fees	$1,435/trip (6,000 gallons/trip)	$1,435/trip (6,000 gallons/trip)	$1,435/trip [(1)] (6,000 gallons/trip)
Total Annual Costs	$24,395	$27,265	$135,309 ($91,333 by County)

[(1)] Costs are in 2023 dollars.

Construction Phasing

Phasing of construction will be necessary to ensure proper treatment through the existing Sekiu WWTP during construction. Permit condition S5.C will be met as required. A proposed phasing schedule is outlined below.

1. Upgrade the existing headworks.
    a. Temporary manual bypass screens can be used to provide screening for the Sekiu WWTP during new headworks installation.
2. Construct the recommended Aeromod system upgrades (including SCADA programming and the majority of process piping).
    a. Continue existing plant operations at Sekiu, Clallam Bay, and the Corrections Center during construction.
3. Install all necessary lift stations and force mains to send Clallam Bay and Corrections Center flows to the existing Sekiu WWTP.
    a. Once Aeromod system, new lift stations, and new force mains have been tested, tie-ins can be completed to start operation of the new Aeromod system with flow from Sekiu, Clallam Bay, and Corrections Center.
    b. Temporary piping will connect the new headworks to the new Aeromod system until existing basins are converted to equalization.
4. Convert the existing RBC and digester basins to an equalization basin.
    a. Once completed and tested, the Equalization Basin can be tied in to the treatment plant.
5. Existing UV disinfection system can be upgraded.
    a. Equalization Basin can help alleviate the need for temporary facilities during the switchover from the old UV system to the new system.

Remaining improvements are not process sensitive and can happen on a typical construction schedule.

WWTP Upgrade Costs

Table 8-2 below provides a summary of the estimated construction and O&M costs for the recommended WWTP Alternative 3d, including the portion of cost to be borne by the County.

Table 8-2: Cost Summary for Recommended WWTP Upgrade

Estimated Capital Cost	Estimated Annual O&M Cost	Estimated 22-Year Life Cycle Cost	Estimated 22-Year Life Cycle Cost by County[(1)]
$24,563,000 ($16,717,000 by County)[(1)]	$371,600 ($250,800 by County)[(1)]	$32,286,000	$21,793,000 [(1)]

[(1)] Estimated costs by the County have been assumed to be shared between the County and the Corrections Center based on the fraction of the max month flow coming from the Corrections Center versus the total max month design flow of the Sekiu treatment plant.

Capital Improvements Plan Schedule

The 6 and 20-year Capital Improvements Plan Schedules have been updated and are included in Appendix D.

9.0 - FINANCIAL ANALYSIS

Introduction

This financial analysis includes a spreadsheet analysis of the sewer budget over the coming years but focusing primarily on the 6-year CIP costs. The primary objective of this analysis is to provide a basic evaluation of the financial capacity of the sewer utility and spreadsheet tools for investigating CIP and funding options going forward.

Funding Options

The main funding options for the Sekiu and Clallam Bay projects are listed below. Funding options are often dependent upon the stage of planning and construction the project is in, the financial hardship of the community the WWTPs are serving and the overall demonstrated need of the project. Please reference the funding table in Appendix C.

Department of Ecology – CWSRF

The Integrated Water Quality Funding program is the DOE's application process for funding utilizing the State Revolving Fund (SRF). Loan interest rates depend on the loan term and up to $150,000,000 is available statewide. Communities that qualify for hardship status are eligible for up to $5,000,000 in grants/loan forgiveness (Please see Table 9-7). Applicants can apply for planning, design or construction funding.

The DOE application opens annually in August and applicants hear about funding awards in January of the following year.

Please reference page 9-8 in the GP.

USDA – Rural Development – Water and Waste Disposal Loans and Grants

The USDA Rural Development (RD) loans and grants are federal funds distributed by the USDA on an as-available basis. Funds may be used for planning, design and construction and may be back dated. The application is open year-round and the processing time for applications is dependent upon the application.

Please reference page 9-9 in the GP.

Department of Commerce – Community Development Block Grant

Per the 2021 General Purpose Grant Overview, the "Community Development Block Grant is a state administered federal grant that funds eligible local governments for community development projects principally benefiting low- and moderate-income persons." Eligibility for CDBG is dependent on the percentage of low- and moderate-income (LMI) people in the affected community (greater than 51%). According to the 2019 HUD LMI Data Clallam Bay has an LMI of 77.6%, which qualifies it for the CDBG grant funding, but the community of Sekiu does not have a listed LMI. A survey may need to be completed to determine eligibility. Construction awards up to $900,000 are available.

The CDBG application opens annually in the spring and is due in early June. Applicants hear about awards in September of the same year. Funds cannot be back dated for design and applicants are subject to "choice limiting actions" clause, which limits activities such as property acquisition, clearing, grading, site prep, construction contract awarding etc.

Please reference page 9-8 in the GP.

Rural Community Assistance Corporation

Rural Community Assistance Corporation (RCAC) helps small communities with loans for smaller capital needs projects, such as surveys or small improvements. Applications are available year-round.

Financial Status of Existing Clallam Bay – Sekiu Wastewater Treatment Plant

Revenues

Existing revenues are insufficient to maintain, operate and improve the sewer system. The County supplements rate payer fees with funds (about $200,000 per year), provided from the General Fund and from REET, in order to cover all operating expenses.

Connection Fee Calculation Estimate

The sewer system replacement value is a minimum of $40 million based on the CIP alone. Using this low value and an estimated 658 total connections (ERU) for 2040, the value per ERU is a minimum of $62,000. Therefore, the Connection Fee (or General Facility Charge) should be increased from $1500 to a much higher fee. A fee in the range of $5,000 to $10,000 would be comparable to other many other sewer systems.

Projected Expenses, Revenues, and Capital Reserves

Expenses

Operating expenses are expected to increase at the pace of inflation or faster. The major added expense over the next 20-30 years will be funding the Capital Improvement Program (CIP).

Revenues

Revenues need to be increased:

1. Increase Sewer Rates for all customers.
2. Increase number of paying customers.
3. Increase Connection Fees for all customers.
4. Ensure new developments pay appropriate Impact Fee.

Capital reserves

The county currently provides funds to cover operating expense shortfalls. Funding the CIP is the higher priority over establishing a capital reserve fund.

Capital Improvement Financing

Public financing will be required for all capital improvement projects.

There are currently no funds available to pay the debt service on the 6-year CIP.

The anticipated debt service (assuming loans with **20-year** term at **1.2%** and no grants) would be approximately **$2,000,000** per year after completing the 6-year CIP list.

The anticipated debt service (assuming loans with **30-year** term at **1.6%** and no grants) would be approximately **$1,500,000** per year after completing the 6-year CIP list.

The anticipated debt service (assuming 50% grants and 50% loans, **30-year** term at **1.6%**) would be approximately **$750,000** per year after completing the 6-year CIP list.

The anticipated debt service (assuming 75% grants and 25% loans, **30-year** term at **1.6%**) would be approximately **$375,000** per year after completing the 6-year CIP list.

(this analysis does not include obtaining loans or ither fund from which to make debt payments)

Recommendations:

Increase sewer rates to a level at which SRF forgivable principal loan funding would be available (moderate hardship level: sewer rates = 2% of MHI). Sewer rates for Clallam Bay (MHI = $35,600) are already near this level. The MHI for Sekiu has not yet been determined; however, using Clallam County MHI ($48,000) as a stand in for Sekiu MHI, the sewer rates would need to be about $80-$90 per month for Sekiu. The combined rate for both communities should be near $75 per month.

Continue to pursue Centennial Funding grants and other grants to fund the CIP.

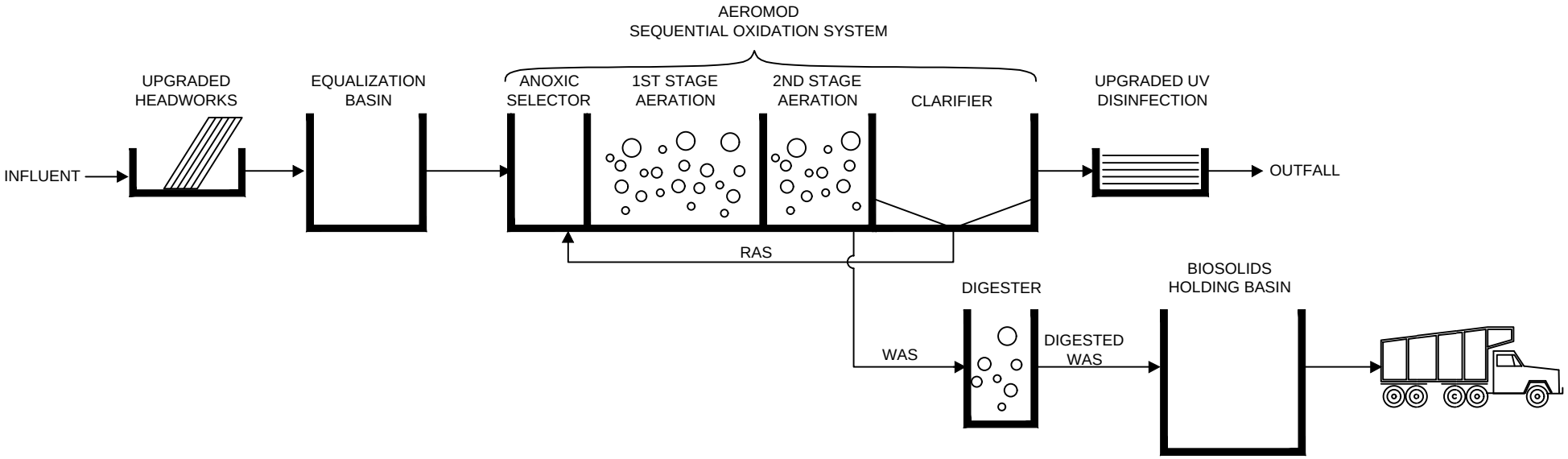
Public Financing Sources

Public financing will be required for all capital improvement projects.

Maximize grant funding acquisition for CIP financing due to insufficient capacity to service added debt.

APPENDIX A – FIGURES AND MAPS

Process Flow Schematic for Recommended WWTP Upgrade



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CLALLAM COUNTY

CLALLAM COUNTY WASHINGTON

FIGURE X-X: ALTERNATIVE 3d PROCESS FLOW DIAGRAM
AEROMOD SEQUENTIAL OXIDATION PROCESS CONVERSION

DATE	SHEET
1-17-2023	1
SCALE	OF
AS SHOWN	1
JOB NO.	
2021-044	

APPENDIX B – ALTERNATIVES EXHIBITS

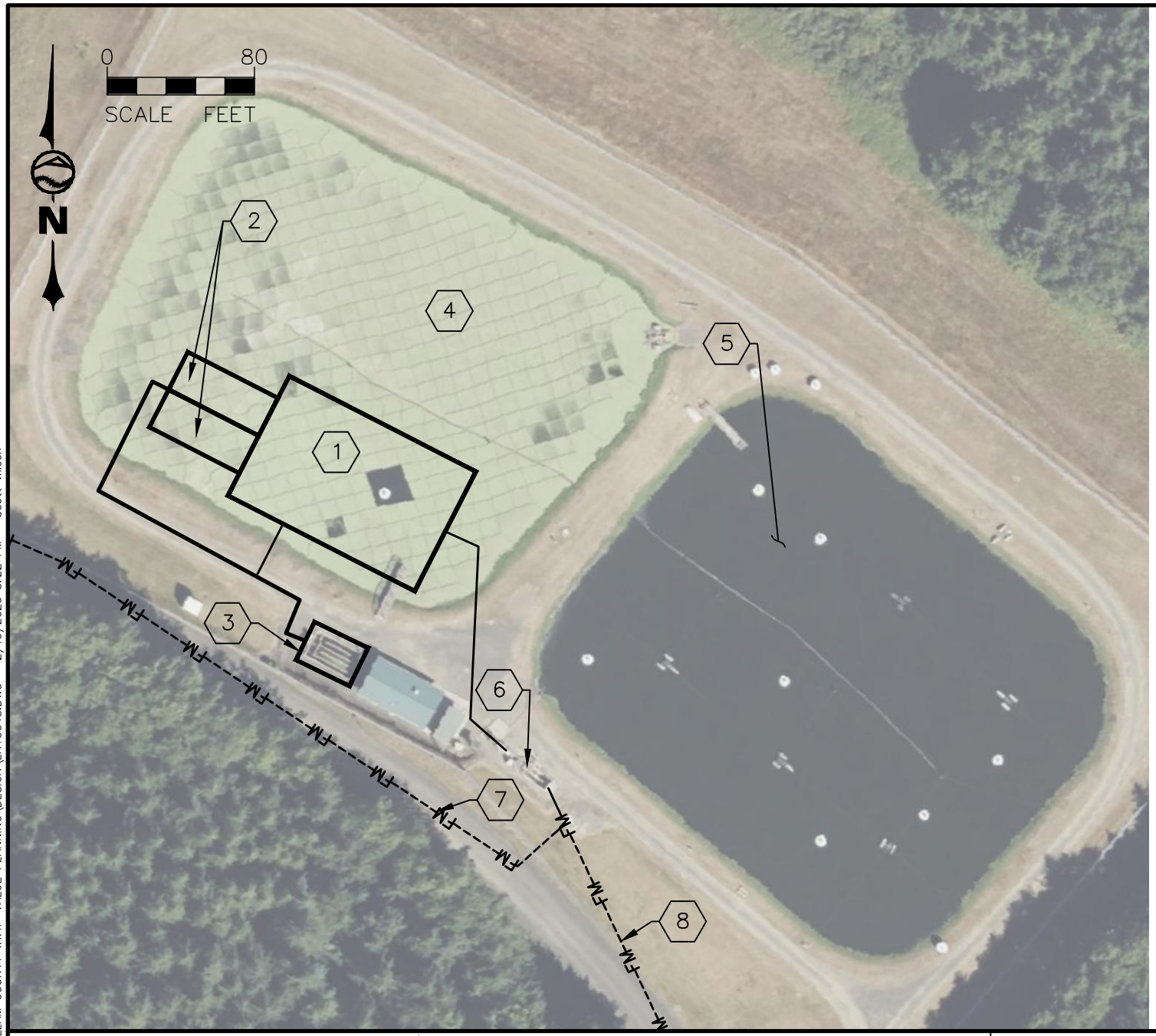
Alternative 1 – Biolac at Corrections Center

Alternative 2 – Aeromod at New Lot in Sekiu (Flow Options A-D)

Alternative 3 – Aeromod at Sekiu WWTP (Flow Options A-D)

Alternative 4 – Aeromod at Corrections Center

Aeromod at Clallam Bay WWTP (Accompanies 2A, 2B, 3A, and 3B)



ALTERNATIVE 1 KEYED NOTES:

1. NEW BIOLAC TREATMENT SYSTEM
2. INTEGRAL CLARIFIERS
3. REPLACE EXISTING CHLORINE CONTACT WITH UV DISINFECTION
4. REMAINING LAGOON AREA CONVERTED TO EQUALIZATION
5. SECOND LAGOON CONVERTED TO BIOSOLIDS STORAGE BASIN.
6. UPGRADE HEADWORKS
7. NEW FORCE MAIN FROM SEKIU
8. NEW FORCE MAIN FROM CLALLAM BAY

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CLALLAM COUNTY WASHINGTON

ALTERNATIVE 1

BIOLAC TREATMENT SYSTEM AT CORRECTIONS CENTER

DATE	SHEET
1-17-23	1
SCALE	OF
AS SHOWN	1
JOB NO.	
2021-044	

ALTERNATIVES 2a–2d KEYED NOTES:

1. FLOW OPTION 2A – AEROMOD SYSTEM FOR SEKIU FLOWS ONLY
2. FLOW OPTION 2B – AEROMOD SYSTEM FOR SEKIU AND CORRECTIONS CENTER FLOWS
3. FLOW OPTION 2C – AEROMOD SYSTEM FOR SEKIU AND CLALLAM BAY FLOWS
4. FLOW OPTION 2D – AEROMOD SYSTEM FOR SEKIU, CLALLAM BAY, AND CORRECTIONS CENTER FLOWS
5. NEW HEADWORKS
6. NEW EQUALIZATION BASIN
7. NEW OPERATIONS BUILDING W/ BLOWERS, LAB, & UV DISINFECTION
8. BIOSOLIDS STORAGE TANK
9. NEW INFLUENT FORCEMAIN

0 100
SCALE FEET

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CLALLAM COUNTY	DATE 1-17-23	SHEET 1
CLALLAM COUNTY WASHINGTON	SCALE AS SHOWN	OF
ALTERNATIVE 2a-2d AEROMOD TREATMENT SYSTEM AT NEW LOT IN SEKIU	JOB NO. 2021-044	1

ALTERNATIVES 3a–3d KEYED NOTES:

1. FLOW OPTION 3A – AEROMOD SYSTEM FOR SEKIU FLOWS ONLY
2. FLOW OPTION 3B – AEROMOD SYSTEM FOR SEKIU AND CORRECTIONS CENTER FLOWS
3. FLOW OPTION 3C – AEROMOD SYSTEM FOR SEKIU AND CLALLAM BAY FLOWS
4. FLOW OPTION 3D – AEROMOD SYSTEM FOR SEKIU, CLALLAM BAY, AND CORRECTIONS CENTER FLOWS
5. UPGRADE OR REPLACE HEADWORKS
6. CONVERT EXISTING BASINS TO EQUALIZATION BASIN
7. UPGRADE EXISTING UV DISINFECTION
8. BIOSOLIDS STORAGE TANK
9. NEW OPERATIONS BLDG

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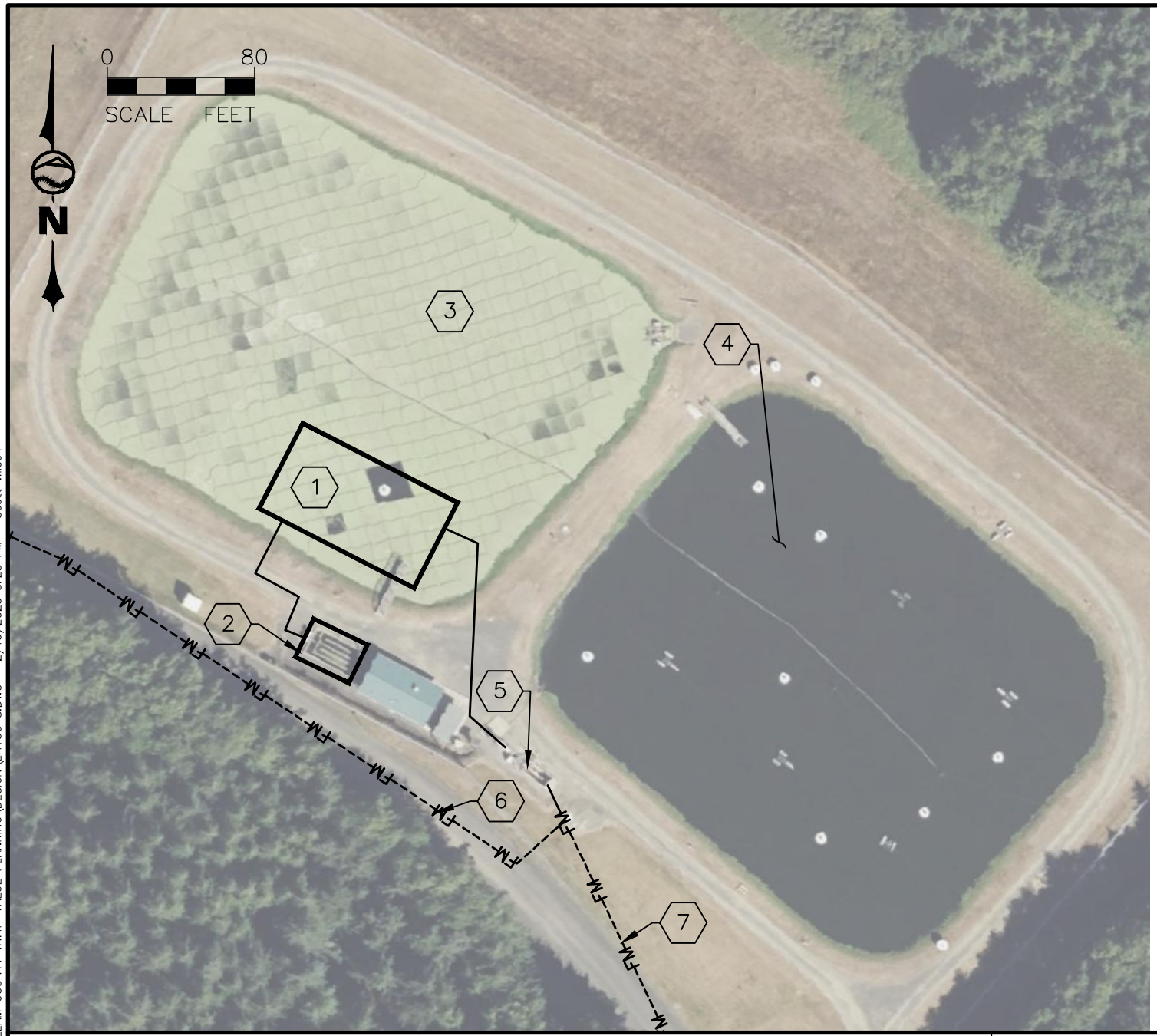
CLALLAM COUNTY

CLALLAM COUNTY WASHINGTON

ALTERNATIVES 3A–3D
AEROMOD TREATMENT SYSTEM AT EXISTING SEKIU WWTP

DATE	SHEET
1-17-23	1
SCALE	OF
AS SHOWN	1
JOB NO.	
2021-044	



ALTERNATIVE 4 KEYED NOTES:

1. NEW AEROMOD TREATMENT SYSTEM
2. REPLACE EXISTING CHLORINE CONTACT WITH UV DISINFECTION
3. REMAINING LAGOON AREA CONVERTED TO EQUALIZATION
4. SECOND LAGOON CONVERTED TO BIOSOLIDS STORAGE BASIN.
5. UPGRADE HEADWORKS
6. NEW FORCE MAIN FROM SEKIU
7. NEW FORCE MAIN FROM CLALLAM BAY

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ALTERNATIVE 4

AEROMOD TREATMENT SYSTEM AT CORRECTIONS CENTER

DATE	SHEET
1-17-23	1
SCALE	OF
AS SHOWN	1
JOB NO.	
2021-044	

AEROMOD AT CLALLAM BAY KEYED NOTES:

1. AEROMOD SYSTEM FOR CLALLAM BAY FLOWS
2. UPGRADE EXISTING HEADWORKS
3. CONVERT EXISTING PRIMARY CLARIFIER TO EQUALIZATION BASIN
4. UPGRADE UV SYSTEM
5. UPGRADE EXISTING DIGESTERS

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SCALE FEET

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AEROMOD TREATMENT SYSTEM AT EXISTING CLALLAM BAY WWTP

DATE	SHEET
1-17-23	1
SCALE	OF
AS SHOWN	1
JOB NO.	
2021-044	

APPENDIX C – SUMMARY OF GRANT & LOAN PROGRAMS

Funding Programs for Drinking Water and Wastewater Projects

Updated 9-17-2024

You can find the latest version of this document at http://www.infrafunding.wa.gov/resources.html

Please contact Amie Smith at amie.smith@commerce.wa.gov if you would like to update your program information

PLANNING **Programs**	**Eligible Projects**	**Eligible Applicants**	**Funding Available**	**How To Apply**
DWSRF Drinking Water State Revolving Fund Planning and Engineering Loans Department of Health	Preparation of planning documents, engineering reports, construction documents, permits, cultural reports, environmental reports. Potential for grant subsidy for disadvantaged communities or those with high affordability rates.	Group A (private and publicly-owned) community and not-for-profit non-community water systems, but not federal or state-owned systems. Small systems serving fewer than 10,000 people.	Loan: $500,000 maximum per jurisdiction 0% annual interest rate 2% loan service fee 2-year time of performance 10-year repayment period	On-line applications accepted year-round until funding exhausted. Approximately $3 million available to award each year. **Contact:** Jocelyne Gray 564-669-4893 Jocelyne.gray@doh.wa.gov For information and forms visit: http://www.doh.wa.gov/DWSRF
DWSRF Drinking Water State Revolving Fund Consolidation Grant Department of Health	Development of a feasibility study, engineering evaluation, design of a infrastructure project to consolidated one or more Group A water systems	Group A not-for-profit community water system, county, city, public utility district, or water district in Washington State Tribal systems are eligible provided the project is not receiving other national set-aside funding for the project.	Grant: Up to $50,000 per project Minimum of $10,000 2-year time of performance	Online applications accepted year round until funding exhausted. **Contact:** Jocelyne Gray 564-669-4893 Jocelyne.gray@doh.wa.gov For information and forms visit: http://www.doh.wa.gov/DWSRF
DWSRF Drinking Water State Revolving Fund Lead Service Line Inventory Loan Department of Health	Develop lead service line inventory. Can include creating or updating a planning document. There is principal forgiveness for disadvantaged communities.	Group A (private and publicly-owned) community and not-for-profit non-community water systems, but not federal or state-owned systems.	Loan: Minimum $25,000 No maximum 0% annual interest rate 2% loan service fee 2-year time of performance 10-year repayment period First come, first served based on application submittal date.	Online applications available and accepted October 1 through November 30, 2024. **Contact:** Jocelyne Gray 564-669-4893 Jocelyne.gray@doh.wa.gov For information and forms visit: http://www.doh.wa.gov/DWSRF

PLANNING **Programs**	**Eligible Projects**	**Eligible Applicants**	**Funding Available**	**How To Apply**
DWSRF Drinking Water State Revolving Fund Drinking Water System Rehabilitation and Consolidation Grant Department of Health	<u>Rehabilitation</u> Planning and design of infrastructure to bring system into compliance. <u>Restructuring, Consolidation, Receivership Planning</u> Preconstruction to bring the water system into compliance. Purchase cost of the water system to be acquired. Establishment of a water program for any receiving city, town, or county.	<u>Rehabilitation</u> Group A water systems serving less than 10,000 people under a DOH compliance order. <u>Restructuring, Consolidation, Receivership</u> Group A publicly owned water system (city, town, county, public utility district, or water/sewer district), an approved Satellite Management Agency, or approved receiver.	Grant: Maximum $1.25 million 4-year time of performance	By invite only. **Contact:** Jocelyne Gray 564-669-4893 Jocelyne.gray@doh.wa.gov For information and forms visit: http://www.doh.wa.gov/DWSRF
SOURCE WATER PROTECTION GRANT PROGRAM Department of Health	Source water protection studies (watershed, hydrogeologic, feasibility studies). Eligible activities can lead to reducing the risk of contamination of a system's drinking water sources(s), or they can evaluate or build resiliency for a public water supply. They must contribute to better protecting one or more public water supply sources.	Non-profit Group A water systems. Local governments proposing a regional project. Project must be reasonably expected to provide long-term benefit to drinking water quality or quantity.	Grants: Funding is dependent upon project needs, but typically does not exceed $30,000.	Applications accepted anytime; grants awarded on a funds available basis. **Contact:** Deborah Johnson 253-433-4054 Deborah.Johnson@doh.wa.gov http://www.doh.wa.gov/CommunityandEnvironment/DrinkingWater/SourceWater/SourceWaterProtection.aspx Grant guidelines https://www.doh.wa.gov/Portals/1/Documents/Pubs/331-552.pdf

PLANNING **Programs**	**Eligible Projects**	**Eligible Applicants**	**Funding Available**	**How To Apply**
ECOLOGY: WATER QUALITY COMBINED FUNDING PROGRAM State Water Pollution Control Revolving Fund (SRF) Centennial Clean Water Fund Stormwater Financial Assistance Program (SFAP) Department of Ecology	Planning projects associated with publicly-owned wastewater and stormwater facilities. The integrated program also funds planning and implementation of nonpoint source pollution control activities.	Counties, cities, towns, conservation districts, or other political subdivision, municipal or quasi-municipal corporations, and federally recognized tribes	Loan: $10,000,000 reserved for preconstruction statewide Interest rates (SFY 2025) • 6-20 year loans: 1.2% • 1-5 year loans: 0.6% Preconstruction set-aside (Distressed Communities) 50% forgivable principal loan and 50% loan	Applications due October 15, 2024. **Contact:** Eliza Keeley 360-628-1976 Eliza.keeley@ecy.wa.gov https://ecology.wa.gov/About-us/How-we-operate/Grants-loans/Find-a-grant-or-loan/Water-Quality-grants-and-loans
RD PRE-DEVELOPMENT PLANNING GRANTS (PPG) U.S. Dept. of Agriculture Rural Development – Rural Utilities Service – Water and Waste Disposal Direct Loans and Grants	Water and/or sewer planning; environmental work; and other work to assist in developing an application for infrastructure improvements.	Low-income, small communities and systems serving areas under 10,000 population. Population determined by U.S. Census 2020. Income determined by the American Community Survey 2017-2021 (5-year).	Planning grant to assist in paying costs associated with developing a complete application for RD funding for a proposed project. Maximum $60,000 grant. Requires minimum 25% match.	Applications accepted year-round, on a fund-available basis. **Contact:** Koni Reynolds 360-704-7737 koni.reynolds@usda.gov http://www.rd.usda.gov/wa
RD 'SEARCH' GRANTS: SPECIAL EVALUATION ASSISTANCE FOR RURAL COMMUNITIES U.S. Dept. of Agriculture Rural Development – Rural Utilities Service – Water and Waste Disposal Direct Loans and Grants	Water and/or sewer planning; environmental work; and other work to assist in developing an application for infrastructure improvements.	Low-income, small communities and systems serving areas under 2,500 population. Population determined by U.S. Census 2020. Income determined by the American Community Survey 2017-2021 (5-year).	Maximum $30,000 grant. No match required.	Applications accepted year-round, on a fund-available basis. **Contact: :** Koni Reynolds 360-704-7737 koni.reynolds@usda.gov http://www.rd.usda.gov/wa

PLANNING **Programs**	**Eligible Projects**	**Eligible Applicants**	**Funding Available**	**How To Apply**
CERB PLANNING AND FEASIBILITY GRANTS Community Economic Revitalization Board – Project-Specific Planning Program	Project-specific feasibility and pre-development studies that advance community economic development goals for industrial sector business development.	Eligible statewide Counties, cities, towns, port districts, special districts. Federally recognized tribes Municipal corporations, quasi-municipal corporations w/ economic development purposes.	Grant: Up to $100,000 per project. Requires 20% (of total project cost) matching funds CERB is authority for funding approvals.	Applications accepted year-round. The Board meets six times a year. **Contact:** Janea Stark 360-252-0812 janea.stark@commerce.wa.gov
RCAC Rural Community Assistance Corporation Feasibility and Pre-Development Loans	Water, wastewater, stormwater, and solid waste planning; environmental work; and other work to assist in developing an application for infrastructure improvements.	Non-profit organizations, public agencies, tribes, and low-income rural communities with a 50,000 population or less, or 10,000 or less if proposed permanent financing is through USDA Rural Development.	Typically up to $50,000 for feasibility loan. Typically up to $350,000 for pre-development loan. Typically up to a 1-year term. 5.5% interest rate. 1% loan fee.	Applications accepted anytime. **Contact**: Jessica Scott 719-458-5460 jscott@rcac.org Applications available online at http://www.rcac.org/lending/environmental-loans/
Economic Development Administration (EDA) United States Department of Commerce **EDA Public Works & Economic Adjustment Assistance Program:** Planning, Feasibility Studies, Preliminary Engineering Reports, Environmental Consultation for distressed and disaster communities.	Drinking water infrastructure; including pre-distribution conveyance, withdrawal/harvest (i.e. well extraction), storage facilities, treatment and distribution. Waste water infrastructure; including conveyance, treatment facilities, discharge infrastructure and water recycling.	Indian Tribes; state, county, city, or other political subdivisions of a state; institutions of higher education; public or private non-profit organizations or associations acting in cooperation with officials of a political subdivision of a State	Grants: EDA investment share up to $500,000 Cost sharing required from applicant Standard grant rate of 50% of total project cost and up to 80%. o Up to 100% for Tribal Nations	Submit application through EDA Grants Management Experience "EDGE" Home (eda.gov) **Contact:** J. Wesley Cochran Economic Development Representative (206) 561-6646 jcochran@eda.gov

PLANNING **Programs**	**Eligible Projects**	**Eligible Applicants**	**Funding Available**	**How To Apply**
Public Works Board WA Department of Commerce Pre-construction program	Capital facilities planning (including small water system management plans, wastewater facility plans, transportation elements, etc.) Roads, streets and bridges, domestic water, sanitary sewer, stormwater, and solid waste/recycling/organics facilities.	Counties, cities, special purpose districts, and quasi-municipal organizations that meet certain requirements. Ineligible applicants: school districts, port districts, and tribes, per statute.	Pre-construction awarded quarterly until funds are exhausted. Up $1,000,000 per project. FY25 interest rate: 0.86%. 5 year loan term. Maximum award per jurisdiction per biennium across all PWB funding programs: $10 million Awards are typically 100% loans, but partial grant funding may be awarded to communities meeting Distressed or Severely Distressed criteria.	**Contact:** Sheila Richardson 564-999-1927 Sheila.richardson@commerce.wa.gov Check the Public Works Board website periodically at http://www.pwb.wa.gov to obtain the latest information on program details or to contact Public Works Board staff.

PRECONSTRUCTION ONLY Programs	Eligible Projects	Eligible Applicants	Funding Available	How To Apply
ECOLOGY: WATER QUALITY COMBINED FUNDING PROGRAM State Water Pollution Control Revolving Fund (SRF) Centennial Clean Water Fund Stormwater Financial Assistance Program (SFAP)	Design projects associated with publicly-owned wastewater and stormwater facilities. The integrated program also funds planning and implementation of nonpoint source pollution control activities.	Counties, cities, towns, conservation districts, or other political subdivision, municipal or quasi-municipal corporations, and federally recognized tribes. Stormwater Financial Assistance Program (SFAP) is limited to cities, counties, and public ports.	Loan: $10,000,000 reserved for preconstruction statewide Interest rates (SFY 2025) • 6-20 year loans: 1.2% • 1-5 year loans: 0.6% Preconstruction set-aside (Distressed Communities) 50% forgivable principal loan and 50% loan	Applications due October 15, 2024. A cost effectiveness analysis must be complete at the time of application. **Contact:** Eliza Keeley 360-628-1976 Eliza.keeley@ecy.wa.gov https://ecology.wa.gov/About-us/How-we-operate/Grants-loans/Find-a-grant-or-loan/Water-Quality-grants-and-loans
Public Works Board PWB PRE-CON WA Department of Commerce Pre-Construction Program	Pre-construction activities to bring projects to a higher degree of readiness that prepare a specific project for construction. Roads, streets and bridges, domestic water, sanitary sewer, stormwater, and solid waste/recycling/organics facilities.	Counties, cities, special purpose districts, and quasi-municipal organizations that meet certain requirements. Ineligible applicants: school districts, port districts, and tribes, per statute.	Pre-construction awarded quarterly until funds are exhausted. Up $1,000,000 per project. FY25 interest rate: 0.86%. 5 year loan term. Maximum award per jurisdiction per biennium across all PWB funding programs: $10 million Awards are typically 100% loans, but partial grant funding may be awarded to communities meeting Distressed or Severely Distressed criteria.	**Contact:** Sheila Richardson 564-999-1927 Sheila.richardson@commerce.wa.gov Check the Public Works Board website periodically at http://www.pwb.wa.gov to obtain the latest information on program details or to contact Public Works Board staff.

PRECONSTRUCTION ONLY Programs	Eligible Projects	Eligible Applicants	Funding Available	How To Apply
RCAC Rural Community Assistance Corporation Feasibility and Pre-Development Loans	Water, wastewater, stormwater, or solid waste planning; environmental work; and other work to assist in developing an application for infrastructure improvements.	Non-profit organizations, public agencies, tribes, and low-income rural communities with a 50,000 population or less, or 10,000 or less if proposed permanent financing is through USDA Rural Development.	Typically up to $50,000 for feasibility loan. Typically up to $350,000 for pre-development loan. Typically a 1-year term. 5.5% interest rate. 1% loan fee.	Applications accepted anytime. **Contact**: Jessica Scott 719-458-5460 jscott@rcac.org Applications available online at http://www.rcac.org/lending/environmental-loans/
Economic Development Administration (EDA) United States Department of Commerce **EDA Public Works & Economic Adjustment Assistance Program:** Design and/or Construction for distressed and disaster communities.	Drinking water infrastructure; including pre-distribution conveyance, withdrawal/harvest (i.e. well extraction), storage facilities, treatment and distribution. Waste water infrastructure; including conveyance, treatment facilities, discharge infrastructure and water recycling.	Indian Tribes; state, county, city, or other political subdivisions of a state; institutions of higher education; public or private non-profit organizations or associations acting in cooperation with officials of a political subdivision of a State.	Grants: EDA investment share up to $500,000 Cost sharing required from applicant Standard grant rate is 50% of total project cost, and up to 80%. ○ Up to 100% for Tribal Nations	Submit application through EDA Grants Management Experience "EDGE" Home (eda.gov) **Contact:** J. Wesley Cochran Economic Development Representative (206) 561-6646 jcochran@eda.gov

CONSTRUCTION AND DESIGN/CONSTRUCTION Programs	Eligible Projects	Eligible Applicants	Funding Available	How To Apply
DWSRF Drinking Water State Revolving Fund Construction Loan Program Department of Health	Drinking water system infrastructure projects aimed at increasing public health protection. There is principal forgiveness for disadvantaged communities.	Group A (private and publicly-owned) community and not-for-profit non-community water systems, but not federal or state-owned systems. Tribal systems are eligible provided the project is not receiving other national set-aside funding for the project.	Loan: Maximum $15 million per jurisdiction. 2.25% annual interest rate (Final rate is set September 1, 2024). 1.0% loan service fee (water systems receiving subsidy are not subject to loan fees). 4-year time of performance, encouraged 2-year time of performance Loan repayment period: 20 years or life of the project, whichever is less. No local match required.	Online applications available and accepted year-round. Applications due November 30, 2024. **Contact:** Jocelyne Gray 564-669-4893 Jocelyne.gray@doh.wa.gov For information and forms visit: http://www.doh.wa.gov/DWSRF
DWSRF Drinking Water State Revolving Fund Lead Service Line (LSL) Replacement Loan Department of Health	Lead service line replacement. Galvanized service lines to be replaced per Lead and Copper Rule. Service water meters older than 1986 lead ban, as part of LSL replacement. There is principal forgiveness for disadvantaged communities.	Group A (private and publicly-owned) community and not-for-profit non-community water systems, but not federal or state-owned systems. Tribal systems are eligible provided the project is not receiving other national set-aside funding for the project.	Loan: Minimum $25,000 No maximum 2.25% annual interest rate (Final rate is set September 1, 2024). 1% loan service fee (water systems receiving subsidy are not subject to loan fees) 4-year time of performance, encouraged 2-year time of performance 20-year repayment period	Online applications available and accepted October 1 year-round. Applications due November 30, 2024. **Contact:** Jocelyne Gray 564-669-4893 Jocelyne.gray@doh.wa.gov For information and forms visit: http://www.doh.wa.gov/DWSRF

CONSTRUCTION AND DESIGN/CONSTRUCTION Programs	Eligible Projects	Eligible Applicants	Funding Available	How To Apply
DWSRF Drinking Water State Revolving Fund Drinking Water System Rehabilitation and Consolidation Grant **Department of Health**	Rehabilitation Construction of infrastructure to bring water system into compliance. Restructuring, Consolidation, Receivership Planning Construction of infrastructure to bring water system into compliance.	Rehabilitation Group A water systems serving less than 10,000 people under a DOH compliance order. Restructuring, Consolidation, Receivership Group A publicly owned water system (city, town, county, public utility district, or water/sewer district), an approved Satellite Management Agency, or approved receiver.	Grant: Maximum $1.25 million 4-year time of performance	By invite only. **Contact:** Jocelyne Gray 564-669-4893 Jocelyne.gray@doh.wa.gov For information and forms visit: http://www.doh.wa.gov/DWSRF
ECOLOGY: Water Quality Combined Funding Program State Water Pollution Control Revolving Fund (SRF) Centennial Clean Water Fund Stormwater Financial Assistance Program (SFAP)	Construction projects associated with publicly-owned wastewater and stormwater facilities. The integrated program also funds planning and implementation of nonpoint source pollution control activities.	Counties, cities, towns, conservation districts, or other political subdivision, municipal or quasi-municipal corporations, and federally recognized tribes. Stormwater Financial Assistance Program (SFAP) is limited to cities, counties, and public ports. Hardship Assistance Jurisdictions listed above with a service area population of 25,000 or less.	Loan: $200,000,000 available statewide. Interest rates (SFY 2025) • 21-30 year loans: 1.6% • 6-20 year loans: 1.2% • 1-5 year loans: 0.6% Hardship assistance for the construction of wastewater treatment facilities may be available in the form of a reduced interest rate, and up to $5,000,000 grant or loan forgiveness. SFAP grant maximum award per jurisdiction: $10,000,000, with a required 15% match, with match reduced to 5% for hardship.	Applications due October 15, 2024. A cost effectiveness analysis must be complete at the time of application. **Contact:** Eliza Keeley 360-628-1976 Eliza.keeley@ecy.wa.gov https://ecology.wa.gov/About-us/How-we-operate/Grants-loans/Find-a-grant-or-loan/Water-Quality-grants-and-loans

CONSTRUCTION AND DESIGN/CONSTRUCTION Programs	Eligible Projects	Eligible Applicants	Funding Available	How To Apply
PWB Public Works Board Construction Program	New construction, replacement, and repair of existing infrastructure for roads, streets and bridges, domestic water, sanitary sewer, stormwater, and solid waste/recycling/organics.	Counties, cities, special purpose districts, and quasi-municipal organizations. Ineligible applicants: school districts, port districts, and tribes, per statute.	FY26 Cycle: Pending appropriation FY25 interest rate: 1.71%. Loan term 20 years. Maximum award per jurisdiction per biennium across all PWB funding programs: $10 million Maximum project award: $10 million per jurisdiction per biennium. Awards are typically 100% loans, but partial grant funding may be awarded to communities meeting Distressed criteria. Construction is a competitive program with two cycles per biennium.	Typically opens in Spring Contact: Sheila Richardson 564-999-1927 Sheila.richardson@commerce.wa.gov Check the Public Works Board website periodically at http://www.pwb.wa.gov to obtain the latest information on program details or to contact Public Works Board staff.

CONSTRUCTION AND DESIGN/CONSTRUCTION Programs	Eligible Projects	Eligible Applicants	Funding Available	How To Apply
RD U.S. Dept. of Agriculture Rural Development - Rural Utilities Service Water and Waste Disposal Direct Loans and Grants	Pre-construction and construction associated with building, repairing, or improving drinking water, wastewater, solid waste, and stormwater facilities.	Cities, towns, and other public bodies, tribes and private non-profit corporations serving rural areas with populations under 10,000. Population determined by U.S. Census 2020. Income determined by the American Community Survey 2017-2021 (5-year).	Loans; Grants in some cases Interest rates change quarterly; contact staff for latest interest rates. Up to 40-year loan term. No pre-payment penalty.	Applications accepted year-round on a fund-available basis. **Contact: :** Koni Reynolds 360-704-7737 koni.reynolds@usda.gov http://www.rd.usda.gov/wa
CERB Community Economic Revitalization Board Construction Program	Public facility projects required by private sector expansion and job creation. Projects must support significant job creation or significant private investment in the state. Bridges, roads and railroad spurs, domestic and industrial water, sanitary and storm sewers. Electricity, natural gas and telecommunications General purpose industrial buildings, port facilities. Acquisition, construction, repair, reconstruction, replacement, rehabilitation	Counties, cities, towns, port districts, special districts Federally-recognized tribes Municipal and quasi-municipal corporations with economic development purposes.	Maximum grant amounts: $2,000,000 for construction projects. $500,000 for housing rehabilitation programs. $250,000 for microenterprise assistance programs.	Applications accepted year-round. The Board meets six times a year. **Contact:** Janea Stark 360-252-0812 janea.stark@commerce.wa.gov

CONSTRUCTION AND DESIGN/CONSTRUCTION Programs	Eligible Projects	Eligible Applicants	Funding Available	How To Apply
CDBG-GP Community Development Block Grant General Purpose Grants	Design and construction of community facility, wastewater, drinking water, stormwater and street/sidewalk projects. Infrastructure in support of affordable housing.	Projects must principally benefit low- to moderate-income people in non-entitlement cities and counties. List and map of local governments served by state CDBG program	Maximum grant amounts: $2,000,000 for construction projects. $500,000 for housing rehabilitation programs. $250,000 for microenterprise assistance programs.	Applications accepted year-round on a fund-available basis. **Contact:** Jon Galow 509-847-5021 Jon.galow@commerce.wa.gov Visit www.commerce.wa.gov/cdbg for more information.
RCAC Rural Community Assistance Corporation Intermediate Term Loan	Water, wastewater, solid waste and stormwater facilities that primarily serve low-income rural communities.	Non-profit organizations, public agencies, tribes, and low-income rural communities with a 50,000 population or less.	Typically up to $3 million with commitment letter for permanent financing Security in permanent loan letter of conditions Term matches construction period. 5.5% interest rate 1.125% loan fee	Applications accepted anytime. **Contact**: Jessica Scott 719-458-5460 jscott@rcac.org Applications available online at http://www.rcac.org/lending/environmental-loans/
RCAC Rural Community Assistance Corporation Construction Loans	Water, wastewater, solid waste and stormwater facilities that primarily serve low-income rural communities. Can include pre-development costs.	Non-profit organizations, public agencies, tribes, and low-income rural communities with a 50,000 population or less, or 10,000 populations or less if using USDA Rural Development financing as the takeout.	2023-2025 solicitation closed 9/25/2024 Longstanding program will likely be offered in the 2025-2027 biennium. Minimum match requirements will apply. Other State funds cannot be used as match.	Applications accepted anytime. **Contact**: Jessica Scott 719-458-5460 jscott@rcac.org Applications available online at http://www.rcac.org/lending/environmental-loans/

CONSTRUCTION AND DESIGN/CONSTRUCTION Programs	Eligible Projects	Eligible Applicants	Funding Available	How To Apply
Energy Retrofits for Public Buildings Program: Energy Efficiency Grant Washington State Department of Commerce	Retrofit projects that reduce energy consumption (electricity, gas, water, etc.) and operational costs on existing facilities and related projects owned by an eligible applicant. Projects must utilize devices that do not require fossil fuels whenever possible.	Washington State public entities, such as cities, towns, local agencies, public higher education institutions, school districts, federally recognized tribal governments, and state agencies. Some percentage of funds are reserved for projects in small towns or cities with populations of 5,000 or fewer. Priority given to applicants who have not received funding previously, certain priority communities.	2023-25 solicitation closed 09/25/2024. Longstanding program will likely be offered in the 2025-27 biennium. Minimum match requirements will apply. Other State funds cannot be used as match.	**Contact:** Kristen Kalbrener 360-515-8112 energyretrofits@commerce.wa.gov For more information: https://www.commerce.wa.gov/growing-the-economy/energy/energy-efficiency-and-solar-grants/
Energy Efficiency and Conservation Block Grant Washington State Department of Commerce	Energy audits and energy conservation planning projects including financing, infrastructure, public education	Local governments (cities, counties, federally-recognized tribes) Priority for disadvantaged communities	Funding for the current biennium is depleted. Visit our website to sign up for updates. Future funding anticipated in Late Spring 2025.	**Contact:** Kristen Kalbrener 360-515-8112 energyretrofits@commerce.wa.gov
Energy Retrofits for Public Buildings: Solar Grants Washington State Department of Commerce	Purchase and installation of grid-tied solar photovoltaic (electric) arrays net metered with existing facilities owned by public entities. Additional points for 'Made in Washington' components.	Washington State public entities, such as cities, towns, local agencies, public higher education institutions, school districts, federally recognized tribal governments, and state agencies. See above.	Funding for the current biennium is depleted. Visit our website to sign up for updates. Future funding anticipated in Late Spring 2025.	**Contact:** EPICgrants@commerce.wa.gov **Visit:** https://www.commerce.wa.gov/growing-the-economy/energy/epic/clean-energy-grant-programs/ for more information.

CONSTRUCTION AND DESIGN/CONSTRUCTION Programs	Eligible Projects	Eligible Applicants	Funding Available	How To Apply
Solar plus Storage for Resilient Communities Washington State Department of Commerce	The Solar plus Storage program funds solar and battery back-up power so community buildings can provide essential services when the power goes out, including both planning and installation grants.	Local governments, State governments, Tribal governments and their affiliates, Non-profit organizations and Retail electric utilities.	Funding for the current biennium is depleted. Visit our website to sign up for updates. Future funding anticipated in Late Spring 2025.	**Contact:** EPICgrants@commerce.wa.gov **Visit:** **https://www.commerce.wa.gov/growing-the-economy/energy/epic/clean-energy-grant-programs**
Dual Use Solar **Washington State Department of Commerce**	Constructions or planning projects that will lead to the creation of mixed use solar installation. Projects should including, but are not limited to, combining solar with: animal grazing, beekeeping, pollinator habitat, or other colocation uses.	Local governments, State governments, Tribal governments and their affiliates, Non-profit organizations, for-profit organizations, and Retail electric utilities.	Grants: EDA investment share up to $5,000,000. Cost sharing required from applicant Standard grant rate is 50% of total project cost, and up to 80%. Up to 100% for Tribal Nations	**Contact:** EPICgrants@commerce.wa.gov **Visit:** **https://www.commerce.wa.gov/growing-the-economy/energy/epic/clean-energy-grant-programs/**

CONSTRUCTION AND DESIGN/CONSTRUCTION Programs	Eligible Projects	Eligible Applicants	Funding Available	How To Apply
Economic Development Administration (EDA) United States Department of Commerce **EDA Public Works & Economic Adjustment Assistance Program:** Design and/or Construction for distressed and disaster communities.	Drinking water infrastructure; including pre-distribution conveyance, withdrawal/ harvest (i.e. well extraction), storage facilities, treatment and distribution. Waste water infrastructure; including conveyance, treatment facilities, discharge infrastructure, water recycling.	Indian Tribes; state, county, city, or other political subdivisions of a state; institutions of higher education; public or private non-profit organizations or associations acting in cooperation with officials of a political subdivision of a State.	Loans may not exceed $200,000 or 75% of the total project cost, whichever is less. Applicants given credit for documented project costs prior to receiving the loan. Interest rates at the lower of the poverty or market interest rate as published by USDA RD RUS, with a minimum of 3% at time of closing. Maximum repayment period is 10 years. Additional ranking points for a shorter repayment period. The repayment period cannot exceed the useful life of the facilities.	Submit application through EDA Grants Management Experience "EDGE" Home (eda.gov) **Contact:** J. Wesley Cochran Economic Development Representative (206) 561-6646 jcochran@eda.gov
RURAL WATER REVOLVING LOAN FUND	Short-term costs incurred for replacement equipment, small scale extension of services, or other small capital projects that are not a part of regular operations and maintenance for drinking water and wastewater projects.	Public entities, including municipalities, counties, special purpose districts, Native American Tribes, and corporations not operated for profit, including cooperatives, with up to 10,000 population and rural areas with no population limits.	$55.5 million in total funds available in 2023-2025 biennium. $19.4 million specifically reserved for jurisdictions with a population of less than 150,000. $2,000,000 maximum award. Funds available as both grants and deferred loans.	Applications accepted anytime. **Contact**: Tracey Hunter Evergreen Rural Water of WA 360-462-9287 thunter@erwow.org Download application online: http://nrwa.org/initiatives/revolving-loan-fund/
Connecting Housing to Infrastructure Program (CHIP) Washington State Department of Commerce	Housing projects with at least 25% of units affordable for at least 25 years. Funding goes toward water, sewer, and stormwater infrastructure improvements for eligible projects, as well as toward system development charges and impact fees, which are waived to encourage affordable housing.	Cities, counties, and utility districts located in a jurisdiction which has a dedicated sales tax for affordable housing. The local jurisdiction will sponsor/ partner with a housing developer on the project.	$55.5 million in total funds available in 2023-2025 biennium. $19.4 million specifically reserved for jurisdictions with a population of less than 150,000. $2,000,000 maximum award. Funds available as both grants and deferred loans.	Contact: Mischa Venables 360-725-3088 Mischa.venables@commerce.wa.gov Visit www.commerce.wa.gov/CHIP

EMERGENCY Programs	Eligible Projects	Eligible Applicants	Funding Available	How To Apply
ECOLOGY Water Quality Emergency Clean Water State Revolving Funding Program	Projects that may result from a natural disaster or an immediate and emergent threat to public health due to water quality issues resulting from unforeseen or unavoidable circumstances. Water quality-related projects considered to be an environmental emergency that meets the WAC 173-98-030(27)5 definition and has received a Declaration of Emergency from the local Government.	Only available to public bodies serving a population of 10,000 or less. Counties, cities, and towns, federally recognized tribes, water and sewer districts, irrigation districts, conservation districts, local health jurisdictions, port districts, quasi-municipal corporations, Washington State institutions of higher education	Loan: $5,000,000 maximum Interest rates (SFY25): 10-year loan, 0.0-1.6%	Available year round. Contact: Eliza Keeley 360-628-1976 Eliza.keeley@ecy.wa.gov https://ecology.wa.gov/About-us/How-we-operate/Grants-loans/Find-a-grant-or-loan/Water-Quality-grants-and-loans

EMERGENCY Programs	Eligible Projects	Eligible Applicants	Funding Available	How To Apply
RD – ECWAG U.S. Dept. of Agriculture Rural Development Emergency Community Water Assistance Grants	Domestic water projects needing emergency repairs due to an incident such as: a drought; earthquake; flood; chemical spill; fire; etc. A significant decline in quantity or quality of potable water supply that was caused by an emergency.	Public bodies, tribes and private non-profit corporations serving rural areas with populations under 10,000. Population determined by U.S. Census 2020. Income determined by the American Community Survey 2017-2021 (5-year).	Grant; pending availability of funds. Water transmission line grants up to $150,000 to construct water line extensions, repair breaks or leaks in existing water distribution lines, and address related maintenance to replenish the water supply. Water source grants up to $1,000,000 for the construction of new wells, reservoirs, transmission lines, treatment plants, and/or other sources of water (water source up to and including the treatment plant).	Applications accepted year-round on a fund-available basis. **Contact:** Koni Reynolds 360-704-7737 koni.reynolds@usda.gov http://www.rd.usda.gov/wa
DWSRF Department of Health – Drinking Water State Revolving Fund Emergency Loan Program Department of Health	Will financially assist eligible communities experiencing the loss of critical drinking water services or facilities due to an emergency.	Publicly or privately owned (not-for-profit) Group A community water systems with a population of fewer than 10,000. Transient or non-transient non-community public water systems owned by a non-profit organization. Non-profit non-community water systems must submit tax-exempt documentation. Tribal systems are eligible provided the project is not receiving other national set-aside funding for the project.	Loan: Interest rate: 0%, no subsidy available Loan fee: 1.5% Loan term: 10 years $500,000 maximum award per jurisdiction. Time of performance: 2 years from contract execution to project completion date. Repayment commencing first October after contract execution.	To be considered for an emergency loan, an applicant must submit a completed emergency application package to the department. **Contact:** Jocelyne Gray 564-669-4893 Jocelyne.gray@doh.wa.gov For information and forms visit: http://www.doh.wa.gov/DWSRF

EMERGENCY Programs	Eligible Projects	Eligible Applicants	Funding Available	How To Apply
RURAL WATER REVOLVING LOAN FUND Disaster area emergency loans	Contact staff for more information on emergency loans.	Public entities, including municipalities, counties, special purpose districts, Native American Tribes, and corporations not operated for profit, including cooperatives, with up to 10,000 population and rural areas with no population limits.	90-day, no interest, disaster area emergency loans with immediate turn-around. Download application online: http://nrwa.org/initiatives/revolving-loan-fund/	Applications accepted anytime. **Contact**: Tracey Hunter Evergreen Rural Water of WA 360-462-9287 thunter@erwow.org
HAZARD MITIGATION GRANT PROGRAM FEMA/WA Emergency Management Division	Disaster risk-reduction projects and planning after a disaster declaration in the state.	Any state, tribe, county, or local jurisdiction (incl., special purpose districts) that has a current FEMA-approved hazard mitigation plan.	Varies depending on the level of disaster, but projects only need to compete at the state level. Local jurisdiction cost-share: 12.5%	Applications will be opened after a disaster declaration. **Contact**: Tim Cook State Hazard Mitigation Officer 253-512-7072 Tim.cook@mil.wa.gov
PUBLIC ASSISTANCE PROGRAM FEMA/WA Emergency Management Division	Construction, repair to, and restoration of publicly owned facilities damaged during a disaster. Debris-removal, life-saving measures, and restoration of public infrastructure.	State, tribes, counties, and local jurisdictions directly affected by the disaster.	Varies depending on the level of disaster and total damage caused.	Applications are opened after disaster declaration. **Contact:** Gary Urbas Public Assistance Project Manager 253-512-7402 Gary.urbas@mil.wa.gov
WASHINGTON STATE DEPARTMENT OF COMMERCE ERR - Emergency Rapid Response	Projects that provide continuity of essential community services/ lifelines that become diminished during an emergency and recovery assistance after an emergency event. Projects that restore service for a limited duration or through a temporary measure. These funds are not designated for long term recovery costs associated with the full re-establishment of lifeline services.	Tribes and local governments	Grant; pending availability of funds $5,000,000- $6,000,000 Period of performance state fiscal year July-June	Applications accepted year-round until funding exhausted. $5.5 to 6 million available to award each year. **Contact:** Nicole Patrick 206-713-6997 Nicole.patrick@commerce.wa.gov For information and application visit: EmergencyRapidResponse or https://deptofcommerce.box.com/s/skmab4hq3l4z55jazzc7qlsmbrsgermv

APPENDIX D – CAPITAL IMPROVEMENT PLAN

6-Year CIP

20-Year CIP

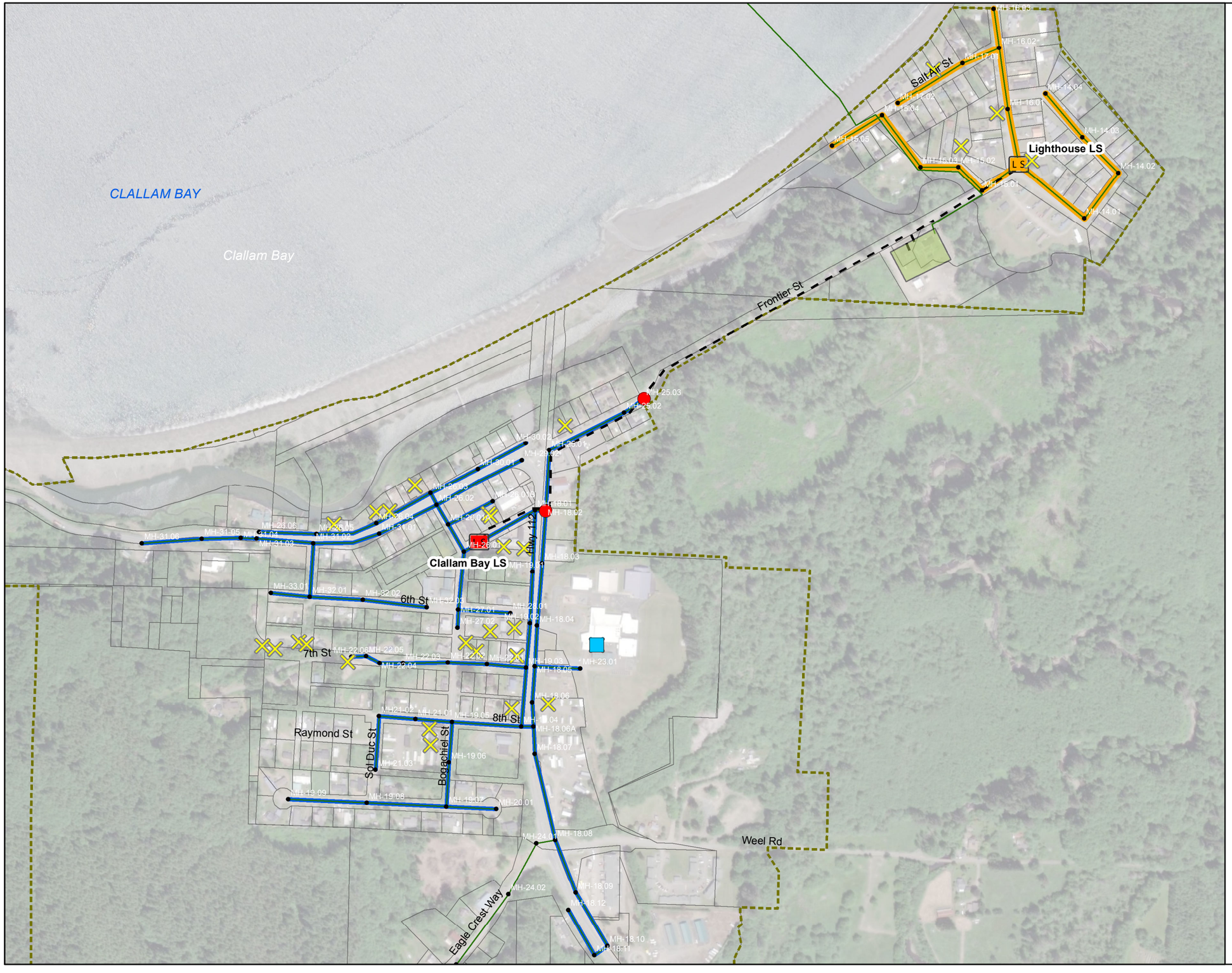
2018 Facilities Plan CIP Numbering Corrections

Fund	CIP Num	Year Scheduled	Project Name	Total	2025	2026	2027	2028	2029	2030
General										
		2027	Emergency Response Plan	$ 39,393			$ 39,393			
		Completed	Complete Sewer Comprehensive Plan Update	$ -						
			SUBTOTAL	$ 39,393	$ -	$ -	$ 39,393	$ -	$ -	$ -
Misc & Maintenance										
			Smoke Testing (test 1/4 of service area per year; cycle every 10 years)	$ 199,728	$ 47,741	$ 49,173	$ 50,648	$ 52,167		
		Annual	Sewer I&I Projects: Spot Repairs; MH grouting; MH Dishes	$ 343,117	$ 53,045	$ 54,636	$ 56,275	$ 57,964	$ 59,703	$ 61,494
			SUBTOTAL	$ 542,845	$ 100,786	$ 103,809	$ 106,923	$ 110,131	$ 59,703	$ 61,494
Sewer Lift Stations										
	CIP 14-A	2026	DESIGN: West End Lift Station Upgrades	$ 130,690		$ 130,690				
	CIP 14-B	2028	CONSTRUCTION: West End Lift Station Upgrades	$ 762,455				$ 762,455		
	CIP 15R-A	Completed	DESIGN: Middle Point Lift Station Upgrades - Revise/Reroute	$ -						
	CIP 15R-B	2025	CONSTRUCTION: Middle Point Lift Station Upgrades - Revise/Reroute	$ 627,239	$ 627,239					
	CIP 16-A	Completed	DESIGN: Snob Hill Lift Station Upgrades	$ -						
	CIP 16-B	2025	CONSTRUCTION: Snob Hill Lift Station Upgrades	$ 737,538	$ 737,538					
	CIP 17.P2-A	2026	DESIGN: Phase II - Seiku Lift Station Controls Upgrades	$ 33,110		$ 33,110				
	CIP 17.P2-B	2027	CONSTRUCTION: Phase II - Seiku Lift Station Controls Upgrades	$ 178,506			$ 178,506			
	CIP 18-A	2027	DESIGN: Olson's List Lift Station Upgrades	$ 126,957			$ 126,957			
	CIP 18-B	2028	CONSTRUCTION: Olson's Lift Lift Station Upgrades	$ 718,518				$ 718,518		
	CIP 19-A	Completed	DESIGN: Lighthouse Lift Station Upgrades	$ -						
	CIP 19-B	Completed	CONSTRUCTION: Lighthouse Lift Station Upgrades	$ -						
	CIP 19R-A	2027	DESIGN: Lighthouse Lift Station Upgrades - Revise/Reroute	$ 49,078			$ 49,078			
	CIP 19R-B	2028	CONSTRUCTION: Lighthouse Lift Station Upgrades - Revise/Reroute	$ 277,478				$ 277,478		
	CIP 20R-A	Completed	DESIGN: Clallam Bay Lift Station Upgrades - Revise/Reroute	$ -						
	CIP 20R-B	2025	CONSTRUCTION: Clallam Bay Lift Station Upgrades - Revise/Reroute	$ 481,726	$ 481,726					
			SUBTOTAL	$ 4,123,293	$ 1,846,502	$ 163,800	$ 354,541	$ 1,758,451	$ -	$ -
Sewer Collection										
	CIP 1	2026	I&I Repair Program	$ 192,648		$ 192,648				
	CIP 2	2026	Funk & Ballard Pipe Repairs	$ 65,891		$ 65,891				
	CIP 3-A	Completed	DESIGN: Snob Hill LS Basin I/I and Pipe Improvements - Phase I	$ -						
	CIP 3-B	Completed	CONSTRUCTION: Snob Hill LS Basin I/I and Pipe Improvements - Phase I	$ -						
	CIP 4-A	2028	DESIGN: Area Drain Disconnection	$ 12,288				$ 12,288		
	CIP 4-B	2029	CONSTRUCTION: Area Drain Disconnection	$ 69,733					$ 69,733	
	CIP 5-A	Completed	DESIGN: Middle Point LS Basin I/I and Pipe Improvements	$ -						
	CIP 5-B	2026	CONSTRUCTION: Middle Point LS Basin I/I and Pipe Improvements	$ 99,766		$ 99,766				
	CIP 6-A	Completed	DESIGN: Seiku Basin I/I Improvements - MH Rehab	$ -						
	CIP 6-B	Completed	CONSTRUCTION: Seiku Basin I/I Improvements - MH Rehab	$ -						
	CIP 7-A	Completed	DESIGN: Clallam Bay I/I Improvements - MH Rehab	$ -						
	CIP 7-B	Completed	CONSTRUCTION: Clallam Bay I/I Improvements - MH Rehab	$ -						
	CIP 8-A	Under Design	DESIGN: Seiku LS Pipe - CIPP Lining / MH Rehab	$ -						
	CIP 8-B	2027	CONSTRUCTION: Seiku LS Pipe - CIPP Lining / MH Rehab	$ 1,387,527			$ 1,387,527			
	CIP 9-A	Completed	DESIGN: Seiku Airport Rd. Pipe Replacement	$ -						
	CIP 9-B	Completed	CONSTRUCTION: Seiku Airport Rd. Pipe Replacement	$ -						
	CIP 10-A	Completed	DESIGN: Snob Hill LS Basin I/I and Pipe Improvements - Phase II; Pipe Replacement	$ -						
	CIP 10-B1	Completed	CONSTRUCTION: Snob Hill LS Basin I/I and Pipe Improvements - Phase II; Pipe Replacement (1000 ft)	$ -						
	CIP 10-B2	2026	CONSTRUCTION: Snob Hill LS Basin I/I and Pipe Improvements - Phase II; Pipe Replacement	$ 1,602,180		$ 1,602,180				
	CIP 11-A	Completed	DESIGN: West End LS Pipe Replacement	$ -						
	CIP 11-B	2026	CONSTRUCTION: West End LS Pipe Replacement	$ 709,617		$ 709,617				
	CIP 12-A	2028	DESIGN: Clallam Bay LS Pipe - 50% CIPP Lining	$ 1,155,912				$ 1,155,912		
	CIP 12-B	2029	CONSTRUCTION: Clallam Bay LS Pipe - 50% CIPP Lining	$ 6,547,944					$ 6,547,944	
	CIP 13-A	2027	DESIGN: Lighthouse LS Pipe - 50% CIPP Lining	$ 324,934			$ 324,934			
	CIP 13-B	2028	CONSTRUCTION: Lighthouse LS Pipe - 50% CIPP Lining	$ 1,840,464				$ 1,840,464		
	CIP 30-A	2026	DESIGN: Clallam Bay LS Force Main to Middle Point LS - New	$ 383,400		$ 383,400				
	CIP 30-B	2027	CONSTRUCTION: Clallam Bay LS Force Main to Middle Point LS - New	$ 2,194,219			$ 2,194,219			
	CIP 38-A	2026	DESIGN: Lighthouse LS Force Main to Clallam Bay LS - New	$ 43,370		$ 43,370				
	CIP 38-B	2027	CONSTRUCTION: Lighthouse LS Force Main to Clallam Bay LS - New	$ 245,313			$ 245,313			
			SUBTOTAL	$ 16,875,206	$ -	$ 3,096,872	$ 4,151,994	$ 3,008,664	$ 6,617,677	$ -
Wastewater Treatment Plant										
	70010a	2026	DESIGN: WWTP Upgrade (excluding associated CIPs)	$ 2,358,284		$ 597,930	$ 1,231,735	$ 528,620		
	70010b	2030	CONST: WWTP Upgrade (excluding associated CIPs)	$ 8,255,159						$ 8,255,159
			SUBTOTAL	$ 10,613,443	$ -	$ 597,930	$ 1,231,735	$ 528,620	$ -	$ 8,255,159
			GRAND TOTAL	$ 32,194,180	$ 1,947,287	$ 3,962,410	$ 5,884,585	$ 5,405,865	$ 6,677,379	$ 8,316,653

Clallam County
2031-2044 Sewer Capital Improvement Program

Adoption Date: _____
Resolution Date: _____

Fund	CIP Num	Year Scheduled	Project Name	Total	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
General																		
		5 yr	Emergency Response Plan Update (5 year cycle)	$ 169,723				$ 48,448					$ 56,165					$ 65,110
		20 yr	WWTP Facility Plan	$ 49,585										$ 49,585				
		10 yr	Sewer Comprehensive Plan Update	$ 28,515					$ 28,515									
			SUBTOTAL	$ 247,824	$ -	$ -	$ -	$ 48,448	$ 28,515	$ -	$ -	$ -	$ 56,165	$ 49,585	$ -	$ -	$ -	$ 65,110
Misc & Maintenance																		
		Annual	Smoke Testing (test 1/4 of service area per year; cycle every 10 years)	$ 284,765					$ 68,067	$ 70,109	$ 72,212	$ 74,378						
		Annual	Sewer I&I Projects: Spot Repairs; MH grouting	$ 1,082,222	$ 63,339	$ 65,239	$ 67,196	$ 69,212	$ 71,288	$ 73,427	$ 75,629	$ 77,898	$ 80,235	$ 82,642	$ 85,122	$ 87,675	$ 90,306	$ 93,015
			SUBTOTAL	$ 1,366,987	$ 63,339	$ 65,239	$ 67,196	$ 69,212	$ 139,355	$ 143,535	$ 147,841	$ 152,277	$ 80,235	$ 82,642	$ 85,122	$ 87,675	$ 90,306	$ 93,015
Sewer Pump Stations																		
				$ -														
				$ -														
				$ -														
				$ -														
				$ -														
				$ -														
			SUBTOTAL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sewer Collection																		
				$ -														
				$ -														
				$ -														
				$ -														
				$ -														
			SUBTOTAL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vehicles & Heavy Mobile Equip																		
				$ -														
				$ -														
				$ -														
				$ -														
				$ -														
			SUBTOTAL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Wastewater Treatment Plant																		
	70010a	2026	DESIGN: WWTP Upgrade (excluding associated CIPs)	$ -														
	70010b	2030	CONST: WWTP Upgrade (excluding associated CIPs)	$ 4,251,407	$ 4,251,407													
			SUBTOTAL	$ 4,251,407	$ 4,251,407	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			GRAND TOTAL	$ 5,866,218	$ 4,314,746	$ 65,239	$ 67,196	$ 117,660	$ 167,870	$ 143,535	$ 147,841	$ 152,277	$ 136,400	$ 132,228	$ 85,122	$ 87,675	$ 90,306	$ 158,125



N

0 315 630 1,260 Feet

LEGEND

- CIP 1: Cleanout Replacements
- CIP 3: Disconnect Area Drain
- CIP 7: Clallam Bay I/I Impvt (MH Repair)
- CIP 12: Clallam Bay LS Basin Pipe Replacements
- CIP 13: Lighthouse LS Basin Pipe Replacements
- L S CIP ~~19.~~ Clallam Bay LS
- L S CIP ~~20.~~ Lighthouse LS
- Manhole
- Gravity Sewer Pipe
- Force Main
- P S Pump station
- Sewer Treatment Plant
- Parcel
- UGA BOUNDARY

CIP 20: Clallam Bay LS
CIP 19: Lighthouse LS

CLALLAM BAY/SEKIU GENERAL SEWER/WASTEWATER FACILITIES PLAN

FIGURE 6-20
CONVEYANCE CIPS
(CLALLAM BAY)

Gray & Osborne, Inc.
CONSULTING ENGINEERS

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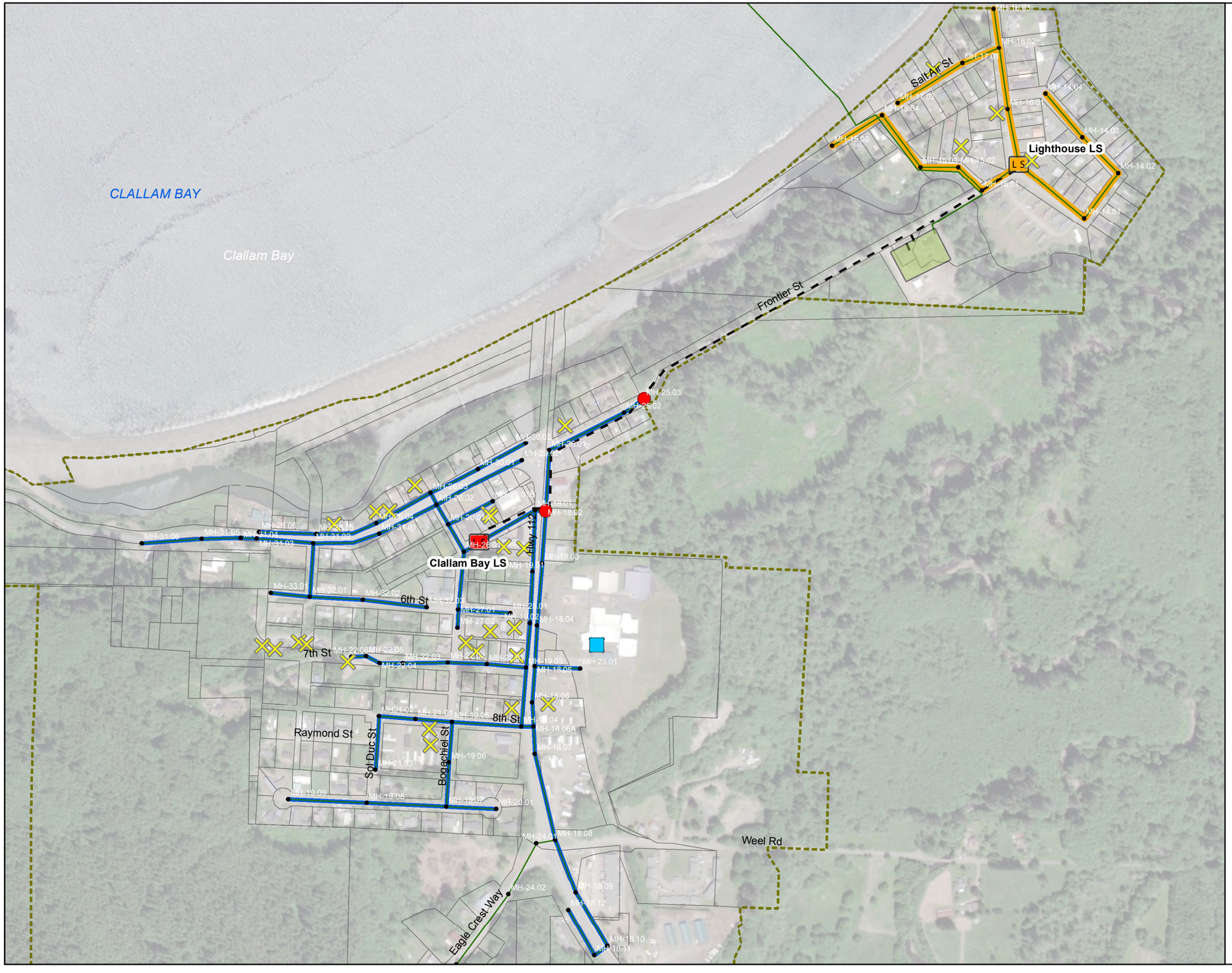
Table 6-13 presents a summary of the recommended pump station improvements in order of replacement priority. Similar to the conveyance projects, the costs shown reflect 2018 project costs which include construction contingencies (30%), sales tax (8.5%), engineering services (17%), construction administration (12%), and legal/county administration/permitting costs (5%). The locations of these stations are also shown in Figures 6-17 through Figure 6-20.

TABLE 6-13

See updated Table 6-13 in Report Amendment

Lift Station Improvement Projects

Project No.	Project Name	Project Description	Cost
CIP 14	West End LS	New control panels with telemetry, new removable submersible pumps on rails, new piping and valves in new valve vault, and rehabilitate wet well.	$947,000
CIP 15	Middle Point LS	New control panels with telemetry, new removable submersible pumps on rails, new piping & valves in new valve vault, and rehabilitate wet well.	$903,000
CIP 16	Snob Hill LS	New control panels with telemetry, convert station to submersible type with new removable submersible pumps on rails, new valve vault with new piping and valves.	$1,009,000
CIP 17	Sekiu LS	New control panels with telemetry, new removable submersible pumps on rails, new piping and valves in new valve vault, and rehabilitate wet well.	$880,000
CIP 18	Olson LS	New control panels with telemetry, new removable submersible pumps on rails, new piping and valves in new valve vault, and rehabilitate wet well.	$881,000
CIP 19	~~Clallam Bay LS~~ Lighthouse LS	New control panels with telemetry, convert station to submersible type with new removable submersible pumps on rails, new valve vault with new piping and valves.	$960,000
CIP 20	~~Lighthouse LS~~ Clallam Bay LS	New control panels with telemetry, new removable submersible pumps on rails, new piping and valves in new valve vault, and rehabilitate wet well.	$1,018,000
Total:			**$6,598,000**



N

0 315 630 1,260 Feet

LEGEND

- CIP 1: Cleanout Replacements
- CIP 3: Disconnect Area Drain
- CIP 7: Clallam Bay I/I Impvt (MH Repair)
- CIP 12: Clallam Bay LS Basin Pipe Replacements
- CIP 13: Lighthouse LS Basin Pipe Replacements
- L S CIP ~~19.~~ Clallam Bay LS
- L S CIP ~~20.~~ Lighthouse LS
- Manhole
- Gravity Sewer Pipe
- Force Main
- P S Pump station
- Sewer Treatment Plant
- Parcel
- UGA BOUNDARY

CIP 20: Clallam Bay LS
CIP 19: Lighthouse LS

CLALLAM BAY/SEKIU GENERAL SEWER/WASTEWATER FACILITIES PLAN

FIGURE 8-4
CIPS 1, 3, 7, 12, 13, 19, 20
(CLALLAM BAY)

Gray & Osborne, Inc.
CONSULTING ENGINEERS

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APPENDIX E – PERMITS

Clallam Bay WWTP NPDES Permit

Sekiu WWTP NPDES Permit

Clallam Bay Corrections Center WWTP NPDES Permit

Clallam Bay WWTP Puget Sound Nutrient General Permit

Sekiu WWTP Puget Sound Nutrient General Permit

Clallam Bay Corrections Center WWTP Puget Sound Nutrient General Permit

DEPARTMENT OF ECOLOGY
State of Washington

Issuance Date: November 19, 2018
Effective Date: December 1, 2018
Expiration Date: November 30, 2023

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM WASTE DISCHARGE PERMIT NO. WA0024431

State of Washington
DEPARTMENT OF ECOLOGY
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1342 et seq.

Clallam County Public Works Department
223 East 4th Street
Port Angeles, WA 98362

is authorized to discharge in accordance with the Special and General Conditions that follow.

Plant Location: Clallam Bay Wastewater Treatment Plant 410 Frontier Street East Clallam Bay, WA	Receiving Water: Clallam Bay (Strait of Juan de Fuca)
Treatment Type: Rotating Biological Contactor with UV Disinfection	

Originally-Signed Permit is in Public Records

Richard Doenges
Southwest Region Manager
Water Quality Program
Washington State Department of Ecology

TABLE OF CONTENTS

GENERAL CONDITIONS

SUMMARY OF PERMIT REPORT SUBMITTALS

Refer to the Special and General Conditions of this permit for additional submittal requirements.

Permit Section	Submittal	Frequency	First Submittal Date
S3.A	Discharge Monitoring Report	Monthly	January 15, 2019
S3.A	Discharge Monitoring Report	Quarterly	April 15, 2019
S3.A	Discharge Monitoring Report	Annual	January 1, 2020
S3.F	Reporting Permit Violations	As necessary	
S4.B	Plans for Maintaining Adequate Capacity	As necessary	
S4.D	Notification of New or Altered Sources	As necessary	
S4.E	Infiltration and Inflow Evaluation	Annually	March 31, 2019
S4.F	Wasteload Assessment	Annually	March 31, 2019
S5.F	Bypass Notification	As necessary	
S5.G	Operations and Maintenance (O&M) Manual Update	As necessary	
S5.G	O&M Manual Update or Review Confirmation Letter	Annually	May 15, 2019
S5.H	Exfiltration Plan and Schedule	1/permit cycle	October 1, 2021
S5.H	Results of Any Exfiltration Leak	1/permit cycle	October 1, 2022
S6.E	Annual List of Industrial Users	Annual	May 15, 2019
S8	Application for Permit Renewal	1/permit cycle	July 1, 2023
S9	Progress Report and Schedule for Completing Upgrades	Annually	June 30, 2019
S10	Outfall Evaluation	1/permit cycle	October 31, 2019
G1	Notice of Change in Authorization	As necessary	
G4	Reporting Planned Changes	As necessary	
G5	Engineering Report for Construction or Modification Activities	As necessary	
G7	Notice of Permit Transfer	As necessary	
G10	Duty to Provide Information	As necessary	
G20	Compliance Schedules	As necessary	
G21	Contract Submittal	As necessary	

SPECIAL CONDITIONS

S1. DISCHARGE LIMITS

A. Effluent Limits

All discharges and activities authorized by this permit must comply with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a level in excess of, that identified and authorized by this permit violates the terms and conditions of this permit.

Beginning on the effective date of this permit, the Permittee may discharge treated domestic wastewater to the Clallam Bay (Strait of Juan de Fuca) at the permitted location subject to compliance with the following limits:

Effluent Limits: Outfall 001 Latitude: 48.2608 Longitude: -124.2569		
Parameter	**Average Monthly [a]**	**Average Weekly [b]**
Biochemical Oxygen Demand (5-day) (BOD_5)	30 milligrams/liter (mg/L) 20 pounds/day (lbs/day) 85% removal of influent BOD_5	45 mg/L 30 lbs/day
Total Suspended Solids (TSS)	30 mg/L 26 lbs/day 85% removal of influent TSS	45 mg/L 39 lbs/day
Parameter	**Minimum**	**Maximum**
pH	6.0 Standard Units	9.0 Standard Units
Parameter	**Monthly Geometric Mean**	**Weekly Geometric Mean**
Fecal Coliform Bacteria [c]	200/100 milliliter (mL)	400/100 mL
Parameter	**Average Monthly**	**Maximum Daily [e]**

a	Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month. To calculate the discharge value to compare to the limit, you add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured. See footnote c for fecal coliform calculations.
b	Average weekly discharge limit means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges' measured during that week. See footnote c for fecal coliform calculations.
c	The Department of Ecology (Ecology) provides directions to calculate the monthly and the weekly geometric mean in publication No. 04-10-020, Information Manual for Treatment Plant Operators available at: https://fortress.wa.gov/ecy/publications/documents/0410020.pdf

B. Mixing Zone Authorization

Mixing Zone for Outfall 001

The following paragraphs define the maximum boundaries of the mixing zones:

Chronic Mixing Zone

The mixing zone is an oblong circle with a 218 foot radius around the discharge ports (the 46-foot diffuser) that is 482 feet (146.9 meters) long by 437 feet (133.2 meters) wide. The mixing zone extends from the bottom to the top of the water column. The concentration of pollutants at the edge of the chronic zone must meet chronic aquatic life criteria and human health criteria.

Acute Mixing Zone

The mixing zone is an oblong circle with a 22 foot radius around the discharge ports (the 46-foot diffuser) that is 90 feet (27.4 meters) long by 45 feet (13.7 meters) wide. The mixing zone extends from the bottom to the top of the water column. The concentration of pollutants at the edge of the chronic zone must meet chronic aquatic life criteria and human health criteria.

Available Dilution (dilution factor)	
Acute Aquatic Life Criteria	182
Chronic Aquatic Life Criteria	1623
Human Health Criteria - Carcinogen	1791
Human Health Criteria - Non-carcinogen	1623

S2. MONITORING REQUIREMENTS

A. Monitoring Schedule

The Permittee must monitor in accordance with the following schedule and the requirements specified in Appendix A.

Parameter	**Units & Speciation**	**Minimum Sampling Frequency**	**Sample Type**
(1) Wastewater Influent			
Wastewater Influent means the raw sewage flow from the collection system into the treatment facility. Sample the wastewater entering the headworks of the treatment plant excluding any side-stream returns from inside the plant.			
BOD_5	mg/L	Weekly[a]	24-hour Composite[b]
BOD_5	lbs/day	Weekly	Calculation[c]
TSS	mg/L	Weekly	24-hour Composite

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
TSS	lbs/day	Weekly	Calculation
(2) Final Wastewater Effluent			
Final Wastewater Effluent means wastewater exiting the last treatment process or operation. Typically, this is after or at the exit from the chlorine contact chamber or other disinfection process. The Permittee may take effluent samples for the BOD_5 analysis before or after the disinfection process. If taken after, the Permittee must dechlorinate and reseed the sample.			
Flow	MGD	Continuous[d]	Metered/Recorded
BOD_5	mg/L	Weekly	24-hour Composite
BOD_5	lbs/day	Weekly	Calculation
BOD_5	% removal[e]	Weekly	Calculation
TSS	mg/L	Weekly	24-hour Composite
TSS	lbs/day	Weekly	Calculation
TSS	% removal	Weekly	Calculation
Fecal Coliform[f]	# /100 ml	Weekly	Grab[g]
pH[h]	Standard Units	Daily	Grab
Temperature[i]	Degrees Centigrade (°C)	Daily	Measurement
(3) Effluent Characterization – Final Wastewater Effluent			
Total Phosphorus	mg/L as P	Quarterly [j]	24-hour Composite
Soluble Reactive Phosphorus	mg/L as P	Quarterly [j]	24-hour Composite
Total Ammonia	mg/L as N	Quarterly [j]	24-hour Composite
Nitrate plus Nitrite Nitrogen	mg/L as N	Quarterly [j]	24-hour Composite
Total Kjeldahl Nitrogen (TKN)	mg/L as N	Quarterly [j]	24-hour Composite
(4) Permit Renewal Application Requirements – Final Wastewater Effluent			
The Permittee must record and report the wastewater treatment plant flow discharged on the day it collects the sample for priority pollutant testing with the discharge monitoring report.			
Dissolved Oxygen	mg/L	Once per year[k]	Grab
Oil and Grease	mg/L	Once per year[k]	Grab
Total Dissolved Solids	mg/L	Once per year[k]	24-hour Composite

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Total Hardness	mg/L	Once per year[k]	24-hour Composite
(5) General Sewer Plan			
As specified in Special Condition S9			

Footnotes

a	Weekly means once per each calendar week and on a rotational basis throughout the days of the week, except weekends and holidays.
b	24-hour composite means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.
c	Calculations must be figured concurrently with the respective sample. Daily mass loading is calculated by the following formula:
	Concentration (in mg/L) X Flow (in MGD) X Conversion Factor (8.34) = lbs/day.
d	Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 30 minutes. The Permittee must sample hourly when continuous monitoring is not possible
e	$\% \text{ removal} = \frac{\text{Influent concentration (mg/L)} - \text{Effluent concentration (mg/L)}}{\text{Influent concentration (mg/L)}} \times 100$ Calculate the percent (%) removal of BOD_5 and TSS using the above equation.
f	Report a numerical value for fecal coliforms following the procedures in Ecology's *Information Manual for Wastewater Treatment Plant Operators*, Publication Number 04-10-020 available at: https://fortress.wa.gov/ecy/publications/documents/0410020.pdf. Do not report a result as Too Numerous To Count (TNTC).
g	Grab means an individual sample collected over a 15 minute, or less, period.
h	The Permittee must report the instantaneous maximum and minimum pH daily. Do not average pH values.
i	Temperature grab sampling must occur when the effluent is at or near its daily maximum temperature, which usually occurs in the late afternoon. If measuring temperature continuously, the Permittee must determine and report a daily maximum from half-hour measurements in a 24-hour period. Continuous monitoring instruments must achieve an accuracy of 0.2 degrees C and the Permittee must verify accuracy annually.
j	Quarterly sampling periods are January through March, April through June, July through September, and October through December. The Permittee must begin quarterly monitoring **starting January 1, 2019.**
k	Once per year sampling periods are January 1 through December 31, **starting Januay 1, 2019**.

B. Sampling and Analytical Procedures

Samples and measurements taken to meet the requirements of this permit must represent the volume and nature of the monitored parameters. The Permittee must conduct representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions that may affect effluent quality.

Sampling and analytical methods used to meet the monitoring requirements specified in this permit must conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 Code of Federal Regulation (CFR) Part 136 [or as applicable in 40 CFR subchapters N (Parts 400–471) or O (Parts 501-503)] unless otherwise specified in this permit . The Department of Ecology (Ecology) may only specify alternative methods for parameters without permit limits and for those parameters without an Environmental Protection Agency (EPA) approved test method in 40 CFR Part 136.

C. Flow Measurement, Field Measurement, and Continuous Monitoring Devices

The Permittee must:

1. Select and use appropriate flow measurement, field measurement, and continuous monitoring devices and methods consistent with accepted scientific practices.

2. Install, calibrate, and maintain these devices to ensure the accuracy of the measurements is consistent with the accepted industry standard, the manufacturer's recommendation, and approved Operation and Maintenance (O&M) Manual procedures for the device and the wastestream.

3. Calibrate continuous monitoring instruments weekly unless it can demonstrate a longer period is sufficient based on monitoring records. The Permittee:

    a. May calibrate apparatus for continuous monitoring of dissolved oxygen by air calibration.

    b. Must calibrate continuous pH measurement instruments using a grab sample analyzed in the lab with a pH meter calibrated with standard buffers and analyzed within 15 minutes of sampling.

    c. Must calibrate continuous chlorine measurement instruments using a grab sample analyzed in the laboratory within 15 minutes of sampling.

4. Calibrate micro-recording temperature devices, known as thermistors, using protocols from Ecology's Quality Assurance Project Plan Development Tool (*Standard Operating Procedures for Continuous Temperature Monitoring of Fresh Water Rivers and Streams Version 1.0 10/26/2011*). This document is available online at:

    http://teams/sites/EAP/QualityAssurance/StandardOperatingProcedures/ECY_EAP_SOP_Cont_Temp_Mon_Ambient_v2_0EAP080.pdf

Calibration as specified in this document is not required if the Permittee uses recording devices certified by the manufacturer.

5. Use field measurement devices as directed by the manufacturer and do not use reagents beyond their expiration dates.

6. Establish a calibration frequency for each device or instrument in the O&M Manual that conforms to the frequency recommended by the manufacturer.

7. Calibrate flow-monitoring devices at a minimum frequency of at least one calibration per year.

8. Maintain calibration records for at least three years.

D. Laboratory Accreditation

The Permittee must ensure that all monitoring data required by Ecology for permit specified parameters is prepared by a laboratory registered or accredited under the provisions of chapter 173-50 Washington Administrative Code (WAC), *Accreditation of Environmental Laboratories*. Flow, temperature, settleable solids, conductivity, pH, and internal process control parameters are exempt from this requirement. The Permittee must obtain accreditation for conductivity and pH if it must receive accreditation or registration for other parameters.

E. Request for Reduction in Monitoring

The Permittee may request a reduction of the sampling frequency after 24 months of monitoring. Ecology will review each request and at its discretion grant the request when it reissues the permit or by a permit modification.

The Permittee must:

1. Provide a written request.

2. Clearly state the parameters for which it is requesting reduced monitoring.

3. Clearly state the justification for the reduction.

S3. REPORTING AND RECORDING REQUIREMENTS

The Permittee must monitor and report in accordance with the following conditions. Falsification of information submitted to Ecology is a violation of the terms and conditions of this permit.

A. Discharge Monitoring Reports (DMRs)

The first monitoring period begins on the effective date of the permit (unless otherwise specified). The Permittee must:

1. Summarize, report, and submit monitoring data obtained during each monitoring period on the electronic DMR form provided by Ecology within the Water Quality Permitting Portal. Include data for each of the parameters tabulated in Special

Condition S2 and as required by the form. Report a value for each day sampling occurred (unless specifically exempted in the permit) and for the summary values (when applicable) included on the electronic form.

To find out more information and to sign up for the Water Quality Permitting Portal go to: https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance.

2. Ensure that DMRs are electronically submitted no later than the dates specified below, unless otherwise specified in this permit.

3. The Permittee must also submit an electronic copy of the laboratory report as an attachment using WQWebDMR. The contract laboratory reports must also include information on the chain of custody, QA/QC results, and documentation of accreditation for the parameter.

4. Submit DMRs for parameters with the monitoring frequencies specified in S2 (monthly, quarterly, annual, etc.) at the reporting schedule identified below. The Permittee must:

   a. Submit **monthly** DMRs by the 15th day of the following month.

   b. Submit **quarterly DMRs**, unless otherwise specified in the permit, by the 15th day of the month following the monitoring period. Quarterly sampling periods are January through March, April through June, July through September, and October through December.

   c. Submit **annual DMRs**, unless otherwise specified in the permit, by January 15th for the previous calendar year. The annual sampling period is the calendar year.

   d. Submit permit renewal application monitoring data in WQWebDMR as required in Special Condition S2.

5. Enter the "No Discharge" reporting code for an entire DMR, for a specific monitoring point, or for a specific parameter as appropriate, if the Permittee did not discharge wastewater or a specific pollutant during a given monitoring period.

6. Report single analytical values below detection as "less than the Detection Level (DL)" by entering < followed by the numeric value of the detection level (e.g. < 2.0) on the DMR. If the method used did not meet the minimum DL and Quantitation Level (QL) identified in the permit, report the actual QL and DL in the comments or in the location provided.

7. Report single analytical values between the DL and the QL by entering the estimated value, the code for estimated value/below quantitation limit (j) and any additional information in the comments. Submit a copy of the laboratory report as an attachment using WQWebDMR.

8. **Do Not** report zero for bacteria monitoring. Report as required by the laboratory method.

9. Calculate and report an arithmetic average value for each day for bacteria if multiple samples were taken in one day.

10. Calculate the geometric mean values for bacteria (unless otherwise specified in the permit) using:

    a. The reported numeric value for all bacteria samples measured above the detection value except when it took multiple samples in one day. If the Permittee takes multiple samples in one day it must use the arithmetic average for the day in the geometric mean calculation.

    b. The detection value for those samples measured below detection.

11. Report the test method used for analysis in the comments if the laboratory used an alternative method not specified in the permit and as allowed in Appendix A.

12. Calculate average values and calculated total values (unless otherwise specified in the permit) using:

    a. The reported numeric value for all parameters measured between the detection value and the quantitation value for the sample analysis.

    b. One-half the detection value (for values reported below detection) if the lab detected the parameter in another sample from the same monitoring point for the reporting period.

    c. Zero (for values reported below detection) if the lab did not detect the parameter in another sample for the reporting period.

13. Report single-sample grouped parameters (for example: priority pollutants, PAHs, pulp and paper chlorophenolics, TTOs) on the WQWebDMR form and include: sample date, concentration detected, DL (as necessary), and laboratory QL (as necessary).

B. Permit Submittals and Schedules

The Permittee may use the Water Quality Permitting Portal – Permit Submittals application (unless otherwise specified in the permit) to submit all other written permit-required reports by the date specified in the permit.

When another permit condition requires submittal of a paper (hard-copy) report, the Permittee must ensure that it is postmarked or received by Ecology no later than the dates specified by this permit. Send these paper reports to Ecology at:

Water Quality Permit Coordinator
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

C. Records Retention

The Permittee must retain records of all monitoring information for a minimum of three years. Such information must include all calibration and maintenance records and all original 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. The Permittee must extend this period of retention during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

D. Recording of Results

For each measurement or sample taken, the Permittee must record the following information:

1. The date, exact place, method, and time of sampling or measurement;

2. The individual who performed the sampling or measurement;

3. The dates the analyses were performed;

4. The individual who performed the analyses;

5. The analytical techniques or methods used; and

6. The results of all analyses.

E. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by Special Condition S2 of this permit, then the Permittee must include the results of such monitoring in the calculation and reporting of the data submitted in the Permittee's DMR unless otherwise specified by Special Condition S2.

F. Reporting Permit Violations

The Permittee must take the following actions when it violates or is unable to comply with any permit condition:

1. Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance and correct the problem.

2. If applicable, immediately repeat sampling and analysis. Submit the results of any repeat sampling to Ecology within 30 days of sampling.

   a. Immediate Reporting

      The Permittee must immediately report to Ecology and the Department of Health, Shellfish Program, and the Clallam County Health Division (at the numbers listed below), all:

- Failures of the disinfection system
- Collection system overflows
- Plant bypasses discharging to marine surface waters
- Any other failures of the sewage system (pipe breaks, etc.)

Southwest Regional Office	360-407-6300
Department of Health, Shellfish Program	360-236-3330 (business hours) 360-789-8962 (after business hours)
Clallam County Environmental Health Division	360-417-2258

b. Twenty-Four-Hour Reporting

The Permittee must report the following occurrences of noncompliance by telephone, to Ecology at the telephone numbers listed above, within 24 hours from the time the Permittee becomes aware of any of the following circumstances:

i. Any noncompliance that may endanger health or the environment, unless previously reported under immediate reporting requirements.

ii. Any unanticipated bypass that causes an exceedance of an effluent limit in the permit (See Part S5.F, "Bypass Procedures").

iii. Any upset that causes an exceedance of an effluent limit in the permit (See G.15, "Upset").

iv. Any violation of a maximum daily or instantaneous maximum discharge limit for any of the pollutants in Section S1.A of this permit.

v. Any overflow prior to the treatment works, whether or not such overflow endangers health or the environment or exceeds any effluent limit in the permit.

c. Report Within Five Days

The Permittee must also submit a written report within five days of the time that the Permittee becomes aware of any reportable event under subparts a or b, above. The report 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 the Permittee expects the noncompliance to continue if not yet corrected.

iv. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

v. If the noncompliance involves an overflow prior to the treatment works, an estimate of the quantity (in gallons) of untreated overflow.

d. Waiver of Written Reports

Ecology may waive the written report required in subpart c, above, on a case-by-case basis upon request if the Permittee has submitted a timely oral report.

e. All Other Permit Violation Reporting

The Permittee must report all permit violations, which do not require immediate or within 24 hours reporting, when it submits monitoring reports for S3.A ("Reporting"). The reports must contain the information listed in subpart c, above. Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

G. Other Reporting

1. Spills of Oil or Hazardous Materials

The Permittee must report a spill of oil or hazardous materials in accordance with the requirements of Revised Code of Washington (RCW) 90.56.280 and chapter 173-303-145. You can obtain further instructions at the following website: https://ecology.wa.gov/About-us/Get-involved/Report-an-environmental-issue/Report-a-spill.

2. Failure to Submit Relevant or Correct Facts

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to Ecology, it must submit such facts or information promptly.

H. Maintaining a Copy of this Permit

The Permittee must keep a copy of this permit at the facility and make it available upon request to Ecology inspectors.

S4. FACILITY LOADING

A. Design Criteria

The flows or waste loads for the permitted facility must not exceed the following design criteria:

Maximum Month Design Flow (MMDF)	0.12 MGD
BOD_5 Influent Loading for Maximum Month	135 lbs/day
TSS Influent Loading for Maximum Month	171 lbs/day

B. 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.

C. Notification of New or Altered Sources

1. The Permittee must submit written notice to Ecology whenever any new discharge or a substantial change in volume or character of an existing discharge into the wastewater treatment plant is proposed which:

    a. Would interfere with the operation of, or exceed the design capacity of, any portion of the wastewater treatment plant.

    b. Is not part of an approved general sewer plan or approved plans and specifications.

    c. Is subject to pretreatment standards under 40 CFR Part 403 and Section 307(b) of the Clean Water Act.

2. This notice must include an evaluation of the wastewater treatment plant's ability to adequately transport and treat the added flow and/or waste load, the quality and volume of effluent to be discharged to the treatment plant, and the anticipated impact on the Permittee's effluent [40 CFR 122.42(b)].

D. Infiltration and Inflow Evaluation

1. The Permittee must conduct an infiltration and inflow evaluation. Refer to the U.S. EPA publication, I/I Analysis and Project Certification, available as Publication No. 97-03 at: https://fortress.wa.gov/ecy/publications/documents/9703.pdf.

2. The Permittee may use monitoring records to assess measurable infiltration and inflow.

3. The Permittee must prepare a report summarizing any measurable infiltration and inflow. If infiltration and inflow have increased by more than 15 percent from that found in the previous report based on equivalent rainfall, the report must contain a

plan and a schedule to locate the sources of infiltration and inflow and to correct the problem.

4. The Permittee must submit a report summarizing the results of the evaluation and any recommendations for corrective actions by **March 31, 2019**, and **annually** thereafter.

E. Wasteload Assessment

The Permittee must conduct an annual assessment of its influent flow and waste load and submit a report to Ecology by **March 31, 2019**, and **annually** thereafter. The report must contain:

1. A description of compliance or noncompliance with the permit effluent limits.

2. A comparison between the existing and design:

   a. Monthly Average Dry Weather and Wet Weather Flows

   b. Peak Flows

   c. BOD_5 Loading

   d. Total Suspended Solids Loadings

3. The percent change in the above parameters since the previous report (except for the first report).

4. The present and design population or population equivalent.

5. The projected population growth rate.

6. The estimated date upon which the Permittee expects the wastewater treatment plant to reach design capacity, according to the most restrictive of the parameters above.

Ecology may modify the interval for review and reporting if it determines that a different frequency is sufficient.

S5. OPERATION AND MAINTENANCE

The Permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances), which are installed to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes keeping a daily operation logbook (paper or electronic), adequate laboratory controls, and appropriate quality assurance procedures. This provision of the permit requires the Permittee to operate backup or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of this permit.

A. Certified Operator

This permitted facility must be operated by an operator certified by the state of Washington for at least a Class II plant. This operator must be in responsible charge of the day-to-day operation of the wastewater treatment plant. An operator certified for at least a Class I plant must be in charge during all regularly scheduled shifts. The Permittee must notify Ecology when the operator in charge at the facility changes. It must provide the new operator's name and certification level and provide the name of the operator leaving the facility.

B. Operation and Maintenance (O&M) Program

The Permittee must:

1. Institute an adequate operation and maintenance program for the entire sewage system.

2. Keep maintenance records on all major electrical and mechanical components of the treatment plant, as well as the sewage system and pumping stations. Such records must clearly specify the frequency and type of maintenance recommended by the manufacturer and must show the frequency and type of maintenance performed.

3. Make maintenance records available for inspection at all times.

C. Short-Term Reduction

The Permittee must schedule any facility maintenance, which might require interruption of wastewater treatment and degrade effluent quality, during non-critical water quality periods and carry this maintenance out according to the approved O&M Manual or as otherwise approved by Ecology.

If a Permittee contemplates a reduction in the level of treatment that would cause a violation of permit discharge limits on a short-term basis for any reason, and such reduction cannot be avoided, the Permittee must:

1. Give written notification to Ecology, if possible, 30 days prior to such activities.

2. Detail the reasons for, length of time of, and the potential effects of the reduced level of treatment.

This notification does not relieve the Permittee of its obligations under this permit.

D. Electrical Power Failure

The Permittee must ensure that adequate safeguards prevent the discharge of untreated wastes or wastes not treated in accordance with the requirements of this permit during electrical power failure at the treatment plant and/or sewage lift stations. Adequate safeguards include, but are not limited to, alternate power sources, standby generator(s), or retention of inadequately treated wastes.

The Permittee must maintain Reliability Class II (EPA 430-99-74-001) at the wastewater treatment plant. Reliability Class II requires a backup power source sufficient to operate all vital components and critical lighting and ventilation during peak wastewater flow conditions. Vital components used to support the secondary processes (i.e., mechanical aerators or aeration basin air compressors) need not be operable to full levels of treatment, but must be sufficient to maintain the biota.

E. Prevent Connection of Inflow

The Permittee must strictly enforce its sewer ordinances and not allow the connection of inflow (roof drains, foundation drains, etc.) to the sanitary sewer system.

F. Bypass Procedures

A bypass is the intentional diversion of waste streams from any portion of a treatment facility. This permit prohibits all bypasses except when the bypass is for essential maintenance, as authorized in Special Condition S5.F.1, or is approved by Ecology as an anticipated bypass following the procedures in S5.F.2.

1. Bypass for essential maintenance without the potential to cause violation of permit limits or conditions.

   This permit allows bypasses for essential maintenance of the treatment system when necessary to ensure efficient operation of the system. The Permittee may bypass the treatment system for essential maintenance only if doing so does not cause violations of effluent limits. The Permittee is not required to notify Ecology when bypassing for essential maintenance. However, the Permittee must comply with the monitoring requirements specified in Special Condition S2.B.

2. Anticipated bypasses for non-essential maintenance

   Ecology may approve an anticipated bypass under the conditions listed below. This permit prohibits any anticipated bypass that is not approved through the following process.

   a. If a bypass is for non-essential maintenance, the Permittee must notify Ecology, if possible, at least 10 days before the planned date of bypass. The notice must contain:

      - A description of the bypass and the reason the bypass is necessary
      - An analysis of all known alternatives which would eliminate, reduce, or mitigate the potential impacts from the proposed bypass
      - A cost-effectiveness analysis of alternatives
      - The minimum and maximum duration of bypass under each alternative
      - A recommendation as to the preferred alternative for conducting the bypass

- The projected date of bypass initiation
- A statement of compliance with State Environmental Policy Act (SEPA)
- A request for modification of water quality standards as provided for in WAC 173-201A-410, if an exceedance of any water quality standard is anticipated
- Details of the steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass.

b. For probable construction bypasses, the Permittee must notify Ecology of the need to bypass as early in the planning process as possible. The Permittee must consider the analysis required above during the project planning and design process. The project-specific engineering report as well as the plans and specifications must include details of probable construction bypasses to the extent practical. In cases where the Permittee determines the probable need to bypass early, the Permittee must continue to analyze conditions up to and including the construction period in an effort to minimize or eliminate the bypass.

c. Ecology will determine if the Permittee has met the conditions of Special Condition S5.F.2 a and b and consider the following prior to issuing a determination letter, an administrative order, or a permit modification as appropriate for an anticipated bypass:

- If the Permittee planned and scheduled the bypass to minimize adverse effects on the public and the environment.
- If the bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.
- If feasible alternatives to the bypass exist, such as:
    - The use of auxiliary treatment facilities
    - Retention of untreated wastes
    - Stopping production
    - Maintenance during normal periods of equipment downtime, but not if the Permittee should have installed adequate backup equipment in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance.

- Transport of untreated wastes to another treatment facility

G. Operations and Maintenance (O&M) Manual

1. O&M Manual Submittal and Requirements

The Permittee must:

a. Review the O&M Manual at least **annually** and confirm this review by letter to Ecology by **May 15, 2019**, of each year.

b. Submit to Ecology for review and approval substantial changes or updates to the O&M Manual whenever it incorporates them into the manual.

c. Keep the approved O&M Manual at the permitted facility.

d. Follow the instructions and procedures of this manual.

2. O&M Manual Components

In addition to the requirements of WAC 173-240-080(1) through (5), the O&M Manual must be consistent with the guidance in Table G1-3 in the *Criteria for Sewage Works Design* (Orange Book), 2008. The O&M Manual must include:

a. Emergency procedures for cleanup in the event of wastewater system upset or failure.

b. A review of system components which if failed could pollute surface water or could impact human health. Provide a procedure for a routine schedule of checking the function of these components.

c. Wastewater system maintenance procedures that contribute to the generation of process wastewater.

d. Reporting protocols for submitting reports to Ecology to comply with the reporting requirements in the discharge permit.

e. Any directions to maintenance staff when cleaning or maintaining other equipment or performing other tasks which are necessary to protect the operation of the wastewater system (for example, defining maximum allowable discharge rate for draining a tank, blocking all floor drains before beginning the overhaul of a stationary engine).

f. The treatment plant process control monitoring schedule.

g. Minimum staffing adequate to operate and maintain the treatment processes and carry out compliance monitoring required by the permit.

h. O&M for collection systems pump stations, etc.

H. Collection System Exfiltration Prevention Plan and Testing

For those portions of the collection system that are identified in the Updated General Sewer Plan (Permit Section S9) as having the potential to impact waters of the state through exfiltration, the county must submit to Ecology a report describing a proposed method and schedule for testing these pipes for integrity and the potential for exfiltration. The report shall be submitted no later than **October 1, 2021**, and results of any exfiltration leak shall be submitted by **October 1, 2022**.

S6. PRETREATMENT

A. General Requirements

The Permittee must work with Ecology to ensure that all commercial and industrial users of the Publicly Owned Treatment Works (POTW) comply with the pretreatment regulations in 40 CFR Part 403 and any additional regulations that the Environmental Protection Agency (U.S. EPA) may promulgate under Section 307(b) (pretreatment) and 308 (reporting) of the Federal Clean Water Act.

B. Duty to Enforce Discharge Prohibitions

1. Under federal regulations [40 CFR 403.5(a) and (b)], the Permittee must not authorize or knowingly allow the discharge of any pollutants into its POTW which may be reasonably expected to cause pass through or interference, or which otherwise violate general or specific discharge prohibitions contained in 40 CFR Part 403.5 or WAC 173-216-060.

2. The Permittee must not authorize or knowingly allow the introduction of any of the following into their treatment works:

   a. Pollutants which create a fire or explosion hazard in the POTW (including, but not limited to waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21).

   b. Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, or greater than 11.0 Standard Units, unless the works are specifically designed to accommodate such discharges.

   c. Solid or viscous pollutants in amounts that could cause obstruction to the flow in sewers or otherwise interfere with the operation of the POTW.

   d. Any pollutant, including oxygen-demanding pollutants, (BOD_5, etc.) released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW.

   e. Petroleum oil, non-biodegradable cutting oil, or products of mineral origin in amounts that will cause interference or pass through.

f. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity which may cause acute worker health and safety problems.

g. Heat in amounts that will inhibit biological activity in the POTW resulting in interference but in no case heat in such quantities such that the temperature at the POTW headworks exceeds 40 degrees Centigrade (104 degrees Fahrenheit) unless Ecology, upon request of the Permittee, approves, in writing, alternate temperature limits.

h. Any trucked or hauled pollutants, except at discharge points designated by the Permittee.

i. Wastewaters prohibited to be discharged to the POTW by the Dangerous Waste Regulations (chapter 173-303 WAC), unless authorized under the Domestic Sewage Exclusion (WAC 173-303-071).

3. The Permittee must also not allow the following discharges to the POTW unless approved in writing by Ecology:

a. Noncontact cooling water in significant volumes.

b. Stormwater and other direct inflow sources.

c. Wastewaters significantly affecting system hydraulic loading, which do not require treatment, or would not be afforded a significant degree of treatment by the system.

4. The Permittee must notify Ecology if any industrial user violates the prohibitions listed in this section (S6.B), and initiate enforcement action to promptly curtail any such discharge.

C. Wastewater Discharge Permit Required

The Permittee must:

1. Establish a process for authorizing non-domestic wastewater discharges that ensures all SIUs in all tributary areas meet the applicable State Waste Discharge Permit (SWDP) requirements in accordance with chapter 90.48 RCW and chapter 173-216 WAC.

2. Immediately notify Ecology of any proposed discharge of wastewater from a source, which may be a Significant Industrial User (SIU) [see fact sheet definitions or refer to 40 CFR 403.3(v)(i)(ii)].

3. Require all SIUs to obtain a SWDP from Ecology prior to accepting their non-domestic wastewater, or require proof that Ecology has determined they do not require a permit.

4. Require the documentation as described in S6.C.3 at the earliest practicable date as a condition of continuing to accept non-domestic wastewater discharges from a previously undiscovered, currently discharging and unpermitted SIU.

5. Require sources of non-domestic wastewater, which do not qualify as SIUs but merit a degree of oversight, to apply for a SWDP and provide it a copy of the application and any Ecology responses.

6. Keep all records documenting that its users have met the requirements of S6.C.

D. Identification and Reporting of Existing, New, and Proposed Industrial Users

1. The Permittee must take continuous, routine measures to identify all existing, new, and proposed SIUs and Potential Significant Industrial Users (PSIUs) discharging or proposing to discharge to the Permittee's sewer system (see **Appendix C** of the fact sheet for definitions).

2. Within 30 days of becoming aware of an unpermitted existing, new, or proposed industrial user who may be a SIU, the Permittee must notify such user by registered mail that, if classified as an SIU, they must apply to Ecology and obtain a State Waste Discharge Permit. The Permittee must send a copy of this notification letter to Ecology within this same 30-day period.

3. The Permittee must also notify all PSIUs, as they are identified, that if their classification should change to an SIU, they must apply to Ecology for a State Waste Discharge Permit within 30 days of such change.

E. Annual Submittal of List of Industrial Users

The Permittee must **annually** submit to Ecology a list summarizing all existing and proposed SIUs and PSIUs. The Permittee must submit this list to Ecology by **May 15th** of each year of the permit.

S7. SOLID WASTES

A. Solid Waste Handling

The Permittee must handle and dispose of all solid waste material in such a manner as to prevent its entry into state ground or surface water.

B. Leachate

The Permittee must not allow leachate from its solid waste material to enter state waters without providing all known, available, and reasonable methods of treatment, nor allow such leachate to cause violations of the State Surface Water Quality Standards, Chapter 173-201A WAC, or the State Ground Water Quality Standards, Chapter 173-200 WAC. The Permittee must apply for a permit or permit modification as may be required for such discharges to state ground or surface waters.

S8. APPLICATION FOR PERMIT RENEWAL OR MODIFICATION FOR FACILITY CHANGES

The Permittee must submit an application for renewal of this permit by **July 1, 2023**.

The Permittee must also submit a new application or addendum at least 180 days prior to commencement of discharges, resulting from the activities listed below, which may result in permit violations. These activities include any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility.

S9. UPDATED GENERAL SEWER PLAN

A. By **June 30, 2019**, and **annually** thereafter, Clallam County shall submit:

1. A progress report describing the progress made to date in implementing the *Clallam Bay-Sekiu General Sewer/Wastewater Facilities Plan* (2018, Gray and Osborne Engineers); and

2. A schedule for completing the upgrades described in the Plan.

B. The Permittee must prepare and submit approvable plans and specifications to Ecology for review and approval in accordance with chapter 173-240 WAC. In addition to the electronic copy required by Special Condition S3.B, the Permittee must submit one full size paper copy to Ecology for its use to the address listed in Special Condition S3.B. If the Permittee wants Ecology to provide a stamped approved copy it must submit an additional paper copy (total of two paper copies).

C. Prior to the start of construction, the Permittee must submit to Ecology a Quality Assurance Plan as required by chapter 173-240 WAC.

S10. OUTFALL EVALUATION

The Permittee must inspect the submerged portion of the outfall line and diffuser to document its integrity and continued function. If conditions allow for a photographic verification, the Permittee must include such verification in the report. By **October 31, 2019**, the Permittee may submit the Outfall Evaluation to Ecology through the Water Quality Permitting Portal – Permit Submittals application. The Permittee must submit hard-copies of any video files to Ecology as required by Permit Condition S3.B. The Portal does not support submittal of video files.

The inspector must at minimum:

- Assess the physical condition of the outfall pipe, diffuser, and associated couplings;
- Determine the extent of sediment accumulation in the vicinity of the diffuser;
- Ensure diffuser ports are free of obstructions and are allowing uniform flow;
- Confirm physical location (latitude/longitude) and depth (at MLLW) of the diffuser section of the outfall;
- Assess physical condition of the submarine line; and
- Assess physical condition of anchors used to secure the submarine line.

GENERAL CONDITIONS

G1. SIGNATORY REQUIREMENTS

A. All applications submitted to Ecology must be signed and certified.

1. In the case of corporations, by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

a. A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or

b. The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

c. In the case of a partnership, by a general partner.

d. In the case of sole proprietorship, by the proprietor.

e. In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official.

Applications for permits for domestic wastewater facilities that are either owned or operated by, or under contract to, a public entity shall be submitted by the public entity.

B. All reports required by this permit and other information requested by Ecology must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above and submitted to Ecology.

2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

C. Changes to Authorization. If an authorization under paragraph G1.2, above, is no longer accurate because a different individual or position has responsibility for the overall

operation of the facility, a new authorization satisfying the requirements of paragraph G1.2, above, must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Certification. Any person signing a document under this section must make the following certification:

> "I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

G2. RIGHT OF INSPECTION AND ENTRY

The Permittee must allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law:

A. To enter upon the premises where a discharge is located or where any records must be kept under the terms and conditions of this permit.

B. To have access to and copy, at reasonable times and at reasonable cost, any records required to be kept under the terms and conditions of this permit.

C. To inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.

D. To sample or monitor, at reasonable times, any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

G3. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated either at the request of any interested person (including the Permittee) or upon Ecology's initiative. However, the permit may only be modified, revoked and reissued, or terminated for the reasons specified in 40 CFR 122.62, 40 CFR 122.64 or WAC 173-220-150 according to the procedures of 40 CFR 124.5.

A. The following are causes for terminating this permit during its term, or for denying a permit renewal application:

1. Violation of any permit term or condition

2. Obtaining a permit by misrepresentation or failure to disclose all relevant facts

3. A material change in quantity or type of waste disposal

4. A determination that the permitted activity endangers human health or the environment, or contributes to water quality standards violations and can only be regulated to acceptable levels by permit modification or termination.

5. A change in any condition that requires either a temporary or permanent reduction, or elimination of any discharge or sludge use or disposal practice controlled by the permit.

6. Nonpayment of fees assessed pursuant to RCW 90.48.465

7. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090.

B. The following are causes for modification but not revocation and reissuance except when the Permittee requests or agrees:

1. A material change in the condition of the waters of the state.

2. New information not available at the time of permit issuance that would have justified the application of different permit conditions.

3. Material and substantial alterations or additions to the permitted facility or activities which occurred after this permit issuance.

4. Promulgation of new or amended standards or regulations having a direct bearing upon permit conditions, or requiring permit revision.

5. The Permittee has requested a modification based on other rationale meeting the criteria of 40 CFR Part 122.62.

6. Ecology has determined that good cause exists for modification of a compliance schedule, and the modification will not violate statutory deadlines.

7. Incorporation of an approved local pretreatment program into a municipality's permit.

C. The following are causes for modification or alternatively revocation and reissuance:

1. When cause exists for termination for reasons listed in A.1 through A.7 of this section, and Ecology determines that modification or revocation and reissuance is appropriate.

2. When Ecology has received notification of a proposed transfer of the permit. A permit may also be modified to reflect a transfer after the effective date of an automatic transfer (General Condition G7) but will not be revoked and reissued after the effective date of the transfer except upon the request of the new Permittee.

G4. REPORTING PLANNED CHANGES

The Permittee must, as soon as possible, but no later than 180 days prior to the proposed changes, give notice to Ecology of planned physical alterations or additions to the permitted facility, production increases, or process modification which will result in:

A. The permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b).

B. A significant change in the nature or an increase in quantity of pollutants discharged.

C. A significant change in the Permittee's sludge use or disposal practices. Following such notice, and the submittal of a new application or supplement to the existing application, along with required engineering plans and reports, this permit may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G5. PLAN REVIEW REQUIRED

Prior to constructing or modifying any wastewater control facilities, an engineering report and detailed plans and specifications must be submitted to Ecology for approval in accordance with chapter 173-240 WAC. Engineering Reports, Plans, and Specifications must be submitted at least 180 days prior to the planned start of construction unless a shorter time is approved by Ecology. Facilities must be constructed and operated in accordance with the approved plans.

G6. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in this permit excuses the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G7. TRANSFER OF THIS PERMIT

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the Permittee must notify the succeeding owner or controller of the existence of this permit by letter, a copy of which must be forwarded to Ecology.

A. Transfers by Modification

Except as provided in paragraph (B) below, this permit may be transferred by the Permittee to a new owner or operator only if this permit has been modified or revoked and reissued under 40 CFR 122.62(b)(2), or a minor modification made under 40 CFR 122.63(d), to identify the new Permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

B. Automatic Transfers

This permit may be automatically transferred to a new Permittee if:

1. The Permittee notifies Ecology at least 30 days in advance of the proposed transfer date.

2. The notice includes a written agreement between the existing and new Permittees containing a specific date transfer of permit responsibility, coverage, and liability between them.

3. Ecology does not notify the existing Permittee and the proposed new Permittee of its intent to modify or revoke and reissue this permit. A modification under this

subparagraph may also be minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the written agreement.

G8. REDUCED PRODUCTION FOR COMPLIANCE

The Permittee, in order to maintain compliance with its permit, must control production and/or all discharges upon reduction, loss, failure, or bypass of the treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

G9. REMOVED SUBSTANCES

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must not be resuspended or reintroduced to the final effluent stream for discharge to state waters.

G10. DUTY TO PROVIDE INFORMATION

The Permittee must submit to Ecology, within a reasonable time, all information which Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee must also submit to Ecology upon request, copies of records required to be kept by this permit.

G11. OTHER REQUIREMENTS OF 40 CFR

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

G12. ADDITIONAL MONITORING

Ecology may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G13. PAYMENT OF FEES

The Permittee must submit payment of fees associated with this permit as assessed by Ecology.

G14. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit is deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to $10,000 and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit may incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to $10,000 for every such violation. Each and every such violation is a separate and distinct offense, and in case of a continuing violation, every day's continuance is deemed to be a separate and distinct violation.

G15. UPSET

Definition – "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limits if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

A. An upset occurred and that the Permittee can identify the cause(s) of the upset

B. The permitted facility was being properly operated at the time of the upset

C. The Permittee submitted notice of the upset as required in Special Condition S3.F

D. The Permittee complied with any remedial measures required under S3.F of this permit

In any enforcement action the Permittee seeking to establish the occurrence of an upset has the burden of proof.

G16. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.

G17. DUTY TO COMPLY

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

G18. TOXIC POLLUTANTS

The Permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

G19. PENALTIES FOR 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 shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this condition, punishment shall be a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or by both.

G20. COMPLIANCE SCHEDULES

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.

G21. SERVICE AGREEMENT REVIEW

The Permittee must submit to Ecology any proposed service agreements and proposed revisions or updates to existing agreements for the operation of any wastewater treatment facility covered by this permit. The review is to ensure consistency with chapters 90.46 and 90.48 RCW as required by RCW 70.150.040(9). In the event that Ecology does not comment within a 30-day period, the Permittee may assume consistency and proceed with the service agreement or the revised/updated service agreement.

APPENDIX A

LIST OF POLLUTANTS WITH ANALYTICAL METHODS, DETECTION LIMITS AND QUANTITATION LEVELS

The Permittee must use the specified analytical methods, detection limits (DLs) and quantitation levels (QLs) in the following table for permit and application required monitoring unless:

- Another permit condition specifies other methods, detection levels, or quantitation levels.
- The method used produces measurable results in the sample and EPA has listed it as an EPA-approved method in 40 CFR Part 136.

If the Permittee uses an alternative method, not specified in the permit and as allowed above, it must report the test method, DL, and QL on the discharge monitoring report or in the required report.

If the Permittee is unable to obtain the required DL and QL in its effluent due to matrix effects, the Permittee must submit a matrix-specific detection limit (MDL) and a quantitation limit (QL) to Ecology with appropriate laboratory documentation.When the permit requires the Permittee to measure the base neutral compounds in the list of priority pollutants, it must measure all of the base neutral pollutants listed in the table below. The list includes EPA required base neutral priority pollutants and several additional polynuclear aromatic hydrocarbons (PAHs). The Water Quality Program added several PAHs to the list of base neutrals below from Ecology's Persistent Bioaccumulative Toxics (PBT) List. It only added those PBT parameters of interest to Appendix A that did not increase the overall cost of analysis unreasonably.

Ecology added this appendix to the permit in order to reduce the number of analytical "non-detects" in permit-required monitoring and to measure effluent concentrations near or below criteria values where possible at a reasonable cost.

The lists below include conventional pollutants (as defined in CWA section 502(6) and 40 CFR Part 122.), toxic or priority pollutants as defined in CWA section 307(a)(1) and listed in 40 CFR Part 122 Appendix D, 40 CFR Part 401.15 and 40 CFR Part 423 Appendix A), and nonconventionals. 40 CFR Part 122 Appendix D (Table V) also identifies toxic pollutants and hazardous substances which are required to be reported by dischargers if expected to be present. This permit appendix A list does not include those parameters. The list also includes pulp and paper pollutants identified in 40 CFR Part 430 and the dioxin and furan congeners identified using EPA Method 1613.

CONVENTIONAL POLLUTANTS

Pollutant	**CAS Number (if available)**	**Recommended Analytical Protocol**	**Detection (DL)[1] *µg/L unless specified***	**Quantitation Level (QL) [2] *µg/L unless specified***
Biochemical Oxygen Demand		SM5210-B		2 mg/L
Biochemical Oxygen Demand, Soluble		SM5210-B [3]		2 mg/L
Fecal Coliform		SM 9221E,9222	N/A	Specified in method - sample aliquot dependent
Oil and Grease (HEM) (Hexane Extractable Material)		1664 A or B	1,400	5,000
pH		SM4500-H^+ B	N/A	N/A
Total Suspended Solids		SM2540-D		5 mg/L

NONCONVENTIONAL POLLUTANTS

Pollutant & CAS No. (if available)	**CAS Number (if available)**	**Recommended Analytical Protocol**	**Detection (DL)[1] µg/L unless specified**	**Quantitation Level (QL)[2] µg/L unless specified**
Alkalinity, Total		SM2320-B		5 mg/L as CaCO3

NONCONVENTIONAL POLLUTANTS

Pollutant & CAS No. (if available)	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
Aluminum, Total	7429-90-5	200.8	2.0	10
Ammonia, Total (as N)		SM4500-NH3-B and C/D/E/G/H		20
Barium Total	7440-39-3	200.8	0.5	2.0
BTEX (benzene +toluene + ethylbenzene + m,o,p xylenes)		EPA SW 846 8021/8260	1	2
Boron, Total	7440-42-8	200.8	2.0	10.0
Chemical Oxygen Demand		SM5220-D		10 mg/L
Chloride		SM4500-Cl B/C/D/E and SM4110 B		Sample and limit dependent
Chlorine, Total Residual		SM4500 Cl G		50.0
Cobalt, Total	7440-48-4	200.8	0.05	0.25
Color		SM2120 B/C/E		10 color units
Dissolved oxygen		SM4500-OC/OG		0.2 mg/L
Flow		Calibrated device		
Fluoride	16984-48-8	SM4500-F E	25	100

NONCONVENTIONAL POLLUTANTS

Pollutant & CAS No. (if available)	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
Hardness, Total		SM2340B		200 as CaCO3
Iron, Total	7439-89-6	200.7	12.5	50
Magnesium, Total	7439-95-4	200.7	10	50
Manganese, Total	7439-96-5	200.8	0.1	0.5
Molybdenum, Total	7439-98-7	200.8	0.1	0.5
Nitrate + Nitrite Nitrogen (as N)		SM4500-NO3- E/F/H		100
Nitrogen, Total Kjeldahl (as N)		SM4500-N_{org}B/C and SM4500NH_3-B/C/D/EF/G/H		300
NWTPH Dx [4]		Ecology NWTPH Dx	250	250
NWTPH Gx [5]		Ecology NWTPH Gx	250	250
Phosphorus, Total (as P)		SM 4500 PB followed by SM4500-PE/PF	3	10
Salinity		SM2520-B		3 practical salinity units or scale (PSU or PSS)

NONCONVENTIONAL POLLUTANTS

Pollutant & CAS No. (if available)	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
Settleable Solids		SM2540 -F		Sample and limit dependent
Soluble Reactive Phosphorus (as P)		SM4500-P E/F/G	3	10
Sulfate (as mg/L SO_4)		SM4110-B		0.2 mg/L
Sulfide (as mg/L S)		SM4500-S^2F/D/E/G		0.2 mg/L
Sulfite (as mg/L SO_3)		SM4500-SO3B		2 mg/L
Temperature (max. 7-day avg.)		Analog recorder or Use micro-recording devices known as thermistors		0.2º C
Tin, Total	7440-31-5	200.8	0.3	1.5
Titanium, Total	7440-32-6	200.8	0.5	2.5
Total Coliform		SM 9221B, 9222B, 9223B	N/A	Specified in method - sample aliquot dependent
Total Organic Carbon		SM5310-B/C/D		1 mg/L
Total dissolved solids		SM2540 C		20 mg/L

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
METALS, CYANIDE & TOTAL PHENOLS					
Antimony, Total	114	7440-36-0	200.8	0.3	1.0
Arsenic, Total	115	7440-38-2	200.8	0.1	0.5
Beryllium, Total	117	7440-41-7	200.8	0.1	0.5
Cadmium, Total	118	7440-43-9	200.8	0.05	0.25
Chromium (hex) dissolved	119	18540-29-9	SM3500-Cr C	0.3	1.2
Chromium, Total	119	7440-47-3	200.8	0.2	1.0
Copper, Total	120	7440-50-8	200.8	0.4	2.0
Lead, Total	122	7439-92-1	200.8	0.1	0.5
Mercury, Total	123	7439-97-6	1631E	0.0002	0.0005
Nickel, Total	124	7440-02-0	200.8	0.1	0.5
Selenium, Total	125	7782-49-2	200.8	1.0	1.0
Silver, Total	126	7440-22-4	200.8	0.04	0.2
Thallium, Total	127	7440-28-0	200.8	0.09	0.36
Zinc, Total	128	7440-66-6	200.8	0.5	2.5

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
METALS, CYANIDE & TOTAL PHENOLS					
Cyanide, Total	121	57-12-5	335.4	5	10
Cyanide, Weak Acid Dissociable	121		SM4500-CN I	5	10
Cyanide, Free Amenable to Chlorination (Available Cyanide)	121		SM4500-CN G	5	10
Phenols, Total	65		EPA 420.1		50

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
ACID COMPOUNDS					
2-Chlorophenol	24	95-57-8	625	1.0	2.0
2,4-Dichlorophenol	31	120-83-2	625	0.5	1.0
2,4-Dimethylphenol	34	105-67-9	625	0.5	1.0
4,6-dinitro-o-cresol (2-methyl-4,6,-dinitrophenol)	60	534-52-1	625/1625B	2.0	4.0

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
ACID COMPOUNDS					
2,4 dinitrophenol	59	51-28-5	625	1.5	3.0
2-Nitrophenol	57	88-75-5	625	0.5	1.0
4-Nitrophenol	58	100-02-7	625	1.0	2.0
Parachlorometa cresol (4-chloro-3-methylphenol)	22	59-50-7	625	1.0	2.0
Pentachlorophenol	64	87-86-5	625	0.5	1.0
Phenol	65	108-95-2	625	2.0	4.0
2,4,6-Trichlorophenol	21	88-06-2	625	2.0	4.0

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
VOLATILE COMPOUNDS					
Acrolein	2	107-02-8	624	5	10

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
VOLATILE COMPOUNDS					
Acrylonitrile	3	107-13-1	624	1.0	2.0
Benzene	4	71-43-2	624	1.0	2.0
Bromoform	47	75-25-2	624	1.0	2.0
Carbon tetrachloride	6	56-23-5	624/601 or SM6230B	1.0	2.0
Chlorobenzene	7	108-90-7	624	1.0	2.0
Chloroethane	16	75-00-3	624/601	1.0	2.0
2-Chloroethylvinyl Ether	19	110-75-8	624	1.0	2.0
Chloroform	23	67-66-3	624 or SM6210B	1.0	2.0
Dibromochloromethane (chlordibromomethane)	51	124-48-1	624	1.0	2.0
1,2-Dichlorobenzene	25	95-50-1	624	1.9	7.6
1,3-Dichlorobenzene	26	541-73-1	624	1.9	7.6
1,4-Dichlorobenzene	27	106-46-7	624	4.4	17.6
Dichlorobromomethane	48	75-27-4	624	1.0	2.0

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
VOLATILE COMPOUNDS					
1,1-Dichloroethane	13	75-34-3	624	1.0	2.0
1,2-Dichloroethane	10	107-06-2	624	1.0	2.0
1,1-Dichloroethylene	29	75-35-4	624	1.0	2.0
1,2-Dichloropropane	32	78-87-5	624	1.0	2.0
1,3-dichloropropene (mixed isomers) (1,2-dichloropropylene)[6]	33	542-75-6	624	1.0	2.0
Ethylbenzene	38	100-41-4	624	1.0	2.0
Methyl bromide (Bromomethane)	46	74-83-9	624/601	5.0	10.0
Methyl chloride (Chloromethane)	45	74-87-3	624	1.0	2.0
Methylene chloride	44	75-09-2	624	5.0	10.0
1,1,2,2-Tetrachloroethane	15	79-34-5	624	1.9	2.0
Tetrachloroethylene	85	127-18-4	624	1.0	2.0
Toluene	86	108-88-3	624	1.0	2.0
1,2-Trans-Dichloroethylene (Ethylene dichloride)	30	156-60-5	624	1.0	2.0

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
VOLATILE COMPOUNDS					
1,1,1-Trichloroethane	11	71-55-6	624	1.0	2.0
1,1,2-Trichloroethane	14	79-00-5	624	1.0	2.0
Trichloroethylene	87	79-01-6	624	1.0	2.0
Vinyl chloride	88	75-01-4	624/SM6200B	1.0	2.0

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)					
Acenaphthene	1	83-32-9	625	0.2	0.4
Acenaphthylene	77	208-96-8	625	0.3	0.6
Anthracene	78	120-12-7	625	0.3	0.6
Benzidine	5	92-87-5	625	20	40
Benzyl butyl phthalate	67	85-68-7	625	0.3	0.6

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)					
Benzo(*a*)anthracene	72	56-55-3	625	0.3	0.6
Benzo(b)fluoranthene (3,4-benzofluoranthene)[7]	74	205-99-2	610/625	0.8	1.6
Benzo(j)fluoranthene[7]		**205-82-3**	625	0.5	1.0
Benzo(k)fluoranthene (11,12-benzofluoranthene)[7]	75	207-08-9	610/625	0.8	1.6
Benzo(r,s,t)pentaphene		**189-55-9**	625	1.3	5.0
Benzo(*a*)pyrene	73	50-32-8	610/625	0.5	1.0
Benzo(*ghi*)Perylene	79	191-24-2	610/625	0.5	1.0
Bis(*2-chloroethoxy)*methane	43	111-91-1	625	5.3	21.2
Bis(*2-chloroethyl*)ether	18	111-44-4	611/625	0.3	1.0
Bis(*2-chloroisopropyl*)ether	42	39638-32-9	625	0.5	1.0
Bis(*2-ethylhexyl*)phthalate	66	117-81-7	625	0.3	1.0
4-Bromophenyl phenyl ether	41	101-55-3	625	0.3	0.5
2-Chloronaphthalene	20	91-58-7	625	0.3	0.6

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)					
4-Chlorophenyl phenyl ether	40	7005-72-3	625	0.3	0.5
Chrysene	76	218-01-9	610/625	0.3	0.6
Dibenzo (a,h)acridine		**226-36-8**	610M/625M	2.5	10.0
Dibenzo (a,j)acridine		**224-42-0**	610M/625M	2.5	10.0
Dibenzo(a-*h*)anthracene (1,2,5,6-dibenzanthracene)	82	53-70-3	625	0.8	1.6
Dibenzo(a,e)pyrene		192-65-4	610M/625M	2.5	10.0
Dibenzo(a,h)pyrene		189-64-0	625M	2.5	10.0
3,3-Dichlorobenzidine	28	91-94-1	605/625	2.0	14.0
Diethyl phthalate	70	84-66-2	625	1.9	7.6
Dimethyl phthalate	71	131-11-3	625	1.6	6.4
Di-n-butyl phthalate	68	84-74-2	625	0.5	1.0
2,4-dinitrotoluene	35	121-14-2	609/625	1.0	2.0
2,6-dinitrotoluene	36	606-20-2	609/625	1.0	2.0

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)					
Di-n-octyl phthalate	69	117-84-0	625	0.3	0.6
1,2-Diphenylhydrazine (*as Azobenzene*)	37	122-66-7	1625B	5.0	20
Fluoranthene	39	206-44-0	625	0.3	0.6
Fluorene	80	86-73-7	625	0.3	0.6
Hexachlorobenzene	9	118-74-1	612/625	0.3	0.6
Hexachlorobutadiene	52	87-68-3	625	0.5	1.0
Hexachlorocyclopentadiene	53	77-47-4	1625B/625	2.0	4.0
Hexachloroethane	12	67-72-1	625	0.5	1.0
Indeno(*1,2,3-cd*)Pyrene	83	193-39-5	610/625	0.5	1.0
Isophorone	54	78-59-1	625	0.5	1.0
3-Methyl cholanthrene		**56-49-5**	625	2.0	8.0
Naphthalene	55	91-20-3	625	0.4	0.75
Nitrobenzene	56	98-95-3	625	0.5	1.0
N-Nitrosodimethylamine	61	62-75-9	607/625	2.0	4.0

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)					
N-Nitrosodi-n-propylamine	63	621-64-7	607/625	0.5	1.0
N-Nitrosodiphenylamine	62	86-30-6	625	1.0	2.0
Perylene		**198-55-0**	625	1.9	7.6
Phenanthrene	81	85-01-8	625	0.3	0.6
Pyrene	84	129-00-0	625	0.3	0.6
1,2,4-Trichlorobenzene	8	120-82-1	625	0.3	0.6

PRIORITY POLLUTANT	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
DIOXIN					
2,3,7,8-Tetra-Chlorodibenzo-P-Dioxin (2,3,7,8 TCDD)	129	1746-01-6	1613B	1.3 pg/L	5 pg/L

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
PESTICIDES/PCBs					
Aldrin	89	309-00-2	608	0.025	0.05
alpha-BHC	102	319-84-6	608	0.025	0.05
beta-BHC	103	319-85-7	608	0.025	0.05
gamma-BHC (Lindane)	104	58-89-9	608	0.025	0.05
delta-BHC	105	319-86-8	608	0.025	0.05
Chlordane [8]	91	57-74-9	608	0.025	0.05
4,4'-DDT	92	50-29-3	608	0.025	0.05
4,4'-DDE	93	72-55-9	608	0.025	0.05
4,4' DDD	94	72-54-8	608	0.025	0.05
Dieldrin	90	60-57-1	608	0.025	0.05
alpha-Endosulfan	95	959-98-8	608	0.025	0.05
beta-Endosulfan	96	33213-65-9	608	0.025	0.05
Endosulfan Sulfate	97	1031-07-8	608	0.025	0.05
Endrin	98	72-20-8	608	0.025	0.05

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
PESTICIDES/PCBs					
Endrin Aldehyde	99	7421-93-4	608	0.025	0.05
Heptachlor	100	76-44-8	608	0.025	0.05
Heptachlor Epoxide	101	1024-57-3	608	0.025	0.05
PCB-1242 [9]	106	53469-21-9	608 - Modified	0.05	0.2
PCB-1254	107	11097-69-1	608 - Modified	0.05	0.2
PCB-1221	108	11104-28-2	608 - Modified	0.05	0.2
PCB-1232	109	11141-16-5	608 - Modified	0.05	0.2
PCB-1248	110	12672-29-6	608 - Modified	0.05	0.2
PCB-1260	111	11096-82-5	608 - Modified	0.05	0.2
PCB-1016 [9]	112	12674-11-2	608 - Modified	0.05	0.2
Toxaphene	113	8001-35-2	608	0.24	0.5

PULP & PAPER POLLUTANTS (40CFR Part 430)

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
Adsorbable Organic Halides (AOX)		EPA 1650		20
2,3,7,8- Tetrachlorodibenzo-*p*-dioxin (TCDD) (this is also priority pollutant and is listed above)	1746-01-6	EPA 1613	1.3 pg/L	5 pg/L
2,3,7,8- Tetrachlorodibenzofuran (TCDF)	51207-31-9	EPA 1613	1.3 pg/L	5 pg/L
Trichlorosyringol		EPA 1653		2.5
3,4,5-Trichlorocatechol		EPA 1653		5.0
3,4,6-Trichlorocatechol		EPA 1653		5.0
3,4,5-Trichloroguaiacol		EPA 1653		2.5
3,4,6-Trichloroguaiacol		EPA 1653		2.5
4,5,6-Trichloroguaiacol		EPA 1653		2.5
2,4,5-Trichlorophenol		EPA 1653		2.5
2,4,6-Trichlorophenol		EPA 1653		2.5
Tetrachlorocatechol		EPA 1653		5.0

PULP & PAPER POLLUTANTS (40CFR Part 430)

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
Tetrachloroguaiacol		EPA 1653		5.0
2,3,4,6-Tetrachlorophenol		EPA 1653		2.5
Pentachlorphenol (this is also priority pollutant and is listed above)		EPA 1653		5.0

NONCONVENTIONALS – DIOXIN & FURAN CONGENERS

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
2,3,7,8- Tetrachlorodibenzo-*p*-dioxin (TCDD) (this is a priority pollutant and is also listed above)	1746-01-6	EPA 1613	1.3 pg/L	5 pg/L
Total TCDD	41903-57-5			
2,3,7,8- Tetrachlorodibenzofuran (TCDF)	51207-31-9		1.3 pg/L	5 pg/L
Total-TCDF	55722-27-5			

NONCONVENTIONALS – DIOXIN & FURAN CONGENERS

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
1,2,3,7,8- Pentachlorodibenzo-*p*-dioxin (PeCDD)	40321-76-4			
Total-PeCDD	36088-22-9			
1,2,3,7,8- Pentachlorodibenzofuran (PeCDF)	57117-41-6			
2,3,4,7,8-PeCDF	57117-31-4			
Total-PeCDF	30402-15-4			
1,2,3,4,7,8- Hexachlorodibenzo-*p*-dioxin (HxCDD)	39227-28-6			
1,2,3,6,7,8-HxCDD	57653-85-7			
1,2,3,7,8,9-HxCDD	19408-74-3			
Total-HxCDD	34465-46-8			
1,2,3,4,7,8- Hexachlorodibenzofuran (HxCDF)	70648-26-9			
1,2,3,6,7,8-HxCDF	57117-44-9			
1,2,3,7,8,9-HxCDF	72918-21-9			
2,3,4,6,7,8-HxCDF	60851-34-5			

NONCONVENTIONALS – DIOXIN & FURAN CONGENERS

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
Total-HxCDF	55684-94-1			
1,2,3,4,6,7,8- Heptachlorodibenzo-*p*-dioxin (HpCDD)	35822-46-9			
Total-HpCDD	37871-00-4			
1,2,3,4,6,7,8- Heptachlorodibenzofuran (HpCDF)	67562-39-4			
1,2,3,4,7,8,9-HpCDF	55673-89-7			
Total-HpCDF	38998-75-3			
Octachlorodibenzo-*p*-dioxin (OCDD)	3268-87-9			
Octachlorodibenzofuran (OCDF)	39001-02-0			

1. Detection level (DL) or detection limit means the minimum concentration of an analyte (substance) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero as determined by the procedure given in 40 CFR part 136, Appendix B.

2. Quantitation Level (QL) also known as Minimum Level of Quantitation (ML) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest to (1, 2, or 5) x 10^n, where n is an integer. (64 FR 30417).

ALSO GIVEN AS:
The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency December 2007).

3. Soluble Biochemical Oxygen Demand method note: First, filter the sample through a Millipore Nylon filter (or equivalent) - pore size of 0.45-0.50 um (prep all filters by filtering 250 ml of laboratory grade deionized water through the filter and discard). Then, analyze sample as per method 5210-B.

4. NWTPH Dx - Northwest Total Petroleum Hydrocarbons Diesel Extended Range – see https://fortress.wa.gov/ecy/publications/documents/97602.pdf

5. NWTPH Gx - Northwest Total Petroleum Hydrocarbons Gasoline Extended Range – see https://fortress.wa.gov/ecy/publications/documents/97602.pdf

6. 1, 3-dichloroproylene (mixed isomers) You may report this parameter as two separate parameters: cis-1, 3-dichlorpropropene (10061-01-5) and trans-1, 3-dichloropropene (10061-02-6).

7. Total Benzofluoranthenes - Because Benzo(b)fluoranthene, Benzo(j)fluoranthene and Benzo(k)fluoranthene co-elute you may report these three isomers as total benzofluoranthenes.

8. Chlordane – You may report alpha-chlordane (5103-71-9) and gamma-chlordane (5103-74-2) in place of chlordane (57-74-9). If you report alpha and gamma-chlordane, the DL/PQLs that apply are 0.025/0.050.

9. PCB 1016 & PCB 1242 – You may report these two PCB compounds as one parameter called PCB 1016/1242.

DEPARTMENT OF ECOLOGY
State of Washington

Issuance Date: September 4, 2014
Effective Date: October 1, 2014
Expiration Date: September 30, 2019

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT NO. WA0024449

State of Washington
DEPARTMENT OF ECOLOGY
Olympia, Washington 98504-7600

Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1342 et seq.

Clallam County Public Works Department
223 East 4th Street
Port Angeles, WA 98362

for

Sekiu Publicly Owned Treatment Works
Sekiu, WA 98381

is authorized to discharge in accordance with the Special and General Conditions that follow.

Plant Location:	176 Front Street Sekiu, Washington	Receiving Water: Clallam Bay (Strait of Juan de Fuca)

Treatment Type:
Rotating Biological Contactor with UV Disinfection

Richard Doenges
Southwest Region Manager
Water Quality Program
Washington State Department of Ecology

TABLE OF CONTENTS

SUMMARY OF PERMIT REPORT SUBMITTALS

Refer to the Special and General Conditions of this permit for additional submittal requirements.

Permit Section	Submittal	Frequency	First Submittal Date
S3.A.	Discharge Monitoring Report	Monthly	November 15, 2014
S3.A.	Discharge Monitoring Report	Quarterly	January 15, 2015
S3.A.	Discharge Monitoring Report	Annually	January 15, 2016
S3.E.	Reporting Permit Violations	As necessary	
S3.F.	Other Reporting	As necessary	
S4.B.	Plans for Maintaining Adequate Capacity	As necessary	
S4.D.	Notification of New or Altered Sources	As necessary	
S4.E.	Infiltration and Inflow Evaluation	Annually	February 15, 2015
S4.F.	Wasteload Assessment	Annually	February 15, 2015
S5.F.	Bypass Notification	As necessary	
S5.G.	Operations and Maintenance Manual Update	As necessary	
S5.G.	Operations and Maintenance Manual Update or Review Confirmation Letter	Annually	May 15, 2015
S6.E.	Annual List of Industrial Users	Annually	October 15, 2014
S8.	Application for Permit Renewal	1/permit cycle	April 1, 2019
S9.	Updated General Sewer Plan	1/permit cycle	Decemeber 31, 2017
G1.	Notice of Change in Authorization	As necessary	
G4.	Reporting Planned Changes	As necessary	
G5.	Engineering Report for Construction or Modification Activities	As necessary	
G7.	Notice of Permit Transfer	As necessary	
G10.	Duty to Provide Information	As necessary	
G13.	Payment of Fees	As assessed	
G20.	Compliance Schedules	As necessary	
G21.	Contract Submittal	As necessary	

SPECIAL CONDITIONS

S1. DISCHARGE LIMITS

A. Effluent Limits

All discharges and activities authorized by this permit must comply with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a level in excess of, that identified and authorized by this permit violates the terms and conditions of this permit.

Beginning on the effective date of this permit, the Permittee may discharge municipal wastewater to Clallam Bay (Strait of Juan de Fuca) at the permitted location subject to compliance with the following limits:

Effluent Limits: Outfall # 001 Latitude 48.267967 Longitude -124.296900		
Parameter	**Average Monthly [a]**	**Average Weekly [b]**
Biochemical Oxygen Demand (5-day) (BOD_5)	30 milligrams/liter (mg/L) 20 pounds/day (lbs/day) 85% removal of influent BOD_5	45 mg/L 30 lbs/day
Total Suspended Solids (TSS)	30 mg/L 26 lbs/day 85% removal of influent TSS	45 mg/L 39 lbs/day
Parameter	**Minimum**	**Maximum**
pH	6.0 standard units	9.0 standard units
Parameter	**Monthly Geometric mean**	**Weekly Geometric mean**
Fecal Coliform Bacteria [c]	200/100 milliliter (mL)	400/100 mL

a	Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month. To calculate the discharge value to compare to the limit, you add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured. See footnote c for fecal coliform calculations.
b	Average weekly discharge limitation means the highest allowable average of ``daily discharges" over a calendar week, calculated as the sum of all ``daily discharges" measured during a calendar week divided by the number of ``daily discharges" measured during that week. See footnote c for fecal coliform calculations.
c	The Department of Ecology (Ecology) provides directions to calculate the monthly and the weekly geometric mean in publication No. 04-10-020, Information Manual for Treatment Plant Operators available at: http://www.ecy.wa.gov/pubs/0410020.pdf

B. Mixing Zone Authorization

Mixing Zone for Outfall no.001

The following paragraphs define the maximum boundaries of the mixing zones:

Chronic Mixing Zone

The mixing zone is a circle with radius of 216 feet (66 meters) measured from the terminus of the outfall. The mixing zone extends from the outfall terminus to the top of the water surface. The concentration of pollutants at the edge of the chronic zone must meet chronic aquatic life criteria and human health criteria.

Acute Mixing Zone

The acute mixing zone is a circle with radius of 22 feet (7 meters) measured from the terminus of the outfall. The mixing zone extends from the outfall terminus to the top of the water surface. The concentration of pollutants at the edge of the acute zone must meet acute aquatic life criteria.

Available Dilution (Dilution Factor)	
Acute Aquatic Life Criteria	63
Chronic Aquatic Life Criteria	499
Human Health Criteria - Carcinogen	438
Human Health Criteria - Non-carcinogen	499

S2. MONITORING REQUIREMENTS

A. Monitoring Schedule

The Permittee must monitor in accordance with the following schedule and the requirements specified in Appendix A.

Parameter	**Units & Speciation**	**Minimum Sampling Frequency**	**Sample Type**
(1) Wastewater Influent			
Wastewater Influent means the raw sewage flow from the collection system into the treatment facility. Sample the wastewater entering the headworks of the treatment plant excluding any side-stream returns from inside the plant.			
BOD_5	mg/L	Weekly[a]	24-Hour Composite[b]
BOD_5	lbs/day	Weekly	Calculation[c]

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
TSS	mg/L	Weekly	24-Hour Composite
TSS	lbs/day	Weekly	Calculation
(2) Final Wastewater Effluent			
Final Wastewater Effluent means wastewater exiting the last treatment process or operation. Typically, this is after or at the exit from the chlorine contact chamber or other disinfection process. The Permittee may take effluent samples for the BOD_5 analysis before or after the disinfection process. If taken after, the Permittee must dechlorinate and reseed the sample.			
Flow	MGD	Continuous[d]	Metered/recorded
BOD_5	mg/L	Weekly	24-Hour Composite
BOD_5	lbs/day	Weekly	Calculation
BOD_5	% removal[e]	Weekly	Calculation
TSS	mg/L	Weekly	24-Hour Composite
TSS	lbs/day	Weekly	Calculation
TSS	% removal	Weekly	Calculation
Fecal Coliform[f]	# /100 ml	Weekly	Grab[g]
pH[h]	Standard Units	Daily	Grab
Temperature[i]	Degrees Centigrade (°C)	Daily	Measurement
(3) Effluent Characterization – Final Wastewater Effluent			
Total Ammonia	mg/L as N	Quarterly[j]	24-Hour Composite
Total Phosphorus	mg/L as P	Quarterly[j]	24-Hour Composite
Soluble Reactive Phosphorus	mg/L as P	Quarterly[j]	24-Hour Composite
Nitrate plus Nitrite Nitrogen	mg/L as N	Quarterly[j]	24-Hour Composite
Total Kjeldahl Nitrogen (TKN)	mg/L as N	Quarterly[j]	24-Hour Composite
(4) Permit renewal application requirements – final wastewater effluent			
Dissolved Oxygen	mg/L	Once per year[l]	Grab

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Oil and Grease	mg/L	Once per year[l]	Grab
Total Dissolved Solids	mg/L	Once per year[l]	24-Hour Composite
Total Hardness	mg/L	Once per year[l]	24-Hour Composite

(5) Updated General Sewer Plan

As specified in Special Condition S9.

a	Weekly means once per each calendar week and on a rotational basis throughout the days of the week, except weekends and holidays.
b	24-hour composite means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.
c	Calculations must be figured concurrently with the respective sample. Daily mass loading is calculated by the following formula: Concentration (in mg/L) X Flow (in MGD) X Conversion Factor (8.34) = lbs/day.
d	Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The Permittee must record and report the total daily flow rate.
e	% removal = $\frac{\text{Influent concentration (mg/L)} - \text{Effluent concentration (mg/L)}}{\text{Influent concentration (mg/L)}} \times 100$ Calculate the percent (%) removal of BOD_5 and TSS using the above equation.
f	Report a numerical value for fecal coliforms following the procedures in Ecology's *Information Manual for Wastewater Treatment Plant Operators*, Publication Number 04-10-020 available at: http://www.ecy.wa.gov/programs/wq/permits/guidance.html. Do not report a result as too numerous to count (TNTC).
g	Grab means an individual sample collected over a 15 minute, or less, period.
h	Report the daily pH and the minimum and maximum for the monthly reporting period.
i	Temperature grab sampling must occur when the effluent is at or near its daily maximum temperature, which usually occurs in the late afternoon. If measuring temperature continuously, the Permittee must determine and report a daily maximum from half-hour measurements in a 24-hour period. Continuous monitoring instruments must achieve an accuracy of 0.2 degrees C and the Permittee must verify accuracy annually.
j	Quarterly sampling periods are January through March, April through June, July through September, and October through December, **starting October 1, 2014.**

Parameter		Units & Speciation	Minimum Sampling Frequency	Sample Type
l	Once per year sampling periods are January through December, **starting January 1, 2015**			

B. Sampling and Analytical Procedures

Samples and measurements taken to meet the requirements of this permit must represent the volume and nature of the monitored parameters. The Permittee must conduct representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions that may affect effluent quality.

Sampling and analytical methods used to meet the monitoring requirements specified in this permit must conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 Code of Federal Regulations (CFR) Part 136 [or as applicable in 40 CFR subchapters N (Parts 400–471) or O (Parts 501-503)] unless otherwise specified in this permit. Ecology may only specify alternative methods for parameters without permit limits and for those parameters without an EPA approved test method in 40 CFR Part 136.

C. Flow Measurement, Field Measurement, and Continuous Monitoring Devices

The Permittee must:

1. Select and use appropriate flow measurement, field measurement, and continuous monitoring devices and methods consistent with accepted scientific practices.

2. Install, calibrate, and maintain these devices to ensure the accuracy of the measurements is consistent with the accepted industry standard and the manufacturer's recommendation for that type of device.

3. Use field measurement devices as directed by the manufacturer and do not use reagents beyond their expiration dates.

4. Calibrate these devices at the frequency recommended by the manufacturer.

5. Calibrate flow-monitoring devices at a minimum frequency of at least one calibration per year.

6. Maintain calibration records for at least three years.

D. Laboratory Accreditation

The Permittee must ensure that all monitoring data required by Ecology for permit specified parameters is prepared by a laboratory registered or accredited under the provisions of chapter 173-50 Washington Administrative Code (WAC), *Accreditation of Environmental Laboratories*. Flow, temperature, settleable solids, conductivity, and internal process control parameters are exempt from this requirement.

E. Request for Reduction in Monitoring

The Permittee may request a reduction of the sampling frequency after 24 months of monitoring. Ecology will review each request and at its discretion grant the request when it reissues the permit or by a permit modification.

The Permittee must:

1. Provide a written request.

2. Clearly state the parameters for which it is requesting reduced monitoring.

3. Clearly state the justification for the reduction.

S3. REPORTING AND RECORDING REQUIREMENTS

The Permittee must monitor and report in accordance with the following conditions. Falsification of information submitted to Ecology is a violation of the terms and conditions of this permit.

A. Reporting

The first monitoring period begins on the effective date of the permit. The Permittee must:

1. Summarize, report, and submit monitoring data obtained during each monitoring period on the electronic Discharge Monitoring Report (DMR) form provided by Ecology within WAWebDMR. Include data for each of the parameters tabulated in Special Condition S2 and as required by the form. Report a value for each day sampling occurred (unless specifically exempted in the permit) and for the summary values (when applicable) included on the electronic form.

   To find out more information and to sign up for WAWebDMR go to: http://www.ecy.wa.gov/programs/wq/permits/paris/webdmr.html

   If unable to submit electronically (for example, if you do not have an internet connection), the Permittee must contact Ecology to request a waiver and obtain instructions on how to obtain a paper copy DMR.

2. Enter the "No Discharge" reporting code for an entire DMR, for a specific monitoring point, or for a specific parameter as appropriate, if the Permittee did not discharge wastewater or a specific pollutant during a given monitoring period.

3. Report single analytical values below detection as "less than the detection level (DL)" by entering < followed by the numeric value of the detection level (e.g. < 2.0) on the DMR. If the method used did not meet the minimum DL and quantitation level (QL) identified in the permit, report the actual QL and DL in the comments or in the location provided.

4. Report the test method used for analysis in the comments if the laboratory used an alternative method not specified in the permit and as allowed in Appendix A.

5. Calculate average values (unless otherwise specified in the permit) using:

   a. The reported numeric value for all parameters measured between the agency-required detection value and the agency-required quantitation value.

   b. One-half the detection value (for values reported below detection) if the lab detected the parameter in another sample for the reporting period.

   c. Zero (for values reported below detection) if the lab did not detect the parameter in another sample for the reporting period.

6. Report single-sample grouped parameters (for example priority pollutants, PAHs, pulp and paper chlorophenolics, TTOs) on the WAWebDMR form and include: sample date, concentration detected, detection limit (DL) (as necessary), and laboratory quantitation level (QL) (as necessary). The Permittee must also submit an electronic PDF copy of the laboratory report using WAWebDMR.

   If the Permittee has obtained a waiver from electronic reporting or if submitting prior to the compliance date, the Permittee must submit a paper copy of the laboratory report providing the following information: date sampled, sample location, date of analysis, parameter name, CAS number, analytical method/number, detection limit (DL), laboratory quantitation level (QL), reporting units, and concentration detected.

   The contract laboratory reports must also include information on the chain of custody, QA/QC results, and documentation of accreditation for the parameter.

7. Ensure that DMRs are electronically submitted no later than the dates specified below, unless otherwise specified in this permit.

   If the Permittee has obtained a waiver, it must ensure that paper forms are postmarked or received by Ecology no later than the dates specified below, unless otherwise specified in this permit.

8. Submit DMRs for parameters with the monitoring frequencies specified in S2 (monthly, quarterly, annual, etc.) at the reporting schedule identified below. The Permittee must:

   a. Submit **monthly** DMRs by the 15th day of the following month.

   b. Submit **quarterly DMRs**, unless otherwise specified in the permit, by the 15th day of the month following the monitoring period. Quarterly sampling periods are January through March, April through June, July through September, and October through December.

   c. Submit **annual DMRs**, unless otherwise specified in the permit, by January 15 for the previous calendar year. The annual sampling period is the calendar year.

9. Submit reports to Ecology online using Ecology's electronic WAWebDMR submittal forms (electronic DMRs) as required above. Send paper reports to Ecology at:

Water Quality Permit Coordinator
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

B. Records Retention

The Permittee must retain records of all monitoring information for a minimum of three years. Such information must include all calibration and maintenance records and all original 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. The Permittee must extend this period of retention during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

C. Recording of Results

For each measurement or sample taken, the Permittee must record the following information:

1. The date, exact place, method, and time of sampling or measurement

2. The individual who performed the sampling or measurement

3. The dates the analyses were performed

4. The individual who performed the analyses

5. The analytical techniques or methods used

6. The results of all analyses

D. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by Special Condition S2 of this permit, then the Permittee must include the results of such monitoring in the calculation and reporting of the data submitted in the Permittee's DMR unless otherwise specified by Special Condition S2.

E. Reporting Permit Violations

The Permittee must take the following actions when it violates or is unable to comply with any permit condition:

1. Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance and correct the problem.

2. If applicable, immediately repeat sampling and analysis. Submit the results of any repeat sampling to Ecology within 30 days of sampling.

a. Immediate Reporting

The Permittee must immediately report to Ecology and the Department of Health, Shellfish Program, and Clallam County Environmental Health Division at the numbers listed below, all:

- Failures of the disinfection system.
- Collection system overflows.
- Plant bypasses discharging to marine surface waters.
- Any other failures of the sewage system (pipe breaks, etc.)

Southwest Regional Office	360-407-6300
Department of Health, Shellfish Program	360-236-3330 (business hours) 360-789-8962 (after business hours)
Clallam County Environmental Health Division	360-417-2258

b. Twenty-Four-Hour Reporting

The Permittee must report the following occurrences of noncompliance by telephone, to Ecology at the telephone number listed above, within 24 hours from the time the Permittee becomes aware of any of the following circumstances:

i. Any noncompliance that may endanger health or the environment, unless previously reported under immediate reporting requirements.

ii. Any unanticipated bypass that causes an exceedance of an effluent limit in the permit (See Part S5.F, "Bypass Procedures").

iii. Any upset that causes an exceedance of an effluent limit in the permit (See G.15, "Upset").

iv. Any violation of a maximum daily or instantaneous maximum discharge limit for any of the pollutants in Section S1.A of this permit.

v. Any overflow prior to the treatment works, whether or not such overflow endangers health or the environment or exceeds any effluent limit in the permit.

c. Report Within Five Days

The Permittee must also submit a written report within five days of the time that the Permittee becomes aware of any reportable event under subparts a or b, above. The report 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 the Permittee expects the noncompliance to continue if not yet corrected.

iv. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

v. If the noncompliance involves an overflow prior to the treatment works, an estimate of the quantity (in gallons) of untreated overflow.

d. Waiver of Written Reports

Ecology may waive the written report required in subpart c, above, on a case-by-case basis upon request if the Permittee has submitted a timely oral report.

e. All Other Permit Violation Reporting

The Permittee must report all permit violations, which do not require immediate or within 24 hours reporting, when it submits monitoring reports for S3.A ("Reporting"). The reports must contain the information listed in subpart c, above. Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

f. Report Submittal

The Permittee must submit reports to the address listed in S3.A.

F. Other Reporting

1. Spills of Oil or Hazardous Materials

The Permittee must report a spill of oil or hazardous materials in accordance with the requirements of Revised Code of Washington (RCW) 90.56.280 and chapter 173-303-145. You can obtain further instructions at the following website: http://www.ecy.wa.gov/programs/spills/other/reportaspill.htm .

2. Failure to Submit Relevant or Correct Facts

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to Ecology, it must submit such facts or information promptly.

G. Maintaining a Copy of this Permit

The Permittee must keep a copy of this permit at the facility and make it available upon request to Ecology inspectors.

S4. FACILITY LOADING

A. Design Criteria

The flows or waste loads for the permitted facility must not exceed the following design criteria:

Maximum Month Design Flow (MMDF)	0.145 MGD
BOD_5 Influent Loading for Maximum Month	135 lbs/day
TSS Influent Loading for Maximum Month	171 lbs/day

B. Plans for Maintaining Adequate Capacity

1. Conditions Triggering Plan Submittal

The Permittee must submit a plan and a schedule for continuing to maintain capacity to Ecology when:

a. The actual flow or waste load reaches 85 percent of any one of the design criteria in S4.A for three consecutive months.

b. The projected plant flow or loading would reach design capacity within five years.

2. Plan and Schedule Content

The plan and schedule must identify the actions necessary to maintain adequate capacity for the expected population growth and to meet the limits and requirements of the permit. The Permittee must consider the following topics and actions in its plan.

a. Analysis of the present design and proposed process modifications

b. Reduction or elimination of excessive infiltration and inflow of uncontaminated ground and surface water into the sewer system

c. Limits on future sewer extensions or connections or additional waste loads

d. Modification or expansion of facilities

e. Reduction of industrial or commercial flows or waste loads

Engineering documents associated with the plan must meet the requirements of WAC 173-240-060, "Engineering Report," and be approved by Ecology prior to any construction.

C. 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.

D. Notification of New or Altered Sources

1. The Permittee must submit written notice to Ecology whenever any new discharge or a substantial change in volume or character of an existing discharge into the wastewater treatment plant is proposed which:

   a. Would interfere with the operation of, or exceed the design capacity of, any portion of the wastewater treatment plant.

   b. Is not part of an approved general sewer plan or approved plans and specifications.

   c. Is subject to pretreatment standards under 40 CFR Part 403 and Section 307(b) of the Clean Water Act.

2. This notice must include an evaluation of the wastewater treatment plant's ability to adequately transport and treat the added flow and/or waste load, the quality and volume of effluent to be discharged to the treatment plant, and the anticipated impact on the Permittee's effluent [40 CFR 122.42(b)].

E. Infiltration and Inflow Evaluation

1. The Permittee must conduct an infiltration and inflow evaluation. Refer to the U.S. EPA publication, I/I Analysis and Project Certification, available as Publication No. 97-03 at:
   http://www.ecy.wa.gov/programs/wq/permits/guidance.html

2. The Permittee may use monitoring records to assess measurable infiltration and inflow.

3. The Permittee must prepare a report summarizing any measurable infiltration and inflow. If infiltration and inflow have increased by more than 15 percent from that found in the previous report based on equivalent rainfall, the report must contain a plan and a schedule to locate the sources of infiltration and inflow and to correct the problem.

4. The Permittee must submit a report summarizing the results of the evaluation and any recommendations for corrective actions by **February 15, 2015**, and **annually** thereafter.

F. Wasteload Assessment

The Permittee must conduct an assessment of its influent flow and waste load and submit a report to Ecology by **February 15, 2015**, and **annually** thereafter.

The report must contain:

1. A description of compliance or noncompliance with the permit effluent limits.

2. A comparison between the existing and design:

   a. Monthly average dry weather and wet weather flows.

   b. Peak flows.

   c. BOD_5 loading.

   d. Total suspended solids loadings.

3. The percent change in the above parameters since the previous report (except for the first report).

4. The present and design population or population equivalent.

5. The projected population growth rate.

6. The estimated date upon which the Permittee expects the wastewater treatment plant to reach design capacity, according to the most restrictive of the parameters above.

Ecology may modify the interval for review and reporting if it determines that a different frequency is sufficient.

S5. OPERATION AND MAINTENANCE

The Permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances), which are installed to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes keeping a daily operation logbook (paper or electronic), adequate laboratory controls, and appropriate quality assurance procedures. This provision of the permit requires the Permittee to operate backup or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of this permit.

A. Certified Operator

This permitted facility must be operated by an operator certified by the state of Washington for at least a Class II plant. This operator must be in responsible charge of

the day-to-day operation of the wastewater treatment plant. An operator certified for at least a Class I plant must be in charge during all regularly scheduled shifts.

B. Operation and Maintenance Program

The Permittee must:

1. Institute an adequate operation and maintenance program for the entire sewage system.

2. Keep maintenance records on all major electrical and mechanical components of the treatment plant, as well as the sewage system and pumping stations. Such records must clearly specify the frequency and type of maintenance recommended by the manufacturer and must show the frequency and type of maintenance performed.

3. Make maintenance records available for inspection at all times.

C. Short-Term Reduction

The Permittee must schedule any facility maintenance, which might require interruption of wastewater treatment and degrade effluent quality, during non-critical water quality periods and carry this maintenance out in a manner approved by Ecology.

If a Permittee contemplates a reduction in the level of treatment that would cause a violation of permit discharge limits on a short-term basis for any reason, and such reduction cannot be avoided, the Permittee must:

1. Give written notification to Ecology, if possible, 30 days prior to such activities.

2. Detail the reasons for, length of time of, and the potential effects of the reduced level of treatment.

This notification does not relieve the Permittee of its obligations under this permit.

D. Electrical Power Failure

The Permittee must ensure that adequate safeguards prevent the discharge of untreated wastes or wastes not treated in accordance with the requirements of this permit during electrical power failure at the treatment plant and/or sewage lift stations. Adequate safeguards include, but are not limited to, alternate power sources, standby generator(s), or retention of inadequately treated wastes.

The Permittee must maintain Reliability Class II (EPA 430/9-74-001) at the wastewater treatment plant. Reliability Class II requires a backup power source sufficient to operate all vital components and critical lighting and ventilation during peak wastewater flow conditions. Vital components used to support the secondary processes (i.e., mechanical aerators or aeration basin air compressors) need not be operable to full levels of treatment, but must be sufficient to maintain the biota.

E. Prevent Connection of Inflow

The Permittee must strictly enforce its sewer ordinances and not allow the connection of inflow (roof drains, foundation drains, etc.) to the sanitary sewer system.

F. Bypass Procedures

This permit prohibits a bypass, which is the intentional diversion of waste streams from any portion of a treatment facility. Ecology may take enforcement action against a Permittee for a bypass unless one of the following circumstances (1, 2, or 3) applies.

1. Bypass for essential maintenance without the potential to cause violation of permit limits or conditions.

   This permit authorizes a bypass if it allows for essential maintenance and does not have the potential to cause violations of limits or other conditions of this permit, or adversely impact public health as determined by Ecology prior to the bypass. The Permittee must submit prior notice, if possible, at least 10 days before the date of the bypass.

2. Bypass which is unavoidable, unanticipated, and results in noncompliance of this permit.

   This permit authorizes such a bypass only if:

   a. Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.

   b. No feasible alternatives to the bypass exist, such as:

      - The use of auxiliary treatment facilities.
      - Retention of untreated wastes.
      - Maintenance during normal periods of equipment downtime, but not if the Permittee should have installed adequate backup equipment in the exercise of reasonable engineering judgment to prevent a bypass.
      - Transport of untreated wastes to another treatment facility.

   c. Ecology is properly notified of the bypass as required in Special Condition S3.E of this permit.

3. If bypass is anticipated and has the potential to result in noncompliance of this permit.

a. The Permittee must notify Ecology at least 30 days before the planned date of bypass. The notice must contain:

- A description of the bypass and its cause.
- An analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing.
- A cost-effectiveness analysis of alternatives including comparative resource damage assessment.
- The minimum and maximum duration of bypass under each alternative.
- A recommendation as to the preferred alternative for conducting the bypass.
- The projected date of bypass initiation.
- A statement of compliance with State Environmental Policy Act (SEPA).
- A request for modification of water quality standards as provided for in WAC 173-201A-410, if an exceedance of any water quality standard is anticipated.
- Details of the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.

b. For probable construction bypasses, the Permittee must notify Ecology of the need to bypass as early in the planning process as possible. The Permittee must consider the analysis required above during preparation of the engineering report or facilities plan and plans and specifications and must include these to the extent practical. In cases where the Permittee determines the probable need to bypass early, the Permittee must continue to analyze conditions up to and including the construction period in an effort to minimize or eliminate the bypass.

c. Ecology will consider the following prior to issuing an administrative order for this type of bypass:

- If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.
- If feasible alternatives to bypass exist, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.

- If the Permittee planned and scheduled the bypass to minimize adverse effects on the public and the environment.

After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, Ecology will approve or deny the request. Ecology will give the public an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Ecology will approve a request to bypass by issuing an administrative order under RCW 90.48.120.

G. Operations and Maintenance (O&M) Manual

1. O&M Manual Submittal and Requirements

The Permittee must:

a. Review the O&M Manual at least annually and confirm this review by letter to Ecology by **May 15th** of **each year**.

b. Submit to Ecology for review and approval substantial changes or updates to the O&M Manual whenever it incorporates them into the manual.

c. Keep the approved O&M Manual at the permitted facility.

d. Follow the instructions and procedures of this manual.

2. O&M Manual Components

In addition to the requirements of WAC 173-240-080 (1) through (5), the O&M Manual must include:

a. Emergency procedures for cleanup in the event of wastewater system upset or failure.

b. A review of system components which if failed could pollute surface water or could impact human health. Provide a procedure for a routine schedule of checking the function of these components.

c. Wastewater system maintenance procedures that contribute to the generation of process wastewater.

d. Reporting protocols for submitting reports to Ecology to comply with the reporting requirements in the discharge permit.

e. Any directions to maintenance staff when cleaning or maintaining other equipment or performing other tasks which are necessary to protect the operation of the wastewater system (for example, defining maximum allowable discharge rate for draining a tank, blocking all floor drains before beginning the overhaul of a stationary engine).

f. The treatment plant process control monitoring schedule.

g. Minimum staffing adequate to operate and maintain the treatment processes and carry out compliance monitoring required by the permit.

h. Specify other items on case-by-case basis such as O&M for collection systems pump stations, lagoon liners, etc.

S6. PRETREATMENT

A. General Requirements

The Permittee must work with Ecology to ensure that all commercial and industrial users of the Publicly Owned Treatment Works (POTW) comply with the pretreatment regulations in 40 CFR Part 403 and any additional regulations that the Environmental Protection Agency (U.S. EPA) may promulgate under Section 307(b) (pretreatment) and 308 (reporting) of the Federal Clean Water Act.

B. Duty to Enforce Discharge Prohibitions

1. Under federal regulations [40 CFR 403.5(a) and (b)], the Permittee must not authorize or knowingly allow the discharge of any pollutants into its POTW which may be reasonably expected to cause pass through or interference, or which otherwise violate general or specific discharge prohibitions contained in 40 CFR Part 403.5 or WAC-173-216-060.

2. The Permittee must not authorize or knowingly allow the introduction of any of the following into their treatment works:

a. Pollutants which create a fire or explosion hazard in the POTW (including, but not limited to waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21).

b. Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, or greater than 11.0 standard units, unless the works are specifically designed to accommodate such discharges.

c. Solid or viscous pollutants in amounts that could cause obstruction to the flow in sewers or otherwise interfere with the operation of the POTW.

d. Any pollutant, including oxygen-demanding pollutants, (BOD_5, etc.) released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW.

e. Petroleum oil, non-biodegradable cutting oil, or products of mineral origin in amounts that will cause interference or pass through.

f. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity which may cause acute worker health and safety problems.

g. Heat in amounts that will inhibit biological activity in the POTW resulting in interference but in no case heat in such quantities such that the temperature at the POTW headworks exceeds 40 degrees Centigrade (104 degrees Fahrenheit) unless Ecology, upon request of the Permittee, approves, in writing, alternate temperature limits.

h. Any trucked or hauled pollutants, except at discharge points designated by the Permittee.

i. Wastewaters prohibited to be discharged to the POTW by the Dangerous Waste Regulations (chapter 173-303 WAC), unless authorized under the Domestic Sewage Exclusion (WAC 173-303-071).

3. The Permittee must also not allow the following discharges to the POTW unless approved in writing by Ecology:

a. Noncontact cooling water in significant volumes.

b. Stormwater and other direct inflow sources.

c. Wastewaters significantly affecting system hydraulic loading, which do not require treatment, or would not be afforded a significant degree of treatment by the system.

4. The Permittee must notify Ecology if any industrial user violates the prohibitions listed in this section (S6.B), and initiate enforcement action to promptly curtail any such discharge.

C. Wastewater Discharge Permit Required

The Permittee must

1. Establish a process for authorizing non-domestic wastewater discharges that ensures all SIUs in all tributary areas meet the applicable state waste discharge permit (SWDP) requirements in accordance with chapter 90.48 RCW and chapter 173-216 WAC.

2. Immediately notify Ecology of any proposed discharge of wastewater from a source, which may be a significant industrial user (SIU) [see fact sheet definitions or refer to 40 CFR 403.3(t)(i)(ii)].

3. Require all SIUs to obtain a SWDP from Ecology prior to accepting their non-domestic wastewater, or require proof that Ecology has determined they do not require a permit.

4. Require the documentation as described in S6.C.3 at the earliest practicable date as a condition of continuing to accept non-domestic wastewater discharges from a previously undiscovered, currently discharging and unpermitted SIU.

5. Require sources of non-domestic wastewater, which do not qualify as SIUs but merit a degree of oversight, to apply for a SWDP and provide it a copy of the application and any Ecology responses.

6. Keep all records documenting that its users have met the requirements of S6.C.

D. Identification and Reporting of Existing, New, and Proposed Industrial Users

1. The Permittee must take continuous, routine measures to identify all existing, new, and proposed SIUs and potential significant industrial users (PSIUs) discharging or proposing to discharge to the Permittee's sewer system (see **Appendix C** of the fact sheet for definitions).

2. Within 30 days of becoming aware of an unpermitted existing, new, or proposed industrial user who may be a significant industrial user (SIU), the Permittee must notify such user by registered mail that, if classified as an SIU, they must apply to Ecology and obtain a State Waste Discharge Permit. The Permittee must send a copy of this notification letter to Ecology within this same 30-day period.

3. The Permittee must also notify all Potential SIUs (PSIUs), as they are identified, that if their classification should change to an SIU, they must apply to Ecology for a State Waste Discharge Permit within 30 days of such change.

E. Annual Submittal of List of Industrial Users

The Permittee must annually submit to Ecology a list summarizing all existing and proposed SIUs and PSIUs. The Permittee must submit this list to Ecology by **October 15th** of **each year** of the permit.

S7. SOLID WASTES

A. Solid Waste Handling

The Permittee must handle and dispose of all solid waste material in such a manner as to prevent its entry into state ground or surface water.

B. Leachate

The Permittee must not allow leachate from its solid waste material to enter state waters without providing all known, available, and reasonable methods of treatment, nor allow such leachate to cause violations of the State Surface Water Quality Standards, Chapter 173-201A WAC, or the State Ground Water Quality Standards, Chapter 173-200 WAC. The Permittee must apply for a permit or permit modification as may be required for such discharges to state ground or surface waters.

S8. APPLICATION FOR PERMIT RENEWAL OR MODIFICATION FOR FACILITY CHANGES

The Permittee must submit an application for renewal of this permit by **April 1, 2019**.

The Permittee must also submit a new application or supplement at least 180 days prior to commencement of discharges, resulting from the activities listed below, which may result in

permit violations. These activities include any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility.

S9. UPDATED GENERAL SEWER PLAN

A. The Permittee must prepare and submit two copies of an updated General Sewer Plan, in accordance with chapter 173-240 WAC, to Ecology for review and approval by **December 31, 2017**.

B. The Plan must assess the condition and adequacy of the existing collection system, treatment system, and outfall. The Plan must address all planning elements contained in WAC 173-240-50, and identify any improvements necessary to maintain the system components in good operating condition and satisfy all applicable regulatory requirements over the term of a 20-year planning period.

C. As required by RCW 90.48.112, the Plan must address the feasibility of using reclaimed water as defined in RCW 90.46.010. Additionally, the plan should address any appropriate requirements as described in the following guidance documents:

1. *Criteria for Sewage Works Design* (Washington State Department of Ecology, Publication No. 98-37 WQ, 2008)

2. Design Criteria for Municipal Wastewater Land Treatment Systems for Public Health Protection (Washington State Department of Health, 1994)

3. *Water Reclamation and Reuse Standards* (Washington State Department of Ecology and Department of Health Publication No. 97-23, 1997).

GENERAL CONDITIONS

G1. SIGNATORY REQUIREMENTS

A. All applications, reports, or information submitted to Ecology must be signed and certified.

1. In the case of corporations, by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or

- The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

- In the case of a partnership, by a general partner.

- In the case of sole proprietorship, by the proprietor.

- In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official.

Applications for permits for domestic wastewater facilities that are either owned or operated by, or under contract to, a public entity shall be submitted by the public entity.

B. All reports required by this permit and other information requested by Ecology must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above and submitted to Ecology.

2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

C. Changes to authorization. If an authorization under paragraph G1.2, above, is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph G1.2, above, must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Certification. Any person signing a document under this section must make the following certification:

> "I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

G2. RIGHT OF INSPECTION AND ENTRY

The Permittee must allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law:

A. To enter upon the premises where a discharge is located or where any records must be kept under the terms and conditions of this permit.

B. To have access to and copy, at reasonable times and at reasonable cost, any records required to be kept under the terms and conditions of this permit.

C. To inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.

D. To sample or monitor, at reasonable times, any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

G3. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated either at the request of any interested person (including the Permittee) or upon Ecology's initiative. However, the permit may only be modified, revoked and reissued, or terminated for the reasons specified in 40 CFR 122.62, 40 CFR 122.64 or WAC 173-220-150 according to the procedures of 40 CFR 124.5.

A. The following are causes for terminating this permit during its term, or for denying a permit renewal application:

1. Violation of any permit term or condition.

2. Obtaining a permit by misrepresentation or failure to disclose all relevant facts.

3. A material change in quantity or type of waste disposal.

4. A determination that the permitted activity endangers human health or the environment, or contributes to water quality standards violations and can only be regulated to acceptable levels by permit modification or termination.

5. A change in any condition that requires either a temporary or permanent reduction, or elimination of any discharge or sludge use or disposal practice controlled by the permit.

6. Nonpayment of fees assessed pursuant to RCW 90.48.465.

7. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090.

B. The following are causes for modification but not revocation and reissuance except when the Permittee requests or agrees:

1. A material change in the condition of the waters of the state.

2. New information not available at the time of permit issuance that would have justified the application of different permit conditions.

3. Material and substantial alterations or additions to the permitted facility or activities which occurred after this permit issuance.

4. Promulgation of new or amended standards or regulations having a direct bearing upon permit conditions, or requiring permit revision.

5. The Permittee has requested a modification based on other rationale meeting the criteria of 40 CFR Part 122.62.

6. Ecology has determined that good cause exists for modification of a compliance schedule, and the modification will not violate statutory deadlines.

7. Incorporation of an approved local pretreatment program into a municipality's permit.

C. The following are causes for modification or alternatively revocation and reissuance:

1. When cause exists for termination for reasons listed in 1.a through 1,g of this section, and Ecology determines that modification or revocation and reissuance is appropriate.

2. When Ecology has received notification of a proposed transfer of the permit. A permit may also be modified to reflect a transfer after the effective date of an automatic transfer (General Condition G7) but will not be revoked and reissued after the effective date of the transfer except upon the request of the new Permittee.

G4. REPORTING PLANNED CHANGES

The Permittee must, as soon as possible, but no later than 180 days prior to the proposed changes, give notice to Ecology of planned physical alterations or additions to the permitted facility, production increases, or process modification which will result in:

A. The permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b).

B. A significant change in the nature or an increase in quantity of pollutants discharged.

C. A significant change in the Permittee's sludge use or disposal practices. Following such notice, and the submittal of a new application or supplement to the existing application, along with required engineering plans and reports, this permit may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G5. PLAN REVIEW REQUIRED

Prior to constructing or modifying any wastewater control facilities, an engineering report and detailed plans and specifications must be submitted to Ecology for approval in accordance with chapter 173-240 WAC. Engineering reports, plans, and specifications must be submitted at least 180 days prior to the planned start of construction unless a shorter time is approved by Ecology. Facilities must be constructed and operated in accordance with the approved plans.

G6. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in this permit excuses the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G7. TRANSFER OF THIS PERMIT

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the Permittee must notify the succeeding owner or controller of the existence of this permit by letter, a copy of which must be forwarded to Ecology.

A. Transfers by Modification

Except as provided in paragraph (2) below, this permit may be transferred by the Permittee to a new owner or operator only if this permit has been modified or revoked and reissued under 40 CFR 122.62(b)(2), or a minor modification made under 40 CFR 122.63(d), to identify the new Permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

B. Automatic Transfers

This permit may be automatically transferred to a new Permittee if:

1. The Permittee notifies Ecology at least 30 days in advance of the proposed transfer date.

2. The notice includes a written agreement between the existing and new Permittees containing a specific date transfer of permit responsibility, coverage, and liability between them.

3. Ecology does not notify the existing Permittee and the proposed new Permittee of its intent to modify or revoke and reissue this permit. A modification under this subparagraph may also be minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the written agreement.

G8. REDUCED PRODUCTION FOR COMPLIANCE

The Permittee, in order to maintain compliance with its permit, must control production and/or all discharges upon reduction, loss, failure, or bypass of the treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

G9. REMOVED SUBSTANCES

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must not be resuspended or reintroduced to the final effluent stream for discharge to state waters.

G10. DUTY TO PROVIDE INFORMATION

The Permittee must submit to Ecology, within a reasonable time, all information which Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee must also submit to Ecology upon request, copies of records required to be kept by this permit.

G11. OTHER REQUIREMENTS OF 40 CFR

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

G12. ADDITIONAL MONITORING

Ecology may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G13. PAYMENT OF FEES

The Permittee must submit payment of fees associated with this permit as assessed by Ecology.

G14. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit is deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to

$10,000 and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit may incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to $10,000 for every such violation. Each and every such violation is a separate and distinct offense, and in case of a continuing violation, every day's continuance is deemed to be a separate and distinct violation.

G15. UPSET

Definition – "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limits if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

A. An upset occurred and that the Permittee can identify the cause(s) of the upset.

B. The permitted facility was being properly operated at the time of the upset.

C. The Permittee submitted notice of the upset as required in Special Condition S3.E.

D. The Permittee complied with any remedial measures required under S3.E of this permit.

In any enforcement action the Permittee seeking to establish the occurrence of an upset has the burden of proof.

G16. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.

G17. DUTY TO COMPLY

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

G18. TOXIC POLLUTANTS

The Permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

G19. PENALTIES FOR 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 shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this condition, punishment shall be a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or by both.

G20. COMPLIANCE SCHEDULES

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.

G21. SERVICE AGREEMENT REVIEW

The Permittee must submit to Ecology any proposed service agreements and proposed revisions or updates to existing agreements for the operation of any wastewater treatment facility covered by this permit. The review is to ensure consistency with chapters 90.46 and 90.48 RCW as required by RCW 70.150.040(9). In the event that Ecology does not comment within a 30-day period, the Permittee may assume consistency and proceed with the service agreement or the revised/updated service agreement.

APPENDIX A

LIST OF POLLUTANTS WITH ANALYTICAL METHODS, DETECTION LIMITS AND QUANTITATION LEVELS

The Permittee must use the specified analytical methods, detection limits (DLs) and quantitation levels (QLs) in the following table for permit and application required monitoring unless:

- Another permit condition specifies other methods, detection levels, or quantitation levels.
- The method used produces measurable results in the sample and EPA has listed it as an EPA-approved method in 40 CFR Part 136.

If the Permittee uses an alternative method, not specified in the permit and as allowed above, it must report the test method, DL, and QL on the discharge monitoring report or in the required report.

If the Permittee is unable to obtain the required DL and QL in its effluent due to matrix effects, the Permittee must submit a matrix-specific detection limit (MDL) and a quantitation limit (QL) to Ecology with appropriate laboratory documentation.

When the permit requires the Permittee to measure the base neutral compounds in the list of priority pollutants, it must measure all of the base neutral pollutants listed in the table below. The list includes EPA required base neutral priority pollutants and several additional polynuclear aromatic hydrocarbons (PAHs). The Water Quality Program added several PAHs to the list of base neutrals below from Ecology's Persistent Bioaccumulative Toxics (PBT) List. It only added those PBT parameters of interest to Appendix A that did not increase the overall cost of analysis unreasonably.

Ecology added this appendix to the permit in order to reduce the number of analytical "non-detects" in permit-required monitoring and to measure effluent concentrations near or below criteria values where possible at a reasonable cost.

CONVENTIONAL PARAMETERS

Pollutant & CAS No. ***(if available)***	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
Biochemical Oxygen Demand	SM5210-B		2 mg/L
Chemical Oxygen Demand	SM5220-D		10 mg/L
Total Organic Carbon	SM5310-B/C/D		1 mg/L
Total Suspended Solids	SM2540-D		5 mg/L
Total Ammonia (as N)	SM4500-NH3-B and C/D/E/G/H		20

Pollutant & CAS No. ***(if available)***	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
Flow	Calibrated device		
Dissolved oxygen	SM4500-OC/OG		0.2 mg/L
Temperature (max. 7-day avg.)	Analog recorder or Use micro-recording devices known as thermistors		0.2º C
pH	SM4500-H^+ B	N/A	N/A

NONCONVENTIONAL PARAMETERS

Pollutant & CAS No. (if available)	**Recommended Analytical Protocol**	**Detection (DL)[1] µg/L unless specified**	**Quantitation Level (QL)[2] µg/L unless specified**
Total Alkalinity	SM2320-B		5 mg/L as CaCO3
Chlorine, Total Residual	SM4500 Cl G		50.0
Color	SM2120 B/C/E		10 color units
Fecal Coliform	SM 9221E,9222	N/A	Specified in method - sample aliquot dependent
Fluoride (16984-48-8)	SM4500-F E	25	100
Nitrate + Nitrite Nitrogen (as N)	SM4500-NO3- E/F/H		100
Nitrogen, Total Kjeldahl (as N)	SM4500-N_{org}B/C and SM4500NH_3-B/C/D/EF/G/H		300
Soluble Reactive Phosphorus (as P)	SM4500- PE/PF	3	10
Phosphorus, Total (as P)	SM 4500 PB followed by SM4500-PE/PF	3	10

Pollutant & CAS No. (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
Oil and Grease (HEM)	1664 A or B	1,400	5,000
Salinity	SM2520-B		3 practical salinity units or scale (PSU or PSS)
Settleable Solids	SM2540 -F		100
Sulfate (as mg/L SO_4)	SM4110-B		200
Sulfide (as mg/L S)	SM4500-S^2F/D/E/G		200
Sulfite (as mg/L SO_3)	SM4500-SO3B		2000
Total Coliform	SM 9221B, 9222B, 9223B	N/A	Specified in method - sample aliquot dependent
Total dissolved solids	SM2540 C		20 mg/L
Total Hardness	SM2340B		200 as CaCO3
Aluminum, Total (7429-90-5)	200.8	2.0	10
Barium Total (7440-39-3)	200.8	0.5	2.0
BTEX (benzene +toluene + ethylbenzene + m,o,p xylenes)	EPA SW 846 8021/8260	1	2
Boron Total (7440-42-8)	200.8	2.0	10.0
Cobalt, Total (7440-48-4)	200.8	0.05	0.25
Iron, Total (7439-89-6)	200.7	12.5	50
Magnesium, Total (7439-95-4)	200.7	10	50
Molybdenum, Total (7439-98-7)	200.8	0.1	0.5
Manganese, Total (7439-96-5)	200.8	0.1	0.5
NWTPH Dx	Ecology NWTPH Dx	250	250

Pollutant & CAS No. (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
NWTPH Gx	Ecology NWTPH Gx	250	250
Tin, Total (7440-31-5)	200.8	0.3	1.5
Titanium, Total (7440-32-6)	200.8	0.5	2.5

PRIORITY POLLUTANTS

Pollutant & CAS No. *(if available)*	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
METALS, CYANIDE & TOTAL PHENOLS			
Antimony, Total (7440-36-0)	200.8	0.3	1.0
Arsenic, Total (7440-38-2)	200.8	0.1	0.5
Beryllium, Total (7440-41-7)	200.8	0.1	0.5
Cadmium, Total (7440-43-9)	200.8	0.05	0.25
Chromium (hex) dissolved (18540-29-9)	SM3500-Cr EC	0.3	1.2
Chromium, Total (7440-47-3)	200.8	0.2	1.0
Copper, Total (7440-50-8)	200.8	0.4	2.0
Lead, Total (7439-92-1)	200.8	0.1	0.5
Mercury, Total (7439-97-6)	1631E	0.0002	0.0005
Nickel, Total (7440-02-0)	200.8	0.1	0.5
Selenium, Total (7782-49-2)	200.8	1.0	1.0
Silver, Total (7440-22-4)	200.8	0.04	0.2
Thallium, Total (7440-28-0)	200.8	0.09	0.36

Pollutant & CAS No. ***(if available)***	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
Zinc, Total (7440-66-6)	200.8	0.5	2.5
Cyanide, Total (57-12-5)	335.4	5	10
Cyanide, Weak Acid Dissociable	SM4500-CN I	5	10
Cyanide, Free Amenable to Chlorination (Available Cyanide)	SM4500-CN G	5	10
Phenols, Total	EPA 420.1		50
ACID COMPOUNDS			
2-Chlorophenol (95-57-8)	625	1.0	2.0
2,4-Dichlorophenol (120-83-2)	625	0.5	1.0
2,4-Dimethylphenol (105-67-9)	625	0.5	1.0
4,6-dinitro-o-cresol (534-52-1) (2-methyl-4,6,-dinitrophenol)	625/1625B	1.0	2.0
2,4 dinitrophenol (51-28-5)	625	1.0	2.0
2-Nitrophenol (88-75-5)	625	0.5	1.0
4-nitrophenol (100-02-7)	625	0.5	1.0
Parachlorometa cresol (59-50-7) (4-chloro-3-methylphenol)	625	1.0	2.0
Pentachlorophenol (87-86-5)	625	0.5	1.0
Phenol (108-95-2)	625	2.0	4.0
2,4,6-Trichlorophenol (88-06-2)	625	2.0	4.0
VOLATILE COMPOUNDS			

Pollutant & CAS No. ***(if available)***	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
Acrolein (107-02-8)	624	5	10
Acrylonitrile (107-13-1)	624	1.0	2.0
Benzene (71-43-2)	624	1.0	2.0
Bromoform (75-25-2)	624	1.0	2.0
Carbon tetrachloride (56-23-5)	624/601 or SM6230B	1.0	2.0
Chlorobenzene (108-90-7)	624	1.0	2.0
Chloroethane (75-00-3)	624/601	1.0	2.0
2-Chloroethylvinyl Ether (110-75-8)	624	1.0	2.0
Chloroform (67-66-3)	624 or SM6210B	1.0	2.0
Dibromochloromethane (124-48-1)	624	1.0	2.0
1,2-Dichlorobenzene (95-50-1)	624	1.9	7.6
1,3-Dichlorobenzene (541-73-1)	624	1.9	7.6
1,4-Dichlorobenzene (106-46-7)	624	4.4	17.6
Dichlorobromomethane (75-27-4)	624	1.0	2.0
1,1-Dichloroethane (75-34-3)	624	1.0	2.0
1,2-Dichloroethane (107-06-2)	624	1.0	2.0
1,1-Dichloroethylene (75-35-4)	624	1.0	2.0
1,2-Dichloropropane (78-87-5)	624	1.0	2.0
1,3-dichloropropene (mixed isomers) (1,2-dichloropropylene) (542-75-6)	624	1.0	2.0

Pollutant & CAS No. ***(if available)***	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
[3]			
Ethylbenzene (100-41-4)	624	1.0	2.0
Methyl bromide (74-83-9) (Bromomethane)	624/601	5.0	10.0
Methyl chloride (74-87-3) (Chloromethane)	624	1.0	2.0
Methylene chloride (75-09-2)	624	5.0	10.0
1,1,2,2-Tetrachloroethane (79-34-5)	624	1.9	2.0
Tetrachloroethylene (127-18-4)	624	1.0	2.0
Toluene (108-88-3)	624	1.0	2.0
1,2-Trans-Dichloroethylene (156-60-5) (Ethylene dichloride)	624	1.0	2.0
1,1,1-Trichloroethane (71-55-6)	624	1.0	2.0
1,1,2-Trichloroethane (79-00-5)	624	1.0	2.0
Trichloroethylene (79-01-6)	624	1.0	2.0
Vinyl chloride (75-01-4)	624/SM6200B	1.0	2.0
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)			
Acenaphthene (83-32-9)	625	0.2	0.4
Acenaphthylene (208-96-8)	625	0.3	0.6
Anthracene (120-12-7)	625	0.3	0.6
Benzidine (92-87-5)	625	12	24
Benzyl butyl phthalate (85-68-7)	625	0.3	0.6

Pollutant & CAS No. ***(if available)***	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
Benzo(*a*)anthracene (56-55-3)	625	0.3	0.6
Benzo(b)fluoranthene (3,4-benzofluoranthene) (205-99-2) [4]	610/625	0.8	1.6
Benzo(j)fluoranthene (205-82-3) [4]	625	0.5	1.0
Benzo(k)fluoranthene (11,12-benzofluoranthene) (207-08-9) [4]	610/625	0.8	1.6
Benzo(r,s,t)pentaphene (189-55-9)	625	0.5	1.0
Benzo(*a*)pyrene (50-32-8)	610/625	0.5	1.0
Benzo(*ghi*)Perylene (191-24-2)	610/625	0.5	1.0
Bis(*2-chloroethoxy)*methane (111-91-1)	625	5.3	21.2
Bis(*2-chloroethyl*)ether (111-44-4)	611/625	0.3	1.0
Bis(*2-chloroisopropyl*)ether (39638-32-9)	625	0.3	0.6
Bis(*2-ethylhexyl*)phthalate (117-81-7)	625	0.1	0.5
4-Bromophenyl phenyl ether (101-55-3)	625	0.2	0.4
2-Chloronaphthalene (91-58-7)	625	0.3	0.6
4-Chlorophenyl phenyl ether (7005-72-3)	625	0.3	0.5
Chrysene (218-01-9)	610/625	0.3	0.6
Dibenzo (a,h)acridine (226-	610M/625M	2.5	10.0

Pollutant & CAS No. ***(if available)***	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
36-8)			
Dibenzo (a,j)acridine (224-42-0)	610M/625M	2.5	10.0
Dibenzo(a-*h*)anthracene (53-70-3)(1,2,5,6-dibenzanthracene)	625	0.8	1.6
Dibenzo(a,e)pyrene (192-65-4)	610M/625M	2.5	10.0
Dibenzo(a,h)pyrene (189-64-0)	625M	2.5	10.0
3,3-Dichlorobenzidine (91-94-1)	605/625	0.5	1.0
Diethyl phthalate (84-66-2)	625	1.9	7.6
Dimethyl phthalate (131-11-3)	625	1.6	6.4
Di-n-butyl phthalate (84-74-2)	625	0.5	1.0
2,4-dinitrotoluene (121-14-2)	609/625	0.2	0.4
2,6-dinitrotoluene (606-20-2)	609/625	0.2	0.4
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)			
Di-n-octyl phthalate (117-84-0)	625	0.3	0.6
1,2-Diphenylhydrazine (*as Azobenzene*) (122-66-7)	1625B	5.0	20
Fluoranthene (206-44-0)	625	0.3	0.6
Fluorene (86-73-7)	625	0.3	0.6
Hexachlorobenzene (118-74-1)	612/625	0.3	0.6
Hexachlorobutadiene (87-68-3)	625	0.5	1.0
Hexachlorocyclopentadiene (77-47-4)	1625B/625	0.5	1.0

Pollutant & CAS No. ***(if available)***	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
Hexachloroethane (67-72-1)	625	0.5	1.0
Indeno(*1,2,3-cd*)Pyrene (193-39-5)	610/625	0.5	1.0
Isophorone (78-59-1)	625	0.5	1.0
3-Methyl cholanthrene (56-49-5)	625	2.0	8.0
Naphthalene (91-20-3)	625	0.3	0.6
Nitrobenzene (98-95-3)	625	0.5	1.0
N-Nitrosodimethylamine (62-75-9)	607/625	2.0	4.0
N-Nitrosodi-n-propylamine (621-64-7)	607/625	0.5	1.0
N-Nitrosodiphenylamine (86-30-6)	625	0.5	1.0
Perylene (198-55-0)	625	1.9	7.6
Phenanthrene (85-01-8)	625	0.3	0.6
Pyrene (129-00-0)	625	0.3	0.6
1,2,4-Trichlorobenzene (120-82-1)	625	0.3	0.6
DIOXIN			
2,3,7,8-Tetra-Chlorodibenzo-P-Dioxin (176-40-16) (2,3,7,8 TCDD)	1613B	1.3 pg/L	5 pg/L
PESTICIDES/PCBs			
Aldrin (309-00-2)	608	0.025	0.05
alpha-BHC (319-84-6)	608	0.025	0.05

Pollutant & CAS No. ***(if available)***	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
beta-BHC (319-85-7)	608	0.025	0.05
gamma-BHC (58-89-9)	608	0.025	0.05
delta-BHC (319-86-8)	608	0.025	0.05
Chlordane (57-74-9) [5]	608	0.025	0.05
4,4'-DDT (50-29-3)	608	0.025	0.05
4,4'-DDE (72-55-9)	608	0.025	0.05[10]
4,4' DDD (72-54-8)	608	0.025	0.05
Dieldrin (60-57-1)	608	0.025	0.05
alpha-Endosulfan (959-98-8)	608	0.025	0.05
beta-Endosulfan (33213-65-9)	608	0.025	0.05
Endosulfan Sulfate (1031-07-8)	608	0.025	0.05
Endrin (72-20-8)	608	0.025	0.05
Endrin Aldehyde (7421-93-4)	608	0.025	0.05
Heptachlor (76-44-8)	608	0.025	0.05
Heptachlor Epoxide (1024-57-3)	608	0.025	0.05
PCB-1242 (53469-21-9) [6]	608	0.25	0.5
PCB-1254 (11097-69-1)	608	0.25	0.5
PCB-1221 (11104-28-2)	608	0.25	0.5
PCB-1232 (11141-16-5)	608	0.25	0.5
PCB-1248 (12672-29-6)	608	0.25	0.5
PCB-1260 (11096-82-5)	608	0.13	0.5

Pollutant & CAS No. *(if available)*	**Recommended Analytical Protocol**	**Detection (DL)[1] *µg/L unless specified***	**Quantitation Level (QL) [2] *µg/L unless specified***
PCB-1016 (12674-11-2) [6]	608	0.13	0.5
Toxaphene (8001-35-2)	608	0.24	0.5

1. Detection level (DL) or detection limit means the minimum concentration of an analyte (substance) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero as determined by the procedure given in 40 CFR part 136, Appendix B.

2. Quantitation Level (QL) also known as Minimum Level of Quantitation (ML) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest to (1, 2, or 5) x 10^n, where n is an integer. (64 FR 30417). ALSO GIVEN AS:

   > The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency December 2007).

3. NWTPH Dx - Northwest Total Petroleum Hydrocarbons Diesel Extended Range – see http://www.ecy.wa.gov/biblio/97602.html

4. NWTPH Gx - Northwest Total Petroleum Hydrocarbons Gasoline Extended Range – see http://www.ecy.wa.gov/biblio/97602.html

5. 1, 3-dichloroproylene (mixed isomers) You may report this parameter as two separate parameters: cis-1, 3-dichlorpropropene (10061-01-5) and trans-1, 3-dichloropropene (10061-02-6).

6. Total Benzofluoranthenes - Because Benzo(b)fluoranthene, Benzo(j)fluoranthene and Benzo(k)fluoranthene co-elute you may report these three isomers as total benzofluoranthenes.

7. Chlordane – You may report alpha-chlordane (5103-71-9) and gamma-chlordane (5103-74-2) in place of chlordane (57-74-9). If you report alpha and gamma-chlordane, the DL/PQLs that apply are 0.025/0.050.

8. PCB 1016 & PCB 1242 – You may report these two PCB compounds as one parameter called PCB 1016/1242.

DEPARTMENT OF
ECOLOGY
State of Washington

Issuance Date: January 25, 2017
Effective Date: February 1, 2017
Expiration Date: January 31, 2022

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT NO. WA00039845

State of Washington
DEPARTMENT OF ECOLOGY
Olympia, Washington 98504-7600

Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1342 et seq.

Washington State Department of Corrections
P.O. Box 41112
Olympia, Washington 98504-1112

for

Clallam Bay Corrections Center
1830 Eagle Crest Way
Clallam Bay, Washington 98326

is authorized to discharge in accordance with the Special and General Conditions that follow.

Plant Location: 1830 Eagle Crest Way Clallam Bay, Washington	Receiving Water: Clallam Bay (Strait of Juan de Fuca)
Treatment Type: Aerated Lagoon with Chlorination	

Richard Doenges
Southwest Region Manager
Water Quality Program
Washington State Department of Ecology

TABLE OF CONTENTS

SUMMARY OF PERMIT REPORT SUBMITTALS

Refer to the Special and General Conditions of this permit for additional submittal requirements.

Permit Section	Submittal	Frequency	First Submittal Date
S3.A.	Discharge Monitoring Report	Monthly	March 15, 2017
S3.A.	Discharge Monitoring Report	Quarterly	July 15, 2017
S3.A.	Discharge Monitoring Report	Annually	January 15, 2019
S3.E.	Reporting Permit Violations	As necessary	
S3.F.	Other Reporting	As necessary	
S4.B.	Plans for Maintaining Adequate Capacity	As necessary	
S4.D.	Notification of New or Altered Sources	As necessary	
S4.E.	Infiltration and Inflow Evaluation	Annually	April 1, 2017
S4.F.	Wasteload Assessment	Annually	April 1, 2017
S5.F.	Bypass Notification	As necessary	
S5.G.	Operations and Maintenance Manual Update	As necessary	
S5.G.	Operations and Maintenance Manual Update or Review Confirmation Letter	Annually	October 31, 2017
S8.	Application for Permit Renewal	1/permit cycle	July 1, 2021
S9.	Engineering Report	Once	December 31, 2019
G1.	Notice of Change in Authorization	As necessary	
G4.	Reporting Planned Changes	As necessary	
G5.	Engineering Report for Construction or Modification Activities	As necessary	
G7.	Notice of Permit Transfer	As necessary	
G10.	Duty to Provide Information	As necessary	
G13.	Payment of Fees	As assessed	
G20.	Compliance Schedules	As necessary	
G21.	Contract Submittal	As necessary	

SPECIAL CONDITIONS

S1. DISCHARGE LIMITS

A. Effluent Limits

All discharges and activities authorized by this permit must comply with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a level in excess of, that identified and authorized by this permit violates the terms and conditions of this permit.

Beginning on the effective date of this permit, the Permittee may discharge municipal wastewater to Clallam Bay (Strait of Juan de Fuca) at the permitted location subject to compliance with the following limits:

Effluent Limits: Outfall # 001 Latitude 48.267967 Longitude -124.296900		
Parameter	**Average Monthly [a]**	**Average Weekly [b]**
Carbonaceous Biochemical Oxygen Demand (5-day) ($CBOD_5$) [c]	25 milligrams/liter (mg/L) 25.0 pounds/day (lbs/day) 85% removal of influent $CBOD_5$	40 mg/L 40.0 lbs/day
Total Suspended Solids (TSS) [d]	30 mg/L 39.3 lbs/day 85% removal of influent TSS	45 mg/L 59.0 lbs/day
Parameter	**Minimum**	**Maximum**
pH	6.0 Standard Units (SU)	9.0 SU
Parameter	**Monthly Geometric mean**	**Weekly Geometric mean**
Fecal Coliform Bacteria [e]	200/100 milliliter (mL)	400/100 mL
Parameter	**Average Monthly**	**Maximum Daily [f]**
Total Residual Chlorine	0.21 mg/L	0.56 mg/L

a	Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month. To calculate the discharge value to compare to the limit, you add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured.
b	Average weekly discharge limitation means the highest allowable average of ``daily discharges'' over a calendar week, calculated as the sum of all ``daily discharges'' measured during a calendar week divided by the number of ``daily discharges'' measured during that week.

Effluent Limits: Outfall # 001 Latitude 48.267967 Longitude -124.296900	
c	The monthly average effluent concentration limitation for $CBOD_5$ shall not exceed 25 mg/L or 15 percent of the respective influent $CBOD_5$ concentration and the mass loading, whichever is more stringent.
d	The monthly average effluent concentration limitation for TSS shall not exceed 30 mg/L or 15 percent of the respective influent TSS concentration and the mass loading, whichever is more stringent.
e	The Department of Ecology (Ecology) provides directions to calculate the monthly and the weekly geometric mean in publication No. 04-10-020, Information Manual for Treatment Plant Operators available at: http://www.ecy.wa.gov/pubs/0410020.pdf
f	Maximum daily effluent limit is the highest allowable daily discharge. The daily discharge is the average discharge of a pollutant measured during a calendar day. For pollutants with limits expressed in units of mass, calculate the daily discharge as the total mass of the pollutant discharged over the day. This does not apply to pH or temperature.

B. Mixing Zone Authorization

Mixing Zone For Outfall No.001

The following paragraphs define the maximum boundaries of the mixing zones:

Chronic Mixing Zone

The mixing zone is a circle with radius of 216 feet (66 meters) measured from the terminus of the outfall. The mixing zone extends from the outfall terminus to the top of the water surface. The concentration of pollutants at the edge of the chronic zone must meet chronic aquatic life criteria and human health criteria.

Acute Mixing Zone

The acute mixing zone is a circle with radius of 22 feet (7 meters) measured from the terminus of the outfall. The mixing zone extends from the outfall terminus to the top of the water surface. The concentration of pollutants at the edge of the acute zone must meet acute aquatic life criteria.

Available Dilution (Dilution Factor)	
Acute Aquatic Life Criteria	63
Chronic Aquatic Life Criteria	499
Human Health Criteria - Carcinogen	438
Human Health Criteria - Non-carcinogen	499

S2. MONITORING REQUIREMENTS

A. Monitoring Schedule

The Permittee must monitor in accordance with the following schedule and the requirements specified in Appendix A.

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
(1) Wastewater influent			
Wastewater Influent means the raw sewage flow from the collection system into the treatment facility. Sample the wastewater entering the headworks of the treatment plant excluding any side-stream returns from inside the plant.			
Flow	MGD	Continuous[a]	Metered/Recorded
$CBOD_5$	mg/L	Weekly[b]	24-Hour Composite[c]
$CBOD_5$	lbs/day	Weekly	Calculation[d]
TSS	mg/L	Weekly	24-Hour Composite
TSS	lbs/day	Weekly	Calculation
pH	Standard Units	Daily	Grab[e]
(2) Final Wastewater Effluent			
Final Wastewater Effluent means wastewater exiting the last treatment process or operation. Typically, this is after or at the exit from the chlorine contact chamber or other disinfection process. The Permittee may take effluent samples for the BOD_5 analysis before or after the disinfection process. If taken after, the Permittee must dechlorinate and reseed the sample.			
Flow	MGD	Continuous	Metered/recorded
$CBOD_5$	mg/L	Weekly	24-Hour Composite
$CBOD_5$	lbs/day	Weekly	Calculation
$CBOD_5$	% removal[f]	Weekly	Calculation
TSS	mg/L	Weekly	24-Hour Composite
TSS	lbs/day	Weekly	Calculation
TSS	% removal	Weekly	Calculation
Chlorine (Total Residual)	mg/L	Daily	Grab

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Fecal Coliform[g]	# /100 mL	Weekly	Grab
pH[h]	Standard Units	Daily	Grab
Ammonia as N	mg/L	Monthly[i]	24-Hour Composite
Temperature[j]	Degrees Centigrade (°C)	Daily	Measurement
(3) Effluent Characterization – Final Wastewater Effluent			
Total Phosphorus	mg/L as P	Quarterly[k]	24-Hour Composite
Soluble Reactive Phosphorus	mg/L as P	Quarterly[k]	24-Hour Composite
Nitrate plus Nitrite Nitrogen	mg/L as N	Quarterly[k]	24-Hour Composite
Total Kjeldahl Nitrogen (TKN)	mg/L as N	Quarterly[k]	24-Hour Composite
(4) Permit Renewal Application Requirements – Final Wastewater Effluent			
Dissolved Oxygen	mg/L	Once Per Year[l]	Grab
Oil and Grease	mg/L	Once Per Year[l]	Grab
Total Dissolved Solids	mg/L	Once Per Year[l]	24-Hour Composite
Total Hardness	mg/L	Once Per Year[l]	24-Hour Composite
(5) Engineering Report			
As specified in Special Condition S9.			

a	Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The Permittee must record and report the total daily flow rate.
b	Weekly means once per each calendar week, except weekends and holidays.
c	Twenty-four (24)-hour composite means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.
d	Calculations must be figured concurrently with the respective sample. Daily mass loading is calculated by the following formula: Concentration (in mg/L) X Flow (in MGD) X Conversion Factor (8.34) = lbs/day.

Parameter		Units & Speciation	Minimum Sampling Frequency	Sample Type
e	Grab means an individual sample collected over a fifteen (15) minute, or less, period.			
f	% removal = $\frac{\text{Influent concentration (mg/L) – Effluent concentration (mg/L)}}{\text{Influent concentration (mg/L)}} \times 100$ Calculate the percent (%) removal of BOD_5 and TSS using the above equation.			
g	Report a numerical value for fecal coliforms following the procedures in Ecology's *Information Manual for Wastewater Treatment Plant Operators*, Publication Number 04-10-020 available at: http://www.ecy.wa.gov/programs/wq/permits/guidance.html. Do not report a result as too numerous to count (TNTC).			
h	Report the daily pH and the minimum and maximum for the monthly reporting period.			
i	Monthly means once every calendar month during alternate weeks.			
j	Temperature grab sampling must occur when the effluent is at or near its daily maximum temperature, which usually occurs in the late afternoon. If measuring temperature continuously, the Permittee must determine and report a daily maximum from half-hour measurements in a 24-hour period. Continuous monitoring instruments must achieve an accuracy of 0.2 degrees C and the Permittee must verify accuracy annually.			
k	Quarterly sampling periods are January through March, April through June, July through September, and October through December, **starting April 1, 2017**.			
l	Once per year means once per calendar year **starting January 1, 2018**.			

B. Sampling and Analytical Procedures

Samples and measurements taken to meet the requirements of this permit must represent the volume and nature of the monitored parameters. The Permittee must conduct representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions that may affect effluent quality.

Sampling and analytical methods used to meet the monitoring requirements specified in this permit must conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 Code of Federal Regulations (CFR) Part 136 [or as applicable in 40 CFR subchapters N (Parts 400–471) or O (Parts 501-503)] unless otherwise specified in this permit . Ecology may only specify alternative methods for parameters without permit limits and for those parameters without an Environmental Protection Agency (EPA) approved test method in 40 CFR Part 136.

C. Flow Measurement, Field Measurement, and Continuous Monitoring Devices

The Permittee must:

1. Select and use appropriate flow measurement, field measurement, and continuous monitoring devices and methods consistent with accepted scientific practices.

2. Install, calibrate, and maintain these devices to ensure the accuracy of the measurements is consistent with the accepted industry standard and the manufacturer's recommendation for that type of device.

3. Use field measurement devices as directed by the manufacturer and do not use reagents beyond their expiration dates.

4. Calibrate these devices at the frequency recommended by the manufacturer.

5. Calibrate flow-monitoring devices at a minimum frequency of at least one calibration per year.

6. Maintain calibration records for at least three years.

D. Laboratory Accreditation

The Permittee must ensure that all monitoring data required by Ecology for permit specified parameters is prepared by a laboratory registered or accredited under the provisions of chapter 173-50 Washington Administrative Code (WAC), *Accreditation of Environmental Laboratories*. Flow, temperature, settleable solids, conductivity, and internal process control parameters are exempt from this requirement.

E. Request for Reduction in Monitoring

The Permittee may request a reduction of the sampling frequency after 24 months of monitoring. Ecology will review each request and at its discretion grant the request when it reissues the permit or by a permit modification.

The Permittee must:

1. Provide a written request.

2. Clearly state the parameters for which it is requesting reduced monitoring.

3. Clearly state the justification for the reduction.

S3. REPORTING AND RECORDING REQUIREMENTS

The Permittee must monitor and report in accordance with the following conditions. Falsification of information submitted to Ecology is a violation of the terms and conditions of this permit.

A. Reporting

The first monitoring period begins on the effective date of the permit. The Permittee must:

1. Summarize, report, and submit monitoring data obtained during each monitoring period on the electronic Discharge Monitoring Report (DMR) form provided by Ecology within WQWebDMR. Include data for each of the parameters tabulated in Special Condition S2 and as required by the form. Report a value for each day sampling occurred (unless specifically exempted in the permit) and for the summary values (when applicable) included on the electronic form.

   To find out more information and to sign up for WQWebDMR go to: http://www.ecy.wa.gov/programs/wq/permits/paris/webdmr.html

   If unable to submit electronically (for example, if you do not have an internet connection), the Permittee must contact Ecology to request a waiver and obtain instructions on how to obtain a paper copy DMR.

2. Enter the "No Discharge" reporting code for an entire DMR, for a specific monitoring point, or for a specific parameter as appropriate, if the Permittee did not discharge wastewater or a specific pollutant during a given monitoring period.

3. Report single analytical values below detection as "less than the detection level (DL)" by entering < followed by the numeric value of the detection level (e.g. < 2.0) on the DMR. If the method used did not meet the minimum DL and quantitation level (QL) identified in the permit, report the actual QL and DL in the comments or in the location provided.

4. Report the test method used for analysis in the comments if the laboratory used an alternative method not specified in the permit and as allowed in Appendix A.

5. Calculate average values (unless otherwise specified in the permit) using:

   a. The reported numeric value for all parameters measured between the agency-required detection value and the agency-required quantitation value.

   b. One-half the detection value (for values reported below detection) if the lab detected the parameter in another sample for the reporting period.

   c. Zero (for values reported below detection) if the lab did not detect the parameter in another sample for the reporting period.

6. Report single-sample grouped parameters (for example priority pollutants, PAHs, pulp and paper chlorophenolics, TTOs) on the WQWebDMR form and include: sample date, concentration detected, detection limit (DL) (as necessary), and laboratory quantitation level (QL) (as necessary). The Permittee must also submit an electronic PDF copy of the laboratory report using WQWebDMR.

   If the Permittee has obtained a waiver from electronic reporting or if submitting prior to the compliance date, the Permittee must submit a paper copy of the laboratory report providing the following information: date sampled, sample location, date of analysis, parameter name, CAS number, analytical

method/number, detection limit (DL), laboratory quantitation level (QL), reporting units, and concentration detected.

The contract laboratory reports must also include information on the chain of custody, QA/QC results, and documentation of accreditation for the parameter.

7. Ensure that DMRs are electronically submitted no later than the dates specified below, unless otherwise specified in this permit.

   If the Permittee has obtained a waiver, it must ensure that paper forms are postmarked or received by Ecology no later than the dates specified below, unless otherwise specified in this permit.

8. Submit DMRs for parameters with the monitoring frequencies specified in S2 (monthly, quarterly, annual, etc.) at the reporting schedule identified below. The Permittee must:

   a. Submit **monthly** DMRs by the 15th day of the following month.

   b. Submit **quarterly DMRs**, unless otherwise specified in the permit, by the 15th day of the month following the monitoring period. Quarterly sampling periods are January through March, April through June, July through September, and October through December.

   c. Submit **annual DMRs**, unless otherwise specified in the permit, by January 15 for the previous calendar year. The annual sampling period is the calendar year.

9. Submit reports to Ecology online using Ecology's electronic WQWebDMR submittal forms (electronic DMRs) as required above. Send paper reports to Ecology at:

   Water Quality Permit Coordinator
   Department of Ecology
   Southwest Regional Office
   P.O. Box 47775
   Olympia, WA 98504-7775

B. Records Retention

The Permittee must retain records of all monitoring information for a minimum of three years. Such information must include all calibration and maintenance records and all original 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. The Permittee must extend this period of retention during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

C. Recording of Results

For each measurement or sample taken, the Permittee must record the following information:

1. The date, exact place, method, and time of sampling or measurement

2. The individual who performed the sampling or measurement

3. The dates the analyses were performed

4. The individual who performed the analyses

5. The analytical techniques or methods used

6. The results of all analyses

D. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by Special Condition S2 of this permit, then the Permittee must include the results of such monitoring in the calculation and reporting of the data submitted in the Permittee's DMR unless otherwise specified by Special Condition S2.

E. Reporting Permit Violations

The Permittee must take the following actions when it violates or is unable to comply with any permit condition:

1. Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance and correct the problem.

2. If applicable, immediately repeat sampling and analysis. Submit the results of any repeat sampling to Ecology within 30 days of sampling.

   a. Immediate Reporting

      The Permittee must immediately report to Ecology and the Department of Health, Shellfish Program, and Clallam County Environmental Health Division at the numbers listed below, all:

      - Failures of the disinfection system.
      - Collection system overflows.
      - Plant bypasses discharging to marine surface waters.
      - Any other failures of the sewage system (pipe breaks, etc.)

Southwest Regional Office	360-407-6300

Department of Health, Shellfish Program	360-236-3330 (business hours) 360-789-8962 (after business hours)
Clallam County Environmental Health Division	360-417-2258

b. Twenty-Four-Hour Reporting

The Permittee must report the following occurrences of noncompliance by telephone, to Ecology at the telephone number listed above, within 24 hours from the time the Permittee becomes aware of any of the following circumstances:

i. Any noncompliance that may endanger health or the environment, unless previously reported under immediate reporting requirements.

ii. Any unanticipated bypass that causes an exceedance of an effluent limit in the permit (See Part S5.F, "Bypass Procedures").

iii. Any upset that causes an exceedance of an effluent limit in the permit (See G.15, "Upset").

iv. Any violation of a maximum daily or instantaneous maximum discharge limit for any of the pollutants in Section S1.A of this permit.

v. Any overflow prior to the treatment works, whether or not such overflow endangers health or the environment or exceeds any effluent limit in the permit.

c. Report within Five Days

The Permittee must also submit a written report within five days of the time that the Permittee becomes aware of any reportable event under subparts a or b, above. The report 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 the Permittee expects the noncompliance to continue if not yet corrected.

iv. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

v. If the noncompliance involves an overflow prior to the treatment works, an estimate of the quantity (in gallons) of untreated overflow.

d. Waiver of Written Reports

Ecology may waive the written report required in subpart c, above, on a case-by-case basis upon request if the Permittee has submitted a timely oral report.

e. All Other Permit Violation Reporting

The Permittee must report all permit violations, which do not require immediate or within 24 hours reporting, when it submits monitoring reports for S3.A ("Reporting"). The reports must contain the information listed in subpart c, above. Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

f. Report Submittal

The Permittee must submit reports to the address listed in S3.A.

F. Other Reporting

1. Spills of Oil or Hazardous Materials

The Permittee must report a spill of oil or hazardous materials in accordance with the requirements of Revised Code of Washington (RCW) 90.56.280 and Washington Administrative Code (WAC) 173-303-145. You can obtain further instructions at the following website: http://www.ecy.wa.gov/programs/spills/other/reportaspill.htm .

2. Failure to Submit Relevant or Correct Facts

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to Ecology, it must submit such facts or information promptly.

G. Maintaining a Copy of this Permit

The Permittee must keep a copy of this permit at the facility and make it available upon request to Ecology inspectors.

S4. FACILITY LOADING

A. Design Criteria

The flows or waste loads for the permitted facility must not exceed the following design criteria:

Average influent flow for the maximum month	0.12 MGD
Average effluent flow for the maximum month	0.16 MGD

BOD_5 Influent Loading for Maximum Month	335 lbs/day
TSS Influent Loading for Maximum Month	260 lbs/day
Design population equivalent	1029

B. Plans for Maintaining Adequate Capacity

1. Conditions Triggering Plan Submittal

The Permittee must submit the engineering document as specified in Special Condition S9 of this permit. The Permittee must also provide a written status update on facility planning and design efforts with any DMR that reports the following conditions:

a. Actual flow or waste load reaches 85 percent of any one of the design criteria in S4.A for three consecutive months.

b. Actual flow or waste load exceeds 100 percent of any design criteria in S4.A in the reporting month.

2. Plan and Schedule Content

The planning update must describe the progress made towards completing engineering document identified in Special Condition S9, including completed planning milestones and upcoming tasks.

When appropriate, the Permittee should identify short-term measures it is implementing to minimize facility overloading. Short-term measures may include, but are not limited to:

a. Reduction or elimination of excessive infiltration and inflow of uncontaminated ground and surface water into the sewer system.

b. Reduction or elimination of excessive water use or additional wasteloads to the sewer system.

C. 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.

D. Notification of New or Altered Sources

1. The Permittee must submit written notice to Ecology whenever any new discharge or a substantial change in volume or character of an existing discharge into the wastewater treatment plant is proposed which:

a. Would interfere with the operation of, or exceed the design capacity of, any portion of the wastewater treatment plant.

b. Is not part of an approved general sewer plan or approved plans and specifications.

c. Is subject to pretreatment standards under 40 CFR Part 403 and Section 307(b) of the Clean Water Act.

2. This notice must include an evaluation of the wastewater treatment plant's ability to adequately transport and treat the added flow and/or waste load, the quality and volume of effluent to be discharged to the treatment plant, and the anticipated impact on the Permittee's effluent [40 CFR 122.42(b)].

E. Infiltration and Inflow Evaluation

1. The Permittee must conduct an infiltration and inflow evaluation. Refer to the U.S. EPA publication, I/I Analysis and Project Certification, available as Publication No. 97-03 at: http://www.ecy.wa.gov/programs/wq/permits/guidance.html

2. The Permittee may use monitoring records to assess measurable infiltration and inflow.

3. The Permittee must prepare a report summarizing any measurable infiltration and inflow. If infiltration and inflow have increased by more than 15 percent from that found in the previous report based on equivalent rainfall, the report must contain a plan and a schedule to locate the sources of infiltration and inflow and to correct the problem.

4. The Permittee must submit a report summarizing the results of the evaluation and any recommendations for corrective actions by **April 1, 2017**, and **annually** thereafter.

F. Wasteload Assessment

The Permittee must conduct an assessment of its influent flow and wasteload and submit a report to Ecology by **April 1, 2017**, and **annually** thereafter.

The report must contain:

1. A description of compliance or noncompliance with the permit effluent limits.

2. A comparison between the existing and design:

a. Monthly average dry weather and wet weather flows

b. Peak flows

c. BOD_5 loading

d. TSS loadings

3. The percent change in the above parameters since the previous report (except for the first report).

4. The present and design population or population equivalent.

5. The projected population growth rate.

6. The estimated date upon which the Permittee expects the wastewater treatment plant to reach design capacity, according to the most restrictive of the parameters above.

Ecology may modify the interval for review and reporting if it determines that a different frequency is sufficient.

S5. OPERATION AND MAINTENANCE

The Permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances), which are installed to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes keeping a daily operation logbook (paper or electronic), adequate laboratory controls, and appropriate quality assurance procedures. This provision of the permit requires the Permittee to operate backup or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of this permit.

A. Certified Operator

This permitted facility must be operated by an operator certified by the state of Washington for at least a Class II plant. This operator must be in responsible charge of the day-to-day operation of the wastewater treatment plant. An operator certified for at least a Class I plant must be in charge during all regularly scheduled shifts.

B. Operation and Maintenance Program

The Permittee must:

1. Institute an adequate operation and maintenance program for the entire sewage system.

2. Keep maintenance records on all major electrical and mechanical components of the treatment plant, as well as the sewage system and pumping stations. Such records must clearly specify the frequency and type of maintenance recommended by the manufacturer and must show the frequency and type of maintenance performed.

3. Make maintenance records available for inspection at all times.

C. Short-Term Reduction

The Permittee must schedule any facility maintenance, which might require interruption of wastewater treatment and degrade effluent quality, during non-critical water quality periods and carry this maintenance out in a manner approved by Ecology.

If a Permittee contemplates a reduction in the level of treatment that would cause a violation of permit discharge limits on a short-term basis for any reason, and such reduction cannot be avoided, the Permittee must:

1. Give written notification to Ecology, if possible, 30 days prior to such activities.

2. Detail the reasons for, length of time of, and the potential effects of the reduced level of treatment.

This notification does not relieve the Permittee of its obligations under this permit.

D. Electrical Power Failure

The Permittee must ensure that adequate safeguards prevent the discharge of untreated wastes or wastes not treated in accordance with the requirements of this permit during electrical power failure at the treatment plant and/or sewage lift stations. Adequate safeguards include, but are not limited to, alternate power sources, standby generator(s), or retention of inadequately treated wastes.

The Permittee must maintain Reliability Class II (EPA 430/9-74-001) at the wastewater treatment plant. Reliability Class II requires a backup power source sufficient to operate all vital components and critical lighting and ventilation during peak wastewater flow conditions. Vital components used to support the secondary processes (i.e., mechanical aerators or aeration basin air compressors) need not be operable to full levels of treatment, but must be sufficient to maintain the biota.

E. Prevent Connection of Inflow

The Permittee must strictly enforce its sewer ordinances and not allow the connection of inflow (roof drains, foundation drains, etc.) to the sanitary sewer system.

F. Bypass Procedures

This permit prohibits a bypass, which is the intentional diversion of waste streams from any portion of a treatment facility. Ecology may take enforcement action against a Permittee for a bypass unless one of the following circumstances (1, 2, or 3) applies.

1. Bypass for essential maintenance without the potential to cause violation of permit limits or conditions.

   This permit authorizes a bypass if it allows for essential maintenance and does not have the potential to cause violations of limits or other conditions of this permit, or adversely impact public health as determined by Ecology prior to the bypass. The Permittee must submit prior notice, if possible, at least 10 days before the date of the bypass.

2. Bypass which is unavoidable, unanticipated, and results in noncompliance of this permit.

   This permit authorizes such a bypass only if:

a. Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.

b. No feasible alternatives to the bypass exist, such as:

- The use of auxiliary treatment facilities.
- Retention of untreated wastes.
- Maintenance during normal periods of equipment downtime, but not if the Permittee should have installed adequate backup equipment in the exercise of reasonable engineering judgment to prevent a bypass.
- Transport of untreated wastes to another treatment facility.

c. Ecology is properly notified of the bypass as required in Special Condition S3.E of this permit.

3. If bypass is anticipated and has the potential to result in noncompliance of this permit.

a. The Permittee must notify Ecology at least 30 days before the planned date of bypass. The notice must contain:

- A description of the bypass and its cause.
- An analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing.
- A cost-effectiveness analysis of alternatives including comparative resource damage assessment.
- The minimum and maximum duration of bypass under each alternative.
- A recommendation as to the preferred alternative for conducting the bypass.
- The projected date of bypass initiation.
- A statement of compliance with State Environmental Policy Act (SEPA).
- A request for modification of water quality standards as provided for in WAC 173-201A-410, if an exceedance of any water quality standard is anticipated.

- Details of the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.

b. For probable construction bypasses, the Permittee must notify Ecology of the need to bypass as early in the planning process as possible. The Permittee must consider the analysis required above during preparation of the engineering report or facilities plan and plans and specifications and must include these to the extent practical. In cases where the Permittee determines the probable need to bypass early, the Permittee must continue to analyze conditions up to and including the construction period in an effort to minimize or eliminate the bypass.

c. Ecology will consider the following prior to issuing an administrative order for this type of bypass:

- If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.

- If feasible alternatives to bypass exist, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.

- If the Permittee planned and scheduled the bypass to minimize adverse effects on the public and the environment.

After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, Ecology will approve or deny the request. Ecology will give the public an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Ecology will approve a request to bypass by issuing an administrative order under RCW 90.48.120.

G. Operations and Maintenance (O&M) Manual

1. O&M Manual Submittal and Requirements

The Permittee must:

a. Review the O&M Manual at least annually and confirm this review by letter to Ecology by **October 31st** of each year.

b. Submit to Ecology for review and approval substantial changes or updates to the O&M Manual whenever it incorporates them into the manual.

c. Keep the approved O&M Manual at the permitted facility.

d. Follow the instructions and procedures of this manual.

2. O&M Manual Components

In addition to the requirements of WAC 173-240-080 (1) through (5), the O&M Manual must include:

a. Emergency procedures for cleanup in the event of wastewater system upset or failure.

b. A review of system components which if failed could pollute surface water or could impact human health. Provide a procedure for a routine schedule of checking the function of these components.

c. Wastewater system maintenance procedures that contribute to the generation of process wastewater.

d. Reporting protocols for submitting reports to Ecology to comply with the reporting requirements in the discharge permit.

e. Any directions to maintenance staff when cleaning or maintaining other equipment or performing other tasks which are necessary to protect the operation of the wastewater system (for example, defining maximum allowable discharge rate for draining a tank, blocking all floor drains before beginning the overhaul of a stationary engine).

f. The treatment plant process control monitoring schedule.

g. Minimum staffing adequate to operate and maintain the treatment processes and carry out compliance monitoring required by the permit.

h. Specify other items on case-by-case basis such as O&M for collection systems pump stations, lagoon liners, etc.

S6. PRETREATMENT

A. General Requirements

The Permittee must work with Ecology to ensure that all commercial and industrial users of the Publicly Owned Treatment Works (POTW) comply with the pretreatment regulations in 40 CFR Part 403 and any additional regulations that the Environmental Protection Agency (U.S. EPA) may promulgate under Section 307(b) (pretreatment) and 308 (reporting) of the Federal Clean Water Act.

B. Duty to Enforce Discharge Prohibitions

1. Under federal regulations [40 CFR 403.5(a) and (b)], the Permittee must not authorize or knowingly allow the discharge of any pollutants into its POTW which may be reasonably expected to cause pass through or interference, or which otherwise violate general or specific discharge prohibitions contained in 40 CFR Part 403.5 or WAC-173-216-060.

2. The Permittee must not authorize or knowingly allow the introduction of any of the following into their treatment works:

   a. Pollutants which create a fire or explosion hazard in the POTW (including, but not limited to waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21).

   b. Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, or greater than 11.0 standard units, unless the works are specifically designed to accommodate such discharges.

   c. Solid or viscous pollutants in amounts that could cause obstruction to the flow in sewers or otherwise interfere with the operation of the POTW.

   d. Any pollutant, including oxygen-demanding pollutants, (BOD_5, etc.) released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW.

   e. Petroleum oil, non-biodegradable cutting oil, or products of mineral origin in amounts that will cause interference or pass through.

   f. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity which may cause acute worker health and safety problems.

   g. Heat in amounts that will inhibit biological activity in the POTW resulting in interference but in no case heat in such quantities such that the temperature at the POTW headworks exceeds 40 degrees Centigrade (104 degrees Fahrenheit) unless Ecology, upon request of the Permittee, approves, in writing, alternate temperature limits.

   h. Any trucked or hauled pollutants, except at discharge points designated by the Permittee.

   i. Wastewaters prohibited to be discharged to the POTW by the Dangerous Waste Regulations (chapter 173-303 WAC), unless authorized under the Domestic Sewage Exclusion (WAC 173-303-071).

3. The Permittee must also not allow the following discharges to the POTW unless approved in writing by Ecology:

   a. Noncontact cooling water in significant volumes.

   b. Stormwater and other direct inflow sources.

   c. Wastewaters significantly affecting system hydraulic loading, which do not require treatment, or would not be afforded a significant degree of treatment by the system.

4. The Permittee must notify Ecology of any violation of the prohibitions listed in this section (S6.B), and initiate action to promptly curtail any such discharge.

S7. SOLID WASTES

A. Solid Waste Handling

The Permittee must handle and dispose of all solid waste material in such a manner as to prevent its entry into state ground or surface water.

B. Leachate

The Permittee must not allow leachate from its solid waste material to enter state waters without providing all known, available, and reasonable methods of treatment, nor allow such leachate to cause violations of the State Surface Water Quality Standards, Chapter 173-201A WAC, or the State Ground Water Quality Standards, Chapter 173-200 WAC. The Permittee must apply for a permit or permit modification as may be required for such discharges to state ground or surface waters.

S8. APPLICATION FOR PERMIT RENEWAL OR MODIFICATION FOR FACILITY CHANGES

The Permittee must submit an application for renewal of this permit by **July 1, 2021**.

The Permittee must also submit a new application or supplement at least 180 days prior to commencement of discharges, resulting from the activities listed below, which may result in permit violations. These activities include any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility.

S9. ENGINEERING REPORT

A. The Permittee must prepare and submit two copies of an approvable engineering report in accordance with chapter 173-240 WAC to Ecology for review and approval by **December 31, 2019**.

B. The report must assess the functional capacity of the treatment facilities, with particular emphasis on the influent flows to the facility and the accuracy of the current influent metering system. The report should verify the existing rated capacity of the treatment plant or establish an alternate capacity if appropriate. Any system deficiencies or other operational issues related to system capacity should be identified and discussed in the report, along with potential mechanisms or proposed system improvements necessary to address or correct any such issues.

C. The report must contain any appropriate requirements as described in the *Criteria for Sewage Works Design* (Washington State Department of Ecology, Publication No. 98-37 WQ, 2008).

GENERAL CONDITIONS

G1. SIGNATORY REQUIREMENTS

A. All applications, reports, or information submitted to Ecology must be signed and certified.

1. In the case of corporations, by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or

- The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

- In the case of a partnership, by a general partner.

- In the case of sole proprietorship, by the proprietor.

- In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official.

Applications for permits for domestic wastewater facilities that are either owned or operated by, or under contract to, a public entity shall be submitted by the public entity.

B. All reports required by this permit and other information requested by Ecology must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above and submitted to Ecology.

2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

C. Changes to authorization. If an authorization under paragraph G1.2, above, is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph G1.2, above, must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Certification. Any person signing a document under this section must make the following certification:

> "I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

G2. RIGHT OF INSPECTION AND ENTRY

The Permittee must allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law:

A. To enter upon the premises where a discharge is located or where any records must be kept under the terms and conditions of this permit.

B. To have access to and copy, at reasonable times and at reasonable cost, any records required to be kept under the terms and conditions of this permit.

C. To inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.

D. To sample or monitor, at reasonable times, any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

G3. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated either at the request of any interested person (including the Permittee) or upon Ecology's initiative. However, the permit may only be modified, revoked and reissued, or terminated for the reasons specified in 40 CFR 122.62, 40 CFR 122.64 or WAC 173-220-150 according to the procedures of 40 CFR 124.5.

A. The following are causes for terminating this permit during its term, or for denying a permit renewal application:

1. Violation of any permit term or condition.

2. Obtaining a permit by misrepresentation or failure to disclose all relevant facts.

3. A material change in quantity or type of waste disposal.

4. A determination that the permitted activity endangers human health or the environment, or contributes to water quality standards violations and can only be regulated to acceptable levels by permit modification or termination.

5. A change in any condition that requires either a temporary or permanent reduction, or elimination of any discharge or sludge use or disposal practice controlled by the permit.

6. Nonpayment of fees assessed pursuant to RCW 90.48.465.

7. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090.

B. The following are causes for modification but not revocation and reissuance except when the Permittee requests or agrees:

1. A material change in the condition of the waters of the state.

2. New information not available at the time of permit issuance that would have justified the application of different permit conditions.

3. Material and substantial alterations or additions to the permitted facility or activities which occurred after this permit issuance.

4. Promulgation of new or amended standards or regulations having a direct bearing upon permit conditions, or requiring permit revision.

5. The Permittee has requested a modification based on other rationale meeting the criteria of 40 CFR Part 122.62.

6. Ecology has determined that good cause exists for modification of a compliance schedule, and the modification will not violate statutory deadlines.

7. Incorporation of an approved local pretreatment program into a municipality's permit.

C. The following are causes for modification or alternatively revocation and reissuance:

1. When cause exists for termination for reasons listed in 1.a through 1,g of this section, and Ecology determines that modification or revocation and reissuance is appropriate.

2. When Ecology has received notification of a proposed transfer of the permit. A permit may also be modified to reflect a transfer after the effective date of an automatic transfer (General Condition G7) but will not be revoked and reissued after the effective date of the transfer except upon the request of the new Permittee.

G4. REPORTING PLANNED CHANGES

The Permittee must, as soon as possible, but no later than 180 days prior to the proposed changes, give notice to Ecology of planned physical alterations or additions to the permitted facility, production increases, or process modification which will result in:

A. The permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b)

B. A significant change in the nature or an increase in quantity of pollutants discharged.

C. A significant change in the Permittee's sludge use or disposal practices. Following such notice, and the submittal of a new application or supplement to the existing application, along with required engineering plans and reports, this permit may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G5. PLAN REVIEW REQUIRED

Prior to constructing or modifying any wastewater control facilities, an engineering report and detailed plans and specifications must be submitted to Ecology for approval in accordance with chapter 173-240 WAC. Engineering reports, plans, and specifications must be submitted at least 180 days prior to the planned start of construction unless a shorter time is approved by Ecology. Facilities must be constructed and operated in accordance with the approved plans.

G6. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in this permit excuses the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G7. Transfer of this permit

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the Permittee must notify the succeeding owner or controller of the existence of this permit by letter, a copy of which must be forwarded to Ecology.

A. Transfers by Modification

Except as provided in paragraph (B) below, this permit may be transferred by the Permittee to a new owner or operator only if this permit has been modified or revoked and reissued under 40 CFR 122.62(b)(2), or a minor modification made under 40 CFR 122.63(d), to identify the new Permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

B. Automatic Transfers

This permit may be automatically transferred to a new Permittee if:

1. The Permittee notifies Ecology at least 30 days in advance of the proposed transfer date.

2. The notice includes a written agreement between the existing and new Permittees containing a specific date transfer of permit responsibility, coverage, and liability between them.

3. Ecology does not notify the existing Permittee and the proposed new Permittee of its intent to modify or revoke and reissue this permit. A modification under this subparagraph may also be minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the written agreement.

G8. REDUCED PRODUCTION FOR COMPLIANCE

The Permittee, in order to maintain compliance with its permit, must control production and/or all discharges upon reduction, loss, failure, or bypass of the treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

G9. REMOVED SUBSTANCES

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must not be resuspended or reintroduced to the final effluent stream for discharge to state waters.

G10. DUTY TO PROVIDE INFORMATION

The Permittee must submit to Ecology, within a reasonable time, all information which Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee must also submit to Ecology upon request, copies of records required to be kept by this permit.

G11. OTHER REQUIREMENTS OF 40 CFR

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

G12. ADDITIONAL MONITORING

Ecology may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G13. PAYMENT OF FEES

The Permittee must submit payment of fees associated with this permit as assessed by Ecology.

G14. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit is deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to $10,000 and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit may incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to $10,000 for every such violation. Each and every such violation is a separate and distinct offense, and in case of a continuing violation, every day's continuance is deemed to be a separate and distinct violation.

G15. UPSET

Definition – "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limits if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

A. An upset occurred and that the Permittee can identify the cause(s) of the upset.

B. The permitted facility was being properly operated at the time of the upset.

C. The Permittee submitted notice of the upset as required in Special Condition S3.E.

D. The Permittee complied with any remedial measures required under S3.E of this permit.

In any enforcement action the Permittee seeking to establish the occurrence of an upset has the burden of proof.

G16. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.

G17. DUTY TO COMPLY

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

G18. TOXIC POLLUTANTS

The Permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

G19. PENALTIES FOR 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 shall,

upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this condition, punishment shall be a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or by both.

G20. COMPLIANCE SCHEDULES

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.

G21. SERVICE AGREEMENT REVIEW

The Permittee must submit to Ecology any proposed service agreements and proposed revisions or updates to existing agreements for the operation of any wastewater treatment facility covered by this permit. The review is to ensure consistency with chapters 90.46 and 90.48 RCW as required by RCW 70.150.040(9). In the event that Ecology does not comment within a 30-day period, the Permittee may assume consistency and proceed with the service agreement or the revised/updated service agreement.

APPENDIX A

LIST OF POLLUTANTS WITH ANALYTICAL METHODS, DETECTION LIMITS AND QUANTITATION LEVELS

The Permittee must use the specified analytical methods, detection limits (DLs) and quantitation levels (QLs) in the following table for permit and application required monitoring unless:

- Another permit condition specifies other methods, detection levels, or quantitation levels.
- The method used produces measurable results in the sample and EPA has listed it as an EPA-approved method in 40 CFR Part 136.

If the Permittee uses an alternative method, not specified in the permit and as allowed above, it must report the test method, DL, and QL on the discharge monitoring report or in the required report.

If the Permittee is unable to obtain the required DL and QL in its effluent due to matrix effects, the Permittee must submit a matrix-specific detection limit (MDL) and a quantitation limit (QL) to Ecology with appropriate laboratory documentation.

When the permit requires the Permittee to measure the base neutral compounds in the list of priority pollutants, it must measure all of the base neutral pollutants listed in the table below. The list includes EPA required base neutral priority pollutants and several additional polynuclear aromatic hydrocarbons (PAHs). The Water Quality Program added several PAHs to the list of base neutrals below from Ecology's Persistent Bioaccumulative Toxics (PBT) List. It only added those PBT parameters of interest to Appendix A that did not increase the overall cost of analysis unreasonably.

Ecology added this appendix to the permit in order to reduce the number of analytical "non-detects" in permit-required monitoring and to measure effluent concentrations near or below criteria values where possible at a reasonable cost.

CONVENTIONAL PARAMETERS

Pollutant & CAS No. ***(if available)***	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
Biochemical Oxygen Demand	SM5210-B		2 mg/L
Chemical Oxygen Demand	SM5220-D		10 mg/L

Pollutant & CAS No. ***(if available)***	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
Total Organic Carbon	SM5310-B/C/D		1 mg/L
Total Suspended Solids	SM2540-D		5 mg/L
Total Ammonia (as N)	SM4500-NH3-B and C/D/E/G/H		20
Flow	Calibrated device		
Dissolved oxygen	SM4500-OC/OG		0.2 mg/L
Temperature (max. 7-day avg.)	Analog recorder or Use micro-recording devices known as thermistors		0.2º C
pH	SM4500-H^+ B	N/A	N/A

NONCONVENTIONAL PARAMETERS

Pollutant & CAS No. (if available)	**Recommended Analytical Protocol**	**Detection (DL)[1] µg/L unless specified**	**Quantitation Level (QL)[2] µg/L unless specified**
Total Alkalinity	SM2320-B		5 mg/L as CaCO3
Chlorine, Total Residual	SM4500 Cl G		50.0
Color	SM2120 B/C/E		10 color units
Fecal Coliform	SM 9221E,9222	N/A	Specified in method - sample aliquot dependent
Fluoride (16984-48-8)	SM4500-F E	25	100
Nitrate + Nitrite Nitrogen (as N)	SM4500-NO3- E/F/H		100
Nitrogen, Total Kjeldahl (as N)	SM4500-N_{org}B/C and SM4500NH_3-		300

Pollutant & CAS No. (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
	B/C/D/EF/G/H		
Soluble Reactive Phosphorus (as P)	SM4500- PE/PF	3	10
Phosphorus, Total (as P)	SM 4500 PB followed by SM4500-PE/PF	3	10
Oil and Grease (HEM)	1664 A or B	1,400	5,000
Salinity	SM2520-B		3 practical salinity units or scale (PSU or PSS)
Settleable Solids	SM2540 -F		100
Sulfate (as mg/L SO_4)	SM4110-B		200
Sulfide (as mg/L S)	SM4500-S^2F/D/E/G		200
Sulfite (as mg/L SO_3)	SM4500-SO3B		2000
Total Coliform	SM 9221B, 9222B, 9223B	N/A	Specified in method - sample aliquot dependent
Total dissolved solids	SM2540 C		20 mg/L
Total Hardness	SM2340B		200 as CaCO3
Aluminum, Total (7429-90-5)	200.8	2.0	10
Barium Total (7440-39-3)	200.8	0.5	2.0
BTEX (benzene +toluene + ethylbenzene + m,o,p xylenes)	EPA SW 846 8021/8260	1	2
Boron Total (7440-42-8)	200.8	2.0	10.0
Cobalt, Total (7440-48-4)	200.8	0.05	0.25
Iron, Total (7439-89-6)	200.7	12.5	50
Magnesium, Total (7439-95-4)	200.7	10	50

Pollutant & CAS No. (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
Molybdenum, Total (7439-98-7)	200.8	0.1	0.5
Manganese, Total (7439-96-5)	200.8	0.1	0.5
NWTPH Dx	Ecology NWTPH Dx	250	250
NWTPH Gx	Ecology NWTPH Gx	250	250
Tin, Total (7440-31-5)	200.8	0.3	1.5
Titanium, Total (7440-32-6)	200.8	0.5	2.5

PRIORITY POLLUTANTS

Pollutant & CAS No. *(if available)*	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL) [2] *µg/L unless specified*
METALS, CYANIDE & TOTAL PHENOLS			
Antimony, Total (7440-36-0)	200.8	0.3	1.0
Arsenic, Total (7440-38-2)	200.8	0.1	0.5
Beryllium, Total (7440-41-7)	200.8	0.1	0.5
Cadmium, Total (7440-43-9)	200.8	0.05	0.25
Chromium (hex) dissolved (18540-29-9)	SM3500-Cr EC	0.3	1.2
Chromium, Total (7440-47-3)	200.8	0.2	1.0
Copper, Total (7440-50-8)	200.8	0.4	2.0
Lead, Total (7439-92-1)	200.8	0.1	0.5
Mercury, Total (7439-97-6)	1631E	0.0002	0.0005
Nickel, Total (7440-02-0)	200.8	0.1	0.5

Pollutant & CAS No. ***(if available)***	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
Selenium, Total (7782-49-2)	200.8	1.0	1.0
Silver, Total (7440-22-4)	200.8	0.04	0.2
Thallium, Total (7440-28-0)	200.8	0.09	0.36
Zinc, Total (7440-66-6)	200.8	0.5	2.5
Cyanide, Total (57-12-5)	335.4	5	10
Cyanide, Weak Acid Dissociable	SM4500-CN I	5	10
Cyanide, Free Amenable to Chlorination (Available Cyanide)	SM4500-CN G	5	10
Phenols, Total	EPA 420.1		50
ACID COMPOUNDS			
2-Chlorophenol (95-57-8)	625	1.0	2.0
2,4-Dichlorophenol (120-83-2)	625	0.5	1.0
2,4-Dimethylphenol (105-67-9)	625	0.5	1.0
4,6-dinitro-o-cresol (534-52-1) (2-methyl-4,6,-dinitrophenol)	625/1625B	1.0	2.0
2,4 dinitrophenol (51-28-5)	625	1.0	2.0
2-Nitrophenol (88-75-5)	625	0.5	1.0
4-nitrophenol (100-02-7)	625	0.5	1.0
Parachlorometa cresol (59-50-7) (4-chloro-3-methylphenol)	625	1.0	2.0
Pentachlorophenol (87-86-5)	625	0.5	1.0
Phenol (108-95-2)	625	2.0	4.0

Pollutant & CAS No. ***(if available)***	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
2,4,6-Trichlorophenol (88-06-2)	625	2.0	4.0
VOLATILE COMPOUNDS			
Acrolein (107-02-8)	624	5	10
Acrylonitrile (107-13-1)	624	1.0	2.0
Benzene (71-43-2)	624	1.0	2.0
Bromoform (75-25-2)	624	1.0	2.0
Carbon tetrachloride (56-23-5)	624/601 or SM6230B	1.0	2.0
Chlorobenzene (108-90-7)	624	1.0	2.0
Chloroethane (75-00-3)	624/601	1.0	2.0
2-Chloroethylvinyl Ether (110-75-8)	624	1.0	2.0
Chloroform (67-66-3)	624 or SM6210B	1.0	2.0
Dibromochloromethane (124-48-1)	624	1.0	2.0
1,2-Dichlorobenzene (95-50-1)	624	1.9	7.6
1,3-Dichlorobenzene (541-73-1)	624	1.9	7.6
1,4-Dichlorobenzene (106-46-7)	624	4.4	17.6
Dichlorobromomethane (75-27-4)	624	1.0	2.0
1,1-Dichloroethane (75-34-3)	624	1.0	2.0
1,2-Dichloroethane (107-06-2)	624	1.0	2.0
1,1-Dichloroethylene (75-35-4)	624	1.0	2.0

Pollutant & CAS No. ***(if available)***	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
1,2-Dichloropropane (78-87-5)	624	1.0	2.0
1,3-dichloropropene (mixed isomers) (1,2-dichloropropylene) (542-75-6)[3]	624	1.0	2.0
Ethylbenzene (100-41-4)	624	1.0	2.0
Methyl bromide (74-83-9) (Bromomethane)	624/601	5.0	10.0
Methyl chloride (74-87-3) (Chloromethane)	624	1.0	2.0
Methylene chloride (75-09-2)	624	5.0	10.0
1,1,2,2-Tetrachloroethane (79-34-5)	624	1.9	2.0
Tetrachloroethylene (127-18-4)	624	1.0	2.0
Toluene (108-88-3)	624	1.0	2.0
1,2-Trans-Dichloroethylene (156-60-5) (Ethylene dichloride)	624	1.0	2.0
1,1,1-Trichloroethane (71-55-6)	624	1.0	2.0
1,1,2-Trichloroethane (79-00-5)	624	1.0	2.0
Trichloroethylene (79-01-6)	624	1.0	2.0
Vinyl chloride (75-01-4)	624/SM6200B	1.0	2.0
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)			
Acenaphthene (83-32-9)	625	0.2	0.4
Acenaphthylene (208-96-8)	625	0.3	0.6
Anthracene (120-12-7)	625	0.3	0.6

Pollutant & CAS No. *(if available)*	**Recommended Analytical Protocol**	**Detection (DL)[1] *µg/L unless specified***	**Quantitation Level (QL) [2] *µg/L unless specified***
Benzidine (92-87-5)	625	12	24
Benzyl butyl phthalate (85-68-7)	625	0.3	0.6
Benzo(*a*)anthracene (56-55-3)	625	0.3	0.6
Benzo(b)fluoranthene (3,4-benzofluoranthene) (205-99-2) [4]	610/625	0.8	1.6
Benzo(j)fluoranthene (205-82-3) [4]	625	0.5	1.0
Benzo(k)fluoranthene (11,12-benzofluoranthene) (207-08-9) [4]	610/625	0.8	1.6
Benzo(r,s,t)pentaphene (189-55-9)	625	0.5	1.0
Benzo(*a*)pyrene (50-32-8)	610/625	0.5	1.0
Benzo(*ghi*)Perylene (191-24-2)	610/625	0.5	1.0
Bis(*2-chloroethoxy)*methane (111-91-1)	625	5.3	21.2
Bis(*2-chloroethyl*)ether (111-44-4)	611/625	0.3	1.0
Bis(*2-chloroisopropyl*)ether (39638-32-9)	625	0.3	0.6
Bis(*2-ethylhexyl*)phthalate (117-81-7)	625	0.1	0.5
4-Bromophenyl phenyl ether (101-55-3)	625	0.2	0.4
2-Chloronaphthalene (91-58-7)	625	0.3	0.6
4-Chlorophenyl phenyl ether	625	0.3	0.5

Pollutant & CAS No. *(if available)*	**Recommended Analytical Protocol**	**Detection (DL)[1] *µg/L unless specified***	**Quantitation Level (QL) [2] *µg/L unless specified***
(7005-72-3)			
Chrysene (218-01-9)	610/625	0.3	0.6
Dibenzo (a,h)acridine (226-36-8)	610M/625M	2.5	10.0
Dibenzo (a,j)acridine (224-42-0)	610M/625M	2.5	10.0
Dibenzo(a-*h*)anthracene (53-70-3)(1,2,5,6-dibenzanthracene)	625	0.8	1.6
Dibenzo(a,e)pyrene (192-65-4)	610M/625M	2.5	10.0
Dibenzo(a,h)pyrene (189-64-0)	625M	2.5	10.0
3,3-Dichlorobenzidine (91-94-1)	605/625	0.5	1.0
Diethyl phthalate (84-66-2)	625	1.9	7.6
Dimethyl phthalate (131-11-3)	625	1.6	6.4
Di-n-butyl phthalate (84-74-2)	625	0.5	1.0
2,4-dinitrotoluene (121-14-2)	609/625	0.2	0.4
2,6-dinitrotoluene (606-20-2)	609/625	0.2	0.4
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)			
Di-n-octyl phthalate (117-84-0)	625	0.3	0.6
1,2-Diphenylhydrazine (*as Azobenzene*) (122-66-7)	1625B	5.0	20
Fluoranthene (206-44-0)	625	0.3	0.6
Fluorene (86-73-7)	625	0.3	0.6
Hexachlorobenzene (118-74-1)	612/625	0.3	0.6

Pollutant & CAS No. ***(if available)***	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
Hexachlorobutadiene (87-68-3)	625	0.5	1.0
Hexachlorocyclopentadiene (77-47-4)	1625B/625	0.5	1.0
Hexachloroethane (67-72-1)	625	0.5	1.0
Indeno(*1,2,3-cd*)Pyrene (193-39-5)	610/625	0.5	1.0
Isophorone (78-59-1)	625	0.5	1.0
3-Methyl cholanthrene (56-49-5)	625	2.0	8.0
Naphthalene (91-20-3)	625	0.3	0.6
Nitrobenzene (98-95-3)	625	0.5	1.0
N-Nitrosodimethylamine (62-75-9)	607/625	2.0	4.0
N-Nitrosodi-n-propylamine (621-64-7)	607/625	0.5	1.0
N-Nitrosodiphenylamine (86-30-6)	625	0.5	1.0
Perylene (198-55-0)	625	1.9	7.6
Phenanthrene (85-01-8)	625	0.3	0.6
Pyrene (129-00-0)	625	0.3	0.6
1,2,4-Trichlorobenzene (120-82-1)	625	0.3	0.6
DIOXIN			
2,3,7,8-Tetra-Chlorodibenzo-P-Dioxin (176-40-16) (2,3,7,8 TCDD)	1613B	1.3 pg/L	5 pg/L

PESTICIDES/PCBs			
Aldrin (309-00-2)	608	0.025	0.05
alpha-BHC (319-84-6)	608	0.025	0.05
beta-BHC (319-85-7)	608	0.025	0.05
gamma-BHC (58-89-9)	608	0.025	0.05
delta-BHC (319-86-8)	608	0.025	0.05
Chlordane (57-74-9) [5]	608	0.025	0.05
4,4'-DDT (50-29-3)	608	0.025	0.05
4,4'-DDE (72-55-9)	608	0.025	0.05[10]
4,4' DDD (72-54-8)	608	0.025	0.05
Dieldrin (60-57-1)	608	0.025	0.05
alpha-Endosulfan (959-98-8)	608	0.025	0.05
beta-Endosulfan (33213-65-9)	608	0.025	0.05
Endosulfan Sulfate (1031-07-8)	608	0.025	0.05
Endrin (72-20-8)	608	0.025	0.05
Endrin Aldehyde (7421-93-4)	608	0.025	0.05
Heptachlor (76-44-8)	608	0.025	0.05
Heptachlor Epoxide (1024-57-3)	608	0.025	0.05
PCB-1242 (53469-21-9) [6]	608	0.25	0.5
PCB-1254 (11097-69-1)	608	0.25	0.5
PCB-1221 (11104-28-2)	608	0.25	0.5
PCB-1232 (11141-16-5)	608	0.25	0.5
PCB-1248 (12672-29-6)	608	0.25	0.5
PCB-1260 (11096-82-5)	608	0.13	0.5

Pollutant & CAS No. *(if available)*	**Recommended Analytical Protocol**	**Detection (DL)[1] *µg/L unless specified***	**Quantitation Level (QL) [2] *µg/L unless specified***
PCB-1016 (12674-11-2) [6]	608	0.13	0.5
Toxaphene (8001-35-2)	608	0.24	0.5

1. Detection level (DL) or detection limit means the minimum concentration of an analyte (substance) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero as determined by the procedure given in 40 CFR part 136, Appendix B.

2. Quantitation Level (QL) also known as Minimum Level of Quantitation (ML) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest to (1, 2, or 5) x 10^n, where n is an integer. (64 FR 30417). ALSO GIVEN AS:

   > The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency December 2007).

3. NWTPH Dx - Northwest Total Petroleum Hydrocarbons Diesel Extended Range – see http://www.ecy.wa.gov/biblio/97602.html

4. NWTPH Gx - Northwest Total Petroleum Hydrocarbons Gasoline Extended Range – see http://www.ecy.wa.gov/biblio/97602.html

5. 1, 3-dichloroproylene (mixed isomers) You may report this parameter as two separate parameters: cis-1, 3-dichlorpropropene (10061-01-5) and trans-1, 3-dichloropropene (10061-02-6).

6. Total Benzofluoranthenes - Because Benzo(b)fluoranthene, Benzo(j)fluoranthene and Benzo(k)fluoranthene co-elute you may report these three isomers as total benzofluoranthenes.

7. Chlordane – You may report alpha-chlordane (5103-71-9) and gamma-chlordane (5103-74-2) in place of chlordane (57-74-9). If you report alpha and gamma-chlordane, the DL/PQLs that apply are 0.025/0.050.

8. PCB 1016 & PCB 1242 – You may report these two PCB compounds as one parameter called PCB 1016/1242.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

March 25, 2022

Joe Doninisi
Clallam Bay Public Works
223 East 4th Street, Suite 6
Clallam Bay, WA 98326

Re: Coverage Under the Puget Sound Nutrient General Permit Number WAG994584, Sekiu Wastewater Treatment Plant

Dear Joe Doninisi:

The Washington State Department of Ecology (Ecology) received your Notice of Intent application for coverage under the Puget Sound Nutrient General Permit (PSNGP) for Sekiu Wastewater Treatment Plant. This letter issues your coverage under the PSNGP. Your assigned permit number is WAG994584. Your permit coverage is effective **April 1, 2022**. All monitoring requirements listed in Special Condition S7 of the permit begin **April 1, 2022**.

Retain this letter as an official record of permit coverage under the PSNGP. For easy access, you may keep your record in electronic format. Please download and/or bookmark the PSNGP Permit, permit forms, and other information at https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Nutrient-Permit. Please review all of the information in the permit and contact Ecology if you have any questions.

The PSNGP regulates municipal dischargers of Total Inorganic Nitrogen to Puget Sound, which Ecology has determined are more appropriately covered under a general permit than under individual permits. Your individual permit remains in effect following coverage under the PSNGP even if your individual permit has been administratively extended.

Electronic Discharge Monitoring Reports (WQWebDMR)

The PSNGP requires you to submit Discharge Monitoring Reports (DMRs) to report the results of monitoring specific to the general permit. Similar to the separate DMR you submit for your individual permit, this DMR must be submitted electronically using Ecology's secure online system, WQWebDMR. **Please note:** you will need to **submit a new Electronic Signature Agreement Form (ESAF)** in order to gain access to the WQWebDMR for this general permit coverage. The ESAF on file for your individual permit cannot be applied to this general permit. Find step-by-step instructions on how to register for access to a new WQWebDMR in the

WQWebDMR User Guide at www.ecology.wa.gov/programs/wq/permits/paris/webdmr.html. If you have questions about your ESAF, please contact Carey Cholski at carey.cholski@ecy.wa.gov.

Appeal Process

You have a right to appeal coverage under the general permit to the Pollution Control Hearing Board. Appeals must be filed within 30 days of the date of receipt of this letter. Any appeal is limited to the general permit's applicability or non-applicability to a specific discharger. The appeal process is governed by chapter 43.21B Revised Code of Washington (RCW) and chapter 371-08 Washington Administrative Code (WAC). "Date of receipt" is defined in RCW 43.21B.001(2). For more information regarding your right to appeal, view the Department of Ecology's Focus Sheet: Appeal of General Permit Coverage at https://apps.ecology.wa.gov/publications/summarypages/1710007.html.

Permit Administration Assistance

If you have questions regarding the application process, updating permit contact information, or other administrative issues, please contact your regional Permit Administrator, Carey Cholski, at carey.cholski@ecy.wa.gov.

Questions or Additional Information

Ecology is here to help. If you have questions about the Puget Sound Nutrient General Permit, please contact your individual NPDES Permit Manager, Dainis Kleinbergs, at dainis.kleinbergs@ecy.wa.gov, or by phone at (360) 407-7050 (office) or (564) 999-3588 (cell).

Sincerely,

Andrew Kolosseus
Southwest Region Section Manager
Water Quality Program

SENT ELECTRONICALLY DUE TO COVID-19

cc: David Hanna, Clallam County Public Works
Kim Malakoff, Clallam County Public Works

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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March 23, 2022

Joe Donisi
Clallam County Public Works
223 East 4th Street, Suite 6
Clallam Bay, WA 98326

Re: Coverage Under the Puget Sound Nutrient General Permit Number WAG994583, Clallam Bay Wastewater Treatment Plant

Dear Joe Donisi:

The Washington State Department of Ecology (Ecology) received your Notice of Intent application for coverage under the Puget Sound Nutrient General Permit (PSNGP) for Clallam Bay Wastewater Treatment Plant. This letter issues your coverage under the PSNGP. Your assigned permit number is WAG994583. Your permit coverage is effective **April 1, 2022**. All monitoring requirements listed in Special Condition S7 of the permit begin **April 1, 2022**.

Retain this letter as an official record of permit coverage under the PSNGP. For easy access, you may keep your record in electronic format. Please download and/or bookmark the PSNGP Permit, permit forms, and other information at https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Nutrient-Permit. Please review all of the information in the permit and contact Ecology if you have any questions.

The PSNGP regulates municipal dischargers of Total Inorganic Nitrogen to Puget Sound, which Ecology has determined are more appropriately covered under a general permit than under individual permits. Your individual permit remains in effect following coverage under the PSNGP even if your individual permit has been administratively extended.

Electronic Discharge Monitoring Reports (WQWebDMR)

The PSNGP requires you to submit Discharge Monitoring Reports (DMRs) to report the results of monitoring specific to the general permit. Similar to the separate DMR you submit for your individual permit, this DMR must be submitted electronically using Ecology's secure online system, WQWebDMR. **Please note:** you will need to **submit a new Electronic Signature Agreement Form (ESAF)** in order to gain access to the WQWebDMR for this general permit coverage. The ESAF on file for your individual permit cannot be applied to this general permit. Find step-by-step instructions on how to register for access to a new WQWebDMR in the

WQWebDMR User Guide at www.ecology.wa.gov/programs/wq/permits/paris/webdmr.html. If you have questions about your ESAF, please contact Carey Cholski at carey.cholski@ecy.wa.gov.

Appeal Process

You have a right to appeal coverage under the general permit to the Pollution Control Hearing Board. Appeals must be filed within 30 days of the date of receipt of this letter. Any appeal is limited to the general permit's applicability or non-applicability to a specific discharger. The appeal process is governed by chapter 43.21B Revised Code of Washington (RCW) and chapter 371-08 Washington Administrative Code (WAC). "Date of receipt" is defined in RCW 43.21B.001(2). For more information regarding your right to appeal, view the Department of Ecology's Focus Sheet: Appeal of General Permit Coverage at https://apps.ecology.wa.gov/publications/summarypages/1710007.html.

Permit Administration Assistance

If you have questions regarding the application process, updating permit contact information, or other administrative issues, please contact your regional Permit Administrator, Carey Cholski, at carey.cholski@ecy.wa.gov.

Questions or Additional Information

Ecology is here to help. If you have questions about the Puget Sound Nutrient General Permit, please contact your individual NPDES Permit Manager, Dainis Kleinbergs, at dainis.kleinbergs@ecy.wa.gov, or by phone at (360) 407-7050 (office) or (564) 999-3588 (cell).

Sincerely,

Andrew Kolosseus
Southwest Region Section Manager
Water Quality Program

SENT ELECTRONICALLY DUE TO COVID-19

cc: David Hanna, Clallam County Public Works
Kim Malakoff, Clallam County Public Works

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

February 4, 2022

Cheryl Strange
Department of Corrections
PO Box 4112
Olympia, WA 98504

Re: Coverage Under the Puget Sound Nutrient General Permit Number WAG994541, Clallam Bay Corrections Center Wastewater Treatment Plant

Dear Cheryl Strange:

The Washington State Department of Ecology (Ecology) received your Notice of Intent application for coverage under the Puget Sound Nutrient General Permit (PSNGP) for Clallam Bay Corrections Center Wastewater Treatment Plant. This letter issues your coverage under the PSNGP. Your assigned permit number is WAG994541. Your permit coverage is effective **March 1, 2022**. All monitoring requirements listed in Special Condition S7 of the permit begin **March 1, 2022**, except for the quarterly effluent monitoring for Total Organic Carbon. Quarterly monitoring begins on **April 1, 2022**.

Retain this letter as an official record of permit coverage under the PSNGP. For easy access, you may keep your record in electronic format. Please download and/or bookmark the PSNGP Permit, permit forms, and other information at https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Nutrient-Permit. Please review all of the information in the permit and contact Ecology if you have any questions.

Electronic Discharge Monitoring Reports (WQWebDMR)

The PSNGP requires you to submit Discharge Monitoring Reports (DMRs) to report the results of monitoring specific to the general permit. Similar to the separate DMR you submit for your individual permit, this DMR must be submitted electronically using Ecology's secure online system, WQWebDMR. **Please note:** you will need to **submit a new Electronic Signature Agreement Form (ESAF)** in order to gain access to the WQWebDMR for this general permit coverage. The ESAF on file for your individual permit cannot be applied to this general permit. Find step-by-step instructions on how to register for access to a new WQWebDMR in the WQWebDMR User Guide at www.ecology.wa.gov/programs/wq/permits/paris/webdmr.html. If you have questions about your ESAF, please contact Carey Cholski at carey.cholski@ecy.wa.gov.

Appeal Process

You have a right to appeal coverage under the general permit to the Pollution Control Hearing Board. Appeals must be filed within 30 days of the date of receipt of this letter. Any appeal is limited to the general permit's applicability or non-applicability to a specific discharger. The appeal process is governed by chapter 43.21B Revised Code of Washington (RCW) and chapter 371-08 Washington Administrative Code (WAC). "Date of receipt" is defined in RCW 43.21B.001(2). For more information regarding your right to appeal, view the Department of Ecology's Focus Sheet: Appeal of General Permit Coverage at https://apps.ecology.wa.gov/publications/summarypages/1710007.html.

Permit Administration Assistance

If you have questions regarding the application process, updating permit contact information, or other administrative issues, please contact your regional Permit Administrator, Carey Cholski, at carey.cholski@ecy.wa.gov.

Questions or Additional Information

Ecology is here to help. If you have questions about the Puget Sound Nutrient General Permit, please contact your individual NPDES Permit Manager, Dainis Kleinbergs, at dainis.kleinbergs@ecy.wa.gov, or by phone at (360) 407-7050 (office) or (564) 999-3588 (cell).

Sincerely,

Andrew Kolosseus
Southwest Region Section Manager
Water Quality Program

SENT ELECTRONICALLY DUE TO COVID-19

cc: Jeri Boe, Clallam Bay Corrections
Michael Marshal, Clallam Bay Corrections
Edwin Reetz, Clallam Bay Corrections

APPENDIX F – COST ESTIMATES

CIP Cost Analyses

WWTP Alternatives Construction Cost Estimates

WWTP Alternatives Operation & Maintenance Cost Estimates

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2021 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 3 - Snob Hill LS Basin I/I and Pipe Improvements - Phase I;
MH Replacements

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 7,900	$ 7,900
2	Unexpected Site Changes	1	LS	$ 2,640	$ 2,640
3	SPCC Plan	1	LS	$ 660	$ 660
4	Project Temporary Traffic Control	1	LS	$ 13,200	$ 13,200
5	Trench Excavation Safety Systems	1	LS	$ 13,200	$ 13,200
6	Sawcutting	320	LF	$ 6.60	$ 2,112
7	Temporary Sewer Bypass Pumping	1	LS	$ 13,200	$ 13,200
8	Remove / Dispose of Existing Asphalt Pavement	10	SY	$ 46	$ 456
9	Foundation Gravel	10	TN	$ 46	$ 456
10	Manhole - 48 In. Diam.	5	EA	$ 6,600	$ 33,000
11	Crushed Surfacing Base Course	0	TN	$ 60	$ -
12	HMA, CL 1/2-in PG 64-22	0	TN	$ 270	$ -
13	Temporary Erosion Control	0	LS	$ 2,640	$ -
					$ -
					$ -
					$ -
				Sub-total =	$ 86,824
				CONTINGENCIES 20%	$ 17,365
				SALES TAX 8.5%	$ 8,856
				CONSTRUCTION TOTAL (ROUNDED)	$ 113,100

Engineering Services	15.0%	$ 17,000.0
Construction Administration	10.0%	$ 11,400.0
Legal, Permitting, County Admin	5.0%	$ 5,700.0

TOTAL PROJECT COST (ROUNDED)	**$ 147,200.0**

Assumptions:
1. No change in Scope.
2. CIP is bundled with like projects for design / construction efficiencies.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2021 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 4 - Area Drain Disconnection

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 3,800	$ 3,800
2	Unexpected Site Changes	1	LS	$ 2,640	$ 2,640
3	SPCC Plan	1	LS	$ 660	$ 660
4	Trench Excavation Safety Systems	1	LS	$ 6,600	$ 6,600
5	Sawcutting	170	LF	$ 7.20	$ 1,224
6	Remove and Dispose of Existing Asphalt Pavement	90	SY	$ 46	$ 4,104
7	Bank Run Gravel for Trench Backfill	30	TN	$ 66	$ 1,980
8	PVC Storm Sewer Pipe 8 In. Diam.	100	LF	$ 66	$ 6,600
9	Catch Basin Type 1	1	EA	$ 3,300	$ 3,300
10	Infiltration trench	1	EA	$ 6,600	$ 6,600
11	Crushed Surfacing Base Course	20	TN	$ 60	$ 1,200
12	HMA, CL 1/2-in PG 64-22	3	TN	$ 270	$ 810
13	Temporary Erosion Control	1	LS	$ 660	$ 660
					$ -
					$ -
					$ -
				Sub-total =	$ 40,178
				CONTINGENCIES 20%	$ 8,036
				SALES TAX 8.5%	$ 4,098
				CONSTRUCTION TOTAL (ROUNDED)	$ 52,400

Engineering Services	15.0%	$ 7,900.0
Construction Administration	10.0%	$ 5,300.0
Legal, Permitting, County Admin	5.0%	$ 2,700.0

TOTAL PROJECT COST (ROUNDED)	**$ 69,000.0**

Assumptions:
1. No change in Scope.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2021 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 5 - Middle Point LS Basin I/I and Pipe Improvements

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 5,900	$ 5,900
2	Unexpected Site Changes	1	LS	$ 2,640	$ 2,640
3	SPCC Plan	1	LS	$ 660	$ 660
4	Trench Excavation Safety Systems	1	LS	$ 6,600	$ 6,600
5	Sawcutting	170	LF	$ 7.20	$ 1,224
6	Remove and Dispose of Existing Asphalt Pavement	90	SY	$ 46	$ 4,104
7	Bank Run Gravel for Trench Backfill	40	TN	$ 66	$ 2,640
8	PVC Sewer Pipe 8 In. Diam.	120	LF	$ 66	$ 7,920
9	Manhole 48 In. Diam.	4	EA	$ 6,600	$ 26,400
10	Crushed Surfacing Base Course	20	TN	$ 60	$ 1,200
11	HMA, CL 1/2-in PG 64-22	14	TN	$ 270	$ 3,780
12	Temporary Erosion Control	1	LS	$ 660	$ 660
					$ -
					$ -
					$ -
				Sub-total =	$ 63,728
				CONTINGENCIES 20%	$ 12,746
				SALES TAX 8.5%	$ 6,500
				CONSTRUCTION TOTAL (ROUNDED)	$ 83,000

Engineering Services	15.0%	$	12,500.0
Construction Administration	10.0%	$	8,300.0
Legal, Permitting, County Admin	5.0%	$	4,200.0

TOTAL PROJECT COST (ROUNDED)	**$**	**108,000.0**

Assumptions:
1. No change in Scope.
2. CIP is bundled with like projects for design / construction efficiencies.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2021 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 6 - Seiku Basin I/I Improvements

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 5,300	$ 5,300
2	Unexpected Site Changes	1	LS	$ 2,200	$ 2,200
3	SPCC Plan	1	LS	$ 550	$ 550
4	Project Temporary Traffic Control	1	LS	$ 11,000	$ 11,000
5	Trench Excavation Safety Systems	1	LS	$ 11,000	$ 11,000
6	Sawcutting	200	LF	$ 6.00	$ 1,200
7	Temporary Sewer Bypass Pumping	1	LS	$ 6,550	$ 6,550
8	Remove and Dispose of Existing Asphalt Pavement	10	SY	$ 38	$ 380
9	Foundation Gravel	10	TN	$ 38	$ 380
10	Manhole - 48 In. Diam.	3	EA	$ 5,500	$ 16,500
11	Crushed Surfacing Base Course	10	TN	$ 50	$ 500
12	HMA, CL 1/2-in PG 64-22	5	TN	$ 225	$ 1,125
13	Temporary Erosion Control	1	LS	$ 1,100	$ 1,100
					$ -
					$ -
					$ -
				Sub-total =	$ 57,785
				CONTINGENCIES 20%	$ 11,557
				SALES TAX 8.5%	$ 5,894
				CONSTRUCTION TOTAL (ROUNDED)	$ 75,300

Engineering Services	15.0%	$ 11,300.0
Construction Administration	10.0%	$ 7,600.0
Legal, Permitting, County Admin	5.0%	$ 3,800.0

TOTAL PROJECT COST (ROUNDED)	**$ 98,000.0**

Assumptions:
1. No change in Scope.
2. CIP is bundled with like projects for design / construction efficiencies.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2021 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 7 - Clallam Bay I/I Improvements

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 5,600	$ 5,600
2	Unexpected Site Changes	1	LS	$ 2,640	$ 2,640
3	SPCC Plan	1	LS	$ 660	$ 660
4	Project Temporary Traffic Control	1	LS	$ 13,200	$ 13,200
5	Trench Excavation Safety Systems	1	LS	$ 13,200	$ 13,200
6	Sawcutting	130	LF	$ 7.20	$ 936
7	Temporary Sewer Bypass Pumping	1	LS	$ 7,860	$ 7,860
8	Remove and Dispose of Existing Asphalt Pavement	10	SY	$ 46	$ 456
9	Foundation Gravel	10	TN	$ 46	$ 456
10	Manhole - 48 In. Diam.	2	EA	$ 6,600	$ 13,200
11	Crushed Surfacing Base Course	10	TN	$ 60	$ 600
12	HMA, CL 1/2-in PG 64-22	4	TN	$ 270	$ 1,080
13	Temporary Erosion Control	1	LS	$ 1,320	$ 1,320
					$ -
					$ -
					$ -
				Sub-total =	$ 61,208
				CONTINGENCIES 20%	$ 12,242
				SALES TAX 8.5%	$ 6,243
				CONSTRUCTION TOTAL (ROUNDED)	$ 79,700

Engineering Services	15.0%	$ 12,000.0
Construction Administration	10.0%	$ 8,000.0
Legal, Permitting, County Admin	5.0%	$ 4,000.0

TOTAL PROJECT COST (ROUNDED)	**$ 103,700.0**

Assumptions:
1. No change in Scope.
2. CIP is bundled with like projects for design / construction efficiencies.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2021 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 8 - Seiku LS Pipe - 50% CIPP Lining

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 78,246	$ 78,246
2	Unexpected Site Changes	1	LS	$ 2,200	$ 2,200
3	SPCC Plan	1	LS	$ 550	$ 550
4	Trench Excavation Safety Systems	1	LS	$ 22,000	$ 22,000
5	Sawcutting	3350	LF	$ 6.00	$ 20,100
6	Remove / Dispose of Existing Asphalt Pavement	1870	SY	$ 38	$ 71,060
7	Bank Run Gravel for Trench Backfill	450	TN	$ 55	$ 24,750
8	PVC Sewer Pipe 8 In. Diam.	1670	LF	$ 55	$ 91,850
9	6 In. Diam. Side Sewer Re-Connection	17	EA	$ 660	$ 11,220
10	Manhole - 48 In. Diam.	23	EA	$ 5,500	$ 126,500
11	Crushed Surfacing Base Course	592.5	TN	$ 50	$ 29,625
12	HMA, CL 1/2-in PG 64-22	774	TN	$ 225	$ 174,150
13	Temporary Erosion Control	1	LS	$ 2,200	$ 2,200
14	CIPP Sewer Pipe 8 In. Diam.	1670	EA	$ 95	$ 158,650
15	6 In. Diam. Side Sewer Re-Connection	17	GAL	$ 2,800	$ 47,600
					$ -
					$ -
					$ -
				Sub-total =	$ 860,701
				CONTINGENCIES 20%	$ 172,140
				SALES TAX 8.5%	$ 87,791
				CONSTRUCTION TOTAL (ROUNDED)	$ 1,120,700

Engineering Services	15.0%	$ 168,200.0
Construction Administration	10.0%	$ 112,100.0
Legal, Permitting, County Admin	5.0%	$ 56,100.0

TOTAL PROJECT COST (ROUNDED)	**$ 1,457,100.0**

Assumptions:
1. 50% of Pipes are lined with Cure-in-Place pipe instead of being replaced.
2. All manholes are replaced.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2021 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 10 - Snob Hill LS Basin I/I and Pipe Improvements - Phase II; 50% CIPP Pipe Lining

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 141,436	$ 141,436
2	Unexpected Site Changes	1	LS	$ 2,640	$ 2,640
3	SPCC Plan	1	LS	$ 660	$ 660
4	Trench Excavation Safety Systems	1	LS	$ 26,400	$ 26,400
5	Sawcutting	5855	LF	$ 7.20	$ 42,156
6	Remove / Dispose of Existing Asphalt Pavement	3260	SY	$ 46	$ 148,656
7	Bank Run Gravel for Trench Backfill	780	TN	$ 66	$ 51,480
8	PVC Sewer Pipe 8 In. Diam.	2923	LF	$ 66	$ 192,918
9	6 In. Diam. Side Sewer Re-Connection	23	EA	$ 792	$ 18,216
10	Manhole - 48 In. Diam.	13	EA	$ 6,600	$ 85,800
11	Crushed Surfacing Base Course	885	TN	$ 60	$ 53,100
12	HMA, CL 1/2-in PG 64-22	1353	TN	$ 270	$ 365,310
13	Temporary Erosion Control	1	LS	$ 2,640	$ 2,640
14	CIPP Sewer Pipe 8 In. Diam.	2923	EA	$ 119	$ 347,106
15	6 In. Diam. Side Sewer Re-Connection	23	GAL	$ 3,360	$ 77,280
					$ -
					$ -
					$ -
				Sub-total =	$ 1,555,798
				CONTINGENCIES 20%	$ 311,160
				SALES TAX 8.5%	$ 158,691
				CONSTRUCTION TOTAL (ROUNDED)	$ 2,025,700

Engineering Services	15.0%	$ 303,900.0
Construction Administration	10.0%	$ 202,600.0
Legal, Permitting, County Admin	5.0%	$ 101,300.0

TOTAL PROJECT COST (ROUNDED) $ 2,633,500.0

Assumptions:
1. 50% of Pipes are lined with Cure-in-Place pipe instead of being replaced.
2. All manholes are replaced.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2021 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 11 - West End LS Basin - 50% CIPP Pipe Lining

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 41,215	$ 41,215
2	Unexpected Site Changes	1	LS	$ 2,640	$ 2,640
3	SPCC Plan	1	LS	$ 660	$ 660
4	Trench Excavation Safety Systems	1	LS	$ 26,400	$ 26,400
5	Sawcutting	1590	LF	$ 7.20	$ 11,448
6	Remove / Dispose of Existing Asphalt Pavement	890	SY	$ 46	$ 40,584
7	Bank Run Gravel for Trench Backfill	215	TN	$ 66	$ 14,190
8	PVC Sewer Pipe 8 In. Diam.	790	LF	$ 66	$ 52,140
9	6 In. Diam. Side Sewer Re-Connection	6	EA	$ 792	$ 4,752
10	Manhole - 48 In. Diam.	4	EA	$ 6,600	$ 26,400
11	Crushed Surfacing Base Course	285	TN	$ 60	$ 17,100
12	HMA, CL 1/2-in PG 64-22	367.5	TN	$ 270	$ 99,225
13	Temporary Erosion Control	1	LS	$ 2,640	$ 2,640
14	CIPP Sewer Pipe 8 In. Diam.	790	EA	$ 119	$ 93,813
15	6 In. Diam. Side Sewer Re-Connection	6	GAL	$ 3,360	$ 20,160
					$ -
					$ -
					$ -
				Sub-total =	$ 453,367
				CONTINGENCIES 20%	$ 90,673
				SALES TAX 8.5%	$ 46,243
				CONSTRUCTION TOTAL (ROUNDED)	$ 590,300

Engineering Services	15.0%	$ 88,600.0
Construction Administration	10.0%	$ 59,100.0
Legal, Permitting, County Admin	5.0%	$ 29,600.0

TOTAL PROJECT COST (ROUNDED) $ 767,600.0

Assumptions:
1. 50% of Pipes are lined with Cure-in-Place pipe instead of being replaced.
2. All manholes are replaced.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2021 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 12 - Clallam Bay LS Pipe - 50% CIPP Lining

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 348,076	$ 348,076
2	Unexpected Site Changes	1	LS	$ 2,640	$ 2,640
3	SPCC Plan	1	LS	$ 660	$ 660
4	Trench Excavation Safety Systems	1	LS	$ 26,400	$ 26,400
5	Sawcutting	13675	LF	$ 7.20	$ 98,460
6	Remove / Dispose of Existing Asphalt Pavement	7605	SY	$ 46	$ 346,788
7	Bank Run Gravel for Trench Backfill	1825	TN	$ 66	$ 120,450
8	PVC Sewer Pipe 8 In. Diam.	6833	LF	$ 66	$ 450,978
9	6 In. Diam. Side Sewer Re-Connection	50	EA	$ 792	$ 39,600
10	Manhole - 48 In. Diam.	63	EA	$ 6,600	$ 415,800
11	Crushed Surfacing Base Course	2400	TN	$ 60	$ 144,000
12	HMA, CL 1/2-in PG 64-22	3159	TN	$ 270	$ 852,930
13	Temporary Erosion Control	1	LS	$ 2,640	$ 2,640
14	CIPP Sewer Pipe 8 In. Diam.	6833	EA	$ 119	$ 811,419
15	6 In. Diam. Side Sewer Re-Connection	50	GAL	$ 3,360	$ 168,000
					$ -
					$ -
					$ -
				Sub-total =	$ 3,828,841
				CONTINGENCIES 20%	$ 765,768
				SALES TAX 8.5%	$ 390,542
				CONSTRUCTION TOTAL (ROUNDED)	$ 4,985,200

Engineering Services	15.0%	$ 747,800.0
Construction Administration	10.0%	$ 498,600.0
Legal, Permitting, County Admin	5.0%	$ 249,300.0

TOTAL PROJECT COST (ROUNDED) $ 6,480,900.0

Assumptions:
1. 50% of Pipes are lined with Cure-in-Place pipe instead of being replaced.
2. All manholes are replaced.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2021 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 13 - Lighthouse LS Pipe - 50% CIPP Lining

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 100,765	$ 100,765
2	Unexpected Site Changes	1	LS	$ 2,640	$ 2,640
3	SPCC Plan	1	LS	$ 660	$ 660
4	Trench Excavation Safety Systems	1	LS	$ 26,400	$ 26,400
5	Sawcutting	3690	LF	$ 7.20	$ 26,568
6	Remove / Dispose of Existing Asphalt Pavement	2060	SY	$ 46	$ 93,936
7	Bank Run Gravel for Trench Backfill	495	TN	$ 66	$ 32,670
8	PVC Sewer Pipe 8 In. Diam.	1840	LF	$ 66	$ 121,440
9	6 In. Diam. Side Sewer Re-Connection	29	EA	$ 792	$ 22,968
10	Manhole - 48 In. Diam.	14	EA	$ 6,600	$ 92,400
11	Crushed Surfacing Base Course	652.5	TN	$ 60	$ 39,150
12	HMA, CL 1/2-in PG 64-22	852.75	TN	$ 270	$ 230,243
13	Temporary Erosion Control	1	LS	$ 2,640	$ 2,640
14	CIPP Sewer Pipe 8 In. Diam.	1840	EA	$ 119	$ 218,500
15	6 In. Diam. Side Sewer Re-Connection	29	GAL	$ 3,360	$ 97,440
					$ -
					$ -
					$ -
				Sub-total =	$ 1,108,420
				CONTINGENCIES 20%	$ 221,684
				SALES TAX 8.5%	$ 113,059
				CONSTRUCTION TOTAL (ROUNDED)	$ 1,443,200

Engineering Services	15.0%	$ 216,500.0
Construction Administration	10.0%	$ 144,400.0
Legal, Permitting, County Admin	5.0%	$ 72,200.0

TOTAL PROJECT COST (ROUNDED) $ 1,876,300.0

Assumptions:
1. 50% of Pipes are lined with Cure-in-Place pipe instead of being replaced.
2. All manholes are replaced.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2021 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 14 - West End Lift Station Upgrades

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 38,532	$ 38,532
2	Traffic Control	1	LS	$ 19,680	$ 19,680
3	Bypass Pumping	1	LS	$ 13,080	$ 13,080
4	Demolition	1	LS	$ 6,600	$ 6,600
5	Dewatering	1	LS	$ 10,440	$ 10,440
6	Valve Vault	1	LS	$ 18,600	$ 18,600
7	Piping & Valves	1	LS	$ 30,960	$ 30,960
8	Pumps	1	LS	$ 61,800	$ 61,800
9	Manhole Lid & Hatch	1	LS	$ 12,720	$ 12,720
10	Wetwell Rehabilitation	1	LS	$ 15,720	$ 15,720
11	Site Work/Restoration/Cleanup	1	LS	$ 45,840	$ 45,840
12	Trench Excavation Safety Systems	1	LS	$ 6,600	$ 6,600
13	Unsuitable Excavation	10	CY	$ 72	$ 720
14	Painting	1	LS	$ 6,600	$ 6,600
15	Site Electrical	1	LS	$ 51,960	$ 51,960
16	Instrumentation and Controls	1	LS	$ 84,000	$ 84,000
				Sub-total	$ 423,852
			CONTINGENCIES	30%	$ 127,156
			SALES TAX	8.5%	$ 46,836
			CONSTRUCTION TOTAL (ROUNDED)		$ 597,900

Engineering Services	15.0%	$	89,700.0
Construction Administration	10.0%	$	59,800.0
Legal, Permitting, County Admin	5.0%	$	29,900.0

TOTAL PROJECT COST (ROUNDED)	**$**	**777,300**

Assumptions:
1. Pumps sizes are the same as the existing pumps.
2. Generators are in good condition and do not need to be replaced.
3. Electrical service is adequate and does not need to be upgraded.
4. Discharge meters are included.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2021 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 15 - Middle Point Lift Station Upgrades

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 40,728	$ 40,728
2	Traffic Control	1	LS	$ 26,280	$ 26,280
3	Bypass Pumping	1	LS	$ 26,280	$ 26,280
4	Demolition	1	LS	$ 13,080	$ 13,080
5	Dewatering	1	LS	$ 10,440	$ 10,440
6	Valve Vault	1	LS	$ 18,600	$ 18,600
7	Piping & Valves	1	LS	$ 30,960	$ 30,960
8	Pumps	1	LS	$ 80,400	$ 80,400
9	Manhole Lid & Hatch	1	LS	$ 12,720	$ 12,720
10	Wetwell Rehabilitation	1	LS	$ 15,720	$ 15,720
11	Site Work/Restoration/Cleanup	1	LS	$ 19,680	$ 19,680
12	Trench Excavation Safety Systems	1	LS	$ 9,840	$ 9,840
13	Unsuitable Excavation	10	CY	$ 72	$ 720
14	Painting	1	LS	$ 6,600	$ 6,600
15	Site Electrical	1	LS	$ 51,960	$ 51,960
16	Instrumentation and Controls	1	LS	$ 84,000	$ 84,000
				Sub-total	$ 448,008
				CONTINGENCIES 30%	$ 134,402
				SALES TAX 8.5%	$ 49,505
				CONSTRUCTION TOTAL (ROUNDED)	$ 632,000

Engineering Services	15.0%	$	94,800.0
Construction Administration	10.0%	$	63,200.0
Legal, Permitting, County Admin	5.0%	$	31,600.0

TOTAL PROJECT COST (ROUNDED)	**$**	**821,600**

Assumptions:
1. Pumps sizes are the same as the existing pumps.
2. Generators are in good condition and do not need to be replaced.
3. Electrical service is adequate and does not need to be upgraded.
4. Discharge meters are included.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2021 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 16 - Snob Hill Lift Station Upgrades

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 40,728	$ 40,728
2	Traffic Control	1	LS	$ 26,280	$ 26,280
3	Bypass Pumping	1	LS	$ 26,280	$ 26,280
4	Demolition	1	LS	$ 13,080	$ 13,080
5	Dewatering	1	LS	$ 10,440	$ 10,440
6	Valve Vault	1	LS	$ 18,600	$ 18,600
7	Piping & Valves	1	LS	$ 30,960	$ 30,960
8	Pumps	1	LS	$ 80,400	$ 80,400
9	Manhole Lid & Hatch	1	LS	$ 12,720	$ 12,720
10	Wetwell Rehabilitation	1	LS	$ 15,720	$ 15,720
11	Site Work/Restoration/Cleanup	1	LS	$ 19,680	$ 19,680
12	Trench Excavation Safety Systems	1	LS	$ 9,840	$ 9,840
13	Unsuitable Excavation	10	CY	$ 72	$ 720
14	Painting	1	LS	$ 6,600	$ 6,600
15	Site Electrical	1	LS	$ 51,960	$ 51,960
16	Instrumentation and Controls	1	LS	$ 84,000	$ 84,000
				Sub-total	$ 448,008
				CONTINGENCIES 30%	$ 134,402
				SALES TAX 8.5%	$ 49,505
				CONSTRUCTION TOTAL (ROUNDED)	$ 632,000

Engineering Services	15.0%	$	94,800.0
Construction Administration	10.0%	$	63,200.0
Legal, Permitting, County Admin	5.0%	$	31,600.0

TOTAL PROJECT COST (ROUNDED)	**$**	**821,600**

Assumptions:
1. Pumps sizes are the same as the existing pumps.
2. Generators are in good condition and do not need to be replaced.
3. Electrical service is adequate and does not need to be upgraded.
4. Discharge meters are included.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2021 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 17- Phase II - Seiku Lift Station Controls Upgrades

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 9,730	$ 9,730
2	Traffic Control		LS		
3	Bypass Pumping		LS		
4	Demolition	1	LS	$ 3,000	$ 3,000
5	Dewatering		LS		
6	Valve Vault		LS		
7	Piping & Valves		LS		
8	Pumps		LS		
9	Manhole Lid & Hatch		LS		
10	Wetwell Rehabilitation		LS		
11	Site Work/Restoration/Cleanup	1	LS	$ 3,300	$ 3,300
12	Trench Excavation Safety Systems		LS		
13	Unsuitable Excavation		CY		
14	Painting		LS		
15	Site Electrical	1	LS	$ 21,000	$ 21,000
16	Instrumentation and Controls (w/Meter/Vault)	1	LS	$ 70,000	$ 70,000
				Sub-total	$ 107,030
				CONTINGENCIES 30%	$ 32,109
				SALES TAX 8.5%	$ 11,827
				CONSTRUCTION TOTAL (ROUNDED)	$ 151,000

Engineering Services	15.0%	$ 22,700.0
Construction Administration	5.0%	$ 7,600.0
Legal, Permitting, County Admin	5.0%	$ 7,600.0

TOTAL PROJECT COST (ROUNDED) $ 188,900

Assumptions:
1. Pumps have been replaced
2. Generators are in good condition and do not need to be replaced.
3. Electrical service is adequate and does not need to be upgraded.
4. Discharge meters and vault are included.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2021 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 18 - Olson's Lift Lift Station Upgrades

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 36,312	$ 36,312
2	Traffic Control	1	LS	$ 13,080	$ 13,080
3	Bypass Pumping	1	LS	$ 26,280	$ 26,280
4	Demolition	1	LS	$ 13,080	$ 13,080
5	Dewatering	1	LS	$ 10,440	$ 10,440
6	Valve Vault	1	LS	$ 18,600	$ 18,600
7	Piping & Valves	1	LS	$ 30,960	$ 30,960
8	Pumps	1	LS	$ 49,440	$ 49,440
9	Manhole Lid & Hatch	1	LS	$ 12,720	$ 12,720
10	Wetwell Rehabilitation	1	LS	$ 15,720	$ 15,720
11	Site Work/Restoration/Cleanup	1	LS	$ 26,280	$ 26,280
12	Trench Excavation Safety Systems	1	LS	$ 3,240	$ 3,240
13	Unsuitable Excavation	10	CY	$ 72	$ 720
14	Painting	1	LS	$ 6,600	$ 6,600
15	Site Electrical	1	LS	$ 51,960	$ 51,960
16	Instrumentation and Controls	1	LS	$ 84,000	$ 84,000
				Sub-total	$ 399,432
				CONTINGENCIES 30%	$ 119,830
				SALES TAX 8.5%	$ 44,137
				CONSTRUCTION TOTAL (ROUNDED)	$ 563,400

Engineering Services	15.0%	$	84,600.0
Construction Administration	10.0%	$	56,400.0
Legal, Permitting, County Admin	5.0%	$	28,200.0

TOTAL PROJECT COST (ROUNDED)	**$**	**732,600**

Assumptions:
1. Pumps sizes are the same as the existing pumps.
2. Generators are in good condition and do not need to be replaced.
3. Electrical service is adequate and does not need to be upgraded.
4. Discharge meters are included.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2021 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 19 - Lighthouse Lift Station Upgrades

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 34,210	$ 34,210
2	Traffic Control	1	LS	$ 13,100	$ 13,100
3	Bypass Pumping	1	LS	$ 21,900	$ 21,900
4	Demolition	1	LS	$ 10,900	$ 10,900
5	Dewatering	1	LS	$ 8,700	$ 8,700
6	Valve Vault	1	LS	$ 15,500	$ 15,500
7	Piping & Valves	1	LS	$ 25,800	$ 25,800
8	Pumps	1	LS	$ 56,700	$ 56,700
9	Manhole Lid & Hatch	1	LS	$ 10,600	$ 10,600
10	Wetwell Rehabilitation	1	LS	$ 13,100	$ 13,100
11	Site Work/Restoration/Cleanup	1	LS	$ 38,200	$ 38,200
12	Trench Excavation Safety S	1	LS	$ 8,200	$ 8,200
13	Unsuitable Excavation	10	CY	$ 60	$ 600
14	Painting	1	LS	$ 5,500	$ 5,500
15	Site Electrical	1	LS	$ 43,300	$ 43,300
16	Instrumentation	1	LS	$ 70,000	$ 70,000
				Sub-total	$ 376,310
				CONTINGENCIES 30%	$ 112,893
				SALES TAX 8.5%	$ 41,582
				CONSTRUCTION TOTAL (ROUNDED)	$ 530,800

UNDER CONSTRUCTION

Engineering Services	15.0%	$ 79,700.0
Construction Administration	10.0%	$ 53,100.0
Legal, Permitting, County Admin	5.0%	$ 26,600.0

TOTAL PROJECT COST (ROUNDED)	**$ 690,200**

Assumptions:
1. Pumps sizes are the same as the existing pumps.
2. Generators are in good condition and do not need to be replaced.
3. Electrical service is adequate and does not need to be upgraded.
4. Discharge meters are included.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2021 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 20 - Clallam Bay Lift Station Upgrades

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 43,536	$ 43,536
2	Traffic Control	1	LS	$ 13,080	$ 13,080
3	Bypass Pumping	1	LS	$ 13,080	$ 13,080
4	Demolition	1	LS	$ 26,280	$ 26,280
5	Dewatering	1	LS	$ 10,440	$ 10,440
6	Valve Vault	1	LS	$ 24,720	$ 24,720
7	Piping & Valves	1	LS	$ 37,080	$ 37,080
8	Pumps	1	LS	$ 86,520	$ 86,520
9	Manhole Lid & Hatch	1	LS	$ 12,720	$ 12,720
10	Wetwell Rehabilitation	1	LS	$ 15,720	$ 15,720
11	Site Work/Restoration/Cleanup	1	LS	$ 45,840	$ 45,840
12	Trench Excavation Safety Systems	1	LS	$ 6,600	$ 6,600
13	Unsuitable Excavation	10	CY	$ 72	$ 720
14	Painting	1	LS	$ 6,600	$ 6,600
15	Site Electrical	1	LS	$ 51,960	$ 51,960
16	Instrumentation and Controls	1	LS	$ 84,000	$ 84,000
				Sub-total	$ 478,896
				CONTINGENCIES 30%	$ 143,669
				SALES TAX 8.5%	$ 52,918
				CONSTRUCTION TOTAL (ROUNDED)	$ 675,500

Engineering Services	15.0%	$	101,400.0
Construction Administration	10.0%	$	67,600.0
Legal, Permitting, County Admin	5.0%	$	33,800.0

TOTAL PROJECT COST (ROUNDED)	**$**	**878,300**

Assumptions:
1. Pumps sizes are the same as the existing pumps.
2. Generators are in good condition and do not need to be replaced.
3. Electrical service is adequate and does not need to be upgraded.
4. Discharge meters are included.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 19R - Revise/Reroute - Lighthouse Lift Station Pump Upgrades

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 20,772	$ 20,772
2	Traffic Control		LS	$ 15,720	$ -
3	Bypass Pumping	1	LS	$ 26,280	$ 26,280
4	Demolition	1	LS	$ 13,080	$ 13,080
5	Dewatering		LS	$ 10,440	$ -
6	Valve Vault		LS	$ 18,600	$ -
7	Piping & Valves		LS	$ 30,960	$ -
8	**Pumps (125 gpm @60 TDH)**	1	LS	$ 90,000	$ 90,000
9	Manhole Lid & Hatch		LS	$ 12,720	$ -
10	Wetwell Rehabilitation		LS	$ 15,720	$ -
11	Site Work/Restoration/Cleanup	1	LS	$ 12,000	$ 12,000
12	Trench Excavation Safety Systems		LS	$ 9,840	$ -
13	Unsuitable Excavation	200	CY	$ 72	$ 14,400
14	Painting		LS	$ 6,600	$ -
15	Site Electrical	1	LS	$ 51,960	$ 51,960
16	Instrumentation and Controls		LS	$ 84,000	$ -
				Sub-total	$ 228,492
				CONTINGENCIES 30%	$ 68,548
				SALES TAX 8.5%	$ 25,248
				CONSTRUCTION TOTAL (ROUNDED)	$ 322,300

Engineering Services	15.0%	$	48,400.0
Construction Administration	10.0%	$	32,300.0
Legal, Permitting, County Admin	5.0%	$	16,200.0

TOTAL PROJECT COST (ROUNDED)	**$**	**419,200**

Assumptions:
1. Pumps are upgraded to have sufficient head to reach Clallam Bay LS.
2. Generators are in good condition and do not need to be replaced.
3. Electrical service may need to be upgraded for larger pumps.
4. Telemetry is adequate and does not need to be upgraded.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 38 - New Lighthouse LS FM (to Clallam Bay LS)

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 20,487	$ 20,487
2	Temporary Erosion Control	1	LS	$ 2,640	$ 2,640
3	SPCC Plan	1	LS	$ 660	$ 660
4	Trench Excavation Safety Systems	1	LS	$ 3,600	$ 3,600
5	Traffic Control	1	LS	$ 12,000	$ 12,000
6	Sawcutting	80	LF	$ 6.60	$ 528
7	Remove / Dispose of Existing Asphalt Pavement	23	SY	$ 46	$ 1,049
8	4-inch HDPE Pipe in exist 8 In. Diam. PVC	2080	LF	$ 72	$ 149,760
9	Misc Connection Fittings, valves	1	LS	$ 30,000	$ 30,000
10	Crushed Surfacing Base Course	4.83	TN	$ 60	$ 290
11	HMA, CL 1/2-in PG 64-22	6.325	TN	$ 270	$ 1,708
12	Unexpected Site Changes	1	LS	$ 2,640	$ 2,640
					$ -
					$ -
				Sub-total =	$ 225,362
				CONTINGENCIES 20%	$ 45,072
				SALES TAX 8.5%	$ 22,987
				CONSTRUCTION TOTAL (ROUNDED)	$ 293,500

Engineering Services	15.0%	$ 44,100.0
Construction Administration	10.0%	$ 29,400.0
Legal, Permitting, County Admin	5.0%	$ 14,700.0

TOTAL PROJECT COST (ROUNDED) $ 381,700.0

Assumptions:
1. Installation primarily in existing gravity main, minimal underground utilities.
2. Open cut access pits.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 20R-A -Revise/Reroute to MP LS - Clallam Bay Lift Station Upgrades

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 39,410	$ 39,410
2	Traffic Control	1	LS	$ 13,080	$ 13,080
3	Bypass Pumping	1	LS	$ 13,080	$ 13,080
4	Demolition	1	LS	$ 26,280	$ 26,280
5	Dewatering	1	LS	$ 10,440	$ 10,440
6	Valve Vault	1	LS	$ 24,720	$ 24,720
7	Piping & Valves	1	LS	$ 37,080	$ 37,080
8	**Pumps (330 gpm @34 TDH)**	1	LS	**$ 86,520**	$ 86,520
9	Manhole Lid & Hatch	1	LS	$ 12,720	$ 12,720
10	Wetwell Rehabilitation	1	LS	$ 15,720	$ 15,720
11	Site Work/Restoration/Cleanup	1	LS	$ 4,584	$ 4,584
12	Trench Excavation Safety Systems	1	LS	$ 6,600	$ 6,600
13	Unsuitable Excavation	10	CY	$ 72	$ 720
14	Painting	1	LS	$ 6,600	$ 6,600
15	Site Electrical	1	LS	$ 51,960	$ 51,960
16	Instrumentation and Controls	1	LS	$ 84,000	$ 84,000
				Sub-total	$ 433,514
				CONTINGENCIES 30%	$ 130,054
				SALES TAX 8.5%	$ 47,903
				CONSTRUCTION TOTAL (ROUNDED)	$ 611,500

Engineering Services	15.0%	$	91,800.0
Construction Administration	10.0%	$	61,200.0
Legal, Permitting, County Admin	5.0%	$	30,600.0

TOTAL PROJECT COST (ROUNDED)	**$**	**795,100**

Assumptions:
1. Pump size is similar to existing; assumed similar pump costs.
1. Discharge meters are included.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 30 - New Clallam Bay LS FM (to Middle Point LS)

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 181,414	$ 181,414
2	Temporary Erosion Control	1	LS	$ 15,000	$ 15,000
3	SPCC Plan	1	LS	$ 2,000	$ 2,000
4	Trench Excavation Safety Systems	1	LS	$ 2,000	$ 2,000
5	Traffic Control	1	LS	$ 80,000	$ 80,000
6	Sawcutting	176	LF	$ 6.60	$ 1,162
7	Remove / Dispose of Existing Asphalt Pavement	30	SY	$ 46	$ 1,368
8	HDPE Pipe 8 In. Diam.	8400	LF	$ 200	$ 1,680,000
9	*Reserved*				$ -
10	Crushed Surfacing Base Course	6.3	TN	$ 60	$ 378
11	HMA, CL 1/2-in PG 64-22	8.25	TN	$ 270	$ 2,228
12	Unexpected Site Changes	1	LS	$ 30,000	$ 30,000
					$ -
					$ -
				Sub-total =	$ 1,995,549
				CONTINGENCIES 20%	$ 399,110
				SALES TAX 8.5%	$ 203,546
				CONSTRUCTION TOTAL (ROUNDED)	$ 2,598,300
				Geotechnical Services	$ 30,000
				Engineering Services 15.0%	$ 389,800.0
				Construction Administration 10.0%	$ 259,900.0
				Legal, Permitting, County Admin 5.0%	$ 130,000.0

TOTAL PROJECT COST (ROUNDED) $ 3,408,000.0

Assumptions:
1. Installation primarily in uphill road shoulder, minimal underground utilities.
2. Open cut County road crossings
3. Includes Geotechnical investigation to assess slide risks along route.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 15R- Revise/Reroute - Middle Point Lift Station Upgrades

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 51,312	$ 51,312
2	Traffic Control	1	LS	$ 26,280	$ 26,280
3	Bypass Pumping	1	LS	$ 26,280	$ 26,280
4	Demolition	1	LS	$ 13,080	$ 13,080
5	Dewatering	1	LS	$ 10,440	$ 10,440
6	**Valve Vault (upsize)**	1	LS	**$ 24,720**	$ 24,720
7	**Piping & Valves (upsize)**	1	LS	**$ 37,080**	$ 37,080
8	**Pumps (460 gpm @40 TDH)**	1	LS	**$ 96,000**	$ 96,000
9	Manhole Lid & Hatch	1	LS	$ 12,720	$ 12,720
10	Wetwell Rehabilitation	1	LS	$ 15,720	$ 15,720
11	Site Work/Restoration/Cleanup	1	LS	$ 19,680	$ 19,680
12	Trench Excavation Safety Systems	1	LS	$ 9,840	$ 9,840
13	Unsuitable Excavation	10	CY	$ 72	$ 720
14	Painting	1	LS	$ 6,600	$ 6,600
15	**Site Electrical (upgrade electrical service, generator)**	1	LS	**$ 129,960**	$ 129,960
16	Instrumentation and Controls	1	LS	$ 84,000	$ 84,000
				Sub-total	$ 564,432
				CONTINGENCIES 30%	$ 169,330
				SALES TAX 8.5%	$ 62,370
				CONSTRUCTION TOTAL (ROUNDED)	$ 796,200

Engineering Services	15.0%	$	119,500.0
Construction Administration	10.0%	$	79,700.0
Legal, Permitting, County Admin	5.0%	$	39,900.0

TOTAL PROJECT COST (ROUNDED)	**$**	**1,035,300**

Assumptions:
1. Discharge meters are included.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 17R- Revise/Reroute - Seiku Lift Station Additional Upgrades

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 31,584	$ 31,584
2	Traffic Control	1	LS	$ -	$ -
3	Bypass Pumping	1	LS	$ 26,280	$ 26,280
4	Demolition	1	LS	$ 9,000	$ 9,000
~~5~~	Dewatering		LS	$ 10,440	$ -
~~6~~	Valve Vault		LS	$ 18,600	$ -
~~7~~	Piping & Valves		LS	$ 30,960	$ -
8	**Pumps (800 gpm @180 TDH)**	1	LS	**$ 108,000**	$ 108,000
~~9~~	Manhole Lid & Hatch		LS	$ 12,720	$ -
~~10~~	Wetwell Rehabilitation		LS	$ 15,720	$ -
11	Site Work/Restoration/Cleanup	1	LS	$ 6,600	$ 6,600
~~12~~	Trench Excavation Safety Systems		LS	$ 9,840	$ -
~~13~~	Unsuitable Excavation		CY	$ 72	$ -
~~14~~	Painting		LS	$ 6,600	$ -
15	**Site Electrical (upgrade electrical service)**	1	LS	**$ 81,960**	$ 81,960
16	Instrumentation and Controls	1	LS	$ 84,000	$ 84,000
				Sub-total	$ 347,424
				CONTINGENCIES 30%	$ 104,227
				SALES TAX 8.5%	$ 38,390
				CONSTRUCTION TOTAL (ROUNDED)	$ 490,100

Engineering Services	15.0%	$	73,600.0
Construction Administration	10.0%	$	49,100.0
Legal, Permitting, County Admin	5.0%	$	24,600.0

TOTAL PROJECT COST (ROUNDED)	**$**	**637,400**

Assumptions:
1. Discharge meters are included.
2. Upgrades already completed are adequately sized; only change out pumps.
3. Includes telemtry and controls upgrades.
4. WWTP Generator can be repurposed for LS use.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 31-A - New Sekiu LS FM (to New HWY 112 WWTP)

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 32,256	$ 32,256
2	Temporary Erosion Control	1	LS	$ 2,640	$ 2,640
3	SPCC Plan	1	LS	$ 660	$ 660
4	Trench Excavation Safety Systems	1	LS	$ 3,600	$ 3,600
5	Traffic Control	1	LS	$ 18,000	$ 18,000
6	Sawcutting	44	LF	$ 6.60	$ 290
7	Remove / Dispose of Existing Asphalt Pavement	8	SY	$ 46	$ 365
8	HDPE Pipe 8 In. Diam.	2585	LF	$ 102	$ 263,670
9	Horizontal Directional Drilling	1	EA	$ 30,000	$ 30,000
10	Crushed Surfacing Base Course	1.68	TN	$ 60	$ 101
11	HMA, CL 1/2-in PG 64-22	2.2	TN	$ 270	$ 594
12	Unexpected Site Changes	1	LS	$ 2,640	$ 2,640
					$ -
					$ -
				Sub-total =	$ 354,816
				CONTINGENCIES 20%	$ 70,963
				SALES TAX 8.5%	$ 36,191
				CONSTRUCTION TOTAL (ROUNDED)	$ 462,000

Engineering Services	15.0%	$ 69,300.0
Construction Administration	10.0%	$ 46,200.0
Legal, Permitting, County Admin	5.0%	$ 23,100.0

TOTAL PROJECT COST (ROUNDED)	**$ 600,600.0**

Assumptions:
1. Installation primarily in road shoulder.
2. Open cut County road crossings
3. Horizontal directional drilling across Highway 112.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

February 2, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 19R - Revise/Reroute - Lighthouse Lift Station Pump Upgrades

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 20,772	$ 20,772
2	Traffic Control		LS	$ 15,720	$ -
3	Bypass Pumping	1	LS	$ 26,280	$ 26,280
4	Demolition	1	LS	$ 13,080	$ 13,080
5	Dewatering		LS	$ 10,440	$ -
6	Valve Vault		LS	$ 18,600	$ -
7	Piping & Valves		LS	$ 30,960	$ -
8	**Pumps (125 gpm @60 TDH)**	1	LS	$ 90,000	$ 90,000
9	Manhole Lid & Hatch		LS	$ 12,720	$ -
10	Wetwell Rehabilitation		LS	$ 15,720	$ -
11	Site Work/Restoration/Cleanup	1	LS	$ 12,000	$ 12,000
12	Trench Excavation Safety Systems		LS	$ 9,840	$ -
13	Unsuitable Excavation	200	CY	$ 72	$ 14,400
14	Painting		LS	$ 6,600	$ -
15	Site Electrical	1	LS	$ 51,960	$ 51,960
16	Instrumentation and Controls		LS	$ 84,000	$ -
				Sub-total	$ 228,492
				CONTINGENCIES 30%	$ 68,548
				SALES TAX 8.5%	$ 25,248
				CONSTRUCTION TOTAL (ROUNDED)	$ 322,300

Engineering Services	15.0%	$	48,400.0
Construction Administration	10.0%	$	32,300.0
Legal, Permitting, County Admin	5.0%	$	16,200.0

TOTAL PROJECT COST (ROUNDED)	**$**	**419,200**

Assumptions:
1. Pumps are upgraded to have sufficient head to reach Clallam Bay LS.
2. Generators are in good condition and do not need to be replaced.
3. Electrical service may need to be upgraded for larger pumps.
4. Telemetry is adequate and does not need to be upgraded.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

February 2, 2023
PROJECT NO. 2021-044

by: Melanie Mankamyer, PE
Wilson Engineering, LLC

CIP No. 38 - New Lighthouse LS FM (to Clallam Bay LS)

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 20,487	$ 20,487
2	Temporary Erosion Control	1	LS	$ 2,640	$ 2,640
3	SPCC Plan	1	LS	$ 660	$ 660
4	Trench Excavation Safety Systems	1	LS	$ 3,600	$ 3,600
5	Traffic Control	1	LS	$ 12,000	$ 12,000
6	Sawcutting	80	LF	$ 6.60	$ 528
7	Remove / Dispose of Existing Asphalt Pavement	23	SY	$ 46	$ 1,049
8	4-inch HDPE Pipe in exist 8 In. Diam. PVC	2080	LF	$ 72	$ 149,760
9	Misc Connection Fittings, valves	1	LS	$ 30,000	$ 30,000
10	Crushed Surfacing Base Course	4.83	TN	$ 60	$ 290
11	HMA, CL 1/2-in PG 64-22	6.325	TN	$ 270	$ 1,708
12	Unexpected Site Changes	1	LS	$ 2,640	$ 2,640
					$ -
					$ -
				Sub-total =	$ 225,362
				CONTINGENCIES 20%	$ 45,072
				SALES TAX 8.5%	$ 22,987
				CONSTRUCTION TOTAL (ROUNDED)	$ 293,500

Engineering Services	15.0%	$	44,100.0
Construction Administration	10.0%	$	29,400.0
Legal, Permitting, County Admin	5.0%	$	14,700.0

TOTAL PROJECT COST (ROUNDED)	**$**	**381,700.0**

Assumptions:
1. Installation primarily in existing gravity main, minimal underground utilities.
2. Open cut access pits.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

January 15, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 20R-B -Revise/Reroute to Corrections - Clallam Bay Lift Station Upgrades

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 45,684	$ 45,684
2	Traffic Control	1	LS	$ 13,080	$ 13,080
3	Bypass Pumping	1	LS	$ 13,080	$ 13,080
4	Demolition	1	LS	$ 26,280	$ 26,280
5	Dewatering	1	LS	$ 10,440	$ 10,440
6	Valve Vault	1	LS	$ 24,720	$ 24,720
7	Piping & Valves	1	LS	$ 37,080	$ 37,080
8	**Pumps (330 gpm @ 200 TDH)**	1	LS	**$ 108,000**	$ 108,000
9	Manhole Lid & Hatch	1	LS	$ 12,720	$ 12,720
10	Wetwell Rehabilitation	1	LS	$ 15,720	$ 15,720
11	Site Work/Restoration/Cleanup	1	LS	$ 45,840	$ 45,840
12	Trench Excavation Safety Systems	1	LS	$ 6,600	$ 6,600
13	Unsuitable Excavation	10	CY	$ 72	$ 720
14	Painting	1	LS	$ 6,600	$ 6,600
15	Site Electrical	1	LS	$ 51,960	$ 51,960
16	Instrumentation and Controls	1	LS	$ 84,000	$ 84,000
				Sub-total	$ 502,524
				CONTINGENCIES 20%	$ 100,505
				SALES TAX 8.5%	$ 51,257
				CONSTRUCTION TOTAL (ROUNDED)	$ 654,300

Engineering Services	10.0%	$	65,500.0
Construction Administration	10.0%	$	65,500.0
Legal, Permitting, County Admin	5.0%	$	32,800.0

TOTAL PROJECT COST (ROUNDED)	**$**	**818,100**

Assumptions:
1. Pump size is similar to existing; assumed similar pump costs.
1. Discharge meters are included.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

January 15, 2023
PROJECT NO. 2021-044

by: Melanie Mankamyer, PE
Wilson Engineering, LLC

CIP No. 17R- Revise/Reroute - Seiku Lift Station Additional Upgrades

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 31,584	$ 31,584
2	Traffic Control		LS	$ -	$ -
3	Bypass Pumping	1	LS	$ 26,280	$ 26,280
4	Demolition	1	LS	$ 9,000	$ 9,000
5	Dewatering		LS	$ 10,440	$ -
6	Valve Vault		LS	$ 18,600	$ -
7	Piping & Valves		LS	$ 30,960	$ -
8	**Pumps (800 gpm @180 TDH)**	1	LS	**$ 108,000**	$ 108,000
9	Manhole Lid & Hatch		LS	$ 12,720	$ -
10	Wetwell Rehabilitation		LS	$ 15,720	$ -
11	Site Work/Restoration/Cleanup	1	LS	$ 6,600	$ 6,600
12	Trench Excavation Safety Systems		LS	$ 9,840	$ -
13	Unsuitable Excavation		CY	$ 72	$ -
14	Painting		LS	$ 6,600	$ -
15	**Site Electrical (upgrade electrical service)**	1	LS	**$ 81,960**	$ 81,960
16	Instrumentation and Controls	1	LS	$ 84,000	$ 84,000
				Sub-total	$ 347,424
				CONTINGENCIES 30%	$ 104,227
				SALES TAX 8.5%	$ 38,390
				CONSTRUCTION TOTAL (ROUNDED)	$ 490,100

Engineering Services	15.0%	$	73,600.0
Construction Administration	10.0%	$	49,100.0
Legal, Permitting, County Admin	5.0%	$	24,600.0

TOTAL PROJECT COST (ROUNDED)	**$**	**637,400**

Assumptions:
1. Discharge meters are included.
2. Upgrades already completed are adequately sized; only change out pumps.
3. Includes telemtry and controls upgrades.
4. WWTP Generator can be repurposed for LS use.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

January 15, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 31-B - New Sekiu LS FM (to New HWY 112 LS)

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 23,076	$ 23,076
2	Temporary Erosion Control	1	LS	$ 2,640	$ 2,640
3	SPCC Plan	1	LS	$ 660	$ 660
4	Trench Excavation Safety Systems	1	LS	$ 3,600	$ 3,600
5	Traffic Control	1	LS	$ 18,000	$ 18,000
6	Sawcutting	44	LF	$ 6.60	$ 290
7	Remove / Dispose of Existing Asphalt Pavement	8	SY	$ 46	$ 365
8	HDPE Pipe 8 In. Diam.	1685	LF	$ 102	$ 171,870
9	Horizontal Directional Drilling	1	EA	$ 30,000	$ 30,000
10	Crushed Surfacing Base Course	1.68	TN	$ 60	$ 101
11	HMA, CL 1/2-in PG 64-22	2.2	TN	$ 270	$ 594
12	Unexpected Site Changes	1	LS	$ 2,640	$ 2,640
					$ -
					$ -
				Sub-total =	$ 253,836
				CONTINGENCIES 20%	$ 50,767
				SALES TAX 8.5%	$ 25,891
				CONSTRUCTION TOTAL (ROUNDED)	$ 330,500

Engineering Services	15.0%	$	49,600.0
Construction Administration	10.0%	$	33,100.0
Legal, Permitting, County Admin	5.0%	$	16,600.0

TOTAL PROJECT COST (ROUNDED)	**$**	**429,800.0**

Assumptions:
1. Installation primarily in road shoulder.
2. Open cut County road crossings
3. Horizontal directional drilling across Highway 112.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

January 15, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 32- New Hwy 112 LS

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 64,272	$ 64,272
2	Traffic Control	1	LS	$ 26,400	$ 26,400
3	Bypass Pumping		LS		$ -
~~4~~	Demolition		LS		$ -
5	Dewatering	1	LS	$ 10,440	$ 10,440
6	Valve Vault	1	LS	$ 30,000	$ 30,000
7	Piping & Valves	1	LS	$ 42,000	$ 42,000
8	Pumps (770 gpm @200 TDH)	1	LS	$ 120,000	$ 120,000
9	Manhole Lid & Hatch	1	LS	$ 18,000	$ 18,000
10	Wetwell	1	LS	$ 66,000	$ 66,000
11	Site Work/Restoration/Cleanup	1	LS	$ 30,000	$ 30,000
12	Trench Excavation Safety Systems	1	LS	$ 6,600	$ 6,600
13	Unsuitable Excavation	10	CY	$ 72	$ 720
14	Painting	1	LS	$ 6,600	$ 6,600
15	Site Electrical (new electrical service, generator)	1	LS	$ 201,960	$ 201,960
16	Instrumentation and Controls	1	LS	$ 84,000	$ 84,000
				Sub-total	$ 706,992
				CONTINGENCIES 30%	$ 212,098
				SALES TAX 8.5%	$ 78,123
				CONSTRUCTION TOTAL (ROUNDED)	$ 997,300

Engineering Services	15.0%	$	149,600.0
Construction Administration	10.0%	$	99,800.0
Legal, Permitting, County Admin	5.0%	$	49,900.0

TOTAL PROJECT COST (ROUNDED)	**$**	**1,296,600**

Assumptions:
1. Adequate power is nearby
2. No costs for land acquisition are included.
3. Discharge meters are included.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

January 15, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 33- New Access Road LS

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 62,088	$ 62,088
2	Traffic Control	1	LS	$ 9,000	$ 9,000
~~3~~	Bypass Pumping		LS		$ -
~~4~~	Demolition		LS		$ -
5	Dewatering	1	LS	$ 6,000	$ 6,000
6	Valve Vault	1	LS	$ 30,000	$ 30,000
7	Piping & Valves	1	LS	$ 42,000	$ 42,000
8	Pumps (770 gpm @200 TDH)	1	LS	$ 120,000	$ 120,000
9	Manhole Lid & Hatch	1	LS	$ 18,000	$ 18,000
10	Wetwell	1	LS	$ 66,000	$ 66,000
11	Site Work/Restoration/Cleanup	1	LS	$ 30,000	$ 30,000
12	Trench Excavation Safety Systems	1	LS	$ 6,600	$ 6,600
13	Unsuitable Excavation	10	CY	$ 72	$ 720
14	Painting	1	LS	$ 6,600	$ 6,600
15	Site Electrical (new electrical service, generator)	1	LS	$ 201,960	$ 201,960
16	Instrumentation and Controls	1	LS	$ 84,000	$ 84,000
				Sub-total	$ 682,968
				CONTINGENCIES 30%	$ 204,890
				SALES TAX 8.5%	$ 75,468
				CONSTRUCTION TOTAL (ROUNDED)	$ 963,400

Engineering Services	15.0%	$	144,600.0
Construction Administration	10.0%	$	96,400.0
Legal, Permitting, County Admin	5.0%	$	48,200.0

TOTAL PROJECT COST (ROUNDED)	**$**	**1,252,600**

Assumptions:
1. Adequate power is nearby
2. No costs for land acquisition are included.
3. Discharge meters are included.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

January 15, 2023
PROJECT NO. 2021-044

by: Melanie Mankamyer, PE
Wilson Engineering, LLC

CIP No. 34- New Access Road FM (to Correction Facility Lagoon)

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 89,619	$ 89,619
2	Temporary Erosion Control	1	LS	$ 2,640	$ 2,640
3	SPCC Plan	1	LS	$ 660	$ 660
4	Trench Excavation Safety Systems	1	LS	$ 3,600	$ 3,600
5	Traffic Control	1	LS	$ 6,000	$ 6,000
6	Sawcutting		LF	$ 6.60	$ -
7	Remove / Dispose of Existing Asphalt Pavement		SY	$ 46	$ -
8	HDPE Pipe 12 In. Diam.	7725	LF	$ 114	$ 880,650
9	*Reserved*				$ -
10	Crushed Surfacing Base Course		TN	$ 60	$ -
11	HMA, CL 1/2-in PG 64-22		TN	$ 270	$ -
12	Unexpected Site Changes	1	LS	$ 2,640	$ 2,640
					$ -
					$ -
				Sub-total =	$ 985,809
				CONTINGENCIES 20%	$ 197,162
				SALES TAX 8.5%	$ 100,553
				CONSTRUCTION TOTAL (ROUNDED)	$ 1,283,600

Engineering Services	15.0%	$	192,600.0
Construction Administration	10.0%	$	128,400.0
Legal, Permitting, County Admin	5.0%	$	64,200.0

TOTAL PROJECT COST (ROUNDED) $ 1,668,800.0

Assumptions:
1. Installation primarily in road shoulder.
2. Simplified installation - no underground utilities, native backfill.
3. Access road is gravel.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

January 15, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 35- New Eagle Crest #1 LS

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 60,888	$ 60,888
2	Traffic Control	1	LS	$ 9,000	$ 9,000
~~3~~	Bypass Pumping		LS		$ -
~~4~~	Demolition		LS		$ -
5	Dewatering	1	LS	$ 6,000	$ 6,000
6	Valve Vault	1	LS	$ 30,000	$ 30,000
7	Piping & Valves	1	LS	$ 42,000	$ 42,000
8	Pumps (330 gpm @200 TDH)	1	LS	$ 108,000	$ 108,000
9	Manhole Lid & Hatch	1	LS	$ 18,000	$ 18,000
10	Wetwell	1	LS	$ 66,000	$ 66,000
11	Site Work/Restoration/Cleanup	1	LS	$ 30,000	$ 30,000
12	Trench Excavation Safety Systems	1	LS	$ 6,600	$ 6,600
13	Unsuitable Excavation	10	CY	$ 72	$ 720
14	Painting	1	LS	$ 6,600	$ 6,600
15	Site Electrical (new electrical service, generator)	1	LS	$ 201,960	$ 201,960
16	Instrumentation and Controls	1	LS	$ 84,000	$ 84,000
				Sub-total	$ 669,768
				CONTINGENCIES 30%	$ 200,930
				SALES TAX 8.5%	$ 74,009
				CONSTRUCTION TOTAL (ROUNDED)	$ 944,800

Engineering Services	15.0%	$	141,800.0
Construction Administration	10.0%	$	94,500.0
Legal, Permitting, County Admin	5.0%	$	47,300.0

TOTAL PROJECT COST (ROUNDED)	**$**	**1,228,400**

Assumptions:
1. Adequate power is nearby
2. No costs for land acquisition are included.
3. Discharge meters are included.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

January 15, 2023
PROJECT NO. 2021-044

by: Melanie Mankamyer, PE
Wilson Engineering, LLC

CIP No. 36- New Eagle Crest #2 LS

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 60,888	$ 60,888
2	Traffic Control	1	LS	$ 9,000	$ 9,000
~~3~~	Bypass Pumping		LS		$ -
~~4~~	Demolition		LS		$ -
5	Dewatering	1	LS	$ 6,000	$ 6,000
6	Valve Vault	1	LS	$ 30,000	$ 30,000
7	Piping & Valves	1	LS	$ 42,000	$ 42,000
8	Pumps (330 gpm @200 TDH)	1	LS	$ 108,000	$ 108,000
9	Manhole Lid & Hatch	1	LS	$ 18,000	$ 18,000
10	Wetwell	1	LS	$ 66,000	$ 66,000
11	Site Work/Restoration/Cleanup	1	LS	$ 30,000	$ 30,000
12	Trench Excavation Safety Systems	1	LS	$ 6,600	$ 6,600
13	Unsuitable Excavation	10	CY	$ 72	$ 720
14	Painting	1	LS	$ 6,600	$ 6,600
15	Site Electrical (new electrical service, generator)	1	LS	$ 201,960	$ 201,960
16	Instrumentation and Controls	1	LS	$ 84,000	$ 84,000
				Sub-total	$ 669,768
				CONTINGENCIES 30%	$ 200,930
				SALES TAX 8.5%	$ 74,009
				CONSTRUCTION TOTAL (ROUNDED)	$ 944,800

Engineering Services	15.0%	$	141,800.0
Construction Administration	10.0%	$	94,500.0
Legal, Permitting, County Admin	5.0%	$	47,300.0

TOTAL PROJECT COST (ROUNDED)	**$**	**1,228,400**

Assumptions:
1. Adequate power is nearby
2. No costs for land acquisition are included.
3. Discharge meters are included.

CLALLAM COUNTY
CLALLAM BAY / SEIKU GENERAL SEWER PLAN/ WW FACILITIES PLAN AMENDMENT
PLANNING LEVEL COST ESTIMATE (2023 $$)

January 15, 2023 — by: Melanie Mankamyer, PE
PROJECT NO. 2021-044 — Wilson Engineering, LLC

CIP No. 37 - New Eagle Crest FM (to Correctional Facility Lagoon)

Item	Description	Approx. Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization (~10%)	1	LS	$ 145,588	$ 145,588
2	Temporary Erosion Control	1	LS	$ 2,640	$ 2,640
3	SPCC Plan	1	LS	$ 660	$ 660
4	Trench Excavation Safety Systems	1	LS	$ 3,600	$ 3,600
5	Traffic Control	1	LS	$ 30,000	$ 30,000
6	Sawcutting	176	LF	$ 6.60	$ 1,162
7	Remove / Dispose of Existing Asphalt Pavement	30	SY	$ 46	$ 1,368
8	HDPE Pipe 12 In. Diam.	14000	LF	$ 101	$ 1,411,200
9	*Reserved*				$ -
10	Crushed Surfacing Base Course	6.3	TN	$ 60	$ 378
11	HMA, CL 1/2-in PG 64-22	8.25	TN	$ 270	$ 2,228
12	Unexpected Site Changes	1	LS	$ 2,640	$ 2,640
					$ -
					$ -
				Sub-total =	$ 1,601,463
				CONTINGENCIES 20%	$ 320,293
				SALES TAX 8.5%	$ 163,349
				CONSTRUCTION TOTAL (ROUNDED)	$ 2,085,200

Engineering Services	15.0%	$	312,800.0
Construction Administration	10.0%	$	208,600.0
Legal, Permitting, County Admin	5.0%	$	104,300.0

TOTAL PROJECT COST (ROUNDED) $ 2,710,900.0

Assumptions:
1. Installation primarily in road shoulder, minimal underground utilities.
2. Open cut County road crossings

ALTERNATIVE 1
3 COMBINED, CLALLAM BAY, SEKIU, CORRECTIONS @ CORRECTIONS **February 11, 2023**
WASTEWATER TREATMENT PLANT UPGRADES
ESTIMATE OF PROBABLE CONSTRUCTION COSTS

BIOLAC @ CORRECTIONS (3 PLANTS COMBINED)

Item No.	Item	Description	Approx. Quantity	Unit	$/Unit	Total $
1	Mob / De-Mob	Assume 10% of Total	1	LS	$ 618,200	$618,000
2	Demolition	Removal of Existing Yard Piping	1	LS	$ 100,000	$100,000
3		Demolition of Sekiu & Clallam	1	LS	$ 400,000	$400,000
4	Biolac Equipment	Biolac System, including Blowers	1	LS	$ 708,000	$708,000
5		Installation	1	LS	$ 141,600	$142,000
6		Excavation and Subgrade Prep	1	LS	$ 150,000	$150,000
7		Backfill & Reinforced Slope	1	LS	$ 500,000	$500,000
8	Liner	60-mil-60mil drainliner	20,000	SF	$ 3	$60,000
9	CDF	CDF Floor	53	CY	$ 250	$13,000
10	Headworks	Additional Screening	1	LS	$ 750,000	$750,000
11	Clarifiers	Concrete, Backfill, Excavation	1	LS	$ 300,000	$300,000
12	Buried Piping	Basin & Clarifier Drain Line	100	LF	$ 200	$20,000
13		Influent Piping	200	LF	$ 200	$40,000
14		Effluent Piping	250	LF	$ 200	$50,000
15		RAS/WAS Piping	200	LF	$ 200	$40,000
16		Buried Pipe Backfill (Assume 6ft deep trench)	678	TONS	$ 75	$51,000
17	UV Disinfection	UV Disinfection System	1	LS	$ 500,000	$500,000
18	Air Piping	Blowers to Plant	200	LF	$ 250	$50,000
19	Valves	Valves	1	LS	$ 100,000	$100,000
20	Site Work & Misc	General Site Work and Restoration	1	LS	$ 150,000	$150,000
21	Plant Drain PS		1	LS	$ 200,000	$200,000
22		Water System Improvements	1	LS	$ 300,000	$300,000
23		Stormwater Improvements	1	LS	$ 100,000	$100,000
24		Site Grading	150	TON	$ 350	$53,000
25	Equalization	Pump Station, Piping, & Liner	1	LS	$ 300,000	$300,000
26		Vaults and Misc. Precast	1	LS	$ 75,000	$75,000
27	Electrical	Controls, Wiring, Lighting, Etc.	1	LS	$ 1,030,400	$1,030,000
	CIP 19R	Lighthouse LS- Revise/Reroute	1	LS	$ 228,492.00	$ 228,000.00
	CIP 38	Lighthouse LS- New Force Main	1	LS	$ 225,361.79	$ 225,000.00
	CIP 20R-B	Clallam Bay LS- Revise/Reroute	1	LS	$ 502,524.00	$ 503,000.00
	CIP 17R	Sekiu LS - Revise/Reroute	1	LS	$ 347,424.00	$ 347,000.00
	CIP 31-B	Sekiu LS- New Force Main	1	LS	$ 253,836.00	$ 254,000.00
	CIP 32	New: HWY 112 LS	1	LS	$ 706,992.00	$ 707,000.00
	CIP 33	New: Access Rd LS	1	LS	$ 682,968.00	$ 683,000.00
	CIP 34	New: Access Rd Force Main	1	LS	$ 985,809.00	$ 986,000.00
	CIP 35	New: EagleCrest #1 LS	1	LS	$ 669,768.00	$ 670,000.00
	CIP 36	New: EagleCrest #2 LS	1	LS	$ 669,768.00	$ 670,000.00
	CIP 37	New: Eagle Crest Force Main	1	LS	$ 1,601,462.61	$ 1,601,000.00
	Subtotal					$13,670,000
	Contractor Profit @		15.0%			$2,050,000
	Sales Tax @		8.5%			$1,160,000
	Total Construction Cost					$16,880,000
	Contingency @		20.0%			$3,376,000
	Engineering Services Design & Constructon @		25.0%			$4,220,000
	Grand Total					**$ 24,476,000**
	Clallam County Portion					$ 16,521,300
	Corrections Center Portion					$ 7,954,700

ALTERNATIVE 2C
2 COMBINED, CLALLAM BAY, SEKIU @ NEW LOT
WASTEWATER TREATMENT PLANT UPGRADES
ESTIMATE OF PROBABLE CONSTRUCTION COSTS

February 11, 2023

AEROMOD @ NEW LOT IN SEKIU (SEKIU AND CLALLAM)

Item No.	Item	Description	Approx. Quantity	Unit	$/Unit	Sub Item Total	Total $
1	Mob / De-Mob	Assume 10% of Total	1	LS	$ 1,344,400		$1,344,000
3		Demolition of Clallam Plant	1	LS	$ 400,000		$400,000
4	Aeromod Equipment	Aeromod System, including Blowers	1	LS	$ 912,000		$912,000
5		Installation	1	LS	$ 182,400		$182,000
6		Concrete Outer Walls	368	CY	$ 1,500		$552,000
7		Concrete Tank Slab	166	CY	$ 1,000		$166,000
8		Grout Clarifier Bottom	60	CY	$ 550		$33,000
9		Excavation and Subgrade Prep	2,000	CY	$ 80		$160,000
10		Backfill	1,000	CY	$ 90		$90,000
11	Headworks	Improved Screening	1	LS	$ 2,000,000		$2,000,000
12	Buried Piping	Basin & Clarifier Drain Line	200	LF	$ 200		$40,000
13		Influent Piping	400	LF	$ 200		$80,000
14		Effluent Piping	500	LF	$ 200		$100,000
15		RAS/WAS Piping	400	LF	$ 200		$80,000
16		Buried Pipe Backfill (Assume 6ft deep trench)	1,000	TONS	$ 75		$75,000
17	UV Disinfection	UV Disinfection System	1	LS	$ 2,000,000		$2,000,000
18	Valves	Valves	1	LS	$ 200,000		$200,000
19	Site Work & Misc	General Site Work and Restoration	1	LS	$ 500,000		$500,000
20		Plant Drain Pump Station	1	LS	$ 400,000		$400,000
21		Water System Improvements	1	LS	$ 500,000		$500,000
22		Stormwater Improvements	1	LS	$ 200,000		$200,000
23		Site Grading	1	LS	$ 300,000		$300,000
24		Building Facilities Improvements	1	LS	$ 700,000		$700,000
26		Vaults and Misc. Precast	1	LS	$ 200,000		$200,000
27		New Biosolids Storage	1	LS	$ 400,000		$400,000
28		Equalization Basin	1	LS	$ 1,000,000		$1,000,000
29		Shoring & Dewatering	1	LS	$ 200,000		$200,000
31	Electrical	Controls, Wiring, Lighting, Etc.	1	LS	$ 1,974,000		$1,974,000
	CIP 19R	Lighthouse LS- Revised / Reroute	1	LS	$ 228,492		$228,000
	CIP 38	Lighthouse LS- New Force Main	1	LS	$ 225,362		$225,000
	CIP 20R-A	Clallam Bay LS- Revised / Reroute	1	LS	$ 433,514		$434,000
	CIP 30	Clallam Bay LS- New Force Main	1	LS	$ 1,995,549		$1,996,000
	CIP 15R	Middle Point LS- Revised / Reroute	1	LS	$ 564,432		$564,000
	CIP 17R	Sekiu LS - Revised / Reroute	1	LS	$ 347,424		$347,000
	CIP 31-A	Sekiu LS- New Force Main	1	LS	$ 354,816		$355,000
	Subtotal						$18,940,000
	Contractor Profit @		15.0%				$2,840,000
	Sales Tax @		8.5%				$1,610,000
	Total Construction Cost						$23,390,000
	Contingency @		20.0%				$4,678,000
	Engineering Services Design & Constructon @		25.0%				$5,847,500
	Grand Total						**$ 33,915,500**

ALTERNATIVE 2A
SEKIU @ NEW LOT
WASTEWATER TREATMENT PLANT UPGRADES
ESTIMATE OF PROBABLE CONSTRUCTION COSTS

February 11, 2023

AEROMOD @ NEW LOT IN SEKIU - Just Sekiu

Item No.	Item	Description	Approx. Quantity	Unit	$/Unit	Sub Item Total	Total $
1	Mob / De-Mob	Assume 10% of Total	1	LS	$ 1,272,400		$1,272,000
3		Demolition of Sekiu	1	LS	$ 200,000		$200,000
4	Aeromod Equipment	Aeromod System, including Blowers	1	LS	$ 738,000		$738,000
5		Installation	1	LS	$ 147,600		$148,000
6		Concrete Outer Walls	286	CY	$ 1,500		$429,000
7		Concrete Tank Slab	102	CY	$ 1,000		$102,000
8		Grout Clarifier Bottom	50	CY	$ 550		$28,000
9		Excavation and Subgrade Prep	2,000	CY	$ 80		$160,000
10		Backfill	1,000	CY	$ 90		$90,000
11	Headworks	Improved Screening	1	LS	$ 2,000,000		$2,000,000
12	Buried Piping	Basin & Clarifier Drain Line	200	LF	$ 200		$40,000
13		Influent Piping	400	LF	$ 200		$80,000
14		Effluent Piping	500	LF	$ 200		$100,000
15		RAS/WAS Piping	400	LF	$ 200		$80,000
16		Buried Pipe Backfill (Assume 6ft deep trench)	1,000	TONS	$ 75		$75,000
17	UV Disinfection	UV Disinfection System	1	LS	$ 2,000,000		$2,000,000
18	Valves	Valves	1	LS	$ 200,000		$200,000
19	Site Work & Misc	General Site Work and Restoration	1	LS	$ 500,000		$500,000
20		Plant Drain Pump Station	1	LS	$ 400,000		$400,000
21		Water System Improvements	1	LS	$ 500,000		$500,000
22		Stormwater Improvements	1	LS	$ 200,000		$200,000
23		Site Grading	1	LS	$ 300,000		$300,000
24		Building Facilities Improvements	1	LS	$ 700,000		$700,000
26		Vaults and Misc. Precast	1	LS	$ 200,000		$200,000
27		New Biosolids Storage	1	LS	$ 400,000		$400,000
28		Equalization Basin	1	LS	$ 1,000,000		$1,000,000
29		Shoring & Dewatering	1	LS	$ 200,000		$200,000
31	Electrical	Controls, Wiring, Lighting, Etc.	1	LS	$ 1,854,000		$1,854,000
	CIP 17R	Sekiu LS - Revised / Reroute	1	LS	$ 347,424		$347,000
	CIP 31-A	Sekiu LS- New Force Main	1	LS	$ 354,816		$355,000
		LAND ACQUISITION	1	LS	$ 1,000,000		$1,000,000
	Subtotal						$15,700,000
	Contractor Profit @		15.0%				$2,360,000
	Sales Tax @		8.5%				$1,330,000
	Total Construction Cost						$19,390,000
	Contingency @		20.0%				$3,878,000
	Engineering Services Design & Constructon @		25.0%				$4,847,500
	Grand Total						**$ 28,115,500**

ALTERNATIVE 3C
2 COMBINED, CLALLAM BAY, SEKIU, @ SEKIU **February 11, 2023**
WASTEWATER TREATMENT PLANT UPGRADES
ESTIMATE OF PROBABLE CONSTRUCTION COSTS

AEROMOD @ SEKIU WWTP (Sekiu & Clallam)

Item No.	Item	Description	Approx. Quantity	Unit	$/Unit	Sub Item Total	Total $
1	Mob / De-Mob	Assume 10% of Total	1	LS	$ 853,800		$854,000
2	Demolition	Removal of Existing Yard Piping	1	LS	$ 100,000		$100,000
3		Demolition of Clallam Plant	1	LS	$ 200,000		$200,000
4	Aeromod Equipment	Aeromod System, including Blowers	1	LS	$ 912,000		$912,000
5		Installation	1	LS	$ 182,400		$182,000
6		Concrete Outer Walls	368	CY	$ 1,500		$552,000
7		Concrete Tank Slab	166	CY	$ 1,000		$166,000
8		Grout Clarifier Bottom	60	CY	$ 550		$33,000
9		Excavation and Subgrade Prep	2,000	CY	$ 80		$160,000
10		Backfill	1,000	CY	$ 90		$90,000
11	Headworks	Improved Screening	1	LS	$ 1,700,000		$1,700,000
12	Buried Piping	Basin & Clarifier Drain Line	100	LF	$ 200		$20,000
13		Influent Piping	200	LF	$ 200		$40,000
14		Effluent Piping	250	LF	$ 200		$50,000
15		RAS/WAS Piping	200	LF	$ 200		$40,000
16		Buried Pipe Backfill (Assume 6ft deep trench)	700	TONS	$ 75		$53,000
17	UV Disinfection	UV Disinfection System	1	LS	$ 500,000		$500,000
18	Valves	Valves	1	LS	$ 100,000		$100,000
19	Site Work & Misc	General Site Work and Restoration	1	LS	$ 300,000		$300,000
20		Plant Drain Pump Station	1	LS	$ 200,000		$200,000
21		Water System Improvements	1	LS	$ 300,000		$300,000
22		Stormwater Improvements	1	LS	$ 75,000		$75,000
23		Site Grading	1	LS	$ 100,000		$100,000
24		Building Facilities Improvements	1	LS	$ 200,000		$200,000
25		Site Drainage Improvements	1	LS	$ 100,000		$100,000
26		Vaults and Misc. Precast	1	LS	$ 150,000		$150,000
27		Upgrade existing Digestor	1	LS	$ 150,000		$150,000
28		Convert Primary Clarifier to EQ Basin	1	LS	$ 300,000		$300,000
29		Shoring & Dewatering	1	LS	$ 100,000		$100,000
30		Piles	1	LS	$ 400,000		$400,000
31	Electrical	Controls, Wiring, Lighting, Etc.	1	LS	$ 1,264,600		$1,265,000
	CIP 19R	Lighthouse LS- Revised / Reroute	1	LS	$ 228,492		$228,000
	CIP 38	Lighthouse LS- New Force Main	1	LS	$ 225,362		$225,000
	CIP 20R-A	Clallam Bay LS- Revised / Reroute	1	LS	$ 433,514		$434,000
	CIP 30	Clallam Bay LS- New Force Main	1	LS	$ 1,995,549		$1,996,000
	CIP 15R	Middle Point LS- Revised / Reroute	1	LS	$ 564,432		$564,000
	Subtotal						$12,840,000
	Contractor Profit @		15.0%				$1,930,000
	Sales Tax @		8.5%				$1,090,000
	Total Construction Cost						$15,860,000
	Contingency @		20.0%				$3,172,000
	Engineering Services Design & Constructon @		25.0%				$3,965,000
	Grand Total						**$ 22,997,000**

ALTERNATIVE 3A - SEKIU
UPGRADE EACH INDIVIDUALLY- SEKIU
WASTEWATER TREATMENT PLANT UPGRADES
ESTIMATE OF PROBABLE CONSTRUCTION COSTS

February 11, 2023

AEROMOD @ SEKIU WWTP

Item No.	Item	Description	Approx. Quantity	Unit	$/Unit	Sub Item Total	Total $
1	Mob / De-Mob	Assume 10% of Total	1	LS	$ 781,600		$782,000
2	Demolition	Removal of Existing Yard Piping	1	LS	$ 50,000		$50,000
3		Demolition of Old Plant	1	LS	$ 200,000		$200,000
4	Aeromod Equipment	Aeromod System, including Blowers	1	LS	$ 738,000		$738,000
5		Installation	1	LS	$ 147,600		$148,000
6		Concrete Outer Walls	286	CY	$ 1,500		$429,000
7		Concrete Tank Slab	102	CY	$ 1,000		$102,000
8		Grout Clarifier Bottom	50	CY	$ 550		$28,000
9		Excavation and Subgrade Prep	1,700	CY	$ 80		$136,000
10		Backfill	800	CY	$ 90		$72,000
11	Headworks	Improved Screening	1	LS	$ 1,700,000		$1,700,000
12	Buried Piping	Basin & Clarifier Drain Line	100	LF	$ 200		$20,000
13		Influent Piping	200	LF	$ 200		$40,000
14		Effluent Piping	200	LF	$ 200		$40,000
15		RAS/WAS Piping	200	LF	$ 200		$40,000
16		Buried Pipe Backfill (Assume 6ft deep trench)	600	TONS	$ 75		$45,000
17	UV Disinfection	UV Disinfection System	1	LS	$ 500,000		$500,000
18	Valves	Valves	1	LS	$ 100,000		$100,000
19	Site Work & Misc	General Site Work and Restoration	1	LS	$ 300,000		$300,000
20		Plant Drain Pump Station	1	LS	$ 200,000		$200,000
21		Water System Improvements	1	LS	$ 300,000		$300,000
22		Stormwater Improvements	1	LS	$ 75,000		$75,000
23		Site Grading	1	LS	$ 100,000		$100,000
24		Building Faclities Improvements	1	LS	$ 200,000		$200,000
25		Site Drainage Improvements	1	LS	$ 100,000		$100,000
26		Vaults and Misc. Precast	1	LS	$ 100,000		$100,000
27		Upgrade existing Digestor	1	LS	$ 150,000		$150,000
28		Convert Primary Clarifier to EQ Basin	1	LS	$ 300,000		$300,000
29		Shoring & Dewatering	1	LS	$ 100,000		$100,000
30		Piles	1	LS	$ 350,000		$350,000
31	Electrical	Controls, Wiring, Lighting, Etc.	1	LS	$ 1,152,600		$1,153,000
	Subtotal						$8,600,000
	Contractor Profit @		15.0%				$1,290,000
	Sales Tax @		8.5%				$730,000
	Total Construction Cost						$10,620,000
	Contingency @		20.0%				$2,124,000
	Engineering Services Design & Constructon @		25.0%				$2,655,000
	Grand Total						**$ 15,399,000**

ALTERNATIVE 2A, 2B, 3A, 3B - CLALLAM
UPGRADE EACH INDIVIDUALLY- CLALLAM BAY
WASTEWATER TREATMENT PLANT UPGRADES
ESTIMATE OF PROBABLE CONSTRUCTION COSTS

February 11, 2023

AEROMOD @ CLALLAM BAY WWTP

Item No.	Item	Description	Approx. Quantity	Unit	$/Unit	Sub Item Total	Total $
1	Mob / De-Mob	Assume 10% of Total	1	LS	$ 729,500		$730,000
2	Demolition	Removal of Existing Yard Piping	1	LS	$ 50,000		$50,000
3		Demolition of Old Plant	1	LS	$ 200,000		$200,000
4	Aeromod Equipment	Aeromod System, including Blowers	1	LS	$ 516,000		$516,000
5		Installation	1	LS	$ 103,200		$103,000
6		Concrete Outer Walls	143	CY	$ 1,500		$215,000
7		Concrete Tank Slab	80	CY	$ 1,000		$80,000
8		Grout Clarifier Bottom	25	CY	$ 550		$14,000
9		Excavation and Subgrade Prep	1,500	CY	$ 80		$120,000
10		Backfill	700	CY	$ 90		$63,000
11	Headworks	Improved Screening	1	LS	$ 1,700,000		$1,700,000
12	Buried Piping	Basin & Clarifier Drain Line	100	LF	$ 200		$20,000
13		Influent Piping	200	LF	$ 200		$40,000
14		Effluent Piping	200	LF	$ 200		$40,000
15		RAS/WAS Piping	200	LF	$ 200		$40,000
16		Buried Pipe Backfill (Assume 6ft deep trench)	600	TONS	$ 75		$45,000
17	UV Disinfection	UV Disinfection System	1	LS	$ 500,000		$500,000
18	Valves	Valves	1	LS	$ 100,000		$100,000
19	Site Work & Misc	General Site Work and Restoration	1	LS	$ 300,000		$300,000
20		Plant Drain Pump Station	1	LS	$ 200,000		$200,000
21		Water System Improvements	1	LS	$ 300,000		$300,000
22		Stormwater Improvements	1	LS	$ 75,000		$75,000
23		Site Grading	1	LS	$ 500,000		$500,000
24		Building Faclities Improvements	1	LS	$ 200,000		$200,000
25		Site Drainage Improvements	1	LS	$ 100,000		$100,000
26		Vaults and Misc. Precast	1	LS	$ 100,000		$100,000
27		Upgrade existing Digestor	1	LS	$ 150,000		$150,000
28		Convert Primary Clarifier to EQ Basin	1	LS	$ 300,000		$300,000
29		Shoring & Dewatering	1	LS	$ 100,000		$100,000
30	Electrical	Controls, Wiring, Lighting, Etc.	1	LS	$ 1,124,200		$1,124,000
	Subtotal						$8,030,000
	Contractor Profit @		15.0%				$1,200,000
	Sales Tax @		8.5%				$680,000
	Total Construction Cost						$9,910,000
	Contingency @		20.0%				$1,982,000
	Engineering Services Design & Constructon @		25.0%				$2,477,500
	Grand Total						**$ 14,369,500**

ALTERNATIVE 4
3 COMBINED, CLALLAM BAY, SEKIU @ CORRECTIONS **February 11, 2023**
WASTEWATER TREATMENT PLANT UPGRADES
ESTIMATE OF PROBABLE CONSTRUCTION COSTS

AEROMOD @ CORRECTIONS - ALL 3 PLANTS

Item No.	Item	Description	Approx. Quantity	Unit	$/Unit	Sub Item Total	Total $
1	Mob / De-Mob	Assume 10% of Total	1	LS	$ 1,295,800		$1,296,000
3		Demolition of Clallam & Sekiu Plants	1	LS	$ 400,000		$400,000
4	Aeromod Equipment	Aeromod System, including Blowers	1	LS	$ 938,736		$939,000
5		Installation	1	LS	$ 187,747		$188,000
6		Concrete Outer Walls	368	CY	$ 1,500		$552,000
7		Concrete Tank Slab	166	CY	$ 1,000		$166,000
8		Grout Clarifier Bottom	60	CY	$ 550		$33,000
9		Excavation and Subgrade Prep	3,000	CY	$ 80		$240,000
10		Backfill	2,000	CY	$ 90		$180,000
11	Headworks	Improved Screening	1	LS	$ 2,000,000		$2,000,000
12	Buried Piping	Basin & Clarifier Drain Line	200	LF	$ 200		$40,000
13		Influent Piping	400	LF	$ 200		$80,000
14		Effluent Piping	500	LF	$ 200		$100,000
15		RAS/WAS Piping	400	LF	$ 200		$80,000
16		Buried Pipe Backfill (Assume 6ft deep trench)	1,000	TONS	$ 75		$75,000
17	UV Disinfection	UV Disinfection System	1	LS	$ 2,000,000		$2,000,000
18	Valves	Valves	1	LS	$ 200,000		$200,000
19	Site Work & Misc	General Site Work and Restoration	1	LS	$ 500,000		$500,000
20		Plant Drain Pump Station	1	LS	$ 400,000		$400,000
21		Water System Improvements	1	LS	$ 500,000		$500,000
22		Stormwater Improvements	1	LS	$ 200,000		$200,000
23		Site Grading	1	LS	$ 300,000		$300,000
24		Building Facilities Improvements	1	LS	$ 300,000		$300,000
26		Vaults and Misc. Precast	1	LS	$ 200,000		$200,000
27		New Biosolids Storage	1	LS	$ 400,000		$400,000
28		Equalization Basin	1	LS	$ 750,000		$750,000
29		Shoring & Dewatering	1	LS	$ 200,000		$200,000
31	Electrical	Controls, Wiring, Lighting, Etc.	1	LS	$ 1,934,600		$1,935,000
	CIP 19R	Lighthouse LS- Revise/Reroute	1	LS	$ 228,492		$228,000
	CIP 38	Lighthouse LS- New Force Main	1	LS	$ 225,362		$225,000
	CIP 20R-B	Clallam Bay LS- Revise/Reroute	1	LS	$ 502,524		$503,000
	CIP 17R	Sekiu LS - Revise/Reroute	1	LS	$ 347,424		$347,000
	CIP 31-B	Sekiu LS- New Force Main	1	LS	$ 253,836		$254,000
	CIP 32	New: HWY 112 LS	1	LS	$ 706,992		$707,000
	CIP 33	New: Access Rd LS	1	LS	$ 682,968		$683,000
	CIP 34	New: Access Rd Force Main	1	LS	$ 985,809		$986,000
	CIP 35	New: EagleCrest #1 LS	1	LS	$ 669,768		$670,000
	CIP 36	New: EagleCrest #2 LS	1	LS	$ 669,768		$670,000
	CIP 37	New: Eagle Crest Force Main	1	LS	$ 1,601,463		$1,601,000
	Subtotal						$21,130,000
	Contractor Profit @		15.0%				$3,170,000
	Sales Tax @		8.5%				$1,800,000
	Total Construction Cost						$26,100,000
	Contingency @		20.0%				$5,220,000
	Engineering Services Design & Constructon @		25.0%				$6,525,000
	Grand Total						**$ 37,845,000**
	Clallam County Total						$ 25,545,375
	Corrections Center Total						$ 12,299,625

ALTERNATIVE 2D
ALL 3 COMBINED @ NEW LOT **February 11, 2023**
WASTEWATER TREATMENT PLANT UPGRADES
ESTIMATE OF PROBABLE CONSTRUCTION COSTS

AEROMOD @ NEW LOT IN SEKIU (ALL 3 PLANTS)

Item No.	Item	Description	Approx. Quantity	Unit	$/Unit	Sub Item Total	Total $
1	Mob / De-Mob	Assume 10% of Total	1	LS	$ 1,405,400		$1,405,000
3		Demolition of Clallam Plant	1	LS	$ 400,000		$400,000
4	Aeromod Equipment	Aeromod System, including Blowers	1	LS	$ 1,176,000		$1,176,000
5		Installation	1	LS	$ 235,200		$235,000
6		Concrete Outer Walls	441	CY	$ 1,500		$662,000
7		Concrete Tank Slab	241	CY	$ 1,000		$241,000
8		Grout Clarifier Bottom	71	CY	$ 550		$39,000
9		Excavation and Subgrade Prep	2,000	CY	$ 80		$160,000
10		Backfill	1,000	CY	$ 90		$90,000
11	Headworks	Improved Screening	1	LS	$ 2,000,000		$2,000,000
12	Buried Piping	Basin & Clarifier Drain Line	200	LF	$ 200		$40,000
13		Influent Piping	400	LF	$ 200		$80,000
14		Effluent Piping	500	LF	$ 200		$100,000
15		RAS/WAS Piping	400	LF	$ 200		$80,000
16		Buried Pipe Backfill (Assume 6ft deep trench)	1,000	TONS	$ 75		$75,000
17	UV Disinfection	UV Disinfection System	1	LS	$ 2,000,000		$2,000,000
18	Valves	Valves	1	LS	$ 200,000		$200,000
19	Site Work & Misc	General Site Work and Restoration	1	LS	$ 500,000		$500,000
20		Plant Drain Pump Station	1	LS	$ 400,000		$400,000
21		Water System Improvements	1	LS	$ 500,000		$500,000
22		Stormwater Improvements	1	LS	$ 200,000		$200,000
23		Site Grading	1	LS	$ 300,000		$300,000
24		Building Facilities Improvements	1	LS	$ 700,000		$700,000
26		Vaults and Misc. Precast	1	LS	$ 200,000		$200,000
27		New Biosolids Storage	1	LS	$ 400,000		$400,000
28		Equalization Basin	1	LS	$ 1,000,000		$1,000,000
29		Shoring & Dewatering	1	LS	$ 200,000		$200,000
31	Electrical	Controls, Wiring, Lighting, Etc.	1	LS	$ 2,075,600		$2,076,000
	CIP 19R	Lighthouse LS- Revised / Reroute	1	LS	$ 228,492		$228,000
	CIP 38	Lighthouse LS- New Force Main	1	LS	$ 225,362		$225,000
	CIP 20R-A	Clallam Bay LS- Revised / Reroute	1	LS	$ 433,514		$434,000
	CIP 30	Clallam Bay LS- New Force Main	1	LS	$ 1,995,549		$1,996,000
	CIP 15R	Middle Point LS- Revised / Reroute	1	LS	$ 564,432		$564,000
	CIP 17R	Sekiu LS - Revised / Reroute	1	LS	$ 347,424		$347,000
	CIP 31-A	Sekiu LS- New Force Main	1	LS	$ 354,816		$355,000
		Gravity Sewer Improvements	1	LS	$ 300,000		$300,000
	Subtotal						$19,910,000
	Contractor Profit @		15.0%				$2,990,000
	Sales Tax @		8.5%				$1,690,000
	Total Construction Cost						$24,590,000
	Contingency @		20.0%				$4,918,000
	Engineering Services Design & Constructon @		25.0%				$6,147,500
	Grand Total						**$ 35,655,500**
	Clallam County Total						$ 24,067,463
	Corrections Center Total						$ 11,588,038

ALTERNATIVE 2B
SEKIU @ NEW LOT **February 11, 2023**
WASTEWATER TREATMENT PLANT UPGRADES
ESTIMATE OF PROBABLE CONSTRUCTION COSTS

AEROMOD @ NEW LOT IN SEKIU - Sekiu & Corrections

Item No.	Item	Description	Approx. Quantity	Unit	$/Unit	Sub Item Total	Total $
1	Mob / De-Mob	Assume 10% of Total	1	LS	$ 1,339,100		$1,339,000
2		Demolition of Sekiu	1	LS	$ 200,000		$200,000
3	Aeromod Equipment	Aeromod System, including Blowers	1	LS	$ 990,000		$990,000
4		Installation	1	LS	$ 198,000		$198,000
5		Concrete Outer Walls	392	CY	$ 1,500		$588,000
6		Concrete Tank Slab	192	CY	$ 1,000		$192,000
7		Grout Clarifier Bottom	60	CY	$ 550		$33,000
8		Excavation and Subgrade Prep	2,000	CY	$ 80		$160,000
9		Backfill	1,000	CY	$ 90		$90,000
10	Headworks	Improved Screening	1	LS	$ 2,000,000		$2,000,000
11	Buried Piping	Basin & Clarifier Drain Line	200	LF	$ 200		$40,000
12		Influent Piping	400	LF	$ 200		$80,000
13		Effluent Piping	500	LF	$ 200		$100,000
14		RAS/WAS Piping	400	LF	$ 200		$80,000
15		Buried Pipe Backfill (Assume 6ft deep trench)	1,000	TONS	$ 75		$75,000
16	UV Disinfection	UV Disinfection System	1	LS	$ 2,000,000		$2,000,000
17	Valves	Valves	1	LS	$ 200,000		$200,000
18	Site Work & Misc	General Site Work and Restoration	1	LS	$ 500,000		$500,000
19		Plant Drain Pump Station	1	LS	$ 400,000		$400,000
20		Water System Improvements	1	LS	$ 500,000		$500,000
21		Stormwater Improvements	1	LS	$ 200,000		$200,000
22		Site Grading	1	LS	$ 300,000		$300,000
23		Building Facilities Improvements	1	LS	$ 700,000		$700,000
24		Vaults and Misc. Precast	1	LS	$ 200,000		$200,000
25		New Biosolids Storage	1	LS	$ 400,000		$400,000
26		Equalization Basin	1	LS	$ 1,000,000		$1,000,000
27		Shoring & Dewatering	1	LS	$ 200,000		$200,000
28	Electrical	Controls, Wiring, Lighting, Etc.	1	LS	$ 1,965,200		$1,965,000
	CIP 17R	Sekiu LS - Revised / Reroute	1	LS	$ 347,424		$347,000
	CIP 31-A	Sekiu LS- New Force Main	1	LS	$ 354,816		$355,000
		Gravity Sewer Improvements	1	LS	$ 300,000		$300,000
		LAND ACQUISITION	1	LS	$ 1,000,000		$1,000,000
	Subtotal						$16,730,000
	Contractor Profit @		15.0%				$2,510,000
	Sales Tax @		8.5%				$1,420,000
	Total Construction Cost						$20,660,000
	Contingency @		20.0%				$4,132,000
	Engineering Services Design & Constructon @		25.0%				$5,165,000
	Grand Total						**$ 29,957,000**
	Clallam County Total						$ 17,375,060
	Corrections Center Total						$ 12,581,940

ALTERNATIVE 3D
ALL 3 COMBINED @ SEKIU
WASTEWATER TREATMENT PLANT UPGRADES
ESTIMATE OF PROBABLE CONSTRUCTION COSTS

February 11, 2023

AEROMOD @ SEKIU WWTP (ALL 3 COMBINED)

Item No.	Item	Description	Approx. Quantity	Unit	$/Unit	Sub Item Total	Total $
1	Mob / De-Mob	Assume 10% of Total	1	LS	$ 914,700		$915,000
2	Demolition	Removal of Existing Yard Piping	1	LS	$ 100,000		$100,000
3		Demolition of Clallam Plant	1	LS	$ 200,000		$200,000
4	Aeromod Equipment	Aeromod System, including Blowers	1	LS	$ 1,176,000		$1,176,000
5		Installation	1	LS	$ 235,200		$235,000
6		Concrete Outer Walls	441	CY	$ 1,500		$662,000
7		Concrete Tank Slab	241	CY	$ 1,000		$241,000
8		Grout Clarifier Bottom	71	CY	$ 550		$39,000
9		Excavation and Subgrade Prep	2,000	CY	$ 80		$160,000
10		Backfill	1,000	CY	$ 90		$90,000
11	Headworks	Improved Screening	1	LS	$ 1,700,000		$1,700,000
12	Buried Piping	Basin & Clarifier Drain Line	100	LF	$ 200		$20,000
13		Influent Piping	200	LF	$ 200		$40,000
14		Effluent Piping	250	LF	$ 200		$50,000
15		RAS/WAS Piping	200	LF	$ 200		$40,000
16		Buried Pipe Backfill (Assume 6ft deep trench)	700	TONS	$ 75		$53,000
17	UV Disinfection	UV Disinfection System	1	LS	$ 500,000		$500,000
18	Valves	Valves	1	LS	$ 100,000		$100,000
19	Site Work & Misc	General Site Work and Restoration	1	LS	$ 300,000		$300,000
20		Plant Drain Pump Station	1	LS	$ 200,000		$200,000
21		Water System Improvements	1	LS	$ 300,000		$300,000
22		Stormwater Improvements	1	LS	$ 75,000		$75,000
23		Site Grading	1	LS	$ 100,000		$100,000
24		Building Facilities Improvements	1	LS	$ 200,000		$200,000
25		Site Drainage Improvements	1	LS	$ 100,000		$100,000
26		Vaults and Misc. Precast	1	LS	$ 150,000		$150,000
27		Upgrade existing Digestor	1	LS	$ 150,000		$150,000
28		Convert Primary Clarifier to EQ Basin	1	LS	$ 300,000		$300,000
29		Shoring & Dewatering	1	LS	$ 100,000		$100,000
30		Piles	1	LS	$ 400,000		$400,000
31	Electrical	Controls, Wiring, Lighting, Etc.	1	LS	$ 1,366,200		$1,366,000
	CIP 19R	Lighthouse LS- Revised / Reroute	1	LS	$ 228,492		$228,000
	CIP 38	Lighthouse LS- New Force Main	1	LS	$ 225,362		$225,000
	CIP 20R-A	Clallam Bay LS- Revised / Reroute	1	LS	$ 433,514		$434,000
	CIP 30	Clallam Bay LS- New Force Main	1	LS	$ 1,995,549		$1,996,000
	CIP 15R	Middle Point LS- Revised / Reroute	1	LS	$ 564,432		$564,000
		Gravity Sewer Improvements	1	LS	$ 200,000		$200,000
	Subtotal						$13,710,000
	Contractor Profit @		15.0%				$2,060,000
	Sales Tax @		8.5%				$1,170,000
	Total Construction Cost						$16,940,000
	Contingency @		20.0%				$3,388,000
	Engineering Services Design & Constructon @		25.0%				$4,235,000
	Grand Total						**$ 24,563,000**
	Clallam County Total						$ 16,580,025
	Corrections Center Total						$ 7,982,975

ALTERNATIVE 3B
2 COMBINED (CORRECTIONS AND SEKIU) @ SEKIU **February 11, 2023**
WASTEWATER TREATMENT PLANT UPGRADES
ESTIMATE OF PROBABLE CONSTRUCTION COSTS

AEROMOD @ SEKIU WWTP (CORRECTIONS & SEKIU)

Item No.	Item	Description	Approx. Quantity	Unit	$/Unit	Sub Item Total	Total $
1	Mob / De-Mob	Assume 10% of Total	1	LS	$ 848,300		$848,000
2	Demolition	Removal of Existing Yard Piping	1	LS	$ 50,000		$50,000
3		Demolition of Old Plant	1	LS	$ 200,000		$200,000
4	Aeromod Equipment	Aeromod System, including Blowers	1	LS	$ 990,000		$990,000
5		Installation	1	LS	$ 198,000		$198,000
6		Concrete Outer Walls	392	CY	$ 1,500		$588,000
7		Concrete Tank Slab	192	CY	$ 1,000		$192,000
8		Grout Clarifier Bottom	60	CY	$ 550		$33,000
9		Excavation and Subgrade Prep	1,700	CY	$ 80		$136,000
10		Backfill	800	CY	$ 90		$72,000
11	Headworks	Improved Screening	1	LS	$ 1,700,000		$1,700,000
12	Buried Piping	Basin & Clarifier Drain Line	100	LF	$ 200		$20,000
13		Influent Piping	200	LF	$ 200		$40,000
14		Effluent Piping	200	LF	$ 200		$40,000
15		RAS/WAS Piping	200	LF	$ 200		$40,000
16		Buried Pipe Backfill (Assume 6ft deep trench)	600	TONS	$ 75		$45,000
17	UV Disinfection	UV Disinfection System	1	LS	$ 500,000		$500,000
18	Valves	Valves	1	LS	$ 100,000		$100,000
19	Site Work & Misc	General Site Work and Restoration	1	LS	$ 300,000		$300,000
20		Plant Drain Pump Station	1	LS	$ 200,000		$200,000
21		Water System Improvements	1	LS	$ 300,000		$300,000
22		Stormwater Improvements	1	LS	$ 75,000		$75,000
23		Site Grading	1	LS	$ 100,000		$100,000
24		Building Faclities Improvements	1	LS	$ 200,000		$200,000
25		Site Drainage Improvements	1	LS	$ 100,000		$100,000
26		Vaults and Misc. Precast	1	LS	$ 100,000		$100,000
27		Upgrade existing Digestor	1	LS	$ 150,000		$150,000
28		Convert Primary Clarifier to EQ Basin	1	LS	$ 300,000		$300,000
29		Shoring & Dewatering	1	LS	$ 100,000		$100,000
30		Piles	1	LS	$ 350,000		$350,000
31	Electrical	Controls, Wiring, Lighting, Etc.	1	LS	$ 1,263,800		$1,264,000
		Gravity Sewer Improvements	1	LS	$ 200,000		$200,000
	Subtotal						$9,530,000
	Contractor Profit @		15.0%				$1,430,000
	Sales Tax @		8.5%				$810,000
	Total Construction Cost						$11,770,000
	Contingency @		20.0%				$2,354,000
	Engineering Services Design & Constructon @		25.0%				$2,942,500
	Grand Total						**$ 17,066,500**
	Clallam County Total						$ 9,898,570
	Corrections Center Total						$ 7,167,930

All 3 Plants Combined
OPERATION AND MAINTENANCE COST PROJECTION
WWTP - Biolac Option
Saturday, February 11, 2023

Power Rate $0.107

Table 7-6: Operation & Maintenance Costs for the Extended Aeration Process

Labor	Full Time Employees	Hourly Wage	Hours per Week	Operation Cost per Week	-	-	Labor Cost per Year
Labor Cost	2	$60.00	40	$4,800.00			$ 249,600.00
						Total	**$ 249,600.00**
Powered Equipment	**Quantity**	**Equipment Hp**	**Equipment Run Time (% of 24hrs)**	**Equipment Efficiency (%)**	**Expected Daily Power Draw (KWHr)**	**Expected Annual Power Draw (KWHr)**	**Expected Annual Operation Cost**
PD Blowers	2	10	70%	89%	282	102797	$11,000.00
Blower Control Panel	3	3	100%	90%	179	65350	$7,000.00
Misc. Loads	2	2	100%	90%	80	29044	$3,000.00
						Total	**$21,000.00**
Replacement Parts	**Quantity**	**Replacements per Year**	**Replacement Cost**				**Annual Replacement Parts Cost**
Diffusers / Sleeves	72	0.2	$500.00				$ 7,200.00
Valving	6	0.2	$7,000.00				$ 8,400.00
						Total	**$ 15,600.00**
Maintenance and Repair							
Blower Oil Changes & Belt Replacement							$ 520.00
Misc Maintenance (.5% of Total Construction Cost)							$ 20,000.00
						Total	**$ 20,000.00**
						Total Annual Cost	**$ 306,200.00**
						Clallam County Annual Cost	**$ 206,685.00**
						Corrections Center Annual Cost	**$ 99,515.00**

Sekiu Separate, Clallam Separate
OPERATION AND MAINTENANCE COST PROJECTION
WWTP - Aeromod Option A
Saturday, February 11, 2023

Power Rate $0.107

Operation and Maintenance Costs for the Aeromod Option A

Labor	Full Time Employees	Hourly Wage	Hours per Week	Operation Cost per Week	-	-	Labor Cost per Year
Labor Cost	3	$60.00	40	$7,200.00			$ 374,400.00
						Total	$ 374,400.00
Powered Equipment	**Quantity**	**Equipment Hp**	**Equipment Run Time (% of 24hrs)**	**Equipment Efficiency (%)**	**Expected Daily Power Draw (KWHr)**	**Expected Annual Power Draw (KWHr)**	**Expected Annual Operation Cost**
Aeromod PD Blowers @ Clallam Bay	2	20	70	89	563	205594	$ 22,000.00
Aeromod PD Blowers @ Sekiu	2	25	70	89	704	256993	$ 28,000.00
Compressed Air System @ Clallam Bay	2	3	70	89	84	30839	$ 3,000.00
Compressed Air System @ Sekiu	1	3	70	89	42	15420	$ 2,000.00
Blower Control Panel @ Clallam Bay	3	3	100	90	179	65350	$ 7,000.00
Blower Control Panel @ Sekiu	3	3	100	90	179	65350	$ 7,000.00
Misc. Loads	1	2	100	90	40	14522	$ 2,000.00
						Total	$ 71,000.00
Replacement Parts	**Quantity**	**Replacements per Year**	**Replacement Cost**				**Annual Replacement Parts Cost**
Misc. (Solenoids, Valves, etc) @ Clallam Bay	5	1	$1,000.00				$ 5,000.00
Misc. (Solenoids, Valves, etc) @ Sekiu	8	1	$1,000.00				$ 8,000.00
						Total	$ 13,000.00
Maintenance and Repair							**Annual Maintenance Costs**
Blower Oil Changes & Belt Replacement							$ 520.00
Misc Maintenance							$ 15,000.00
						Total	$ 15,520.00
						Total Annual Cost	**$ 473,900.00**

Sekiu & Corrections Combined, Clallam Separate
OPERATION AND MAINTENANCE COST PROJECTION
WWTP - Aeromod Option B
Saturday, February 11, 2023

Power Rate $0.107

Operation and Maintenance Costs for the Aeromod Option B

Labor	Full Time Employees	Hourly Wage	Hours per Week	Operation Cost per Week	-	-	Labor Cost per Year
Labor Cost	3	$60.00	40	$7,200.00			$ 374,400.00
						Total	$ 374,400.00
Powered Equipment	**Quantity**	**Equipment Hp**	**Equipment Run Time (% of 24hrs)**	**Equipment Efficiency (%)**	**Expected Daily Power Draw (KWHr)**	**Expected Annual Power Draw (KWHr)**	**Expected Annual Operation Cost**
Aeromod PD Blowers @ Clallam Bay	2	20	70	89	563	205594	$ 22,000.00
Aeromod PD Blowers @ Sekiu	2	40	70	89	1127	411188	$ 44,000.00
Compressed Air System @ Clallam Bay	2	3	70	89	84	30839	$ 3,000.00
Compressed Air System @ Sekiu	2	3	70	89	84	30839	$ 3,000.00
Blower Control Panel @ Clallam Bay	3	3	100	90	179	65350	$ 7,000.00
Blower Control Panel @ Sekiu	3	3	100	90	179	65350	$ 7,000.00
Misc. Loads	1	2	100	90	40	14522	$ 2,000.00
						Total	$ 88,000.00
Replacement Parts	**Quantity**	**Replacements per Year**	**Replacement Cost**				**Annual Replacement Parts Cost**
Misc. (Solenoids, Valves, etc) @ Clallam Bay	5	1	$1,000.00				$ 5,000.00
Misc. (Solenoids, Valves, etc) @ Sekiu	8	1	$1,000.00				$ 8,000.00
						Total	$ 13,000.00
Maintenance and Repair							**Annual Maintenance Costs**
Blower Oil Changes & Belt Replacement							$ 520.00
Misc Maintenance							$ 15,000.00
						Total	$ 15,520.00

Total Annual Cost	**$ 490,900.00**
Clallam County Annual Cost	**$ 343,200.00**
Corrections Center Annual Cost	**$ 147,700.00**

Sekiu & Clallam Bay Combined
OPERATION AND MAINTENANCE COST PROJECTION
WWTP - Aeromod Option C
Saturday, February 11, 2023

Power Rate $0.107

Operation and Maintenance Costs for the Aeromod Option C

Labor	Full Time Employees	Hourly Wage	Hours per Week	Operation Cost per Week	-	-	Labor Cost per Year
Labor Cost	2	$60.00	40	$4,800.00			$ 249,600.00
						Total	$ 249,600.00
Powered Equipment	**Quantity**	**Equipment Hp**	**Equipment Run Time (% of 24hrs)**	**Equipment Efficiency (%)**	**Expected Daily Power Draw (KWHr)**	**Expected Annual Power Draw (KWHr)**	**Expected Annual Operation Cost**
Aeromod PD Blowers	2	40	70	89	1127	411188	$ 44,000.00
Compressed Air System	2	3	70	89	84	30839	$ 3,000.00
Blower Control Panel	3	3	100	90	179	65350	$ 7,000.00
Misc. Loads	1	2	100	90	40	14522	$ 2,000.00
						Total	$ 56,000.00
Replacement Parts	**Quantity**	**Replacements per Year**	**Replacement Cost**				**Annual Replacement Parts Cost**
Misc. (Solenoids, Valves, etc)	8	1	$1,000.00				$ 8,000.00
						Total	$ 8,000.00
Maintenance and Repair							**Annual Maintenance Costs**
Blower Oil Changes & Belt Replacement							$ 520.00
Misc Maintenance							$ 15,000.00
						Total	$ 15,520.00
						Total Annual Cost	**$ 329,100.00**

All 3 Plants Combined
OPERATION AND MAINTENANCE COST PROJECTION
WWTP - Aeromod Option D
Saturday, February 11, 2023

Power Rate $0.107

Operation and Maintenance Costs for the Aeromod Option D

Labor	Full Time Employees	Hourly Wage	Hours per Week	Operation Cost per Week	-	-	Labor Cost per Year
Labor Cost	2	$60.00	40	$4,800.00			$ 249,600.00
						Total	$ 249,600.00
Powered Equipment	**Quantity**	**Equipment Hp**	**Equipment Run Time (% of 24hrs)**	**Equipment Efficiency (%)**	**Expected Daily Power Draw (KWHr)**	**Expected Annual Power Draw (KWHr)**	**Expected Annual Operation Cost**
Aeromod PD Blowers	3	50	70	89	2112	770978	$ 83,000.00
Compressed Air System	3	3	70	89	127	46259	$ 5,000.00
Blower Control Panel	3	3	100	90	179	65350	$ 7,000.00
Misc. Loads	2	2	100	90	80	29044	$ 3,000.00
						Total	$ 98,000.00
Replacement Parts	**Quantity**	**Replacements per Year**	**Replacement Cost**				**Annual Replacement Parts Cost**
Misc. (Solenoids, Valves, etc)	8	1	$1,000.00				$ 8,000.00
						Total	$ 8,000.00
Maintenance and Repair							**Annual Maintenance Costs**
Blower Oil Changes & Belt Replacement							$ 1,000.00
Misc Maintenance							$ 15,000.00
						Total	$ 16,000.00
						Total Annual Cost	**$ 371,600.00**
						Clallam County Annual Cost	**$ 250,830.00**
						Corrections Center Annual Cost	**$ 120,770.00**

APPENDIX G – SEPA CHECKLIST

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. Background [HELP]

1. Name of proposed project, if applicable: **Clallam Bay/Sekiu General Sewer/Wastewater Facilities Plan Value Engineering Amendment**

2. Name of applicant: Clallam County Department of Public Works

3. Address and phone number of applicant and contact person:

Ron Garcelon
Utilities Program Manager
223 East 4th Street, Suite #6
Port Angeles, WA 98362
360-417-2448

4. Date checklist prepared: **June 19, 2023**

5. Agency requesting checklist: **Department of Ecology**

6. Proposed timing or schedule (including phasing, if applicable):

Proposed schedule for adoption of the General Sewer/Wastewater Facilities Plan Value Engineering Amendment (GP) public hearing and proposed adoption of the plan by August, 2023.

Exact construction timing of the various improvement projects included in the GP is unknown. The Plan identifies the anticipated schedule for projects and alternatives proposed for the next 6 years and 20 years. Project funding will impact construction phasing.

WWTP Improvements

Funding - Apply for Grants / Loans:	**October 2023**
Notification of Funding Received:	**June 2024**
Design Phase:	**June 2024 – December 2025**
Ecology Review:	**January 2026 – February 2026**
Bid Phase:	**March 2026 – April 2026**
Construction Phase:	**May 2026 – November 2027 (18 months)**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Yes, the GP identifies collection system and wastewater treatment facility improvements that are necessary to maintain the integrity of the system and provide adequate treatment capacity. The County will pursue funding for the design and construction of the improvements. The SEPA process will be followed for all non-exempt construction projects.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

- **Clallam County Shorelines Master Program, Clallam County,1976**
- **Sekiu-Clallam Bay Sewerage General Plan, Kennedy Engineers, August 1972**
- **Clallam Bay and Sekiu WWTP Expansion and Upgrading, Ten Percent Design Report, Culp, Wesner, Culp Consulting Engineers, May 1985**
- **Infiltration/Inflow Analysis for Clallam Bay and Sekiu Utility Improvement District, HER Engineering, Inc., March 1990**
- **Geotechnical Report, Front Street Retaining Wall, Sekiu Clallam County, Washington Shannon and Wilson Geotechnical and Environmental Consultants, June 1993**
- **Geotechnical Evaluation of Washington Street Slide, Sekiu, Washington, Shannon and Wilson Geotechnical and Environmental Consultants, July 1999**
- **Clallam County Water System Plan Update, April 2017**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None known.

10. List any government approvals or permits that will be needed for your proposal, if known.

- **Department of Ecology Approval for GSP/Facilities Plan Amendment**
- **SEPA Determination**
- **Department of Ecology SERP Approval**

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

This document provides an amendment to the 2018 Clallam Bay/Sekiu General Sewer/Wastewater Facilities Planning document. The amendment is to address value planning options to the original document.

The planning document also provides proposed conceptual designs, cost estimates, schedule and financing plan for recommended wastewater treatment facility and outfall improvements. The projects described in the Plan are consistent with Washington State regulations relating to the prevention and control of discharge of pollutants into the waters of the state, anti-degradation of existing and future beneficial uses of groundwater, and anti-degradation of surface water. SEPA checklists for projects other than exempt activities will be prepared.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you

are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The sewer collection and treatment systems that are the subject of this planning document are located in the Clallam Bay and Sekiu communities which are located along Highway 112 in northwest Clallam County. Figure 1-1 identifies the location of the study area. Figures 2-1 and 2-2 identify the sewer service areas for Sekiu and Clallam Bay.

B. Environmental Elements [HELP]

1. *Earth* [help]

a. General description of the site:

(circle one): Flat, rolling, hilly, steep slopes, mountainous, other _____

b. What is the steepest slope on the site (approximate percent slope)?

The steepest slope in the sewer service area is approximately 20% in Sekiu.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

The soil type in the site vicinity per NRCS Web Soil Survey (WSS) is Map Units 51 Palix loam, 78 Klahowya silt loam and 69 Tealwilt silt loam. There is no known prime agricultural farm land. The typical soil profile:
Sekiu: Loam and silt loam
Clallam Bay: silt loam and very gravelly loam

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

The east facing hill above Sekiu waterfront has experienced slope movement. Two geotechnical evaluations have investigated the apparent slope movement.

- **A geotechnical evaluation in 1993 was performed to support the installation of a retaining wall along Front Street (Geotechnical Report – Front Street Retaining Wall, Sekiu, Clallam County, Washington, June 1993, Shannonn & Wilson, Inc.). The geotechnical evaluation noted that the slope to the east showed signs of creep. The creeping soils are underlain by more competent weathered sandstone which, in the opinion of the geotechnical engineer, are not likely to experience deep-seated slope stability failure.**
- **A geotechnical evaluation in 1999 addressed the apparent downward movement of Washington Street, an asphalt-paved roadway that traverses across and down the east facing hillside (Geotechnical Evaluation of Washington Street Slide, Sekiu, Washington, July 1999, Shannon and Wilson, Inc.). The geotechnical evaluation opined that the observed slope movements are indicative of relatively large, deep-seated slide and that the cause of the slope movement may be associated with the relatively low shear strength of the silty soils (soft siltstone) and is influenced by moisture content or the degree of saturation of the soil.**

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

The Plan recommends lift station replacement and construction of an upland wastewater treatment plant. Lift station improvements will require excavation for new wet wells or valve vaults. Construction of an upland wastewater treatment plant will require excavation for the treatment tangage and building foundations. The Plan is not a design document and the actual quantity of excavation, fill and grading is not known at this time. SEPA checklists will be prepared for specific construction projects.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

The highest probability of erosion would occur during construction. Best Management Practices (BMPs) such as silt fences, silt check dams, cobbled construction entrances, and directed site drainage are required and enforced by the County for its construction projects. The Department of Ecology Stormwater Management Manual for Western Washington govern the BMPs.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

The impervious surface percent change will depend upon the site. The surface over sewer mains would generally be restored to its condition prior to construction, with no change to surface types as a result of the improvements. Lift station site will also generally be restored to preconstruction conditions.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects including a discussion of the potential for erosion during construction.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects including a discussion of the potential for erosion during construction.

Implement temporary erosion and sedimentation control measures and BMPs during construction, and re-vegetate or surface immediately upon completion of construction. The County oversees and inspects contractor-implemented erosion control procedures for any County administered construction projects.

For larger Facilities projects a construction Stormwater Pollution and Prevention Plan (SWPPP) or Temporary Erosion and Sediment Control Plan (TESC) will be prepared as part of the final construction drawings for the site improvements. The SWPPP/TESC will be prepared based on the requirements set forth in the Washington State Department of Ecology (WDOE) Stormwater Management Manual for Western Washington, latest edition.

The SWPPP/TESC will provide erosion and sediment control information, locations where BMPs will be implemented, and requirements that the Contractor will follow during

construction. During site preparation and construction, exposed soils will be kept to a minimum and management measures will be implemented to minimize and control sediment and erosion. BMPs such as construction fencing, silt fence, covered stockpiles, stabilized construction entrance, straw wattles, triangular silt dikes, etc. will be implemented as applicable to contain sediment and prevent discharge off site.

2. Air [help]

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects including a discussion of the potential air emission sources during and after construction and approximate quantities of air emissions.

During construction, any construction project would result in exhaust and possibly dust from heavy equipment such as backhoes, graders, dump trucks, and tractor/trailer trucks delivering heavy construction equipment and materials. Construction workers' personal vehicles would also create exhaust and possibly dust.

County staff would visit some of the facilities (e.g., lift stations, pumping systems, main line appurtenances) for operational purposes, and their vehicles would create exhaust and possibly dust.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None known.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects including a discussion of the potential air emission sources during and after construction and approximate quantities of air emissions.

Facilities construction activities will utilize the proper precautions to minimize dust emissions. Potential minimizing activities include the use of water, reducing vehicle speeds, vehicle cleaning prior to exiting the site to prevent track-out of mud or dirt onto paved public roadways and sweeping/vacuuming.

County staff will endeavor to reduce the potential vehicle emissions from its trucks by managing operating procedures and service routes so as to minimize driving miles and properly maintaining vehicles.

3. Water [help]

a. Surface Water: [help]

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Clallam Bay and the Strait of Juan de Fuca are located immediately adjacent to the communities of Clallam Bay and Sekiu. The Clallam River is located to the north and northeast of the Clallam Bay Wastewater Treatment Plant.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects including a discussion of proposed work over, in or adjacent to the described waters.

It is possible that projects will be constructed within 200 feet of the above listed waters. The GP discusses work on the Outfall which extends off the shoreline. Plans will be developed prior to construction and the County will apply at that time for Shoreline Exemption permits for the work as it is normal maintenance and repair of existing facilities. If new sewer main extensions are within 200 feet of the listed waters then the appropriate Shoreline development permit will be applied for.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None is anticipated. However, fill and dredge is typically project-specific and will be addressed by the project environmental checklist if the need arises.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects including a discussion of proposed amount of fill and dredge material that would be placed in or removed from surface water or wetlands.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

It is not anticipated that future construction projects will require withdrawals or diversions of surface water.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

Both Sekiu and Clallam Bay service areas contain localized areas of flood plain. Please see attached maps.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction

projects including a discussion of the location of the proposed in relation to the 100-year flood plain.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

The proposed plan and project are for wastewater treatment plant and sewer system that discharge treated wastewater to the saltwater body to the west of the plant, the San Juan Channel. The plant discharges 53,000 gpd of wastewater treated in accordance with the Department of Ecology and National Pollution Elimination System (NPDES) requirements and permit No. WA0030589. The Facility upgrades will provide capacity for projected growth through the next 20 years at an anticipated 158,000 gpd.
Any additional development in the District's sewer collection system would result in additional sewage flow to the Wastewater Treatment Facility, where sewage is treated. However, the Plan also includes the District's plans for remediation to address infiltration and inflow in the sewer collection system, which will help reduce flows to the WWTP.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects including a discussion of the location of discharge of treated effluent from the wastewater treatment facility.

b. Ground Water: [help]

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects. It is not anticipated that future construction projects will require withdrawals of groundwater.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects. It is not anticipated that future construction projects will result in discharge of waste material into the ground.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects. Stormwater will be generated from impervious surfaces. Future design will include stormwater collection and treatment.

2) Could waste materials enter ground or surface waters? If so, generally describe.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects. It is not anticipated that future construction projects will result in the discharge of waste material into the ground or surface waters.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that discuss the impacts to drainage patterns in the vicinity of the proposed construction project.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction project that discussed the proposed measures to control surface, ground and runoff water and drainage impacts during and after construction.

4. Plants [help]

a. Check the types of vegetation found on the site:

__x__deciduous tree: alder, maple, aspen, other
__x__evergreen tree: fir, cedar, pine, other
__x__shrubs
__x__grass
____pasture
____crop or grain
____ Orchards, vineyards or other permanent crops.
__x__ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
____water plants: water lily, eelgrass, milfoil, other
____other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that discuss the kind and amount of vegetation that will be removed or altered.

b. List threatened and endangered species known to be on or near the site.
The following threatened and endangered species are known to be in or near the study area.

None known.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that discuss proposed landscaping for replaced and upgraded facilities.

e. List all noxious weeds and invasive species known to be on or near the site.
Bohemian knotweed
Giant knotweed
Giant hogweed
Butterfly bush
Reed canarygrass
Herd Robert
Canada thistle
Poison hemlock
Yellow archangel

5. Animals [help]

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.

Examples include:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other _____

b. List any threatened and endangered species known to be on or near the site.
Birds: Marbled Murrelet, Short-tailed Albatross, Streaked Horned Lark, Yellow-billed Cuckoo
Fishes: Bull Trout, Dolly Varden

c. Is the site part of a migration route? If so, explain.
The site is located in the Pacific flyway migratory bird flyway.

d. Proposed measures to preserve or enhance wildlife, if any:

The SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that discuss proposed measures to preserve or enhance wildlife.

e. List any invasive animal species known to be on or near the site.
None known

6. Energy and Natural Resources [help]

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

The SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that discuss energy resources required for the proposed project. It is anticipated that lift station and wastewater treatment facilities will rely primarily on electrical energy.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

The SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that discuss the potential to affect the use of solar energy on adjacent properties. It is not anticipated that the lift station and wastewater treatment facilities will affect the use of solar energy by adjacent properties.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

The SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that discusses the energy conservation features of the lift stations and wastewater treatment facilities. It is anticipated that the energy efficient pumps, motors mechanical equipment and operating schemes will be incorporated in the lift station and wastewater treatment plant designs.

7. Environmental Health [help]

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that discusses the potential environmental health hazards associated with the construction and operation of lift stations and wastewater treatment plants and how these hazards will be eliminated or minimized.

1) Describe any known or possible contamination at the site from present or past uses.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that discusses the known or possible contamination of the specific sites covered by the SEPA checklist.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that discusses the existing hazardous chemicals/conditions that might affect the project.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that discuss any toxic or hazardous chemicals that might be stored, used or produced by the project.

4) Describe special emergency services that might be required.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that discuss special emergency services that might be required by the project. It is not anticipated that special emergency services will be required for the lift stations or wastewater treatment facility.

5) Proposed measures to reduce or control environmental health hazards, if any:

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction

projects that discuss measures to reduce or control environmental health hazards that may be associated with a particular project.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. Existing noise does not affect the planning process. SEPA checklists will be prepared for specific non-exempt construction projects. It is not anticipated that existing noise in the area will affect the project.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that discusses the known or possible contamination of the specific sites covered by the SEPA checklist.

3) Proposed measures to reduce or control noise impacts, if any:

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that discusses measures to reduce or control noise generated during construction and operation of the lift stations and wastewater treatment facility.

8. Land and Shoreline Use [help]

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. The study area includes properties used for residential, commercial and industrial uses. SEPA checklists will be prepared for specific non-exempt construction projects that discusses the land use in the vicinity of the proposed project.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. The study area includes properties that were historically used as working forest land. SEPA checklists will be prepared for specific non-exempt construction projects that discusses the historic land use in the vicinity of the proposed project.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal

business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that discuss the effect of the proposal on surrounding farm or forest land.

c. Describe any structures on the site.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that describe the existing structures on the project site.

d. Will any structures be demolished? If so, what?

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document and does not identify demolition of any structures. SEPA checklists will be prepared for specific non-exempt construction projects that describe demolition of existing structures on the site.

e. What is the current zoning classification of the site?

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that describe the current zoning classification of the site.

f. What is the current comprehensive plan designation of the site?

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that describe the current comprehensive plan classification of the site.

g. If applicable, what is the current shoreline master program designation of the site?

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that discusses the current shoreline master program designation of the site if applicable.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that describe whether the project site is located in a critical area.

i. Approximately how many people would reside or work in the completed project?

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning

document. SEPA checklists will be prepared for specific non-exempt construction projects that describe the number of people who will work in the completed project. No people will reside in completed project.

j. Approximately how many people would the completed project displace?

The completed project will not displace any people.

k. Proposed measures to avoid or reduce displacement impacts, if any:

Not applicable.

L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The intent of the General Sewer/Wastewater Facility Plan and any resulting sewer projects is to provide public sewer service in accordance with existing zoned land uses and urban growth area boundaries.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that describe the measures taken to ensure the proposal minimizes impact to agricultural and forest lands of long-term commercial significance.

9. Housing [help]

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

No housing units will be provided.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No housing units will be eliminated.

c. Proposed measures to reduce or control housing impacts, if any:

No housing impacts.

10. Aesthetics [help]

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that describe the height of lift station or wastewater treatment facility structures.

b. What views in the immediate vicinity would be altered or obstructed?

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that describe if any views in the immediate vicinity would be altered or obstructed.

c. Proposed measures to reduce or control aesthetic impacts, if any:

The county will ensure that there will be no aesthetic impacts for any potential above grade structures added as a result of the projects.

11. Light and Glare [help]

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Exterior building/site lighting will be consistent with existing lighting and is not anticipated to increase after facilities upgrade construction. Lighting would occur at all hours of darkness for key facilities.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

It is not expected that the completed project will result in light or glare that would present a safety hazard or interfere with views.

c. What existing off-site sources of light or glare may affect your proposal?
None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None required.

12. Recreation [help]

a. What designated and informal recreational opportunities are in the immediate vicinity?

Fishing, hunting, hiking and camping.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No, it is not anticipated that the future projects would displace any existing recreational uses.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

It is not anticipated that the future projects would displace any existing recreational uses

13. Historic and cultural preservation [help]

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers ? If so, specifically describe.

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that will identify any buildings, structures or sites that are located on or near the proposed project site.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

None known. In the event of Facilities construction, a Cultural Resources Assessment study will be conducted in the pre-design phase of the project.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

Sewer lines are usually constructed within existing right-of-way corridors, so there is little potential conflict with historic sites. If sewer is being extended to a new undisturbed area, proper cultural/historic/archaeological resource surveys will be conducted by a hired professional to perform research and investigation into the proposed project-specific site location. All appropriate Tribes and other jurisdictions will be involved in the process. A cultural resources assessment study will be conducted in the pre-design phase of any construction projects.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

An Inadvertent Discovery Plan (IDP) will be developed for the project, included in the construction documents (specifications) and will be implemented during project construction. If potentially important archaeological material is uncovered during any sewer system construction project, the excavation will be stopped for contact of the Washington State Office of Archaeology and Historic Preservation. The process for cultural review will be initiated with Ecology if any construction will occur using the form for Executive Order 05-05/Section 106.

14. Transportation [help]

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

The Clallam Bay and Sekiu communities are served by highway 112.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

Clallam Transit system serves Clallam Bay/Sekiu. There are 4 runs between Forks and Neah Bay with a stop in Clallam Bay four times a day and two times a day on Saturday.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that will describe the parking spaces provided for the proposed project. Parking is dependent upon which project alternative is selected.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

This SEPA checklist discusses the General Sewer/Wastewater Facility Plan, a planning document. SEPA checklists will be prepared for specific non-exempt construction projects that will describe the improvements to existing streets or transportation routes will be required for the proposed project.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

It is not anticipated that the projects will utilize water, rail or air transportation.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and non-passenger vehicles). What data or transportation models were used to make these estimates?

The proposed projects are unlikely to increase the vehicular trips to the arear of study after completion.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

Not likely. There could be minor interferences during construction of the projects.

h. Proposed measures to reduce or control transportation impacts, if any:

Potential measures for mitigating construction traffic may include:

- **Locate construction flaggers at intersections**

- **Design construction or haul routes that minimize or avoid use of heavily traveled roadways**

15. Public Services [help]

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

Not applicable.

16. Utilities [help]

a. Circle utilities currently available at the site:
electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other _____

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

The proposed sewer facilities would utilize electricity at pumping stations and other treatment plant motorized equipment. Water and telephone would be required for treatment plant facilities. Power is provided by Clallam County PUD.

C. Signature [HELP]

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____

Name of signee _____

Position and Agency/Organization _____

Date Submitted: _____

D. Supplemental sheet for nonproject actions [HELP]

(**IT IS NOT NECESSARY** to use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

Proposed measures to avoid or reduce such increases are:

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

3. How would the proposal be likely to deplete energy or natural resources?

Proposed measures to protect or conserve energy and natural resources are:

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

Proposed measures to protect such resources or to avoid or reduce impacts are:

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

Proposed measures to avoid or reduce shoreline and land use impacts are:

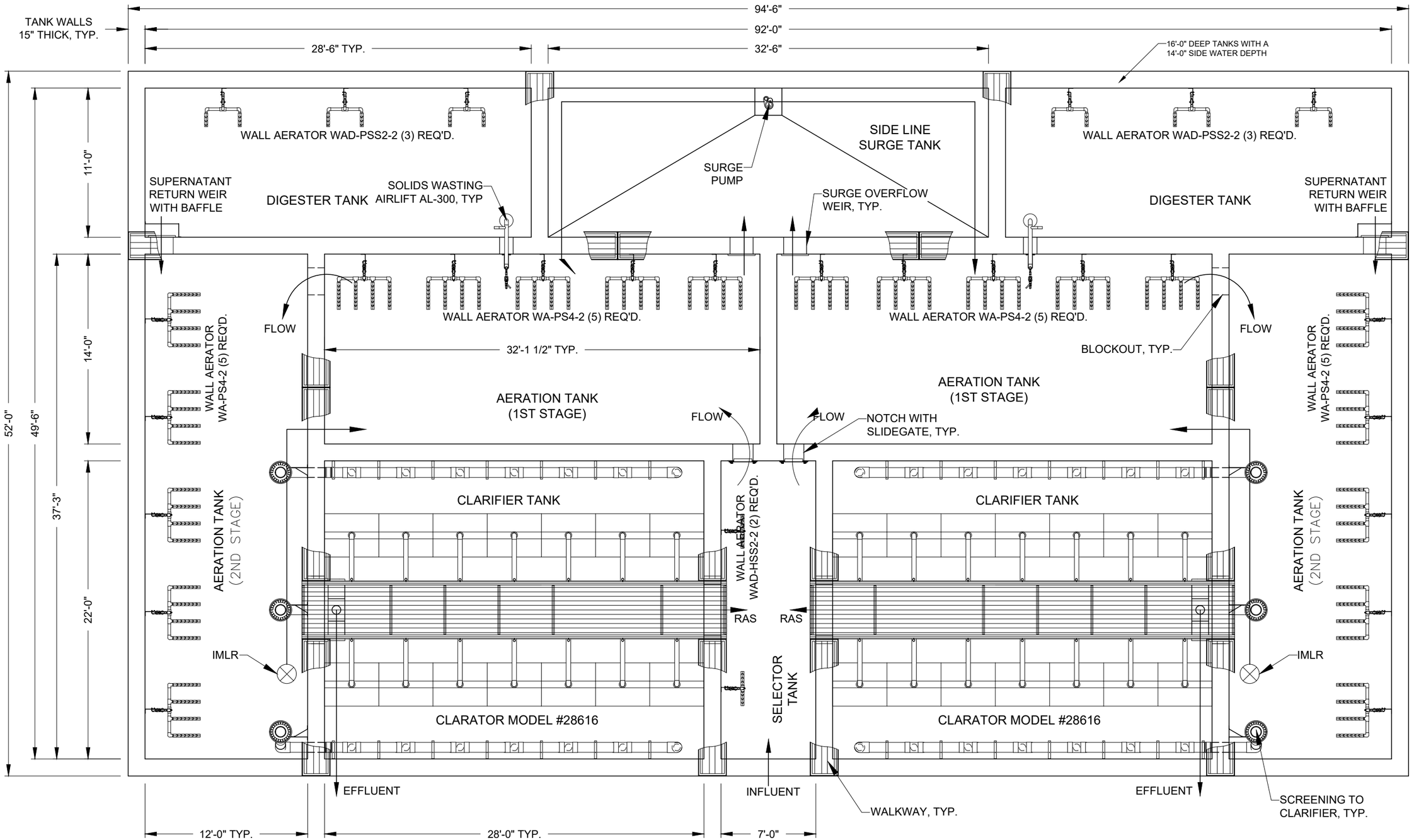
6. How would the proposal be likely to increase demands on transportation or public services and utilities?

Proposed measures to reduce or respond to such demand(s) are:

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

APPENDIX H – CALCULATIONS

Sekiu - Clallam Bay - Corrections Regional, WA 0.223 MGD



Drawn by: CKC | Chk by: | Scale: NTS | Date: 2/3/23

Title: SEKIU - CLALLAM - CORRECTIONS, WASHINGTON
0.223 ADF
W.W.T.P.

Aero - Mod, Inc.

7927 U.S. Highway 24
Manhattan, Kansas 66502
PHONE: (785) 537-4995
FAX : (785) 537-0813

ALL 3

Aero-Mod, Inc.

ACTIVATED SLUDGE DESIGN CALCULATIONS

Project: Sekiu-Clallam Bay-Corrections Regional, Washington ***Date:*** 27-May-25
Engineer: Wilson Engineering ***Units:*** English
Act. Sludge Process: SEQUOX BNR

Population Equivalent 1437
@0.2lbsBod/cap

DESIGN CONDITIONS & PARAMETERS

	Influent	Clarifier Effluent
Flow (Q), MGD	**0.223**	
BOD_5, mg/l	155	**10.0**
BOD_5, lbs/day	**287**	18.6
BOD_L, mg/l	226	
TSS, mg/l	155	**10.0**
TSS, lbs/day	**287**	18.6
Ammonia-N, mg/l as TKN	**41.0**	**1.0**
Ammonia-N, lbs/day as TKN	76.3	1.9
TN, mg/l rDON < 1 mg/L		**5.0** *
TN, lbs/day		9.3
Phosphorus-P, mg/l	6.0	**N/A**
Phosphorus-P, lbs/day	11.2	N/A
Net Alkalinity Loss, mg/l as $CaCO_3$		**(193)**
	Requires Carbon Addition *	

Aeration Basin	
Retention Time, hours	**20.0**
Aeration Tank Volume, Mgal	0.186
MCRT, days	**20.0**
Wastewater Temperature, °C	5
Aerobic Digester	
Volume, % of Aeration Tank	35.0
Maximum MLSS, mg/l	12,000
Maximum MLSS, %	1.20%
Digester Temperature, °C	5
Sludge Holding Tank	
Volume, % of Aeration Tank	0.0
Maximum MLSS, mg/l	25,000
Maximum MLSS, %	2.50%

PROJECTED OPERATING CONDITIONS - AERATION BASIN

Mixed Liquor Suspended Solids, mg/l		**3,044**
Excess MLSS due to Phos-P Uptake/Removal, mg/l	0	
Mixed Liquor Volatile Suspended Solids, %		71%
F/M Ratio, lbs BOD_5/lb MLVSS		0.09
F/M Ratio, lbs BOD_5/lb MLSS		0.06
Organic Loading, lbs BOD_5/1000 cf of tank/day		11.6
Oxygen Requirements (Carbonaceous), mg/l/hr		6.29
Oxygen Requirements (Nitrogenous), mg/l/hr		9.20
Solids Production, lbs/day		236
WAS - Solids Wasted per Day, lbs/day		217
WAS - Solids Wasted per Day, gal/day @ 0.30%		8,559

PROJECTED OPERATING CONDITIONS - AEROBIC DIGESTER

Volatile Solids Loading in Digester, lbs VSS/1,000 cf of tank/day		18
Volatile Solids Reduction in Digester, %		34%
Solids Wasted from Digester, lbs/day		165
Mass Solids Yield in Process & Digester per Mass Influent BOD_5, %		64%
Volume Wasted from Digester, gallons/day		1,645
Digester Sludge Age, days	**ADF**	**40**
Digester Sludge Age, days	**PMF**	**31**
Air Required for Stabilization, scfm		64
Air Required for Mixing @ 30 cfm/1000 cf		261

Aero-Mod, Inc.

AERATION DESIGN CALCULATIONS

Project: Sekiu-Clallam Bay-Corrections Regional, Washington ***Date:*** 27-May-25
Engineer: Wilson Engineering ***Units:*** English
Diffuser Type Used: Stainless Steel Coarse Bubble

	AD	MM		Design	Peak
Q, MGD	0.223	**0.405**	TKN_o, mg/l	49.2	49.2
BOD_o, mg/l	155	116	$TKN_{assimilation}$, mg/l	7.5	4.1
BOD_{rem}, mg/l	155	116	TKN_{rem}, mg/l	49.2	49.2
BOD_{rem}, lb/day	**287**	**391**	TKN_{rem}, lb/day	91.5	166.2
O_2 Requirement, lb O_2/lb BOD_{rem}	1.500		O_2 Requirement, lb O_2/lb TKN_{rem}	4.60	

AERATION REQUIREMENTS	Design	Peak
BOD_{oxy} - Oxygen Required for BOD [Q * BOD_{rem} * 8.34 * O_2 Req. / 24], lbs O_2/hr	18.0	24.5
TKN_{oxy} - Oxygen Required for TKN [Q * TKN_{rem} * 8.34 * O_2 Req. / 24], lbs O_2/hr	17.5	31.9
Actual Oxygenation Rate (AOR), lbs O_2/hr	**35.5**	**56.3**
Standard Oxygenation Rate (SOR), lbs O_2/hr	**64.9**	**102.9**

SOR = [(AOR * $C_{s,20}$) / (α * $\Theta^{\wedge(T-20)}$ * (Tau * Ω * β * $C_{s,20}$ - C_L) * F)]

Where:						
$C_{s,T,H}$	Actual Value of D.O. Saturation, mg/l	**9.08**	C_L	Residual D.O. Conc., mg/l	**2.0**
$C_{s,20}$	Steady State Value of D.O. Saturation, mg/l	9.08	T	Temperature of Water, °C	**20**
Tau	Oxygen Saturation Value ($C_{s,T,H}/C_{s,20}$)	1.000	F	Diffuser Fouling Factor	1.00
α	Alpha - Oxygen Transfer Correction Factor for Waste	0.75	Θ	Theta - Oxygen Transfer Coeff	1.024
β	Beta - Salinity-Surface Tension Correction Factor	0.95		Site Elevation, FASL	**0**
P_H	Atmospheric Pressure at Site Elevation, psi	14.70	Ω	Omega (P_H/P_s)	1.000

	Design	Peak
Air Requirement = [SOR / (Oxygen Density * TE% * Diffuser Depth) / 60], scfm	**538**	**854**

Where:				
Oxygen Density, lbs O_2/cf	0.0175	Diffuser Depth Below Water Surface, ft	**13.5**
Transfer Efficiency per Foot of Submergence, %	**0.85%**		

Denitrification Credit = [Air Rqmt * (TKN_{oxy} / AOR) * 50% * ((TKN_o - TN_e) / TKN_o)], scfm	119	228

Where: TN_e = TKN_o / 2 (assumed when D.O. control is not used)

	Design	Peak
Total Aeration Required in Aeration Basin, scfm	**419**	**626**

Air Correction

icfm = scfm / [((T_{std} + 460) / (T_{air} + 460)) * ((P_H - (RH% * SVP_{Tair})) / (14.7 - ($RH\%_{std}$ * SVP_{std}))) * ((P_A / P_H)]

Where:					
T_{std}, °F	68	T_{air}	Maximum Air Temperature, °F	**104**
$RH\%_{std}$	36%	RH%	Maximum Relative Humidity, %	**90%**
SVP_{std}, psi	0.34	SVP_{Tair}	Saturated Vapor Pressure of Air @ T_{air}, psi	1.058
		P_A	Actual Atmospheric Pressure after Blower Inlet, psi	14.50

Minimum Air Required for Mixing in First Stage Aeration Basin, cfm	252	Side Roll
Minimum Air Required for Mixing in Second & Third Stage Aeration Basin, cfm	125	Side Roll
Minimum Air Required for Operating Full Plant, cfm (mixing requirement for 24 hrs)	543	

		ADF	PMF	ADF	PMF
Aeration Pressure, in. H_2O				200	200
psi, std	(does not include blower inlet/outlet)			**7.2**	**7.2**

		scfm	scfm	icfm	icfm
Aeration Basin		419	626	481	719
N/A		0	0	0	0
Aerobic Digester Tank	(sequenced aeration)	130	130	130	130
Selector Tank		22	22	22	22
Clarifier RAS Airlift Pumps & Skimmers		57	57	57	57
	Total Air Required	628	835	690	928
	Total Air Available			**821**	**1,059**

POWER REQUIREMENTS	Unit	Power	Power
Operating Power for Aeration Basin, HP	Blower	22.1	33.7
Operating Power for Digester, HP	Blower	6.0	6.1
Operating Power for Selector Tank, HP	Blower	1.0	1.0
Operating Power for Clarifier, HP	Blower	2.6	2.7
N/A	N/A	0.0	0.0
Operating Power for Pneumatic System, HP	Air Compr.	0.4	0.4
Operating Power Required at Full Loading, HP		**32.1**	**43.9**
Minimum Power Required to Operate Full Plant , HP		**26.3**	

Aero-Mod, Inc.

CLARIFIER DESIGN CALCULATIONS

Project: Sekiu-Clallam Bay-Corrections Regional, Washington ***Date:*** 27-May-25
Engineer: Wilson Engineering ***Units:*** English
Clarifier Type Used: Split-ClarAtor

FLOW CONDITIONS

Avg Day Flow, MGD		**0.223**	
Peak Month Day Flow, MGD		**0.406**	
Peaking Factor, hourly	**PHF**	5.84	**2.370** MGD
Duration, min		60	
Peaking Factor, sustained	**PDF**	2.91	**1.181** MGD
Aeration Tank Volume, Mgal		0.186	
MLSS, mg/l		3,044	
Avg. RAS Recycle Rate, %		150%	

EQUIPMENT SIZING & SELECTION

Number of Clarifiers	**2**	Surface Area per Clarifier, sf	616
Clarifier Unit Model	**28616**	Total Surface Area, sf	**1,232**
Bridge Length, ft	28	Total Weir Length, ft	106
Clarifier Unit Width, ft	22	Tank Wall Depth, ft	16.0
Number of Units per Clarifier	1	Tank Water Depth, ft	14.0

SURFACE OVERFLOW RATE

	Peak Month	
Design Flow, gpd/sf	329	
Peak Day Flow, gpd/sf	959	
Peak Hour Flow, gpd/sf	1,000	* Max allowed to leave clarifier

WEIR OVERFLOW RATE

Design Flow, gpd/lin. ft	**2,104**
Peak Flow, gpd/lin. ft	11,623

SOLIDS LOADING RATE

Design Flow, lbs/day/sf	**11.5**
Peak Flow, lbs/day/sf	20.8

RETENTION TIME - including RAS

Design Flow, hr	**5.6**
Peak Flow, hr	2.0

PEAK FLOW HANDLING - IN-BASIN SURGE STORAGE

Hourly Peak Flow, MGD	2.370	Vol. of In-Basin Surge Storage, gal	9,909
Max. Flow Through Clarifier, MGD	1.232	Capacity of Surge Storage, hr.	**0.2**
Stored Peak Flow, gpm	790		

PEAK FLOW HANDLING - SIDE-LINE SURGE TANK

Hourly Peak Flow, MGD	2.370	Volume of Surge Tank	38,774
Max. Flow Through Clarifier, MGD	1.232	Capacity of Surge Tank, hr.	**0.8**
Diverted Peak Flow, gpm	790		
		Peak Hour Capacity, hr.	**1.0**

Aero-Mod, Inc.

TANKAGE DESIGN CALCULATIONS

Project: Sekiu-Clallam Bay-Corrections Regional, Washington ***Date:*** 27-May-25
Engineer: Wilson Engineering ***Units:*** English
Tank Construction: Cast-in-Place Concrete

SELECTOR TANK

Anoxic Selector

Number of Tanks	1	Tank Length, ft	22.0
Tank Wall Height, ft	16.0	Tank Width, ft	7.00
Tank Water Depth, ft	14.0	Total Volume, gallons	**16,127**
Freeboard, ft	2.0	Retention Time (Design + RAS), min.	42

AERATION TANK Volume Selected, gal **185,833**

Tank Wall Height, ft	16.0	Number of Trains	2
Tank Water Depth, ft	14.0	Number of Stages	2

Stage 1		*Stage 2*	
Number of Tanks	2	Number of Tanks	2
Tank Length, ft	14.00	Tank Length, ft	37.25
Tank Width, ft	32.125	Tank Width, ft	12.0
Area of Each Tank, sf	450	Area of Each Tank, sf	447
Total Volume, gallons	**94,196**	Total Volume, gallons	**93,620**

Total volume provided, gal **187,815**

CLARIFIER TANK

Number of Tanks	2	Tank Length, ft	28.0
Tank Wall Height, ft	16.0	Tank Width, ft	22.0
Tank Water Depth, ft	14.0	Total Volume, gallons	**129,015**

SIDE-LINE SURGE TANK Volume Required, gal **37,516**

Number of Tanks	1	Tank Length, ft	11.0
Tank Wall Height, ft	16.0	Tank Width, ft	32.5
Tank Water Depth, ft	14.5	Total Volume, gallons	**38,774**

AEROBIC DIGESTER TANK Volume Selected, gal **65,042**

Number of Tanks	2	Tank Length, ft	11.0
Tank Wall Height, ft	16.0	Tank Width, ft	28.500
Tank Water Depth, ft	14.5	Total Volume, gallons	**68,014**

OVERALL TANKAGE DIMENSIONS

Total Length, ft	52.00	Wall Thickness, in	15.0
Total Width, ft	94.50	Floor Thickness, in	15.0
Total Area, sf	4,914	Total Concrete for Walls, cy	**441**
Total Wall Length, LF	595	Total Concrete for Slab, cy	**241**
		Total Grout for Clarifier, cy	**71**

APPENDIX I – LETTER OF SUPPORT FROM DEPT. OF CORRECTIONS

STATE OF WASHINGTON
DEPARTMENT OF CORRECTIONS
BUDGET, STRATEGY AND TECHNOLOGY ADMINISTRATION
CAPITAL PLANNING & DEVELOPMENT
P. O. Box 41112 • Olympia, Washington 98504-1112 • Tel (360) 725-8352
FAX (360) 586-8723

January 27, 2025

TO: Ron Garcelon, Utilities Program Manager, Clallam County

FROM: Chris Idso
Director, Capital Planning and Development

SUBJECT: Letter of Support

The Department of Corrections (DOC) is in support of continuing on-going discussions with Clallam County Utilities regarding potential collaboration of a DOC Clallam County sewer project with our Clallam Bay Correctional Center.

Although DOC is not committing resources to any specific project at this time, we do remain open to communicating with Clallam County Utilities staff and exploring possible options for working together in the future.

Please let me know if you have any questions and we look forward to future discussions.

Sincerely,

Chris Idso
Director, Capital Planning and Development

Cc: CBCC Files