STATE OF ALASKA
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
FINAL CERTIFICATE OF REASONABLE ASSURANCE

A Certificate of Reasonable Assurance, as required by Section 401 of the Clean Water Act, has been requested by the Environmental Protection Agency (EPA) for the marine water discharge of primary treated domestic wastewater from the City of Sitka Wastewater Treatment Facility (WWTF).

The activity is located at 57.038776º north latitude, 135.345059º west longitude, near Sitka, Alaska with discharges to Sitka Sound.

Water Quality Certification is required for the activity because the activity will be authorized by an EPA permit identified as National Pollutant Discharge Elimination Permit No. AK0021474 and because a discharge will result from the activity.

Public notice of the application for this certification was made in accordance with 18 Alaska Administrative Code (AAC) 15.180. Public notice of the City of Sitka's Antidegradation Form 2G, included as an attachment to this certification, was made in accordance with 18 AAC 70.016. In accordance with 18 AAC 70.016, *Antidegradation implementation methods for discharges authorized under the federal Clean Water Act,* the Alaska Department of Environmental Conservation (DEC or Department) reviewed the City of Sitka's Antidegradation Form 2G and determined that the information provided by the City of Sitka complies with the requirements of 18 AAC 70.016.

DEC has completed its review of EPA's Draft National Pollutant Discharge Elimination Permit (NPDES) No. AK0021474 and associated documents and by means of this Final Certificate of Reasonable Assurance certifies that there is reasonable assurance that the activity and the resulting proposed modified discharge from the Sitka WWTF is compliant with the requirements of Section 401 of the Clean Water Act, 40 Code of Federal Regulations (CFR) 125.61, Alaska Statutes Title 46, and Alaska Water Quality Standards 18 AAC 70 provided that the modified discharge adheres to the stipulations provided below in this certification. Furthermore, as per 40 CFR 125.64(b), the Department has determined that the modified discharge will not result in an additional treatment pollution control or other requirement on any other point or nonpoint sources as Sitka Sound is not included on DEC's 2022 Integrated Water Quality Monitoring and Assessment Report as an impaired waterbody nor is the subject portion of Sitka Sound subject to a proposed or approved Total Maximum Daily Load.

The Final Certification of Reasonable Assurance is contingent on the inclusion of the following stipulations in NPDES Permit No. AK0021474:

1. In accordance with 18 AAC 70.240, DEC authorizes mixing zones in Sitka Sound for copper, ammonia, dissolved oxygen, total residual chlorine, and whole effluent toxicity contained in the discharge from the Sitka WWTF. The mixing zones are defined as follows:

   The chronic mixing zone has a dilution of 76:1 and is defined as a rectangular area with a length of 63 meters and width of 25 meters centered over the diffuser with the length oriented perpendicular to the shoreline.

   The acute mixing zone has a dilution of 46:1 and is defined as a rectangular area with a length of 60 meters and width of 18 meters centered over the diffuser with the length oriented perpendicular to the shoreline.

<u>Rationale</u>: In accordance with State Regulations 18 AAC 70.240, the department has authority to designate mixing zones in permits or certifications. The designated mixing zones will ensure that the most stringent water quality criteria for copper (acute 5.78 micrograms per liter (µg/L) total recoverable, chronic 3.73 µg/L total recoverable), ammonia (acute 4.0 milligrams per liter (mg/L), chronic 0.6 mg/L), dissolved oxygen (6.0 mg/L daily minimum (surface for a depth of 1 meter, no less than 4 mg/L at any depth below the surface), 17 mg/L daily maximum), total residual chlorine (acute 0.013 mg/L, chronic 0.0075 mg/L with 0.1 mg/L compliance level), and whole effluent toxicity (1.0 chronic toxic units) are met at all points outside of the mixing zone.

2. In order for the Sitka WWTF to achieve compliance with the fecal coliform and enterococcus bacteria final effluent limits, DEC requires the establishment of a Compliance Schedule in the permit. Final effluent limits must be met as soon as possible, but no later than 5 years after the effective date of the permit. Interim requirements that will lead to compliance with the final effluent limits with dates for their achievement must be established in the permit. The following interim requirements shall be included in the Compliance Schedule:

   By one year after the effective date of the permit, the permittee shall develop a facility plan that evaluates alternatives to meet the final fecal coliform and enterococcus bacteria effluent limits and select their preferred alternative.

   By two years after the effective date of the permit, the permittee must complete the design of the preferred alternative and request approval to construct from DEC's Engineering Support and Plan Review (ESPR).

   By three years after the effective date of the permit, the permittee must secure funding and select a contractor to construct upgrades.

   By four years after the effective date of the permit, the permittee must commence construction.

   By five years after the effective date of the permit, the permittee must complete construction, complete optimization of facility upgrade operations, and achieve compliance with the final fecal coliform and enterococcus effluent limits. Final approval to operate must be requested from ESPR.

   The permittee must submit progress or compliance reports on interim and final requirements no later than 14 days following the scheduled date of each requirement.

   <u>Rationale</u>:
   In accordance with State Regulations 18 AAC 15.090, the Department may attach terms and reporting requirements, and the posting of a performance bond or other surety, that it considers necessary to ensure that conditions to a permit, variance, or approval, including operating, monitoring, inspection, sampling, access to records and all applicable criteria will be met.

   According to 18 AAC 83.560, the Department has authority to specify a schedule of compliance leading to compliance with 33 U.S.C. 1251-1387 (Clean Water Act). Any schedule of compliance must require compliance as soon as possible, but no later than the applicable statutory deadline under 33 U.S.C. 1251-1387 (Clean Water Act). 18 AAC 83.560(b) requires interim requirements and dates for their achievement if the schedule of compliance exceeds one year from the date of permit issuance. Time between interim requirements must not exceed one year. Progress reports must be submitted no later than 14 days following each interim date and the final date of compliance.

According to 18 AAC 72.200, Application for department approval, (a) Except as otherwise provided in 18 AAC 72.035(d) and 18 AAC 72.200(b), a person must submit a plan to the department and obtain approval of that plan before constructing, installing, or modifying any part of a domestic wastewater collection, treatment, storage, or disposal system. To obtain approval, a person shall provide to the department the information required by 18 AAC 72.205. 18 AAC 72.240, states that the department will issue final approval to operate if the information required by 18 AAC 72.235 confirms that (A) the system was constructed as originally approved or (B) the system, or a designated phase of that system, otherwise meets the requirements of AS 46.03 and 18 AAC 72. DEC plan approval requirements will ensure that the most stringent water quality criteria for fecal coliform and enterococcus bacteria are met at all points outside the mixing zone.

3. DEC requires that the permit contain the following final fecal coliform effluent limits:

   Monthly Average 200 fecal coliform per 100 mL (FC/100 mL)
   Weekly Average 400 FC/100 mL
   Daily Maximum 800 FC/100 mL.

   Rationale:
   In accordance with State Regulations 18 AAC 15.090, the Department may attach terms and reporting requirements, and the posting of a performance bond or other surety, that it considers necessary to ensure that conditions to a permit, variance, or approval, including operating, monitoring, inspection, sampling, access to records and all applicable criteria will be met.

   18 AAC 72.990(21) defines disinfect to treat by means of a chemical, physical, or other process such as chlorination, ozonation, application of ultraviolet light, or sterilization, designed to eliminate pathogenic organisms, and producing an effluent with a 30-day 200 FC/100 mL monthly average and a seven-day 400 FC/100 mL average. These limits are required as final fecal coliform limits. A daily maximum final effluent limit of 800 FC/100 mL limit is also required. Establishment of a daily maximum limit will help ensure compliance with water quality criteria. Since these limits are dependent on the use of specific technological processes, DEC applies these final fecal coliform bacteria effluent limits as technology-based limits. These final fecal coliform bacteria effluent limits will ensure that the most stringent water quality criteria for fecal coliform bacteria are met at all points outside the mixing zone.

4. DEC requires that based on the chronic dilution of the driving parameter of the mixing zone (copper, with a chronic dilution of 76:1), the permit contain the following final enterococcus bacteria limits:

   30-day Geometric Mean 2,660 colony forming unit (CFU)/100 mL
   Daily Maximum 9,880 CFU/100 mL).

   Rationale:
   In accordance with State Regulations 18 AAC 15.090, the Department may attach terms and reporting requirements, and the posting of a performance bond or other surety, that it considers necessary to ensure that conditions to a permit, variance, or approval, including operating, monitoring, inspection, sampling, access to records and all applicable criteria will be met.

   These final enterococcus bacteria limits will ensure that the most stringent water quality criteria for enterococcus bacteria are met at all points outside the mixing zone. DEC expects that after the implementation of disinfection, the Sitka WWTF may achieve compliance with enterococcus water quality criteria (30-day geometric mean 35 CFU/100 mL with not more than 10% of the samples exceeding a

statistical threshold value of 130 CFU/100 mL), therefore these final enterococcus bacteria limits may be revised in the next permit reissuance.

5. DEC requires the following copper effluent limits:

   Average Monthly 110 µg/L (total recoverable)
   Daily Maximum 241 µg/L (total recoverable)

   Rationale:
   18 AAC 70.240(b)(2) requires the Department to consider the characteristics of the effluent after treatment of the wastewater. Additionally, 18 AAC 83.435(d) specifies that when the Department determines, using the procedures in 18 AAC 83.435(c), that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a state numeric criteria within a state water quality standard for and individual permit, the permit must contain effluent limits for that pollutant.

   DEC used the process described in the Technical Support Document (TSD) for Water Quality-Based Toxics Control (Environmental Protection Agency, 1991) and DEC's guidance, Alaska Pollutant Discharge Elimination System Permits Reasonable Potential Analysis and Effluent Limits Development Guide (June 30, 2014) to determine the reasonable potential for copper to exceed water quality criteria. The results of the reasonable potential analysis indicated that copper with a maximum expected concentration of 239 µg/L total recoverable, has reasonable potential to exceed Alaska copper marine water quality criteria (chronic 3.7 µg/L total recoverable, acute 5.8 µg/L total recoverable). Effluent limits, using the dilution required to meet copper water quality criteria in the receiving water (chronic 46:1, acute 76:1) were therefore developed (average monthly 110 µg/L total recoverable, daily maximum 241 µg/L total recoverable). These effluent limits will ensure that the most stringent copper water quality criteria are met at all points outside the mixing zone.

6. DEC requires the following ammonia effluent limits:

   Average Monthly 35 mg/L
   Daily Maximum 53 mg/L

   Rationale:
   18 AAC 70.240(b)(2) requires the Department to consider the characteristics of the effluent after treatment of the wastewater. Additionally, 18 AAC 83.435(d) specifies that when the Department determines, using the procedures in 18 AAC 83.435(c), that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a state numeric criteria within a state water quality standard for and individual permit, the permit must contain effluent limits for that pollutant.

   DEC used the process described in the Technical Support Document (TSD) for Water Quality-Based Toxics Control (Environmental Protection Agency, 1991) and DEC's guidance, Alaska Pollutant Discharge Elimination System Permits Reasonable Potential Analysis and Effluent Limits Development Guide (June 30, 2014) to determine the reasonable potential for ammonia to exceed water quality criteria. The results of the reasonable potential analysis indicated that ammonia with a maximum expected concentration of 33 mg/L, has reasonable potential to exceed Alaska ammonia marine water quality criteria (chronic 0.6 mg/L, acute 4.0 mg/L) which were calculated using the 85th percentile receiving water pH and temperature and the 15th percentile receiving water salinity. Effluent limits, using the dilution required of the pollutant requiring the most dilution to meet water quality criteria in the receiving water (copper with dilutions of

chronic 46:1, acute 76:1) were therefore developed (average monthly 35 mg/L, daily maximum 53 mg/L). These effluent limits will ensure that the most stringent ammonia water quality criteria are met at all points outside the mixing zone.

Signature	September 7, 2023 Date
Gene McCabe Printed Name	Program Manager Title

NOTICE OF REVIEW
CLEAN WATER ACT SECTION 401 CERTIFICATION

Alaska Department of Environmental Conservation (DEC)
Wastewater Discharge Authorization Program
555 Cordova Street
Anchorage, Alaska 99501

FINAL RESPONSE TO COMMENTS

CLEAN WATER ACT SECTION 401 CERTIFICATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

SITKA WASTEWATER TREATMENT PLANT

Following the close of the 45-day public notice of Clean Water Act Section 401 Certificate of Reasonable Assurance for the draft City of Sitka Wastewater Treatment Plant NPDES Permit AK0021474 renewal, DEC has prepared responses for the comments received. DEC's Final Response to Comments can be accessed at DEC's Wastewater Discharge Authorization Program web page at: http://www.dec.state.ak.us/water/wastewater/.Comments were accepted during Public Notice and will not be accepted during this review period.

Final Response to Comments Review
Start Date: January 18, 2024
End Date: February 16, 2024

NPDES Permit No.: AK0021474

Nature of Activity and Location:
The Environmental Protection Agency (EPA) public noticed the draft City of Sitka Wastewater Treatment Plant NPDES Permit No. AK0021474 on June 7, 2023 for 45-days and requested DEC provide the draft permit a Clean Water Act Section 401 certification. The permit is a renewal of the City of Sitka's Clean Water Act Section 301(h) modified AK0021474 permit issued by EPA in 2001.

DEC's Draft Certificate of Reasonable of Assurance was public noticed concurrently with the draft NPDES City of Sitka Wastewater Treatment Plant permit. DEC received comments on the Draft Certificate of Reasonable Assurance and has prepared a Final Response to Comments document.

The activity is located at 57.038776º north latitude, 135.345959º west longitude, near Sitka, Alaska with discharge of primary treated domestic wastewater to Sitka Sound.

Determination:

DEC has issued a Final Certificate of Reasonable Assurance for NPDES Permit No. AK0021474.

DEC Contact: Marie Klingman
907-451-2101
marie.klingman@alaska.gov

Informal Reviews and Adjudicatory Hearings:
A person authorized under a provision of 18 AAC 15 may request an informal review of a contested decision by the Division Director in accordance with 18 AAC 15.185 and/or an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340. See DEC's "Appeal a DEC Decision" web page https://dec.alaska.gov/commish/review-guidance/ for access to the required forms and guidance on the appeal process. Please provide a courtesy copy of the adjudicatory hearing request in an electronic format to the parties required to be served under 18 AAC 15.200.

Requests must be submitted no later than the deadline specified in 18 AAC 15 based on the date of this notice.

Administrative Record:

The Final Response to Comments and associated documents are available for public review at the DEC offices located in Anchorage, Fairbanks, Juneau, Soldotna, and Wasilla. Please contact the office of your choice to arrange for hard copies of the documents to be available for your review.

555 Cordova Street **Anchorage**, AK 99501 907-269-6285	610 University Avenue **Fairbanks**, AK 99709 907-451-2100	P.O. Box 111800 **Juneau**, AK 99811-1800 Location: 410 Willoughby Ave, Suite 303 **Juneau**, AK 907-465-5300
43335 Kalifornsky Beach Road **Soldotna**, AK 99615 907-262-5210	1700 E Bogard Road #B, Suite #103 **Wasilla**, AK 99654 907-376-1850	

The documents are also accessible from the ADEC website at:
http://www.dec.state.ak.us/water/wastewater/

Disability Reasonable Accommodation Notice

The State of Alaska, Department of Environmental Conservation complies with Title II of the Americans with Disabilities Act of 1990. If you are a person with a disability who may need a reasonable accommodation in order to participate in this public process, please contact Kelly Rawalt at 907-465-5009 or TDD Relay Service 1-800-770-8973/TTY or dial 711 to ensure that any necessary accommodations can be provided in a timely manner.

Alaska Department of Environmental Conservation (DEC) Response to Comments for the Draft Certificate of Reasonable Assurance for the City and Borough of Sitka Wastewater Treatment Plant (WWTP) National Pollutant Discharge Elimination System (NPDES) Permit No. AK0021474

Summary

The Environmental Protection Agency and DEC jointly public noticed NPDES Permit AK0021474 and DEC's Draft Certificate of Reasonable Assurance for the City and Borough of Sitka WWTP between June 7, 2023 and July 24, 2023. DEC received two comments on the Draft Certificate of Reasonable Assurance, both from the City and Borough of Sitka. This document summarizes the comments and the justification for any action taken or not taken by DEC in response to the comments.

1. Fecal Coliform and Enterococcus Bacteria Compliance Schedule

Comment Summary

The City and Borough of Sitka stated that the five-year compliance schedule is not enough time to secure funding, complete a disinfection study, design, and construct a disinfection system and therefore requested an extension of the five-year compliance schedule to ten years. The City and Borough of Sitka estimates that disinfection will cost approximately 7-12 million dollars which will be a significant burden on rate payers and that ten years will allow the City and Borough of Sitka time to obtain grants and alternative funding. The City and Borough of Sitka proposed an alternate schedule that with the exception of construction startup, (the compliance schedule in the Draft Certificate of Reasonable Assurance specifies that construction commence four years after the effective date of the permit vs seven years proposed by the City and Borough of Sitka), doubles the allowable time for each sequential interim requirement.

DEC Response

40 Code of Federal Regulations, Duration of permits §122.46(a), limits the length of NPDES permits to a fixed term not to exceed five years. Alaska implements the NPDES program as the Alaska Pollutant Discharge Elimination System (APDES) program. DEC regulations at 18 Alaska Administrative Code (AAC) 83.020, Term of permit (a), states that an APDES permit is effective for a fixed term that must be listed in the permit and must not exceed five years. The fecal coliform and enterococcus compliance schedule is a condition of the permit; therefore, the compliance schedule cannot extend beyond the five-year permit term.

18 AAC 83.560, Schedules of compliance, states that any schedule of compliance must require compliance as soon as possible. 18 AAC 83.560(b)(1) specifies that the time between interim requirements must not exceed one year. The interim requirements contained in the Draft Certificate of Reasonable Assurance that will lead to compliance with the final fecal coliform and enterococcus bacteria effluent limits and the dates for their achievement are attainable progressive actions that will ensure that the City and Borough of Sitka complies with the final effluent limits as soon as possible, but no later than 5 years after the effective date of the permit.

2. Mixing Zone Basis and Supporting Documentation

Comment Summary

The City and Borough of Sitka commented that DEC authorized mixing zones and provided the acute and chronic dilution factors but did not provide the basis or supporting documentation to explain these values. They requested that DEC provide citations and or references to supporting technical reports,

calculations, and/or materials to support mixing zone dilutions and distances for inclusion in NPDES Fact Sheet Appendix H.

DEC Response

The following are regulatory references, guidance documents, and technical reports that provide the basis for DEC's reasonable potential analysis, water-quality based effluent limits, and mixing zone modeling.

REFERENCES

Alaska Department of Environmental Conservation (ADEC) 2020. 18 AAC 70, Water quality standards, as amended through March 5, 2020.

ADEC, 2017. 18 AAC 83, Alaska pollutant discharge elimination system, as amended through November 7, 2017.

ADEC, 2017. 18 AAC 72, Wastewater disposal, as amended through November 7, 2017.

ADEC, 2014. Alaska Pollutant Discharge Elimination System permits reasonable potential analysis and effluent limits development guide.

ADEC, 2008. Alaska water quality criteria manual for toxic and other deleterious organic and inorganic substances, as amended through December 12, 2008.

Doneker, Robert and Jirka, Gerhard. 2007. CORMIX user manual, U.S. Environmental Protection Agency, EPA-823-K-07-001, December 2007.

Great Lakes Environmental Center, Inc. 2021. Mixing zone dilution modeling for six Alaska POTWS, prepared for EPA Region 10, August 2021.

Oregon Department of Environmental Quality, 2022. Aquatic life water quality standards for ammonia. https://www.oregon.gov/deq/wq/Pages/WQ-Standards-Ammonia.aspx Accessed March 1, 2022.

U.S. Environmental Protection Agency. USEPA, 1991. Technical support document for water quality-based toxics control, EPA/505/2-90-001, USEPA Office of Water, Washington D.C., March 1991.