

Appendix A
Engineering Report Requirement
Checklist (Ecology's Guidance)

Appendix A – Engineering Report Requirement Checklist (Ecology’s Guidance) and Cross Reference

The purpose of this Appendix is to clearly identify where required information can be found to facilitate Ecology’s review of the Phase 5A Project—Columbia River Outfall and Effluent Pipeline Engineering Report. Requirements for engineering reports are outlined in Table G1-1 of *Criteria for Sewage Works Design* (Ecology, 2008). Also, WAC 173-240-060 specifies information to be included in each Engineering Report. **Table Appendix A-1** provides a checklist giving the elements/items from Table G1-1 and the WAC, and the locations in this Engineering Report where the information can be found. Additional supporting information regarding the SCTP service area and treatment facility can be found in the Facilities Plan (CH2M, 2013).

Engineering Report Requirement Checklist

Table Appendix A-1. Requirements for Engineering Reports and Checklist
Engineering Report for the Phase 5A Project—Columbia River Outfall and Effluent Pipeline

ID#	Element/Item	Applicable?	Engineering Report Section
Table G1-1, Criteria for Sewage Works Design (Ecology, 2008)			
1	Site Description and Map	✓	1.3
2	Problem Identification	✓	1
3	Description of Discharge Standards	✓	3.3
4	Background Information (Exist. Environment, Demographics & Land Use)		
	Water, air, sensitive areas	✓	2.3-2.4, SEPA Checklist
	Floodplains	✓	2.3, SEPA Checklist
	Shorelines	✓	2.3, Appendixes D1 and D2 SEPA Checklist
	Wetlands	✓	2.3; SEPA Checklist
	Endangered species	✓	2.3; SEPA Checklist
	Public health	✓	3.1-3.3, SEPA Checklist
	Current population	✓	See CH2M (2013)
	Present wastewater treatment	✓	3.1-3.3
	Advanced wastewater treatment need evaluated	✓	3.1-3.3
	Infiltration and inflow studies	No	--

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ID#	Element/Item	Applicable?	Engineering Report Section
	Combined sewer overflows	No	--
	Sanitary surveys for unsewered areas	No	--
5	Future Conditions (Demographics and Land Use)		
	Projected population levels	✓	See CH2M (2013)
	Appropriateness of population data source, zoning changes	No	--
	Future domestic & industrial flows, and flow reduction options	✓	4.2
	Future flows and coding	✓	3.1
	Reserved capacity	✓	See CH2M (2013)
	Future environment without project	✓	4.2
6	Alternatives		
	List specific alternative categories, including no action	✓	4.2-4.6
	Collection system alternatives	No	--
	Sludge management/use alternatives	No	--
	Flow reduction	✓	4.2
	Costs	✓	4.3.1, 4.3.2, 5.1.1, 6.3
	Environmental impacts	✓	4.3-4.4, 6.1, SEPA Checklist
	Public acceptability	✓	6.1, SEPA Checklist
	Rank order	✓	4.2-4.4
	Recommended alternative	✓	4.7
7	Final Recommended Alternative		
	Site layout	✓	5.7
	Flow diagram	✓	5.7
	Sizing	✓	5.1, 5.2, 5.7
	Environmental impacts	✓	5.4, 6.1, SEPA Checklist
	Design life	✓	5.6
	Sludge management	No	--
	Ability to expand	✓	5.1-5.3, 5.5
	O&M/staffing needs	✓	5.8
	Design parameters	✓	4.1, 5.6
	Feasibility of implementation	✓	5, 6
8	Financial Analysis		

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ID#	Element/Item	Applicable?	Engineering Report Section
	Costs	✓	6.3
	User charges	✓	6.4
	Financial capability	✓	6.4
	Capital financing plan	✓	6.4
	Implementation plan	✓	6.2
9	Other		
	Water quality management plan	✓	See CH2M (2013)
	SEPA approval	✓	See SEPA Checklist and MDNS
	List required permits	✓	6.1
WAC 173-240-060: Engineering Report			
(1)	Item Required in WAC 173-240-050 for General Sewer Plans	No	--
(3)(a)	Owner of the Proposed Facilities	✓	1.2
	Address of Owner	✓	1.2
	Telephone Number of Owner	✓	1.2
	Owner's Authorized Representative	✓	1.2
(3)(b)	Project Description	✓	1.3
	Location Map	✓	1.3
	Map of the Present and Proposed Service Area	✓	1.3
(3)(c)	Statement of the Present and Expected Future Quantity and Quality of Wastewater, Including Any Industrial Wastes that May Be Present or Expected in the Sewer System	✓	1.1
(3)(d)	Degree of Treatment Required Based upon Applicable Permits and Rules, the Receiving Body of Water, the Amount and Strength of Wastewater to Be Treated, and Other Influencing Factors	✓	3.2, 3.3
(3)(e)	Description of the Receiving Water, Applicable Water Quality Standards, and How Water Quality Standards Will Be Met Outside Any Applicable Dilution Zone	✓	3.3, 4.1
(3)(f)	Type of Treatment Process Proposed, Based Upon the Character of the Wastewater to Be Handled, the Method of Disposal, the Degree of Treatment Required, and a Discussion of the Alternatives Evaluated and the Reasons They Are Unacceptable	✓	3.2
(3)(g)	Basic Design Data and Sizing Calculations of Each Unit of the Treatment Works. Expected Efficiencies of Each Unit and of the Entire Plant, and Character of Effluent Anticipated	✓	3.2

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ID#	Element/Item	Applicable?	Engineering Report Section
(3)(h)	Discussion of the Various Sites Available and the Advantages and Disadvantages of the Site or Sites Recommended. The Proximity of Residences or Developed Areas to Any Treatment Works. The Relationship of the Twenty-Five-Year and One Hundred-Year Flood to the Treatment Plant Site and the Various Plant Units	✓	2.3, 2.4
(3)(i)	Flow Diagram that Shows General Layout of the Various Units, the Location of the Effluent Discharge, and a Hydraulic Profile of the System that Is the Subject of the Engineering Report and Any Hydraulically Related Portions	✓	5.7
(3)(j)	Discussion of Infiltration and Inflow Problems, Overflows and Bypasses, and Proposed Corrections and Controls	No	--
(3)(k)	Discussion of Any Special Provisions for Treating Industrial Wastes, Including Any Pretreatment Requirements for Significant Industrial Sources	No	--
(3)(l)	Detailed Outfall Analysis or Other Disposal Method Selected	✓	4.1-4.6
(3)(m)	Discussion of the Method of Final Sludge Disposal and Any Alternatives Considered	No	--
(3)(n)	Provision for Future Needs	✓	3, 4.6
(3)(o)	Staffing and Testing Requirements for the Facilities	✓	5.8
(3)(p)	Estimate of the Costs and Expenses of the Proposed Facilities and the Method of Assessing Costs and Expenses. The Total Amount Shall Include Both Capital Costs and Operation and Maintenance Costs for the Life of the Project, and Must Be Presented in Terms of Total Annual Cost and Present Worth	✓	6.3
(3)(q)	Statement Regarding Compliance with Any Applicable State or Local Water Quality Management Plan or Any Plan Adopted under the Federal Water Pollution Control Act as Amended	✓	See CH2M (2013)
(3)(r)	Statement Regarding Compliance with the State Environmental Policy Act (SEPA) and the National Environmental Policy Act (NEPA), if applicable	✓	6.1