GWA, to the extent that Guam's laws and regulations prevent GWA from raising revenues needed to comply with such judgment.

Defendants do not admit any liability to the United States arising out of the transactions or occurrences alleged in the Complaint.

The Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and will avoid litigation among the Parties regarding certain relief with respect to the claims alleged in the Complaint, and that this Consent Decree is fair, reasonable, and in the public interest.

The Parties agree that certain further relief to address the claims alleged in the Complaint shall be addressed in a future consent decree or by litigation, including but not limited to implementation of the approved Force Main Action Plan, completion of Tier 2, 3, and 4 Pump Station Projects, Gravity Main Replacement or Rehabilitation of at least 35 additional "unique miles," additional wet and dry flow monitoring for the Tumon Basin, and upgrading the Hagåtña WWTP to secondary treatment. The Parties intend to reengage in negotiations regarding the remaining injunctive relief and payment of an appropriate civil penalty no later than seven (7) years following the Effective Date of this Consent Decree.

NOW, THEREFORE, before the taking of any testimony, without the adjudication or admission of any issue of fact or law except as provided in Section I (Jurisdiction and Venue), and with the consent of the Parties, IT IS HEREBY ADJUDGED, ORDERED, AND DECREED as follows:

#### I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the subject matter of this action, pursuant to 28 U.S.C. §§ 1331, 1345, and 1355, and Section 309(b) and (e) of the Act, 33 U.S.C. § 1319(b) and (e), and over the Parties. Venue lies in this District pursuant to CWA Section 309(b), 33

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U.S.C. § 1319(b), and 28 U.S.C. §§ 1391(b) and (c) and 1395(a), because GWA is located in this judicial district, and the violations alleged in the Complaint are alleged to have occurred in this judicial district. For purposes of this Decree, or any action to enforce this Decree, Defendants consent to the Court's jurisdiction over this Decree and any such action and over Defendants and consent to venue in this judicial district.

- 2. For purposes of this Consent Decree, Defendants agree that the Complaint states claims upon which relief may be granted pursuant to CWA Section 309(b), 33 U.S.C. § 1319(b).
- 3. EPA has notified the Government of Guam of this action under CWA Section 309(b), 33 U.S.C. § 1319(b).

### II. APPLICABILITY

- 4. The obligations of this Consent Decree apply to and are binding upon the United States and upon GWA, and any successors, assigns, or other entities or persons otherwise bound by law, and upon Guam and its representatives and any successors, assigns, or other entities or persons otherwise bound by law, when liability is incurred pursuant to Section 309(e) of the Act, 33 U.S.C. § 1319(e).
- 5. No transfer of ownership or operation of GWA's POTW, whether in compliance with the procedures of this Paragraph or otherwise, shall relieve GWA of its obligation to ensure that the terms of the Decree are implemented. At least thirty (30) Days prior to such transfer, GWA shall provide a copy of this Consent Decree to the proposed transferee and shall simultaneously provide written notice of the prospective transfer, together with a copy of the proposed written agreement, to EPA and the United States, in accordance with Section XIII (Notices). Any attempt to transfer ownership or operation of the POTW without complying with this Paragraph constitutes a violation of this Decree.
  - 6. GWA shall provide a copy of this Consent Decree to all officers, employees, and

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agents whose duties might reasonably include compliance with any provision of this Decree, as well as to any contractor retained to perform work required under this Consent Decree. GWA shall condition any such contract upon performance of the work in conformity with the terms of this Consent Decree.

7. In any action to enforce this Consent Decree, GWA shall not raise as a defense the failure by any of their officers, directors, employees, agents, or contractors to take any actions necessary to comply with the provisions of this Consent Decree.

### III. OBJECTIVES

8. It is the goal of the Parties to eliminate Sanitary Sewer Overflows and for GWA to achieve compliance with its NPDES Permits. In entering into this Consent Decree, the Parties intend to further the objectives set forth in the Act, to set out measures that GWA will implement to reduce the frequency and impact of Sanitary Sewer Overflows, especially through the reduction of inflow and infiltration, and to take preliminary measures for the construction of secondary treatment upgrades to the Hagåtña WWTP as set forth in this Consent Decree to comply with GWA's NPDES Permit's effluent limitations regulating discharges from that WWTP.

### IV. DEFINITIONS

9. Terms used in this Consent Decree that are defined in the Act or in regulations promulgated pursuant to the Act shall have the meanings assigned to them in the Act or such regulations, unless otherwise provided in this Decree. Whenever the terms set forth below are used in this Consent Decree, the following definitions shall apply:

"Act" or "CWA" shall mean the Clean Water Act, 33 U.S.C. §§ 1251-1388.

"Acute Defect" shall mean any NASSCO pipeline assessment certification program

Grade 5 rating for Gravity Mains or any failure in an asset that presents an imminent risk of an

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SSO.

"Bypass," as defined by 40 C.F.R. § 122.41(m), shall mean the intentional diversion of waste streams from any portion of a Wastewater Treatment Plant.

"Complaint" shall mean the Complaint filed by the United States in this action.

"Consent Decree" or "Decree" shall mean this Decree and all Appendices attached hereto (listed in Section XXIII).

"Consequence of Failure" or "COF" shall mean the outcome of an asset failure if a failure should occur.

"Consequence of Failure Score" or "COF Score" shall mean a numerical value of 1 to 5 assigned to an asset based on an analysis of the consequence of an asset failure. Calculating consequence of failure involves obtaining information about an asset's original design, material, installation, and operating parameters in conjunction with an assessment or estimate of its potential impact to human health, the environment, and economy were the asset to fail. Criteria factors can be given a score ranging from 1 (low impact of failure) to 5 (high impact of failure) and a weight, which allow some factors to be given more importance than others.

"Day" shall mean a calendar day unless expressly stated to be a business day. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next business day.

"Defendants" shall mean Guam Waterworks Authority and the Government of Guam.

"Depth to diameter (d/D) ratio" shall mean the depth of height of water within the pipe segment divided by the inner diameter of the pipe segment.

"EPA" shall mean the United States Environmental Protection Agency and any of its

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successor departments or agencies.

"Effective Date" shall have the definition provided in Section XIV.

"Facility" shall mean GWA's "treatment works" or "Publicly Owned Treatment Works" or "POTW", as those terms are defined in 33 U.S.C. § 1292(2)(a) and 40 C.F.R. § 403.3(q).

"Flow Model" shall mean the hydrologic and hydraulic model that: (a) takes inputs relating to weather conditions and the Wastewater Collection System's operating parameters; and (b) predicts flows in the Wastewater Collection System and Wastewater Treatment Plants.

"FOG" shall mean fats, oils, and grease, which are animal- and plant-derived substances that may solidify or become viscous due to temperature and other factors.

"Food Service Establishment" or "FSE" shall mean any facility or lessor to a facility preparing and/or serving food for commercial use or sale, including but not limited to, restaurants, coffee shops, public or private school cafeterias, lunchrooms, luncheonettes, lunch-counters, in-plant or employee eating establishments, bars, cafes, taverns, sandwich stands, drink stands, temporary food service establishments, mobile food service establishments, food preparation kitchens, any cafeteria or similar facility and any other eating establishment with food preparation such as organizations, clubs, boardinghouses, guesthouses, or concessions within any public market that gives or sells food or beverages to the public, guests, patrons or employees, as well as kitchens in which food is prepared on the premises for serving elsewhere, including cafeteria functions, home manufacturers and caterers, and home food industries, and food packaging, meat processing, and meat packing facilities.

"Force Main" shall mean any pipe that receives, contains, and conveys, under pressure, wastewater from the discharge side of a pump.

"Gravity Main" shall mean any pipe that receives, contains, and conveys wastewater,

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which is not normally under pressure, but is intended to flow unassisted under the influence of gravity.

"Grease Removal Device" or "GRD" shall mean a concrete, fiberglass, or fiberglass-reinforced plastic structure designed to separate and retain grease and oil from the wastewater stream. GRDs are multiple-compartment units with inlet and outlet baffles and/or T-pipes, and inspection ports.

"GWA" shall mean the Guam Waterworks Authority.

"Infiltration" shall mean water other than wastewater that enters a Wastewater Collection System during wet weather conditions from the ground through such means as defective pipes, pipe joints, connections, or manholes.

"Inflow" shall mean water other than wastewater that enters a Wastewater Collection system during wet weather conditions from illicit or unpermitted sources other than Infiltration, such as, but not limited to, roof leaders, foundation drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between sanitary sewers and storm sewers, catch basins, cooling towers, storm water, surface runoff, street wash waters, or drainage.

"Inflow and Infiltration" or "I&I" shall mean all water from both Infiltration and Inflow without distinguishing the source.

"Lateral" shall mean that portion of a Gravity Main lateral line that is owned by GWA and located between: (i) the Gravity Main and (ii) either the property line of a residence or business, or the boundary of an established easement.

"Likelihood of Failure" or "LOF" shall mean the statistical probability that defects could cause an asset to fail, inhibiting its ability to effectively convey Municipal Sewage based on the

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observed or estimated condition of the asset.

"Likelihood of Failure Score" or "LOF Score" shall mean a numerical value of 1 to 5, assigned to an asset based on the observed or estimated condition of the asset. Calculating likelihood of failure involves obtaining information about an asset's original design, material, installation, and operating parameters in conjunction with an assessment or estimate of its potential current condition. Criteria factors can be given a score ranging from 1 (good) to 5 (poor) and a weight, which allow some factors to be given more importance than others.

"Municipal Sewage" shall mean domestic, commercial, and industrial wastewaters.

"NASSCO" shall mean the National Association of Sewer Service Companies.

"NPDES Permit" or "Permit" as used herein shall mean the National Pollutant Discharge Elimination System Permits issued to GWA for the Facility (Permit Numbers GU0020087, GU0020222, GU0020141, GU0020273), or any successor permit(s).

"Paragraph" shall mean a portion of this Decree identified by an Arabic numeral.

"Parties" shall mean the United States, GWA, and the Government of Guam.

"Power Supply" shall mean an electrical power supply system for a Pump Station in which the sizing, design, and installation of the system complies with National Electric Code requirements; all electrical components, panels and enclosures shall be listed by Underwriter's Laboratory and/or rated by the National Electrical Manufacturer's Association ("NEMA") as appropriate for Pump Stations; all electrical components, panels and enclosures shall be protected from physical damage by the 100 year flood, all electrical control panels shall be enclosed in protective enclosure panels that are NEMA rated for harsh, corrosive environments, and wastewater pumping stations should remain fully operational during the 25 year flood.

"Professional Engineer" shall mean a Professional Engineer registered on Guam pursuant

to the requirements of the National Council of Examiners for Engineers and Surveyors or equivalent international organization standards as approved by EPA in the appropriate discipline (e.g., civil, mechanical, electrical) for the work being undertaken.

"Preferred Operating Region" or "POR" shall mean the range of flows over which a pumped flow is highly controllable and is established by the pump manufacturer in accordance with ANSI/HI 9.6.3 Rotodynamic (Centrifugal and Vertical) Pumps – Guideline for Allowable Operating Region. Within this range, the service life of the pump is not significantly affected by hydraulic loads, vibration, or flow separation.

"Pretreatment Standard" shall mean general Pretreatment Standards in 40 C.F.R. Part 403, categorical Pretreatment Standards, local limits, and State and local law.

"Publicly Owned Treatment Works" or "POTW" shall mean the treatment works, as defined in 33 U.S.C. § 1292(2)(a) and 40 C.F.R. § 403.3(q), that is owned and operated by GWA.

"Pump Station" shall mean facilities comprised of pumps that lift wastewater to a higher hydraulic grade line, including all related electrical, mechanical, and structural systems necessary to the operation of that Pump Station.

"Rehabilitation" or "Rehabilitate" shall mean:

- a. For Gravity Mains: the renewal or reconstruction of a Gravity Main from node to node, including all manholes and Laterals connected to the Gravity Main;
  - b. For Pump Stations: the renewal or reconstruction of a Pump Station;
  - c. For Force Mains: the renewal or reconstruction of a Force Main pipe segment;

"Repair" shall mean:

a. For Gravity Mains: the work of fixing a portion of a Gravity Main that does not

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result in Rehabilitation of the Gravity Main;

- b. For Pump Stations: the work of fixing a portion of a Pump Station that does not result in Rehabilitation of the Pump Station;
- c. For Force Mains: the work of fixing a portion of a Force Main that does not result in Rehabilitation of the Force Main;

"Replace" or "Replacement" shall mean:

- a. For Gravity Mains: the work of demolishing a Gravity Main and installation of a new Gravity Main in its place, including all manholes and Laterals connected to the Gravity Main;
- b. For Pump Stations: the work of demolishing an entire Pump Station, including the wet well, and installation of a new Pump Station in its place;
- c. For Force Mains: the work of demolishing a Force Main and installation of a new Force Main in its place;

"Sanitary Sewer Overflow" or "SSO" shall mean an overflow, spill, diversion, or release of wastewater from or caused by GWA's Wastewater Collection System, except that the term "SSO" does not include wastewater backups into buildings caused solely by a blockage or other malfunction in a building lateral that is privately owned.

"Section" shall mean a portion of this Decree identified by a Roman numeral.

"State," as defined in 33 U.S.C. § 1362(3), shall mean the Territory of Guam.

"Ten States Standards" shall mean the Recommended Standards for Wastewater Facilities, Policies for the Design, Review, and Approval of Plans and Specifications for Wastewater Collection and Treatment Facilities, 2014 Edition or any revisions thereof.

"United States" shall mean the United States of America, acting on behalf of EPA.

"Wastewater Collection System" shall mean all parts of the wastewater collection system owned or operated by GWA that are intended to convey Municipal Sewage to GWA's Wastewater Treatment Plants, including, without limitation, sewers, pipes, Gravity Mains, Pump Stations, lift stations, manholes, Force Mains, and appurtenances associated with each of the above.

"Wastewater Treatment Plant" or "WWTP" shall mean that portion of GWA's POTW that is designed to provide treatment (including recycling and reclamation) of Municipal Sewage and industrial waste.

# V. COMPLIANCE REQUIREMENTS

10. <u>Implementation of Compliance Requirements</u>. GWA shall implement the compliance requirements in this Section in accordance with Section III (Objectives) of this Decree and by the deadlines set forth herein.

### A. WASTEWATER COLLECTION SYSTEM

- 11. <u>Gravity Main Condition Assessment</u>. GWA shall complete a closed-circuit television ("CCTV") inspection and submit a Gravity Main Condition Assessment Report regarding all of its Gravity Mains in accordance with the following schedule:
- a. Within 210 days of the Effective Date, as an interim milestone, GWA shall complete CCTV inspection of all Gravity Mains in GWA's Wastewater Collection System, except for pipe segments that are inaccessible for CCTV inspection, which are identified in Appendix A. For pipe segments identified in Appendix A, GWA shall conduct pipe inspections utilizing acoustic-based sewer pipe assessment technology. GWA shall not use CCTV recordings completed before January 1, 2013. If any of the pipe segments identified in Appendix A become accessible for CCTV inspection, GWA shall complete CCTV inspection of those pipe segments within 30 Days and report on that inspection in the next semi-annual report.

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- b. Within nine (9) months of the Effective Date, GWA shall complete and document an assessment of each CCTV inspection for all Gravity Mains in GWA's Wastewater Collection System in accordance with NASSCO standards. For the pipe segments identified in Appendix A, GWA shall complete and document an assessment of each acoustic-based pipe segment inspection and compare the results with the assessment based on CCTV inspection of the Wastewater Collection System in accordance with good engineering practices.
- c. Within eighteen (18) months of the Effective Date, as an interim milestone, GWA shall submit to EPA for review and approval a Gravity Main Condition Assessment Report that evaluates, at a minimum, NASSCO rating, failure mode, Likelihood of Failure, Consequence of Failure, criticality analysis, and remaining useful life of all Gravity Mains in GWA's Wastewater Collection System, and recommends Gravity Main Repair, Rehabilitation, and Replacement based upon those evaluations and good engineering practices.
- 12. <u>Gravity Main Repair, Rehabilitation, and Replacement Program</u>. GWA shall implement a Gravity Main Repair, Rehabilitation, and Replacement program in accordance with this Paragraph.
- a. Acute Defects. As a compliance milestone, GWA shall Repair,

  Rehabilitate, or Replace Gravity Main segments or assets with Acute Defects as soon as possible,
  but no later than 18 month(s) after GWA identifies the Acute Defect for GWA in-house Repair,

  Rehabilitation, or Replacement, and no later than 24 months after GWA identifies the Acute

  Defect for a Repair, Rehabilitation, or Replacement to be performed by external contractors.
- b. <u>Rehabilitation or Replacement</u>. As a compliance milestone, GWA shall Rehabilitate or Replace a total of thirty "unique miles" of Gravity Mains within ten (10) years of the Effective Date. Rehabilitation or Replacement Work completed up to one (1) year prior to

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lodging of this Consent Decree may be credited toward the mileage milestones. As interim milestones, GWA shall Rehabilitate or Replace:

- i. at least ten "unique miles" by September 1, 2027;
- ii. at least twenty "unique miles" by September 1, 2030;
- of the Gravity Main Condition Assessment Report or twenty-four (24) months of the Effective Date, as an interim milestone, GWA shall submit a Gravity Main Work Plan to EPA, for review and approval, that organizes all necessary Gravity Main Repair, Rehabilitation, and Replacement work recommended in its Gravity Main Condition Assessment Report into an appropriate prioritization list that prioritizes work with the goal of preventing SSOs and limiting I&I: Acute Defect, short-term, or long-term. GWA shall include in the Gravity Main Work Plan a schedule for all Acute Defect and Short-Term Gravity Main Repair, Rehabilitation and Replacement work for the next five years based on its prioritization list. GWA shall schedule all Acute Defect work in accordance with Paragraph 12.a.
- d. <u>Annual Evaluation</u>. GWA shall evaluate its Gravity Main Work Plan prioritization list and work schedule as needed, but not less than annually. The annual evaluation shall be submitted to EPA for its information and shall be completed by September 30 of each calendar year. Any modifications to the work schedules are subject to EPA review and approval.
- 13. a. Long-Term Gravity Main Plan. Within nine (9) years of the Effective

  Date, as a compliance milestone, GWA shall submit to EPA for review and approval a LongTerm Gravity Main Plan that: (i) sets out a schedule for the design and construction of all
  necessary Long-Term Gravity Main Rehabilitation and Replacement work in its Gravity Main
  Work Plan prioritization list; (ii) meets the capacity criterion established in the Storm Technical

Memorandum dated January 4, 2023 (the "Storm Technical Memorandum"); and (iii) proposes an annual commitment of Gravity Main mileage of at least three (3) miles per year for Rehabilitation or Replacement. GWA's Long-Term schedule and work shall take into account the Capacity Assurance Program and GWA's Capacity Evaluation Report and Flow Model in Paragraph 14.b, below. GWA shall provide the associated cost estimates for all work under the Plan with as much specificity as possible.

- b. <u>Capacity Assurance Program</u>. GWA's POTW shall not exceed the POTW's design capacity. All pipe segments in GWA's Gravity Mains shall meet the capacity criterion established in the Storm Technical Memorandum. Based on the Flow Model results and the Capacity Evaluation Report results, GWA shall develop and submit as part of its Long-Term Gravity Main Plan a Capacity Assurance Program ("CAP"). The CAP shall include a plan and schedule, for EPA review and approval, for work necessary to ensure that GWA's Wastewater Collection System and POTW will have adequate capacity.
- 14. <u>Capacity Evaluation Report</u>. Within eighteen (18) months of the Effective Date, as an interim milestone, GWA shall complete a Capacity Evaluation Report that identifies current or potential future flow bottlenecks within the Wastewater Collection System. The Capacity Evaluation Report shall:
  - a. Include a hydraulic assessment;
- b. Include a Flow Model for GWA's POTW, including both the Wastewater Collection System and WWTPs, that is calibrated according to the Chartered Institution of Water and Environmental Management (CIWEM) Code of Practice for the Hydraulic Modelling of Urban Drainage Systems Version 01 and is consistent with the Storm Technical Memorandum. The Flow Model calibration shall incorporate: (i) new data gathered through December 31, 2022;

(ii) physical changes to the Wastewater Collection System and changes to capacity at the POTW through December 31, 2022; (iii) additional wet and dry flow monitoring for the Central Basin; and (iv) Flow Model verification. As part of the Capacity Evaluation Report, GWA shall provide a detailed Flow Model calibration description that: (i) details how the Flow Model was calibrated in accordance with CIWEM best practices; (ii) summarizes the data used to calibrate the Flow Model; and (iii) describes the confidence of the Flow Model;

- c. Identify, at a minimum, the hydraulic capacities of the POTW, and compare those capacities to existing and future projected average and peak flows in dry and wet weather; and
- d. Identify those portions of the POTW that are expected to cause or contribute to SSOs or prohibited Bypasses at the WWTPs under existing and future projected average and peak flows in dry and wet weather, and prioritize those portions, under current or projected future conditions, to meet the capacity criterion in the Storm Technical Memorandum.
- 15. Capacity Assurance Projects. Within seven (7) years of the Effective Date, as a compliance milestone, GWA shall complete necessary Rehabilitation, Replacement or sewer pipe upsizing to assure adequate capacity for peak wet weather flows at the Wastewater Collection System locations identified in subparagraphs 15.a-e of this Paragraph and any other critical capacity-limited segments in the Wastewater Collection System identified in GWA's Capacity Evaluation Report submitted to EPA pursuant to Paragraph 14 (collectively, "Capacity Assurance Projects"). GWA shall ensure each Capacity Assurance Project assures adequate pipe capacity, meaning that pipe segments have a depth to diameter (d/D) ratio meeting the capacity criterion established in the Storm Technical Memorandum.
  - a. Route 12 at Route 2;

- b. Marine Corps Drive between Route 4 and Highway 6;
- c. Barrigada Pump Station;
- d. Route 1 (Dededo). GWA shall complete the Northern District Capacity

  Replacement Phase 1 project along the highlighted pipe segments in Appendix B, and submit a proposed schedule for the remaining Route 1 projects for EPA review and approval;
  - e. Route 4 (between Pump Station 18 and Pump Station 14).
- Projects listed above in Paragraph 15, GWA shall incorporate those Capacity Assurance Projects into GWA's Flow Model and shall recalibrate the Flow Model using best industry practices.

  Within six (6) months of completion of the projects in Paragraph 15, as an interim milestone,
  GWA shall submit a Capacity Assurance Report to EPA to evaluate whether the capacity
  projects remedied the capacity issues at each of the locations listed in Paragraph 15.a-e, and to
  identify any other capacity bottlenecks within the Wastewater Collection System, particularly
  those locations in need of Rehabilitation, Replacement, or sewer pipe upsizing to assure capacity.

  The Capacity Assurance Report shall include a proposed schedule, which shall be subject to
  EPA's review and approval, to implement Rehabilitation, Replacement, and improvement
  projects to address any identified capacity issues.
- 17. Force Main Inventory. Within 60 days of the Effective Date, as an interim milestone, GWA shall submit to EPA a list of all Force Main segments in its entire Wastewater Collection System that identifies each segment's location, properties (flow rate, pipe material, diameter, length, installation date, etc.), known condition, last inspection date, and type of inspection conducted. Together with this list, GWA shall submit to EPA a GIS map that includes the locations of all Force Mains.

- 18. Force Main Condition Assessment. Within three (3) years of the Effective Date, as an interim milestone, GWA shall complete a Force Main condition assessment for the Force Mains identified in Table A, below. As part of the Force Main condition assessment, GWA shall ensure that the condition assessment steps detailed below are performed for all Table A Force Mains, valves, air relief valves, drains, connections, fittings and appurtenances associated with the Force Main, and is conducted, stamped, and certified by a Professional Engineer. At a minimum, GWA shall:
  - a. Inspect and determine functionality;
- b. Identify defects such as inoperable valves, exposed corrosion, leaks,
   cracks, or other conditions that could contribute to the failure of the Force Main;
- c. Evaluate all metallic (cast iron, ductile iron, steel, etc.) and concrete Force Mains, fittings, and appurtenances to determine whether corrosion protective measures are necessary. Appropriate corrosion protective measures include:
  - i. Targeted pipeline/component replacement;
  - ii. Adding protective coatings;
  - iii. Installing an internal pipe lining; and
  - iv. Adding targeted cathodic protection.
- d. Conduct an external pipe inspection of the exterior of each Force Main at each location where the pipe segment is exposed to assess structural damage and the integrity of protective coatings using visual inspection and technology suitable to the particular pipe to identify possible defects such as leaks, cracks, corrosion, erosion, pinholes, coating damage, delamination or any other conditions that could contribute to the failure of the Force Main. For purposes of this Paragraph, suitable technology shall be no less than ultrasonic testing, magnetic

flux leakage, or broadband electromagnetic testing, or a technology that EPA and GWA agree is equivalent to those technologies in terms of its ability to meet the stated objectives of inspection and assessment. The requirements of subparagraph d of this Paragraph do not apply to Force Mains that are, as of the Effective Date, in the engineering design phase of a construction project;

- Conduct pressure testing evaluations on all segments of Table A Force e. Mains that have a LOF greater than 3.4, using accepted engineering methods suitable for each pipe to identify possible defects or any other conditions that could contribute to the failure of the Force Main. The purpose of the pressure testing evaluation is to determine if the design, construction, and materials are sufficient to withstand the maximum predicted transient pressures that may be expected to occur under normal, peak flow, and emergency (shut-down and start-up) conditions. This evaluation shall include, but not necessarily be limited to, (i) a review of available pressure data, and (ii) an evaluation using actual pressure measurements of the transient pressures that occur during the range of anticipated operating conditions. Any actual pressure measurements shall be limited to the range of operating conditions that is both prudent and practicable. GWA shall follow up on observed conditions that are likely to be a source of leakage. The methodologies employed will be appropriate to the type of condition and location of the suspected leakage. The requirements of subparagraph e of this Paragraph do not apply to Force Mains that are, as of the Effective Date, in the engineering design phase of a construction project;
- f. Identify the extent to which defects affect the performance of the Force Main, through performance indicators such as unusual noise, vibrations, pipe and pipe joint leakage and displacement, valve arrangement and leakage, lift station operation and

performance, discharge pump rates and pump speed, and pump suction and discharge pressures;

- g. Review operating data, such as operating pressures, pump run times, and flow rates, as well as reports of physical inspections, which can reveal reduced Force Main capacity and other performance issues to determine if there is an actual or potential significant reduction in capacity; and
- h. Determine the Force Main's probable time of failure for the following four failure modes based on the information gathered in subparagraphs a-f of this Paragraph: condition or structural failure, end of useful life, capacity, and not meeting an established level of service.
- 19. <u>Force Main Assessment Report</u>. Within three-and-a-half (3.5) years of the Effective Date, as an interim milestone, for each Force Main that was assessed pursuant to Paragraph 18, GWA shall submit to EPA, for review and approval, a Force Main Assessment Report that:
- a. Describes the method and extent of each assessment conducted under Paragraph 18, including valve, exposed fitting, and exposed appurtenance inspections; corrosion protection evaluations; external pipe inspections; pressure testing evaluations; and leak detection tests. The report must provide a narrative of approach and methodology for inspections, inspection locations and, in an appendix to the report, provide the field data collected pursuant to Paragraph 18.
- b. Describes the results of each assessment for each Force Main conducted pursuant to inspections referenced in Paragraph 18, including valve, exposed fitting, and exposed appurtenance inspections; corrosion evaluations; external pipe inspections, pressure testing evaluations, and leak detection tests;

- c. Identifies, and quantifies, where practicable, observed or measured conditions such as leaks, cracks, corrosion, erosion, pinholes, coating delamination, joint deflections, pipe deformation, wall-thinning, or any other conditions that could contribute to the failure of the Force Main;
- d. Includes an inventory of all pipe segments with observed conditions and photo documentation of Force Main defects whenever possible;
- e. Includes a summary of defects that affect the performance of the Force

  Main, through performance indicators such as unusual noise, vibrations, pipe and pipe joint

  leakage and displacement, valve arrangement and leakage, lift station operation and

  performance, discharge pump rates and pump speed, and pump suction and discharge pressures;
- f. Includes a description of each Force Main's failure modes, and the probable time of failure, based on the information gathered through the assessments conducted pursuant to Paragraph 18; and
- g. Based on Force Main condition assessments, identifies pipe segments that leak or are cracked, broken, or ruptured (or have the potential to leak, crack, break, or rupture within the next ten (10) years), or are experiencing (or have the potential to experience) a significant reduction in capacity or other conditions that could lead to Force Main failure. GWA shall identify Force Main capacity issues and other performance issues that result in an actual or potential significant reduction in capacity.

Table A: Force Mains for Condition Assessment

Force Main Lift Station	Basin	Diameter (inches)	Length (feet)	Material	Installation Year	LOF Score (1 to 5)	COF Score (1 to 5)
Hagåtña Main	Hagåtña	24	2,724	Reinforced concrete	1965	Known poor condition	4.9
Asan	Hagåtña	12	2,993	Cast iron	1971	Known poor	2.8

						condition	
Bayside	Hagåtña	6	646	ACP	1966	5	3.6
Pago Double Shaft	Hagåtña	8	2,474	ACP	1973	4.9	3.2
Mamajanao	Hagåtña	14	1,186	Unknown	1971	3.2	4.4
Barrigada	Hagåtña	14	6,078	ACP	1978	3.9	3.1
Mangilao	Hagåtña	10	2,739	ACP	1974	4.5	2.8
Piti	Hagåtña	9.1	4,336	ACP	1971	4.5	2.6
Tai Mangilao	Hagåtña	8	1,618	ACP	Unknown	3.4	2.7
Pump Station No. 17	Umatac- Merizo	6	2,840	Ductile iron	1980	3.9	2.3
Paseo De Oro	Hagåtña	6	686	ACP	1967	5	1.8
Dairy Road	Hagåtña	6	3,616	Ductile iron	1983	3.1	2.5
Pump Station No. 16	Umatac- Merizo	6	1,095	Ductile Iron	1980	3.1	2.5
Maite	Hagåtña	4	393	Unknown	1971	3.2	1.7
Harmon	Hagåtña	6	2,260	Unknown	1972	3.2	1.5
Fujita	Tumon	18	7,154	Ductile iron	1992	3	3.7
Route 16	Northern District	30	5,741	Unknown	1989	2.1	5
Yigo	Northern District	16	3,077	Polyethylene	1973	2.8	3.5
Chaligan	Agat- Santa Rita	16	6,352	Ductile iron	1995	2.6	3.1
Ypao	Hagåtña	7.3	1,741	PVC	Unknown	1.7	3.9
Inarajan Main	Inarajan	8	3,893	Unknown	1984	2.7	2.9
Southern Link	Northern District	36	4,311	Ductile iron	1992	2.6	2.9
New Chaot	Hagåtña	20	2,319	PVC	1989	1.7	2.9
Gaan	Agat- Santa Rita	16	10,125	PVC	1995	1.7	2.9
Alupang	Hagåtña	6	905	PVC	1991	1.7	2.8
Cove	Tiagauia		303	1 40	1771	1./	2.8

- 20. <u>Force Main Action Plan</u>. Within six (6) months of EPA approval of the Force Main Assessment Report, as an interim milestone, GWA shall submit to EPA, for review and approval, a Force Main Action Plan consistent with the Force Main Condition Assessment that:
  - a. Prioritizes necessary Force Main upgrades;
- b. Includes a schedule for design and implementation of interim Force Main improvement projects where asset failure is likely to occur before Repair, Rehabilitation, or Replacement is complete;
- c. Includes a schedule for design and implementation of Repair,

  Rehabilitation, Replacement, and improvement projects employing methodologies appropriate to
  the condition and location of the Force Main;
- d. Requires the installation of corrosion protective measures for metallic (cast iron, ductile iron, steel, etc.) and concrete Force Mains, fittings, and appurtenances that lack adequate corrosion protection or could be subject to corrosion; and includes a schedule for future Force Main condition assessments with an explanation of GWA's Force Main prioritization and scheduling decisions.
- 21. Implementation of the Force Main Action Plan. As a compliance milestone, GWA shall complete construction addressing at least 25% of the linear feet of Force Mains addressed in the approved Force Main Action Plan within nine (9) years of the Effective Date. GWA will be allowed to include Force Main projects completed after the Effective Date for Force Mains listed in Table A. The Force Main Action Plan shall be consistent with the Force Main Condition Assessment in that it will prioritize work at Force Mains that are failing or are most likely to fail.
  - 22. Force Main Spill Contingency Plan. Within six (6) months of the Effective Date,

as an interim milestone, GWA shall submit to EPA, for review and approval a Force Main Spill Contingency Plan for all Force Mains that establishes measures and procedures to respond to a Force Main spill event in order to minimize discharges to surface waters, prevent public exposure to the spilled wastewater, and return the Force Main to full service as rapidly as possible. The Force Main Spill Contingency Plan shall include the following sections:

- a. <u>Force Main Information</u>. The Force Main information section shall contain salient information about the Force Mains including location, diameter, length, material, elevations, design flows and pressures, fittings, parallel force mains, location of waterways, and a vicinity map of the Force Main, including nearby Gravity Mains and Pump Stations that may be used for diversion of flows in the event the Force Main is damaged.
- b. <u>Spill Response Procedures</u>. The spill response procedures section shall include a list of the actions that GWA anticipates taking in the event of a Force Main spill, including tankering and diversion of flows within the system. This section shall describe the resources GWA will have available to deploy in the event of a Force Main spill, the staff notification procedures, and anticipated response times, with the goal being to restore service to the customer as soon as possible.
- c. <u>Equipment, Parts, and Supplies</u>. The equipment, parts, and supplies section shall include a list of the equipment, parts, and supplies needed to implement the Plan, including response and repair equipment, spare parts, and supplies that can be used in the event of a Force Main failure. The response equipment shall include portable pumps, hose or piping, sand bags (or equivalent barrier/diversion devices), and pipe plugs. The supplies shall include replacement pipe, valves, and repair kits. The list shall identify the location of all such equipment, parts, and supplies.

- 23. <u>Force Main Operation and Maintenance Program</u>. Within two (2) years of the Effective Date, as an interim milestone, GWA shall submit to EPA, for review and approval a Force Main Operations and Maintenance ("O&M") Program that establishes written preventive operations and maintenance schedules and procedures for all Force Mains. The Force Main O&M Program shall be integrated into the GWA Asset Management Program, and Computerized Maintenance Management System (CMMS) and shall include:
- a. Preventative maintenance schedules for the inspection, periodic service, and calibration of force main instrumentation, such as flow meters, liquid level sensors, alarm systems, elapsed time meters, remote monitoring equipment, and air release valves;
- b. Inspection and maintenance of sulfide and corrosion protection systems; and
- c. An annual systematic method of reviewing Force Main operational data, which at a minimum includes pump run times, discharge pump rates and pump speed, pump suction and discharge pressures, flow rates, and performance indicators (including excessive noise, vibrations, and leakage), all of which can reveal reduced Force Main performance issues.
- 24. <u>Pump Stations: Scope of Work.</u> GWA shall complete all improvement work, which may include Repair, Rehabilitation, Replacement, and relocation, for each of its Pump Stations necessary to ensure reliability, functionality, and adequate capacity and satisfy each of the acceptance criteria set forth in Paragraph 31.
- 25. <u>Pump Station priority projects</u>. Within the number of years from the Effective Date specified after each pump station below, as compliance milestones, GWA shall complete all necessary improvements to the three Pump Stations in the most critical need of work: the Ypao (three (3) years), Hagåtña Main (two (2) years), and Mamajanao (three (3) years) Pump Stations

(the "Pump Station Priority Projects"). All work, including any start-up activities and any related O&M training for field personnel, shall be completed by these deadlines.

26. <u>Sewage Pump Stations: Tiers</u>. Except for the Pump Station Priority Projects identified in Paragraph 25, GWA's entire inventory of Pump Stations has been organized into four tiers: Tiers 1, 2, 3 and 4 set forth in Table B below.

Table B: Pump Station Tiers<sup>1</sup>

ı				
١	<u>Tier 1</u>	Tier 2	Tier 3	Tier 4
l				
١	1. Alupang Cove (C)	1. Asan (C)	1. Agat Chaligan Taleyfac	All Pump Stations
١	2. Astumbo #1 (N)	2. Barrigada (C)	(Chaligan) (S)	not included as
I	3. Astumbo #2 (N)	3. Commercial Port (C)	2. Cabras Island (C)	Pump Station
١	4. Bayside (N)	4. Ejector Station No. 3 (S)	3. Casamiro (C)	priority projects or
I	5. Dairy Road (C)	5. Ejector Station No. 6 (S)	4. Chalan Pago Pump	Tiers 1, 2, and 3.
١	6. Ejector Station No. 2 (S)	6. Latte Heights Double	Station 3 (C)	
١	7. Fujita (N)	Trouble (N)	5. Chalan Pago Pump	
١	8. Harmon (N)	7. Latte Heights Submarine	Station 5	
l	9. Inarajan Main (S)	(N)	6. Dero Road (C)	
١	10. Inarajan Lift Station (S)	8. Latte Plantation (N)	7. Ejector Station No. 4 (S)	
١	11. Machanao (N)	9. Latte Sun Rise (N)	8. Ejector Station No. 5 (S)	
١	12. Mongmong Toto (C)	10. Maite (C)	9. Ejector Station No. 7 (S)	
١	13. Pago Double Shaft (C)	11. Mangilao (C)	10. Leyang (C)	
١	14. Piti (C)	12. Namo Yona (C)	11. Main Trunk Line (S)	
ı	15. Pump Station No. 13 (S)	13. New Chaot (C)	12. Ordot (C)	
١	16. Pump Station No. 16 (S)	14. Pagachao (S)	13. Pacific Latte (N)	
١	17. Pump Station No. 17 (S)	15. Paseo De Oro (N)	14. PGD (N)	
١	18. Pump Station No. 19 (S)	16. Pump Station No. 11	15. Pump Station No. 12 (S)	
١	19. Pump Station No. 20 (S)	(S)	16. Pump Station No. 14 (S)	
١	20. Route 16 (N)	17. Reyes (S)	17. Pump Station No. 15 (S)	
١	21. Southern Link (N)	18. Tai Mangilao (C)	18. Pump Station No. 18 (S)	
۱	(22) Talafofo (S)	19. Toto Garden (C)	19. Sinajana (C)	
۱	(23) Yigo (N)		20. Zero Down PS (N)	
П				

27. <u>Sewage Pump Stations: Preliminary Work Plans</u>. For each tier and beginning with Tier 1, as an interim milestone, GWA shall develop and submit to EPA for review and

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<sup>&</sup>lt;sup>1</sup> The district for each Pump Station is noted in parentheses: Northern (N), Central (C), and Southern (S).

approval a preliminary design schedule that prioritizes Pump Station improvements based on current known conditions of each Pump Station within that tier ("Pump Station Preliminary Work Plans"). GWA shall submit the Pump Station Preliminary Work Plans in accordance with the following schedule:

- a. Tier 1 Pump Station Preliminary Work Plan within one year of the Effective Date;
- b. Tier 2 Pump Station Preliminary Work Plan within five (5) years of the Effective Date;
- c. Tier 3 and Tier 4 Pump Station Preliminary Work Plan within ten (10) years of the Effective Date.
  - 28. GWA shall include in each Pump Station Preliminary Work Plan:
- a. an estimated scope of work for each Pump Station based on the known condition and a corresponding conceptual design in accordance with the acceptance criteria set forth in Paragraph 31;
- b. a schedule for a Pump Station condition assessment performed in accordance with Paragraph 29; and
- c. a proposed schedule of key implementation dates for each Pump Station within the tier, to include, at a minimum, execute design contract, complete condition assessment, issue a notice to proceed with design, execute construction contract, issue a notice to proceed with construction, complete construction, all in accordance with Paragraph 30.
- d. GWA may propose, based on worsening conditions at any Pump Station from those that existed as of the Effective Date of this Consent Decree or for which land acquisition is required, a change in Tier designation or substitution of Pump Station between

Tiers, for EPA review and approval with the Preliminary Work Plan provided that (i) if GWA proposes a tier change, GWA may only propose changing a Pump Station from a higher priority tier to a lower priority tier by one tier (e.g., GWA may not propose changing a Pump Station from Tier 1 to Tier 3); and (ii) if GWA's Pump Station change proposal is based on GWA's acquisition of land, GWA must include in its request to EPA a commitment to resolve the land acquisition issue within a specific time period.

- 29. Sewage Pump Stations: Condition Assessments. GWA shall assess the condition of each Pump Station through observation, direct inspection, investigation, and monitoring. GWA shall use the data and information from the condition assessment to identify structural and operational issues, evaluate the overall performance of the system, update its Pump Station asset condition profiles, and assess the rate of deterioration of Pump Station assets. As interim milestones, GWA shall complete and submit Pump Station condition assessments to EPA for review and comment, in accordance with the schedules established within each Pump Station Preliminary Work Plan tier. GWA shall ensure that each condition assessment is conducted, stamped, and certified by a Professional Engineer, and include the following:
  - a. Review of existing condition assessment information and prior studies;
- b. Review of existing operations plans, operational data, and asset management data;
  - c. Interviews with operations, maintenance, and engineering staff;
  - d. Review of available engineering drawings;
- e. Pump Station inspections that include structural, mechanical, electrical, and civil assessments, and utilize up-to-date industry standard technologies, tools, and practices; and

- f. For each pump: designed horsepower, power demands, designed flows, installation date, and Preferred Operating Region;
- g. For each Pump Station: average flows, overall power demand, and overall wet well capacity.

For any associated Pump Station, the Force Main Condition Assessment completed under Paragraph 18 can be utilized as part of the Pump Station condition assessment to the extent that the information therein remains accurate and valid.

- 30. Completion of Tier 1 and 2 Projects. Based on the Pump Station condition assessments, GWA shall complete all improvement work set forth in the Pump Station Preliminary Work Plan for Tier 1 and 50% of the improvement work set forth in the Pump Station Preliminary Work Plan for Tier 2, each as a compliance milestone, including any start-up activities and any related O&M training for field personnel, in accordance with the following schedule:
  - a. Tier 1 Projects within seven (7) years of the Effective Date; and
  - b. 50% completion of Tier 2 Projects within ten (10) years of the Effective Date.
- 31. Sewage Pump Station Acceptance Criteria. For GWA to designate Pump Station projects complete under Paragraph 30, the Pump Station project must satisfy each criterion listed in this Paragraph and be designed and constructed to conform with good engineering practice and the Ten States Standards, including practices to improve climate change resiliency of the Pump Stations. As applicable, resilience considerations should be consistent with EPA's Creating Resilient Water Utilities initiative, such as the Resilient Strategies Guide for Water Utilities. When GWA determines that a Pump Station project has satisfied all of the acceptance criteria and standards in this Paragraph, GWA shall certify in a semi-annual report submitted

pursuant to Paragraph 48 that the Pump Station project is complete according to Paragraph 30:

- a. <u>Emergency Operations</u>. GWA shall install, and operate as necessary, at all Pump Stations a continuous standby power supply in the form of a fuel-operated standby generator system. GWA shall design this standby generator system as part of all Pump Stations to supply the same amount of electrical power to the Pump Station (including all pumps, controls, alarms, and support systems) as supplied by the utility company. Such emergency operation systems shall comply with the Ten States Standards, including Chapter 47.
- b. <u>Screening baskets, comminutors, or grit removal devices</u>. GWA shall install and operate screening baskets, comminutors, or grit removal devices to remove and/or comminute grit and large solids contained in the wastewater before it is pumped.
- c. <u>Proper site security and safety measures</u>. GWA shall take all reasonable measures to maintain safe Pump Station sites, ensure that site perimeter fencing is intact, and prevent site access for trespassers, especially access to confined spaces.
- d. <u>Emergency action sheets</u>. GWA shall update and post emergency action sheets at each Pump Station that provide a set of standard operating procedures outlining the steps an operator would take under a given scenario. GWA shall establish emergency action sheets for the following Pump Station scenarios: power failure; backup power failure; emergency response to an SSO; high-level alarm; and pre- and post-storm response. Each emergency action sheet shall contain standard operating procedures that include: response time, response personnel, chain of notification, response equipment, response procedures with order of operations, safety precautions, and close-out procedures.
- e. <u>Backflow prevention devices</u>. GWA shall install backflow prevention devices to protect potable water sources from cross-contamination from wastewater backflow.

f. <u>A</u>	Alarms and SCADA systems.	GWA shall install and maintain alarms,
controls, and supervisor	ry control and data acquisition	(SCADA) systems and integrate all alarm
and controls to the SCA	ADA system to provide remote	status monitoring of its pumping
operations from an off-	site location, and to the extent	practicable, remote control of its pumping
operations from an off-	site location. GWA shall ensu	are that the SCADA system continuously
monitors, reports, and to	ransmits the following inform	ation:

- i. Daily operating hours for each sewage pump;
- ii. Number of pump starts for each sewage pump;
- iii. Wet well level with high- and low-level alarm set points;
- iv. Flow (instantaneous and average);
- v. Discharge pressure with high- and low-level alarm set points; and
- vi. Minimum digital inputs, including high-water level alarm in wet well, drywell flooding, intrusion alarm, Alternating Current Pump Station power failure, Direct Current low battery, and remote signal failure alarm.
- g. Adequate pumping capacity and redundancy. GWA shall ensure that there is pump redundancy at each Pump Station. The minimum number of pumps per station shall be two. GWA shall ensure pumping capacity and redundancy complies with the Ten States Standards, Chapter 42.31.
- h. Adequate wet-well capacity. GWA shall ensure that newly-constructed, Replacement, or Rehabilitated Pump Station wet-well volume is sufficient for anticipated wet-weather peak hourly flow conditions and coordinated with pump sizing for the station. GWA shall ensure each newly-constructed, Replacement, or Rehabilitated Pump Station wet-well complies with the Ten States Standards, Chapter 42.6.

- i. <u>Corrosion protection</u>. GWA shall Replace all Pump Station equipment, including wet-well and valve equipment, rendered inoperable from corrosion, and provide Pump Station equipment with adequate corrosion protection. GWA shall ensure corrosion protection complies with the Ten States Standards, Chapter 42.25.
- j. <u>Adequate electrical panels, lighting, and Power Supply</u>. GWA shall ensure that each Pump Station has adequate electrical panels, lighting, and Power Supply.
- k. <u>Force Mains</u>. GWA shall ensure Force Mains leaving the Pump Station are in proper working condition and comply with the Ten States Standards, Chapter 49. For any associated Pump Station, work completed pursuant to the Force Main Action Plan can be utilized as part of the Pump Station Rehabilitation process to the extent that the information therein remains accurate and valid.
- 1. Pumps. GWA shall ensure each pump is installed and operates within the Preferred Operating Region under normal operating conditions and normal daily flow conditions. GWA shall consider whether each Rehabilitated pump needs a variable frequency drive based on a cost-benefit analysis. GWA shall ensure each type of pump within its system has a complete repair kit and the necessary spare parts to resume pump service. GWA shall ensure each pump complies with the Ten States Standards, Chapter 42.3.
- m. <u>Valves</u>. GWA shall ensure all Pump Station valves are installed and in good working condition. Each wastewater pump shall have isolation valves to permit the removal or maintenance of the pumps and check valves without affecting the operation of remaining pumps. Each Pump Station shall have sufficient valves to permit the proper operation and maintenance of the Pump Station during normal, peak, and bypass conditions. Each valve shall be rated for use with raw, unscreened wastewater, and shall be designed for its function and

installation location, as well as the normal and maximum operating pressures expected at the Pump Station. GWA shall ensure valves comply with the Ten States Standards, Chapter 42.5.

- n. <u>Computerized Maintenance Management System ("CMMS")</u>. GWA shall enter all equipment assets, spare parts, preventative maintenance procedures, and a recurring maintenance schedule for all Pump Station assets into GWA's CMMS in accordance with GWA's asset management program. The manufacturer's documented operation and maintenance procedure shall be incorporated into the specific preventative maintenance for each asset.
- o. <u>Operational testing and performance period</u>. GWA shall ensure that each Pump Station completes the operational testing and performance period successfully.
- p. <u>Operational Testing</u>. For operational testing, GWA shall operate and monitor the Pump Station for five (5) consecutive Days. During operational testing, GWA shall demonstrate Pump Station operation on automatic control without equipment or control failure and with sewage tie-in. The Pump Station mechanical equipment, electrical/control systems, and emergency power equipment shall operate without failure during the operational testing.
- q. <u>Performance Period</u>. For a Pump Station to be considered operational and successfully complete the performance period, all Pump Station equipment and operational systems, including all control, alarm, and SCADA systems, shall operate without failure for six (6) months and shall not result in any SSOs caused by a Pump Station failure within that time period.

# B. HAGÅTÑA WWTP

32. <u>Hagåtña WWTP Secondary Treatment Feasibility Study</u>. Within seven (7) years of the Effective Date, as a compliance milestone, GWA shall submit to EPA for review and

approval a feasibility study for secondary treatment upgrades to the Hagåtña WWTP that will include analyses of design options, alternative locations, climate change and sea level rise, and planning level construction cost estimates and construction timelines. The feasibility study must conform with good engineering practice and the Ten States Standards, including practices to improve climate change resiliency of the secondary treatment upgrades to the Hagåtña WWTP. As applicable, resilience considerations should be consistent with EPA's Creating Resilient Water Utilities initiative, such as the Resilient Strategies Guide for Water Utilities.

33. Hagåtña WWTP Interim Effluent Limits and Monitoring Requirements. Until GWA achieves and demonstrates compliance with secondary treatment standards of the Clean Water Act, as defined by 40 C.F.R. Part 133, and any effluent limitations for TSS and BOD set forth in GWA's applicable NPDES Permit for the Hagåtña WWTP, GWA shall achieve compliance with interim effluent limits and monitoring requirements for wastewater discharges from the Hagåtña WWTP set forth below in Table C. This Consent Decree shall not affect the force or effect of any other effluent limitations, or monitoring and reporting requirements, or any other terms and conditions of the applicable NPDES Permit(s).

Table C: Hagåtña WWTP Interim Effluent Limits

Interim Discharge Limitations						Monitoring Requirements	
Discharge Parameter	Average Monthly	Average Weekly	Maximum Daily	Units	Frequency	Sample Type	
Biochemical	97	140		mg/L			
Oxygen	4,911	7,055		lbs/day			
Demand (5-day)	Average monthly percent removal shall not be less than 33%			%	Weekly	24-hour composite	
	64	125		mg/L			
Total	2,827	5,500		lbs/day			
Suspended Solids	Average monthly percent removal shall not be less than 50%			%	Weekly	24-hour composite	

# C. OPERATION & MAINTENANCE REQUIREMENTS

- 34. <u>Cleaning</u>. Beginning on the Effective Date, as an interim milestone, GWA shall clean 60 "unique miles" of Gravity Mains in each year, which is approximately 20 percent of GWA's Gravity Mains. In calculating the number of "unique miles" each year, GWA shall count each individual pipe segment cleaned in that year, but shall not count an individual pipe segment multiple times even if that pipe segment was subject to repeated cleaning in that year. GWA shall clean its entire Gravity Main system every 5 years. This obligation shall terminate upon Termination of the Consent Decree.
- 35. <u>Hot Spot Cleaning</u>. As an interim milestone, GWA shall implement a Hot Spot Cleaning Program, as conditionally approved by EPA on July 11, 2019, with the focus on repeated, routine cleaning of sewer locations that have a history of blockages, FOG and grit build-up, and SSOs.
- 36. SSO Response Plan. GWA shall implement an SSO Response Plan as approved by EPA on September 9, 2020. The SSO Response Plan shall include, but not be limited to, standard operating procedures for timely response to SSOs, spill containment, site security, site cleanup, a standard method for the estimation of spill volumes, public notification, and reporting requirements. For any repeat SSO or SSO greater than 1,000 gallons from a Gravity Main, the SSO Response Plan shall require GWA to conduct a CCTV inspection downstream of the SSO location for purposes of determining the cause of the SSO.
- 37. SSO and Bypass Reporting Requirements. Within thirty (30) Days after the end of each calendar-year quarter (i.e., by January 30, April 30, July 30, and October 30) after the Effective Date, until termination of the Consent Decree, GWA shall submit to EPA and Guam EPA a summary of all SSOs and Bypasses that occurred during the quarter.
  - a. For each SSO, the reports shall provide: (a) a map showing the locations

of all SSOs occurring in the previous quarter in relation to the locations of drinking water wells and Pump Stations; (b) the start and end date and time of each SSO; (c) the location of each SSO including address, village, and manhole numbers; (d) the structure(s) from which each SSO emerged (e.g., manhole, broken pipe, wet well, indoor plumbing, Lateral cleanout, etc.); (e) the pipe size, length, and material; (f) the estimated volume of each SSO including gross volume, amount recovered, and amount not recovered; (g) the cause of each SSO; (h) whether each SSO entered a particular water of the United States, and if so, the name of the water body and whether it entered via storm drains or other man-made conveyances; (i) the results and analysis of any post-SSO CCTV results; and (j) the actions GWA took to control the SSO and prevent future SSOs at the same location.

- b. For each Bypass, the reports shall provide: (a) the name of the treatment facility and the part(s) of the facility bypassed; (b) the start and end date and time of the Bypass; (c) a detailed explanation of the cause(s), and all available photographs, videos, and maps that would aid in explaining its cause(s); (d) if a Bypass was in response to a storm event, local rain gauge data for that event; (e) the following flows: Bypass; facility influent; and facility effluent; and a description of how they were determined, including any calculations; (f) the results of any samples taken of the Bypass or receiving water, or an explanation of why sampling was not conducted; (g) the dates that GWA provided verbal and written notifications of the Bypass to EPA and Guam EPA; and (h) the actions GWA took to control the Bypass and prevent future Bypasses.
- 38. <u>Asset Management</u>. Within six (6) months of the Effective Date, as an interim milestone, GWA shall develop and implement an Asset Management Program, including a complete and regularly updated asset registry; routine condition assessments; preventive

maintenance schedules for all assets; and a system for maintenance tracking. GWA's Asset

Management Program shall meet the standards of the "International Standard ISO 55001 - Asset

management – Management systems – Requirements" (2014 edition or any subsequent revision).

GWA shall integrate the data from the Asset Management Program into GWA's long- and shortterm planning processes, including GWA's official capital improvement plan.

### D. PRETREATMENT PROGRAM

- 39. <u>Industrial Pretreatment Program</u>. As a compliance milestone, GWA shall implement and enforce an Industrial Pretreatment Program that complies with 40 C.F.R. Part 403, and is approved by the Guam Legislature and by EPA.
- a. Within nine (9) months of the Effective Date, as an interim milestone, GWA shall submit to EPA, for review and comment, a proposed Industrial Pretreatment Program. As part of the Industrial Pretreatment Program, GWA shall:
- i. Submit a revised sewer use ordinance that provides GWA with the authority to enforce the requirements of Sections 307(b) and (c) and 402(b)(8) of the Act, 33 U.S.C. §§ 1317(b) and (c), 1342(b)(8), and any regulations implementing those Sections;
- ii. Identify and locate all possible Industrial Users, that might be subject to the Pretreatment Program consistent with 40 C.F.R. § 403.8(f)(6);
- iii. Conduct a technically-based local limit evaluation as required by 40 C.F.R. § 403.8(f)(4) and, if required, develop technically-based local limits as required in 40 C.F.R. § 403.5. This local limit evaluation shall include the analyses necessary to determine the maximum headworks loadings for the Northern District and Hagåtña WWTPs and the maximum pollutant levels protection of the Wastewater Collection System, as well as the method of allocating allowable loadings to the Industrial Users (as defined in 40 C.F.R. § 403.3(j)), a schedule of public hearings and outreach, and the ordinance adoption procedure;

	iv.	Implement control mechanisms (such as permits) to ensure that
Industrial Users comp	oly with	applicable Pretreatment Standards and requirements consistent with
40 C.F.R. § 403.8(f);		

- v. Develop and implement an enforcement response plan that contains detailed procedures indicating how GWA will investigate and respond to instances of Industrial User noncompliance in accordance with 40 C.F.R. § 403.8(f)(5);
- vi. Develop a sampling program to sample and analyze the effluent of its Industrial Users in accordance with 40 C.F.R. § 403.8(f)(2)(v);
- vii. Conduct inspections and surveillance activities of Significant Industrial Users, as defined in 40 C.F.R. § 403.3(v), at least once annually in order to identify, independent of information supplied by the Industrial User, noncompliance with applicable Pretreatment Standards in accordance with 40 C.F.R. § 403.8(f)(2)(v); and
- viii. Demonstrate that GWA has sufficient resources and qualified personnel to carry out the Industrial Pretreatment Program in accordance with 40 C.F.R. § 403.8(f)(3).
- b. Within six (6) months of receipt of EPA's comments on the proposed Industrial Pretreatment Program, GWA shall develop and submit to the Guam Legislature for approval pursuant to Guam's Administrative Adjudication Act an Industrial Pretreatment Program that complies with 40 C.F.R. Part 403 and addresses EPA's comments.
- c. Within thirty (30) Days of the Guam Legislature's approval of the Part 403-compliant Industrial Pretreatment Program, GWA shall submit that program to EPA for final review and approval.
  - 40. Fats, Oils, and Grease Control Program. Within six (6) months of EPA's

approval of the FOG control program manual, GWA shall develop and submit to the Guam Legislature for approval pursuant to Guam's Administrative Adjudication Act a comprehensive FOG control program to minimize the potential of SSOs caused by FOG that complies with 40 C.F.R. Part 403. GWA shall, as a compliance milestone, implement and enforce the Part 403-compliant FOG control program approved by the Guam Legislature. Within 90 Days of the Effective Date, as an interim milestone, GWA shall submit to EPA, for review and approval, a FOG control program manual. The FOG control program shall meet the following requirements:

- a. A Food Service Establishment shall not discharge its wastewater into the Wastewater Collection System without a GWA permit issued in accordance with Guam Administrative Rules and Regulations ("GAR") Title 28 and the FOG control program manual;
- b. At a minimum, GWA shall conduct an annual inspection of each GRD at each FSE to verify that a properly-sized GRD has been installed, is operating, and has been maintained in compliance with GAR Title 28 and the FOG control program manual. GWA's annual inspections shall include physical inspection, including coring, of the GRD and review of both GRD maintenance and grease hauling logs;
- c. For any FSE or other GRD permittee that has failed to properly install, operate, and maintain a GRD, the FOG control program shall include an enforcement response plan; and
- d. For any FSE not served by a GRD, GWA shall require the FSE to obtain a permit and install, operate, and maintain a properly-sized GRD that meets the requirements of GAR Title 28 and the FOG control program manual.

# E. <u>APPROVAL OF DELIVERABLES/PERMITS</u>

41. <u>Approval of Deliverables</u>. After review of any plan, report, or other item that is required to be submitted for EPA's review and approval pursuant to this Consent Decree, EPA

shall in writing: (a) approve the submission; (b) approve the submission upon specified conditions; (c) approve part of the submission and disapprove the remainder; or (d) disapprove the submission. EPA will use its best efforts to expeditiously review and take action on deliverables that GWA submits.

- 42. If the submission is approved pursuant to Paragraph 41, GWA shall take all actions required by the plan, report, or other document, in accordance with the schedules and requirements of the plan, report, or other document, as approved. If the submission is conditionally approved or approved in part pursuant to Paragraph 41(b) or (c), GWA shall, upon written direction from EPA, take all actions required by the approved plan, report, or other item that EPA determines are technically severable from any disapproved portions, subject to GWA's right to dispute only the specified conditions or the disapproved portions, under Section IX (Dispute Resolution).
- 43. If the submission is disapproved in whole or in part pursuant to Paragraph 41(c) or (d), the GWA shall, within thirty (30) Days or such other time as the Parties agree to in writing, correct all deficiencies and resubmit the plan, report, or other item, or disapproved portion thereof, for approval, in accordance with the preceding Paragraphs. If the resubmission is approved in whole or in part, GWA shall proceed in accordance with the preceding Paragraph.
- 44. Any stipulated penalties applicable to the original submission, as provided in Section VII (Stipulated Penalties), shall accrue during the 30-Day period or other specified period, but shall not be payable unless the resubmission is untimely or is disapproved in whole or in part; provided that, if the original submission was so deficient as to constitute a material breach of GWA's obligations under this Decree, the stipulated penalties applicable to the original submission shall be due and payable notwithstanding any subsequent resubmission.

- 45. If a resubmitted plan, report, or other item, or portion thereof, is disapproved in whole or in part, EPA may again require the submitting Defendant to correct any deficiencies, in accordance with the preceding Paragraphs, or may itself correct any deficiencies, subject to Defendant's right to invoke Dispute Resolution and the right of EPA to seek stipulated penalties as provided in the preceding Paragraphs.
- 46. In the event of unforeseen contingencies, GWA may make a written request to EPA to change any schedule or deadline in any approved or conditionally approved submission. Any such request must be submitted at least sixty (60) Days prior to the applicable deadline and must include a proposed schedule or deadline, the basis for the request, and how GWA intends to meet the proposed schedule or deadline, including supporting documentation. EPA will approve, approve with conditions, or disapprove the request. If EPA approves or conditionally approves the request, the new schedule or deadline will be applicable as of the date of EPA's approval or conditional approval. Any dispute regarding EPA's decision on a request made under this Paragraph shall be subject to Dispute Resolution pursuant to Section IX (Dispute Resolution). Changes to milestones, schedules, or deadlines set forth in this Consent Decree may only be made through a modification pursuant to Section XVI (Modification).
- 47. Permits. Where any obligation under this Section requires GWA to obtain a federal, State, or local permit or approval, GWA shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals. GWA may seek relief under the provisions of Section VIII (Force Majeure) for any delay in the performance of any such obligation resulting from a failure to obtain, or a delay in obtaining, any permit or approval required to fulfill such obligation, if GWA has submitted timely and complete applications and has taken all other actions necessary to obtain all such permits or approvals.

### VI. REPORTING REQUIREMENTS

- A8. Semi-annual Report. By January 31st and July 31st of each year after the Effective Date of this Consent Decree, until termination of this Decree pursuant to Section XVII, GWA shall submit to EPA by email a complete and accurate semi-annual report for the preceding six months that shall address: the status of any construction activities; the status of all injunctive relief compliance requirements set forth in Section V, including Paragraph references and completion dates; completion of milestones; problems encountered or anticipated, together with implemented or proposed solutions; a list of all required permits and the status of those permit applications; operation and maintenance updates; and reports to Guam EPA. More specifically, each of the semi-annual reports shall include:
- a. A discussion of the completion of milestones in the Pump Station work plans in the form of a list that identifies by Pump Station name and project, satisfaction of the acceptance criteria in Paragraph 31, and the completion date for all Pump Station improvements scheduled in the applicable Pump Station Preliminary Work Plans.
- b. A statement of the number of miles of Gravity Mains that GWA has
  Rehabilitated and Replaced in the previous six months, in accordance with Paragraph 12.b. For
  each Gravity Main Rehabilitated or Replaced, GWA shall provide the following information:
  (1) the pipe identification number; (2) whether the pipe was Rehabilitated or Replaced; (3) the
  length of the Gravity Main claimed as credit towards the mileage requirements and the length of
  Rehabilitation or Replacement performed; (4) the pipe material; (5) the diameter of the pipe;
  (6) the original installation date of the Gravity Main at issue; (7) the most recent condition
  assessment of the Gravity Main prior to its Rehabilitation or Replacement; (8) a map depicting
  the location of each Gravity Main Rehabilitated or Replaced; (9) the average annual rate of
  Gravity Main Rehabilitation based on a two (2) year rolling average, the number of feet of

Gravity Mains Rehabilitated, and the cumulative total feet of Gravity Main Rehabilitated since the Effective Date; (10) the number of manholes associated with Rehabilitated Gravity Mains and the number of manholes Rehabilitated; (11) the number of Laterals reconnected in association with Gravity Main Rehabilitation and Replacement; (12) if GWA did not achieve its Rehabilitation requirement in Paragraph 12.b, an explanation of why it did not achieve the Rehabilitation requirement and a description of what changes to the work will be made in order to correct the deficiency and achieve the Rehabilitation requirement in GWA's subsequent fiscal years; (13) the Rehabilitation budget and dollars spent on Gravity Main Rehabilitation; (14) the Gravity Main Rehabilitation projects targeted to be completed in GWA's next fiscal year; and (15) an explanation of any revisions that were made to GWA's financial planning associated with future Gravity Main Rehabilitation and Replacement projects.

- c. A list of all deliverables submitted to EPA and a description of the work performed pursuant to all deliverables submitted to the United States and approved or commented on by EPA, as well as a list of deliverables submitted to the United States but not yet approved or commented on by EPA.
- d. The feet of Gravity Mains cleaned and percent of feet of Gravity Mains in the Wastewater Collection System cleaned as part of the routine and hot spot cleaning programs set forth in Paragraphs 34 and 35, reporting both unique footage and total footage (i.e., including repeat cleanings) and the feet of Gravity Mains in the hot spot cleaning program and the range of cleaning frequencies.
- e. A description of the activities to Repair, Rehabilitate, or Replace Acute

  Defects pursuant to Paragraph 12.a, including the number of Acute Defects found; the number of

  Acute Defects Repaired, Rehabilitated, and Replaced; and for Acute Defects that were not

Repaired, Rehabilitated, or Replaced within 18 or 24 months from identification, as applicable, an explanation of why they were not Repaired, Rehabilitated, or Replaced and description of the actions or a schedule to Repair, Rehabilitate, or Replace the Acute Defect(s) as soon as possible.

- f. A summary of the systematic review, pursuant to Paragraph 23.c, of Force Main operating data, which at a minimum includes pump run times, discharge pump rates and pump speed, pump suction and discharge pressures, flow rates, and performance indicators (including excessive noise, vibrations, and leakage), all of which may have revealed Force Main performance issues.
- A description of any non-compliance with the requirements of this g. Consent Decree that occurred during the reporting period and an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If GWA violates, or has reason to believe that it may violate, any requirement of this Consent Decree, GWA shall notify the United States of such violation and its likely duration, in writing, within ten (10) business days of the Day GWA first becomes aware of the violation, with an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If any event occurs, or may occur, that might delay the performance of any obligation under this Consent Decree, GWA shall provide notice orally or by electronic transmission to EPA and the United States, within 72 hours or two (2) business days of when GWA first knew that such event might cause a delay, whichever period of time is longer. Within seven (7) Days thereafter, GWA shall provide in writing to EPA an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent, minimize or mitigate the delay or the effect thereof, and a schedule for implementation of any such measures; and a statement as to whether, in the opinion

of GWA, such event may cause or contribute to an endangerment to public health, welfare or the environment.

- h. Whenever any violation of this Consent Decree or any of the applicable NPDES Permits or any other event affecting GWA's performance under this Consent Decree, or the performance of its POTW, may pose an immediate threat to the public health or welfare or the environment, GWA shall notify EPA orally and by e-mail as soon as possible, but no later than 24 hours after GWA first knew of the violation or event. If the cause of a violation or event cannot be fully explained at the time the report is due, GWA shall so state in the report. GWA shall investigate the cause of the violation or event and shall then submit an amendment to the report, including a full explanation of the cause of the violation or event, within thirty (30) Days of the Day GWA becomes aware of the cause of the violation or event. Nothing in this Paragraph relieves GWA of its obligation to provide the notice required by Section VIII (Force Majeure).
- 49. Annual Meeting. At a mutually agreeable date in March of each year after the Effective Date, the Parties shall meet, either in person or via teleconference, to review GWA's compliance with the requirements of the Consent Decree and to discuss the status of the work being performed by GWA pursuant to the Decree and interim milestones and compliance milestones set forth in the Decree. Two weeks before the scheduled annual meeting, GWA shall provide EPA a proposed agenda addressing issues to be discussed.
- 50. Each report submitted by GWA under this Section shall be signed by an official of GWA and include 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 gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than 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.

This certification requirement does not apply to emergency or similar notifications where compliance would be impractical.

- 51. The reporting requirements of this Consent Decree do not relieve GWA of any reporting obligations required by the Act or implementing regulations, or by any other federal, State, or local law, regulation, permit, or other requirement.
- 52. Any information provided pursuant to this Consent Decree may be used by the United States in any proceeding to enforce the provisions of this Consent Decree and as otherwise permitted by law.

### VII. STIPULATED PENALTIES

- 53. GWA shall be liable for stipulated penalties to the United States for violations of this Consent Decree as specified below, unless excused under Section VIII (Force Majeure). A violation includes failing to perform any obligation required by the terms of this Decree, including any work plan or schedule approved under this Decree, according to all applicable requirements of this Decree and within the specified time schedules established by or approved under this Decree.
- 54. <u>Interim Effluent Limits</u>. The following stipulated penalties shall accrue per violation for each violation of an interim effluent limit or monitoring requirement established pursuant to Paragraph 33 (a violation of a weekly or monthly average limit, or a monitoring requirement, shall be considered a single violation):

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Penalty Per Violation	Period of Noncompliance
\$500	Daily Maximum Limit or Monitoring Requirement
\$1,000	Weekly Average Limit
\$1,500	Monthly Average Limit

55. <u>Gravity Main Rehabilitation or Replacement</u>. GWA's failure to meet a target to Rehabilitate or Replace Gravity Mains pursuant to Paragraph 12.b shall result in a stipulated penalty as follows:

Feet Not Completed	Penalty Per Foot		
Up to and including 5000 feet	\$6		
Over 5000 feet	\$12		

56. For failure to clean the required minimum miles of Gravity Mains in any year as set forth in Paragraph 35, GWA shall be liable for a stipulated penalty of \$3,500 per mile below the annual performance requirement.

### 57. <u>SSOs</u>.

a. For each SSO that reaches waters of the United States, GWA shall pay a stipulated penalty in the amount of \$750 for SSOs under 1,000 gallons, \$1,000 for SSOs between 1,000 and 10,000 gallons, \$4,000 for SSOs between 10,000 and 100,000 gallons, and \$10,000 for SSOs over 100,000 gallons. For each SSO that does not reach waters of the United States, GWA shall pay a stipulated penalty in the amount of \$200 for SSOs under 1,000 gallons, \$750 for SSOs between 1,000 and 10,000 gallons, \$3,000 for SSOs between 10,000 and 100,000 gallons, and \$8,000 for SSOs over 100,000 gallons. Notwithstanding the foregoing, GWA shall not be liable for stipulated penalties under this Paragraph if GWA demonstrates that an SSO was caused by vandalism or a contractor not working for GWA; and GWA demonstrates that it has used all reasonable measures to prevent said SSO and properly respond, including limiting public contact.