ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM

INDIVIDUAL PERMIT – Preliminary DRAFT

Permit Number: **AK0053384**

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Wastewater Discharge Authorization Program
555 Cordova Street; Anchorage, AK 99501

In compliance with the provisions of the Clean Water Act (CWA), 33 U.S.C. §1251 et seq., as amended by the Water Quality Act of 1987, P.L. 100-4, this permit is issued under provisions of Alaska Statutes (AS) 46.03; the Alaska Administrative Code (AAC) as amended; and other applicable State laws and regulations. The

FULL CYCLE LLC

is authorized to discharge from the Ward Cove Wastewater Treatment Facility (WWTF) at 7559 North Tongass Highway, Ketchikan, Alaska at the following location(s):

Outfall	Receiving Waterbody	Latitude	Longitude
001A	Internal Compliance Point	55°24' 26" North	131°43’ 45" West
001B	Ward Cove	55° 24’ 15” North	131° 43’ 45” West

In accordance with the discharge point(s) effluent limitations, monitoring requirements, and other conditions set forth herein:

This permit and authorization shall become effective DRAFT

This permit and the authorization to discharge shall expire at midnight, DRAFT

The permittee shall reapply for a permit reissuance on or before DRAFT, 180 days before the expiration of this permit if the permittee intends to continue operations and discharge(s) at the facility beyond the term of this permit.

The permittee shall post or maintain a copy of this permit to discharge at the facility and make it available to the public, employees, and subcontractors at the facility.

DRAFT	DRAFT
Signature	Date
DRAFT	Program Manager
Printed Name	Title

TABLE OF CONTENTS

TABLES

APPENDICES

SCHEDULE OF SUBMISSIONS

The Schedule of Submissions summarizes some of the required submissions and activities the permittee must complete and/or submit to the Alaska Department of Environmental Conservation (DEC) during the term of this permit. The permittee is responsible for all submissions and activities even if they are not summarized below.

Table 1: Schedule of Submissions

Permit Part	Submittal or Completion	Frequency	Due Date	Submit to[a]
Permit Part 2.4, Appendix A, 3.2	Discharge Monitoring Report (DMR)	Monthly	Must be submitted electronically through the NetDMR system, on or before the 15th day of the following month.	NetDMR
Permit Part 2.3	Industrial User Survey	1/permit cycle	180 days before expiration of the final permit	Permitting
Appendix A, 1.3	Application for Permit Reissuance	1/permit cycle	180 days before expiration of the final permit	Permitting
Appendix A, 3.4	Oral notification of noncompliance	As necessary	Within 24 hours from the time the permittee becomes aware of the circumstances of noncompliance	Compliance
Appendix A, 3.4	Written notification of noncompliance	As necessary	Within 5 days after the permittee becomes aware of the circumstances	Compliance

Note:
a. See Appendix A, 1.1 for addresses

1.0 LIMITATIONS AND MONITORING REQUIREMENTS

1.1 Discharge Authorization During the effective period of this permit, the permittee is authorized to discharge pollutants from Outfall 001B specified herein to Ward Cove, within the limits and subject to conditions set forth herein. This permit authorizes discharge of only those pollutants resulting from facility processes, waste streams, and operations clearly identified in the permit application process.

1.2 Effluent Limits and Monitoring

1.2.1 The permittee must limit and monitor discharges from internal Outfall 001A as specified in Table 2 and Outfall 001B as specified in Table 3. All values represent maximum effluent limits, unless otherwise indicated. The permittee must comply with effluent limitations in the table(s) at all times unless otherwise indicated, regardless of monitoring frequency or reporting required by other provisions of this permit.

1.2.2 Discharge shall not cause contamination of surface or ground waters, and shall not cause or contribute to a violation of the Alaska Water Quality Standards Title 18 (18 AAC 70), except if excursions are authorized in accordance with applicable provisions in 18 AAC 70.200 – 70.240 (e.g. variance, mixing zone).

1.2.3 The permittee must not discharge any floating solids, debris, sludge, deposits, foam, scum, or other residues that cause a film, sheen or discoloration on the surface of the receiving water or adjoining shorelines; cause leaching of toxic or deleterious substances; or cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.

1.2.4 The permittee must collect influent samples prior to the waste stream flowing into the first treatment unit of the wastewater treatment facility.

1.2.5 The permittee must collect effluent samples from the effluent stream after the last treatment unit before discharge into receiving waters.

1.2.5.1 The limits and monitoring in Table 2 apply to internal Outfall 001A, domestic wastewater discharge, before any mixing occurs with water diverted from Connell Lake. The permittee must collect effluent samples from internal Outfall 001A's domestic wastewater effluent stream after the last treatment unit and prior to combining with the water diverted from Connell Lake.

1.2.5.2 The limits and monitoring in Table 3 apply to Outfall 001B, after mixing occurs with water diverted from Connell Lake. The permittee must collect total discharge samples from Outfall 001B after the effluent from Outfall 001A is combined with the water diverted from Connell Lake and prior to discharge to Ward Cove.

1.2.6 For all effluent monitoring, the permittee must use a sufficiently sensitive Environmental Protection Agency (EPA) approved test method that quantifies the pollutants to a level lower than applicable limits or water quality standards or use the most sensitive test method available, per Title 40 Code of Federal Regulations (CFR) §136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants), adopted by reference at 18 AAC 83.010(f).

1.2.7 Permittees have the option of taking more frequent samples than are required in the permit. These samples must be used for averaging if they are conducted using the Department-approved test methods (generally found in 18 AAC 70 and 40 CFR §136) and if the method detection limit (MDL) is less than the effluent limit.

1.2.8 For purposes of reporting on the discharge monitoring report (DMR) for a single sample, if a value is less than the method detection limit (MDL), the permittee must report "less than (<) {numeric value of MDL}" and if a value is less than the minimum level (ML), also called a reporting limit (RL), practical quantification limit (PQL), or limit of quantitation (LOQ)], the permittee must report "less than (<) {numeric value of ML}."

1.2.9 For purposes of calculating monthly averages, zero may be assigned for values less than the MDL and the numeric value of the MDL may be assigned for values between the MDL and the ML. If the average value is less than the MDL, the permittee must report "less than (<) {numeric value of MDL}" and if the average value is less than the ML, the permittee must report "less than (<) {numeric value of ML}." If a value is equal to or greater than the ML, the permittee must report and use the actual value.

(Table 2: Internal Outfall 001A: Effluent Limits and Monitoring Requirements is located on the following page.)

Table 2: Internal Outfall 001A: Effluent Limits and Monitoring Requirements

Parameter	Effluent Limits					Monitoring Requirements		
	Units [a]	Daily Minimum	Monthly Average	Weekly Average	Daily Maximum	Sample Location	Sample Frequency	Sample Type
Total Discharge Flow	mgd	N/A	Report	N/A	0.025	Effluent	Continuous	Metered
Biochemical Oxygen Demand (BOD_5)	mg/L	N/A	30	45	60	Influent and Effluent [c]	1/Month	24-hour Composite [d]
	lbs/day [b]		6.3	9.4	12.5			Calculated
Total Suspended Solids (TSS)	mg/L	N/A	30	45	60	Influent and Effluent	1/Month	24-hour Composite
	lbs/day		6.3	9.4	12.5			Calculated
BOD_5 & TSS Minimum Percent (%) Removal	%	N/A	85 [e]	N/A	N/A	Influent and Effluent	1/Month	Calculated
pH	S.U.	6.0	N/A	N/A	9.0	Effluent	3/Week	Grab
Temperature	° C	N/A	N/A	N/A	Report	Effluent	3/Week	Grab
Dissolved Oxygen (DO)	mg/L	2.0	N/A	N/A	N/A	Effluent	1/Month	Grab
Total Residual Chlorine (TRC)	mg/L	N/A	0.5	0.75	1.0	Effluent	3/Week	Grab
	lbs/day	N/A	0.1	0.16	0.21			
Fecal coliform Bacteria (FC)	FC/ 100 mL	N/A	200 [f]	400	800	Effluent	1/Month	Grab
Enterococci Bacteria	cfu/ 100 mL	N/A	N/A	N/A	Report	Effluent	1/Month [g]	Grab
Copper, total recoverable	µg/L	N/A	N/A	N/A	Report	Effluent	1/Month	24-hour Composite

Footnotes:

a. Units: mgd = million gallons per day, mg/L = milligrams per liter, lbs/day = pounds per day, S.U.= standard units, °C= degrees Celsius, FC/100 mL = Fecal Coliform per 100 milliliters, cfu/100 mL = colony forming units per 100 milliliters,
µg/L = micrograms per liter.

b. lbs/day = concentration (mg/L) x flow (mgd) x 8.34 (conversion factor)

c. Limits apply to effluent. Report average monthly influent concentration. Influent and effluent composite samples shall be collected during the same 24-hour period.

d. See Appendix C for definition.

e. Minimum % Removal = [(monthly average influent concentration in mg/L – monthly average effluent concentration in mg/L) / (monthly average influent concentration in mg/L)] x 100. The monthly average percent removal must be calculated using the arithmetic mean of the influent value and the arithmetic mean of the effluent value for that month.

f. If more than one FC bacteria sample is collected within the reporting period, the average result must be reported as the geometric mean. When calculating the geometric mean, replace all results of zero, 0, with a one, 1. The geometric mean of "n" quantities is the "nth" root of the product of the quantities.
For example, the geometric mean of 100, 200, and 300 is $(100 \times 200 \times 300)^{1/3} = 181.7$.

g. One sample shall be collected each month, May through September, on the same day as a fecal coliform bacteria sample is collected.

Table 3: Outfall 001B: Effluent Limits and Monitoring Requirements

Parameter	Effluent Limits					Monitoring Requirements	
	Units [a]	Daily Minimum	Monthly Average	Daily Maximum	Sample Location	Sample Frequency	Sample Type
Total Discharge Flow	mgd	Report	N/A	Report	Effluent	Continuous	Metered
pH	S.U.	6.5	N/A	8.5	Effluent	1/Quarter [b]	Grab
Temperature	° C	N/A	N/A	Report	Effluent	1/Quarter	Grab
Dissolved Oxygen (DO)	mg/L	6.0	N/A	17	Effluent	1/Quarter	Grab
Total Residual Chlorine (TRC) [c]	mg/L	N/A	0.0075	0.013	Effluent	1/Month	Grab
Fecal Coliform Bacteria (FC)	FC/ 100 mL	N/A	14 [d]	43 [e]	Effluent	1/Month	Grab
Enterococci Bacteria	cfu/ 100mL	N/A	35	130	Effluent	1/Month [f]	Grab
Copper, total recoverable	µg/L	N/A	N/A	Report	Effluent	1/Month	Grab

Footnotes:

a. Units: mgd = million gallons per day, S.U.= standard units, °C= degrees Celsius, mg/L = milligrams per liter, FC/100 mL = Fecal Coliform per 100 milliliters, cfu/100 mL = colony forming units per 100 milliliters, µg/L = micrograms per liter.

b. Once per quarter means once every three months based on the calendar year beginning with January: Jan–March, April–June, July–Sept, and Oct–Dec.

c. The TRC effluent limits are not quantifiable using EPA-approved analytical methods. DEC will use the minimum level (ML) of 0.1 mg/L as the compliance evaluation level for this parameter.

d. If more than one FC bacteria or Enterococci bacteria sample is collected within the reporting period, the average result must be reported as the geometric mean. When calculating the geometric mean, replace all results of zero, 0, with a one, 1. The geometric mean of "n" quantities is the "nth" root of the product of the quantities. For example, the geometric mean of 100, 200, and 300 is $(100 \times 200 \times 300)^{1/3} = 181.7$

e. If less than ten samples are collected in a 30-day period, the effluent limit cannot be exceeded. If ten or more samples are collected in a 30-day period, not more than 10% of the samples may exceed the effluent limit.

f. One sample shall be collected each month, May through September, on the same day as a fecal coliform bacteria sample is collected.

1.3 Mixing Zone In accordance with state regulations at 18 AAC 70.240, no mixing zone is authorized for the discharge from the Ward Cove WWTF. The total discharge at Outfall 001B must meet all State of Alaska water quality standards (WQS) prior to discharge into Ward Cove.

2.0 SPECIAL CONDITIONS

2.1 Quality Assurance Project Plan

2.1.1 The permittee must develop, implement and maintain a quality assurance project plan (QAPP) for all monitoring required by this permit. The QAPP must be developed and implemented within 120 days of the effective date of this permit. Any existing QAPP for the facility may be reviewed and modified under this section.

2.1.2 The QAPP must be designed to assist in planning for the collection and analysis of all samples in support of the permit and to help explain data anomalies whenever they occur.

2.1.3 The permittee may use either the generic DEC *Wastewater Treatment Facility Quality Assurance Project Plan* (DEC QAPP) or must develop a facility-specific QAPP. Some facility specific information is required to complete the QAPP when using the generic DEC QAPP.

2.1.4 Throughout all sample collection and analysis activities, the permittee must use DEC-approved Quality Assurance/Quality Control and chain-of-custody procedures, as described in the *Requirements for Quality Assurance Project Plans* (EPA/QA/R-5, March 2001) at https://www.epa.gov/sites/production/files/2016-06/documents/r5-final_0.pdf and *Quality Assurance Project Plan (QAPP) Guidance* at https://www.epa.gov/quality/quality-assurance-project-plan-qapp-guidance. The QAPP must be prepared in the format specified in these documents.

2.1.5 At a minimum, a QAPP must include:

2.1.5.1 Details on number of samples, type of sample containers, preservation of samples, holding times, analytical methods, analytical detection and quantitation limits for each target compound, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements;

2.1.5.2 Maps indicating the location of all permit required sampling points;

2.1.5.3 Qualification and training of personnel; and

2.1.5.4 Name, address, and telephone number of all laboratories used by or proposed to be used by the permittee.

2.1.6 The permittee must amend the facility specific QAPP whenever sample collection, sample analysis, or other procedure addressed by the QAPP is modified.

2.1.7 An electronic or physical copy of the QAPP must be kept on site and made available to DEC upon request.

2.2 Operation and Maintenance Plan

2.2.1 In addition to requirements specified in Appendix A, Part 1.6 of this permit (Proper Operation and Maintenance), the permittee shall develop and implement an Operation and Maintenance (O&M) Plan for the wastewater treatment facility. The O&M Plan must be developed and implemented within 120 days of the effective date of this permit. Any existing O&M Plan may be modified under this section.

2.2.2 The O&M Plan shall be retained electronically or physically onsite and made available to DEC upon request.

2.2.3 The O&M Plan must be reviewed annually. Documentation of annual plan review by the permittee shall be retained onsite and made available to DEC upon request.

2.2.4 The permittee shall ensure that the O&M Plan includes appropriate best management practices (BMPs). BMPs include measures that prevent or minimize the generation and potential for the release of pollutants to Ward Cove.

2.2.5 All procedures and requirements in the previous Best Management Practices Plan must be incorporated into the O&M Plan and must be followed until the new O&M Plan has been implemented.

2.2.6 The permittee shall develop or update a description of pollution prevention measures and controls appropriate for the facility and implement such controls. The appropriateness and priorities of controls in the O&M Plan shall reflect identified potential sources of pollutants at the facility. The description of BMPs shall address to the extent practicable, the following minimum components:

2.2.6.1 Spill prevention and control;

2.2.6.2 Optimization of chemical usage;

2.2.6.3 Preventative maintenance program;

2.2.6.4 Minimization of pollutant inputs from industrial users;

2.2.6.5 Research, development and implementation of a public information and education program to control the introduction of household hazardous materials to the sewer system; and

2.2.6.6 Water conservation.

2.3 Industrial User Survey

2.3.1 A list of those industries or businesses that discharge and/or have the potential to discharge (i.e. a spill to the collection system) non-domestic wastewater to Ward Cove WWTF''s collection system must be submitted with Form 2A when applying for permit reissuance. The list must include non-domestic industries or businesses from which the facility accepts sludge and septage.

2.3.2 The industries or businesses should be categorized as significant industrial user (SIU) or minor industrial user (MIU). See Appendix C for definitions of these categories.

2.3.3 The list must include the following:

2.3.3.1 The business name and address

2.3.3.2 A description of the non-domestic process including products manufactured or services performed and potential pollutants

2.3.3.3 The Standard Industrial Classification (SIC) https://siccode.com or North American Industry Classification System (NAICS) https://naics.com for each activity type

2.3.3.4 Estimate of non-domestic wastewater discharged into the facility's wastewater treatment collection system in gallons per day and whether the discharge is continuous or intermittent

2.3.4 Those industries or businesses that are not connected to the collection system or that solely discharge domestic equivalent wastewater are not considered sources of non-domestic wastewater and may be excluded from the list that is submitted to DEC. The list of the domestic equivalent industries or businesses should be maintained by Ward Cove WWTF. The list must include domestic equivalent industries or businesses from which the facility accepts sludge and septage. The list must be kept onsite and made available to DEC upon request.

2.3.5 For domestic equivalents, the list should include the following:

2.3.5.1 The business name and address

2.3.5.2 A description of products manufactured, or services performed and potential pollutants

2.3.6 DEC may request additional information regarding wastewater contributions from specific industries or businesses in order to verify categorization as an SIU, MIU, or domestic equivalent, and to determine whether a pretreatment program should be developed and/or or if pretreatment requirements should be included in Ward Cove WWTF's wastewater discharge permit.

2.4 Electronic Reporting (E-Reporting) Rule

2.4.1 E-Reporting Rule for DMRs (Phase I). The permittee must submit DMR data electronically through Network Discharge Monitoring Report (NetDMR) per Phase I of the E-Reporting Rule (40 CFR 127) upon the effective date of the Permit. Authorized persons may access permit information by logging into the NetDMR Portal (https://cdx.epa.gov/). DMRs submitted in compliance with the E Reporting Rule are not required to be submitted as described in Appendix A – Standard Conditions unless requested or approved by the Department. Any DMR data required by the Permit that cannot be reported in a NetDMR field (e.g. mixing zone receiving water data, etc.), shall be included as an attachment to the NetDMR submittal. DEC has established an E-Reporting Information website at https://dec.alaska.gov/water/compliance/electronic-reporting-rule that contains general information about this new reporting format. Training materials and webinars for NetDMR can be found at https://usepa.servicenowservices.com/oeca_icis?id=netdmr_homepage.

2.4.2 E-Reporting Rule for Other Reports (Phase II). Phase II of the E-Reporting rule integrates electronic reporting for all other reports required by the Permit (e.g., Annual Reports and Certifications). All wastewater permit required submissions (e.g., Notices of Intent (NOI's), Notice of Terminations (NOT), Annual Reports, Noncompliance Notification, and Corrective Action reports are to be submitted electronically through DEC's Environmental Data Management System (EDMS, accessible via https://dec.alaska.gov/water/edms), unless prior approval has been obtained from DEC for an alternative means.

2.5 Identification Sign(s) At least one sign must be posted on the shoreline near the discharge area. Signs must inform the public that secondary treated domestic wastewater is being discharged, warn users of the area that certain activities such as the harvesting of aquatic life for raw consumption and bathing should not take place, and provide the phone number and identify of the discharger.

2.6 Removed Substances Collected screenings, grit, solids, scum, and other facility residuals, or other pollutants removed in the course of treatment or control of water and wastewaters shall be disposed of in a Department approved manner and method in accordance with 18 AAC 60, such as to prevent any pollution from such materials from entering navigable waters.

Appendix A – Standard Conditions

Appendix B. Acronyms

The following acronyms are common terms that may be found in an Alaska Pollutant Discharge Elimination System (APDES) permit.

18 AAC 15	Alaska Administrative Code. Title 18 Environmental Conservation, Chapter 15: Administrative Procedures
18 AAC 70	Alaska Administrative Code. Title 18 Environmental Conservation, Chapter 70: Water Quality Standards
18 AAC 72	Alaska Administrative Code. Title 18 Environmental Conservation, Chapter 72: Wastewater Disposal
18 AAC 83	Alaska Administrative Code. Title 18 Environmental Conservation, Chapter 83: Alaska Pollutant Discharge Elimination System.

All chapters of Alaska Administrative Code, Title 18 are available at the Alaska Administrative Code database https://dec.alaska.gov/commish/regulations/

40 CFR	Code of Federal Regulations Title 40: Protection of Environment
AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
APDES	Alaska Pollutant Discharge Elimination System
AS	Alaska Statutes
AS 46.03	Alaska Statues Title 46, Chapter 03: Environmental Conservation. Available at https://www.akleg.gov/basis/statutes.asp#46
BOD_5	5- day Biochemical Oxygen Demand
BMP	Best Management Practice
$CBOD_5$	5-day Carbonaceous Biochemical Oxygen Demand
CIU	Categorical Industrial User
CFR	Code of Federal Regulations
CWA	Clean Water Act
DML	Daily Maximum Limit
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
EPA	U.S. Environmental Protection Agency
FC	Fecal Coliform
GPD or gpd	Gallons per day
Hg	Mercury

IC_{25}	Inhibition Concentration 25%
I/I	Infiltration and Inflow
IPP	Industrial Pretreatment Program
LC_{50}	Lethal Concentration 50%
LOQ	Limit of Quantification
MDL	Method Detection Limit
mg/L	Milligrams per Liter
ML	Minimum Level
MLLW	Mean Lower Low Water
N/A	Not Applicable
Ni	Nickel
NOEC	No Observed Effect Concentration
POTW	Publicly Owned Treatment Works
PQL	Practical Quantification Limit
QA	Quality Assurance
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
QC	Quality Control
RL	Reporting Limit
RWC	Receiving Water Concentration
SIU	Significant Industrial User
SU	Standard Units
TIE	Toxicity Identification Evaluation
TRC	Total Residual Chlorine
TRE	Toxicity Reduction Evaluation
TSS	Total Suspended Solids
TU_c	Toxic Unit, Chronic
µg/L	Micrograms per Liter
U.S.C.	United States Code
WET	Whole Effluent Toxicity
WQS	Water Quality Standards
WWTF	Wastewater Treatment Facility

Appendix C. Definitions

The following are common definitions of terms associated with APDES permits. Not all the terms listed may appear in a permit. Consult the footnote references for a complete list of terms and definitions.

Administrator [a] – Means the Administrator of the EPA or an authorized representative.

Alaska Pollutant Discharge Elimination System (APDES) [a] – Means the state's program, approved by EPA under 33 U.S.C. 1342(b), for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits and imposing and enforcing pretreatment requirements under 33 U.S.C. 1317, 1328, 1342, and 1345.

Aquaculture [b] – Means the cultivation of aquatic plants or animals for human use or consumption.

Average – Means an arithmetic mean obtained by adding quantities and dividing the sum by the number of quantities.

Average Monthly Limit – Means the highest allowable average of "daily discharges" over a calendar month calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured for that month.

Biochemical Oxygen Demand (BOD) [c] – Means the amount, in milligrams per liter, of oxygen used in the biochemical oxidation of organic matter in five days at 20° C.

Bypass [a] – Means the intentional diversion of waste streams from any portion of a treatment facility.

Clean Water Act (CWA) [a] – Means the federal law codified at 33 U.S.C. 1251-1387, also referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972.

Commissioner [a] – Means the commissioner of the Alaska Department of Environmental Conservation or the commissioner's designee.

Composite Samples – Composite samples must consist of at least eight equal volume grab samples. 24 hour composite sample means a combination of at least eight discrete samples of equal volume collected at equal time intervals over a 24-hour period at the same location. A "flow proportional composite" sample means a combination of at least eight discrete samples collected at equal time intervals over a 24-hour period with each sample volume proportioned according to the flow volume. The sample aliquots must be collected and stored in accordance with procedures prescribed in the most recent edition of *Standard Methods for the Examination of Water and Wastewater*.

Criterion [b] – Means a set concentration or limit of a water quality parameter that, when not exceeded, will protect an organism, a population of organisms, a community of organisms, or a prescribed

[a] See 18 AAC 83
[b] See 18 AAC 70.990
[c] See 18 AAC 72.990

water use with a reasonable degree of safety. A criterion might be a narrative statement instead of a numerical concentration or limit.

Daily Discharge [a] – Means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants measured in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with a limitation expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Department [a] – Means the Alaska Department of Environmental Conservation.

Design Flow [a] – Means the wastewater flow rate that the plant was designed to handle.

Director [a] – Means the commissioner or the commissioner's designee assigned to administer the APDES program or a portion of it, unless the context identifies an EPA director.

Discharge [a] – When used without qualification, discharge means the discharge of a pollutant.

Discharge of a Pollutant [a] – Means any addition of any pollutant or combination of pollutants to waters of the United States from any point source or to waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft that is being used as a means of transportation. Discharge includes any addition of pollutants into waters of the United States from surface runoff that is collected or channeled by humans; discharges through pipes, sewers, or other conveyances owned by a state, municipality, or other person that do not lead to a treatment works; discharges through pipes, sewers, or other conveyances leading into privately owned treatment works; and does not include an addition of pollutants by any indirect discharger.

Dissolved Oxygen (DO) [b] – Means the concentration of oxygen in water as determined either by the Winkler (iodometric) method and its modifications or by the membrane electrode method. The oxygen dissolved in water or wastewater and usually expressed in milligrams per liter or percent saturation.

Domestic Equivalent – Means businesses that only discharge pollutants similar in nature to domestic wastewater that is discharged from residential dwellings, and that do not otherwise qualify as an SIU or an MIU as defined in this glossary. This definition is intended for use when categorizing industries and businesses, and not intended to be used as a general APDES definition.

Domestic Wastewater [c] – 18 AAC 72.72.990(23) "domestic wastewater" means waterborne human wastes or graywater derived from dwellings, commercial buildings, institutions, or similar structures; "domestic wastewater" includes the contents of individual removable containers used to collect and temporarily store human wastes; "domestic wastewater" does not include (A) liquid or solid material removed from a septic tank, cesspool, or similar treatment works, if those facilities receive nondomestic or industrial wastewater; or (B) grease removed from a grease trap at a restaurant.

Effluent [b] – Means the segment of a wastewater stream that follows the final step in a treatment process and precedes discharge of the wastewater stream to the receiving environment.

Fecal Coliform (FC) [b] – Bacteria that can ferment lactose at 44.5° + 0.2°C to produce gas in a multiple tube procedure. Fecal coliform bacteria also means all bacteria that produce blue colonies in a membrane filtration procedure within 24 ± 2 hours of incubation at 44.5° + 0.2°C in an M-FC broth.

Final Approval to Operate – Means the approval that the Department issues after it has reviewed and approved the construction and operation of the engineered wastewater treatment works plans submitted to the Department in accordance with 18 AAC 72.215 through 18 AAC 72.280 or as amended.

Geometric Mean – The geometric mean is the Nth root of the product of N. All sample results of zero will use a value of 1 for calculation of the geometric mean.

Example geometric mean calculation: $\sqrt[4]{(12 \times 23 \times 34 \times 990)} = 55$

Grab Sample – Means a single instantaneous sample collected at a particular place and time that represents the composition of wastewater only at that time and place.

Influent – Means untreated wastewater before it enters the first treatment process of a wastewater treatment works.

Inhibition Concentration 25% (IC_{25}) [d] – Means the point estimate of the toxicant concentration that would cause 25% reduction in a nonlethal biological measurement of the test organisms, such as reproduction or growth.

Lethal Concentration 50% (LC_{50}) – Means the toxicant concentration that would cause death in 50% of the test organisms.

Maximum Daily Limit [a] – Means the highest allowable "daily discharge".

Mean [b] – Means the average of values obtained over a specified period and, for fecal coliform analysis, is computed as a geometric mean.

Mean Lower Low Water [b] – Means the tidal datum plane of the average of the lower of the two low waters of each day, as would be established by the National Geodetic Survey, at any place subject to tidal influence.

Measured – Means the actual volume of wastewater discharged using appropriate mechanical or electronic equipment to provide a totalized reading. Measure does not provide a recorded measurement of instantaneous rates.

Method Detection Limit (MDL) [e] – Means the minimum concentration of a substance (analyte) that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.

Micrograms per Liter (µg/L) [b] – Means the concentration at which one millionth of a gram (10-6 g) is found in a volume of one liter.

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[d] See EPA Technical Support Document

[e] See 40 CFR Part 136

Milligrams per Liter (mg/L) [b] – Means the concentration at which one thousandth of a gram (10-3 g) is found in a volume of one liter. It is approximately equal to the unit "parts per million (ppm)," formerly of common use.

Minimum Level (ML) [d] – Means the concentration at which the entire analytical system must give a recognizable signal and an acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes, and processing steps have been followed. This level is used as the compliance level if the effluent limit is below it.

Minor Industrial User (MIU) – Means businesses that do not qualify as SIUs according to the SIU definition, but who still either have some discharges of wastewater containing pollutants not typical of domestic wastewater, and potentially of concern to the POTW, or have a potential to discharge or spill chemicals to the POTW which could impair the normal operation of the POTW, adversely affect worker health or safety, or violate Alaska Water Quality Standards (18 AAC 70). This definition is intended for use when categorizing industries and businesses, and not intended to be used as a general APDES definition.

Mixing Zone [b] – Means a volume of water adjacent to a discharge in which wastes discharged mix with the receiving water.

Month – Means the time period from the 1st of a calendar month to the last day in the month.

Monthly Average – Means the average of daily discharges over a monitoring month calculated as the sum of all daily discharges measured during a monitoring month divided by the number of daily discharges measured during that month.

No Observed Effect Concentration (NOEC) [d] – Means the highest concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. NOEC is determined using hypothesis testing.

Permittee – Means a company, organization, association, entity, or person who is issued a wastewater permit and is responsible for ensuring compliance, monitoring, and reporting as required by the permit.

pH [f] – Means a measure of the hydrogen ion concentration of water or wastewater; expressed as the negative log of the hydrogen ion concentration in mg/L. A pH of 7 is neutral. A pH less than 7 is acidic, and a pH greater than 7 is basic.

Pollutant [a] – Means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under 42 U.S.C. 2011), heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, or agricultural waste discharged into water.

[f] See EPA Permit Writer's Manual

Primary Contact Recreation – Means activities in which there is direct and intimate contact with water. Contact recreation includes swimming, diving, and water skiing. Contact recreation does not include wading.

Priority Pollutants – Means the set of chemical pollutants that EPA regulates and for which EPA has published analytical test methods. A list of the Priority Pollutants can be found in Appendix A to 40 CFR Part 423.

Principal Executive Officer [a] – Means the chief executive officer of the agency or a senior executive officer having responsibility for the overall operations of a principal geographic unit of division of the agency.

Quality Assurance Project Plan (QAPP) – Means a system of procedures, checks, audits, and corrective actions to ensure that all research design and performance, environmental monitoring and sampling, and other technical and reporting activities are of the highest achievable quality.

Quarter – Means the time period of three months based on the calendar year beginning with January.

Receiving Waterbody – Means lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, straits, passages, canals, the Pacific Ocean, Gulf of Alaska, Bering Sea, and Arctic Ocean, in the territorial limits of the state, and all other bodies of surface water, natural or artificial, public or private, inland or coastal, fresh or salt, which are wholly or partially in or bordering the state or under the jurisdiction of the state. (See "Waters of the U.S." at 18 AAC 83.990(77)).

Recorded – Means a permanent record using mechanical or electronic equipment to provide a totalized reading, as well as a record of instantaneous readings.

Report – Report results of analysis.

Reporting Limit – Minimum concentration of a given parameter that can be reliably measured and reported by a laboratory using a particular analytical method. A reporting limit is greater than or equal to a method detection limit and is typically set by a laboratory.

Residual Chlorine – Means chlorine remaining in water or wastewater at the end of a specified contact period as combined or free chlorine.

Responsible Corporate Officer [a] – 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. The Responsible Corporate Officer can also be the manager of one or more manufacturing, production, or operating facilities if the requirements of 18 AAC 83.385(a)(1)(B)(i)-(iii) are met.

Secondary Recreation [b] – Means activities in which incidental water use can occur. Secondary recreation includes boating, camping, hunting, hiking, wading, and recreational fishing. Secondary contact recreation does not include fish consumption.

Significant Industrial User (SIU) [f] – Means all industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, subchapter N; and any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the

POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW Treatment plant; or is designated as such by the control authority on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6).

Suspended Solids – Means insoluble solids that either float on the surface of, or are in suspension in, water, wastewater, or other liquids. The quantity of material removed from wastewater in a laboratory test, as prescribed in *Standard Methods for the Examination of Water and Wastewater* and referred to as nonfilterable.

Total Suspended Solids (TSS) [f] – Means a measure of the filterable solids present in a sample, as determined by the method specified in 40 CFR Part 136.

Toxic Unit, Chronic (TU_c) [d] – Means the reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period (i.e., 100/NOEC).

Twice per year – Means two time periods during the calendar year: October through April and May through September.

Upset [a] – Means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations 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.

Waters of the United States or **Waters of the U.S.** – Has the meaning given in 18 AAC 83.990(77).