15. Preparing conformed Construction Contract Documents that incorporate and integrate the content of all Addenda and any amendments negotiated by Owner and Contractor.

16. Providing Construction Phase services beyond the original date for completion and readiness for final payment of Contractor, but only if such services increase the total quantity of services to be performed in the Construction Phase, rather than merely shifting performance of such services to a later date.

17. Preparing Record Drawings, and furnishing such Record Drawings to Owner.

18. Supplementing Record Drawings with information regarding the completed Project, Site, and immediately adjacent areas obtained from field observations, Owner, utility companies, and other reliable sources.

19. Conducting surveys, investigations, and field measurements to verify the accuracy of Record Drawing content obtained from Contractor, Owner, utility companies, and other sources; revise and supplement Record Drawings as needed.

20. Preparation of operation, maintenance, and staffing manuals.

21. Protracted or extensive assistance in refining and adjusting of Project equipment and systems (such as initial startup, testing, and balancing).

22. Assistance to Owner in training Owner's staff to operate and maintain Specific Project equipment and systems.

23. Assistance to Owner in developing systems and procedures for (a) control of the operation and maintenance of Project equipment and systems, and (b) related recordkeeping.

24. Preparing to serve or serving as a consultant or witness for Owner in any litigation, arbitration, mediation, lien or bond claim, or other legal or administrative proceeding involving the Project.

25. Overtime work requiring higher than regular rates.

26. Providing construction surveys and staking to enable Contractor to perform its work other than as required under Paragraph A1.05.A.8, and any type of property surveys or related engineering services needed for the transfer of interests in real property; and providing other special field surveys.

27. Providing more extensive services required to enable Engineer to issue notices or certifications requested by Owner.

28. Excessive services during any correction period, or with respect to guarantees called for in the Construction Contract (except as agreed to under Basic Services).

29. Provide assistance in responding to the presence of any Constituent of Concern at any Site, in compliance with current Laws and Regulations.

30. Other additional services performed or furnished by Engineer not otherwise provided for in this Agreement.

B. *Advance Written Authorization Not Required:* Engineer shall advise Owner in advance that Engineer will immediately commence to perform or furnish the Additional Services of the types listed below. For such Additional Services, Engineer need not request or obtain specific advance written authorization from Owner. Engineer shall cease performing or furnishing such Additional Services upon receipt of written notice from Owner. Unless expressly indicated above or in the specific Task Order to be included Basic Services, the following services are not included as part of Basic Services and will be paid for by Owner as Additional Services, using the basis of compensation for Additional Services, as indicated in the specific Task Order.

1. Services in connection with Work Change Directives and Change Orders to reflect changes requested by Owner.

2. Services in making revisions to Drawings and Specifications occasioned by the acceptance of substitute materials or equipment other than "or equal" items; services after the award of the Construction Contract in evaluating and determining the acceptability of a proposed "or equal" or substitution which is found to be inappropriate for the Project; evaluation and determination of an excessive number of proposed "or equals" or substitutions, whether proposed before or after award of the Construction Contract.

3. Services resulting from significant delays, changes, or price increases occurring as a direct or indirect result of materials, equipment, or energy shortages.

4. Additional or extended services arising from (a) the presence at the Site of any Constituent of Concern or items of historical or cultural significance, (b) emergencies or acts of God endangering the Work, (c) damage to the Work by fire or other causes during construction, (d) a significant amount of defective, neglected, or delayed Work, (e) acceleration of the progress schedule involving services beyond normal working hours, or (f) default by Contractor.

5. Services (other than Basic Services during the Post-Construction Phase) in connection with any partial utilization of the Work by Owner prior to Substantial Completion.

6. Evaluating unreasonable or frivolous requests for interpretation or information (RFIs), Change Proposals, or other demands from Contractor or others in connection with the Work, or an excessive number of RFIs, Change Proposals, or demands.

7. Reviewing a Shop Drawing or other Contractor submittal more than three times, as a result of repeated inadequate submissions by Contractor.

8. While at the Site, compliance by Engineer and its staff with those terms of Owner's or Contractor's safety program provided to Engineer subsequent to the Effective Date that exceed those normally required of engineering personnel by federal, State, or local safety authorities for similar construction sites.

This is **EXHIBIT B**, consisting of [ ] pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services – Task Order Edition** dated [ ].

## Owner's Responsibilities

Article 2 of the Agreement is amended and supplemented to include the following responsibilities unless expressly stated otherwise in a Task Order.

B2.01 *Specific Responsibilities*

A. Owner shall:

1. Provide Engineer with all criteria and full information as to Owner's requirements for the Specific Project, including design objectives and constraints, space, capacity and performance requirements, flexibility, and expandability, and any budgetary limitations.

2. Give instructions to Engineer regarding Owner's procurement of construction services (including instructions regarding advertisements for bids, instructions to bidders, and requests for proposals, as applicable), Owner's construction contract practices and requirements, insurance and bonding requirements, electronic transmittals during construction, and other information necessary for the finalization of Owner's bidding-related documents (or requests for proposals or other construction procurement documents), and Construction Contract Documents. Furnish copies (or give specific directions requesting Engineer to use copies already in Engineer's possession) of all design and construction standards, Owner's standard forms, general conditions (if other than EJCDC® C-700, Standard General Conditions of the Construction Contract, 2013 Edition), supplementary conditions, text, and related documents and content for Engineer to include in the draft bidding-related documents (or requests for proposals or other construction procurement documents), and draft Construction Contract Documents, when applicable. Owner shall have responsibility for the final content of (1) such bidding-related documents (or requests for proposals or other construction procurement documents), and (2) those portions of any Construction Contract other than the design (as set forth in the Drawings, Specifications, or otherwise), and other engineering or technical matters; and Owner shall seek the advice of Owner's legal counsel, risk managers, and insurance advisors with respect to the drafting and content of such documents.

3. Furnish to Engineer any other available information pertinent to the Specific Project including reports and data relative to previous designs, construction, or investigation at or adjacent to the Site.

4. Following Engineer's assessment of initially-available Specific Project information and data and upon Engineer's request, obtain, furnish, or otherwise make available (if necessary through title searches, or retention of specialists or consultants) such additional Project-related information and data as is reasonably required to enable Engineer to complete its Basic and Additional Services. Such additional information or data would generally include the following:

   a. Property descriptions.

b. Zoning, deed, and other land use restrictions.

c. Utility and topographic mapping and surveys.

d. Property, boundary, easement, right-of-way, and other special surveys or data, including establishing relevant reference points.

e. Explorations and tests of subsurface conditions at or adjacent to the Site; geotechnical reports and investigations; drawings of physical conditions relating to existing surface or subsurface structures at the Site; hydrographic surveys, laboratory tests and inspections of samples, materials, and equipment; with appropriate professional interpretation of such information or data.

f. Environmental assessments, audits, investigations, and impact statements, and other relevant environmental, historical, or cultural studies relevant to the Specific Project, the Site, and adjacent areas.

g. Data or consultations as required for the Project but not otherwise identified in this Agreement.

5. Arrange for safe access to and make all provisions for Engineer to enter upon public and private property as required for Engineer to perform services under the Agreement.

6. Recognizing and acknowledging that Engineer's services and expertise do not include the following services, provide, as required for the Project:

   a. Accounting, bond and financial advisory (including, if applicable, "municipal advisor" services as described in Section 975 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (2010) and the municipal advisor registration rules issued by the Securities and Exchange Commission), independent cost estimating, and insurance counseling services.

   b. Legal services with regard to issues pertaining to the Project as Owner requires, Contractor raises, or Engineer reasonably requests.

   c. Such auditing services as Owner requires to ascertain how or for what purpose Contractor has used the money paid.

7. Provide the services of an independent testing laboratory to perform all inspections, tests, and approvals of samples, materials, and equipment required by the Construction Contract Documents (other than those required to be furnished or arranged by Contractor), or to evaluate the performance of materials, equipment, and facilities of Owner, prior to their incorporation into the Work with appropriate professional interpretation thereof. Provide Engineer with the findings and reports generated by testing laboratories, including findings and reports obtained from or through Contractor.

8. Provide reviews, approvals, and permits from all governmental authorities having jurisdiction to approve all phases of the Project designed or specified by Engineer and such reviews, approvals, and consents from others as may be necessary for completion of each phase of the Project.

9. Advise Engineer of the identity and scope of services of any independent consultants employed by Owner to perform or furnish services in regard to the Project, including, but not limited to, cost estimating, project peer review, value engineering, and constructability review.

10. If Owner designates a construction manager or an individual or entity other than, or in addition to, Engineer to represent Owner at the Site, define and set forth as an attachment to this Exhibit B the duties, responsibilities, and limitations of authority of such other party and the relation thereof to the duties, responsibilities, and authority of Engineer.

11. If more than one prime contract is to be awarded for the Work designed or specified by Engineer, other work is to be performed at or adjacent to the Site by others or by employees of Owner, or if Owner arranges to have work performed at the Site by utility owners, then Owner shall coordinate such work unless Owner designates an individual or entity to have authority and responsibility for coordinating the activities among the various prime Contractors and others performing work. In such case Owner shall define and set forth the duties, responsibilities, and limitations of authority of such individual or entity and the relation thereof to the duties, responsibilities, and authority of Engineer as an attachment to this Exhibit B that is to be mutually agreed upon and made a part of this Agreement before such services begin.

12. Inform Engineer in writing of any specific requirements of safety or security programs that are applicable to Engineer, as a visitor to the Site.

13. Examine all alternative solutions, studies, reports, sketches, Drawings, Specifications, proposals, and other documents presented by Engineer (including obtaining advice of an attorney, risk manager, insurance counselor, financial/municipal advisor, and other advisors or consultants as Owner deems appropriate with respect to such examination) and render in writing timely decisions pertaining thereto.

14. Inform Engineer regarding any need for assistance in evaluating the possible use of Project Strategies, Technologies, and Techniques, as defined in Exhibit A.

15. Advise Engineer as to whether Engineer's assistance is requested in identifying opportunities for enhancing the sustainability of the Project.

16. Place and pay for advertisement for Bids in appropriate publications.

17. Furnish to Engineer data as to Owner's anticipated costs for services to be provided by others (including, but not limited to, accounting, bond and financial, independent cost estimating, insurance counseling, and legal advice) for Owner so that Engineer may assist Owner in collating the various cost categories which comprise Total Project Costs.

18. Attend and participate in the pre-bid conference, bid opening, pre-construction conferences, construction progress and other job related meetings, and Site visits to determine Substantial Completion and readiness of the completed Work for final payment.

19. Authorize Engineer to provide Additional Services as set forth in Part 2 of Exhibit A of the Agreement, as required.

20. Perform or provide the following: ***[Here list any additional Owner responsibilities] If there are "NONE" should indicate "NONE" or "NOT APPLICABLE."***

This is **EXHIBIT C**, consisting of [ ] pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services – Task Order Edition** dated [ ].

## Payments to Engineer for Services and Reimbursable Expenses

Article 2 of the Agreement is amended and supplemented to include the following agreement of the parties:

**ARTICLE 2 – OWNER'S RESPONSIBILITIES**

C2.01 *Basis of Compensation*

A. The bases of compensation (compensation methods) for Basic Services (including if applicable the bases of compensation for individual phases of Basic Services) and for Additional Services shall be identified in each specific Task Order (see Suggested Form of Task Order, Paragraph 6). Owner shall pay Engineer for services in accordance with the applicable basis of compensation.

B. The three following bases of compensation are used for services under the Task Orders, as identified in each specific Task Order:

1. Lump Sum (plus any expenses expressly eligible for reimbursement)

2. Standard Hourly Rates (plus any expenses expressly eligible for reimbursement)

3. Direct Labor Costs Times a Factor (plus any expenses expressly eligible for reimbursement)

C2.02 *Explanation of Compensation Methods*

A. *Lump Sum*

1. Owner shall pay Engineer a Lump Sum amount for the specified category of services.

2. The Lump Sum will include compensation for Engineer's services and services of Consultants, if any. The Lump Sum constitutes full and complete compensation for Engineer's services in the specified category, including labor costs, overhead, profit, expenses (other than those expenses expressly eligible for reimbursement, if any), and Consultant charges.

3. In addition to the Lump Sum, Engineer is also entitled to reimbursement from Owner for the following expenses reasonably and necessarily incurred by Engineer in connection with the performing or furnishing of the services in the specified category (see Appendix 1 for rates or charges): [ ] ***[List any such reimbursable expenses here, or indicate "None." If "None" then the reference to Appendix 1 may be deleted.]***

4. The portion of the Lump Sum amount billed for Engineer's services will be based upon Engineer's estimate of the proportion of the total services actually completed during the billing period to the Lump Sum.

5. The basis of any adjustment under this Article may be included at the request of the Owner, cost and pricing data pursuant to 2 GAR §3118 and will also be subject to 2 GAR §5107 Fiscal Responsibility.

B. *Standard Hourly Rates*

1. For the specified category of services, the Owner shall pay Engineer an amount equal to the cumulative hours charged to the Specific Project by each class of Engineer's employees times Standard Hourly Rates for each applicable billing class. Under this method, Engineer shall also be entitled to reimbursement from Owner for the expenses identified in Paragraph C2.03 below, and Appendix 1.

2. Standard Hourly Rates include salaries and wages paid to personnel in each billing class plus the cost of customary and statutory benefits, general and administrative overhead, non-project operating costs, and operating margin or profit.

3. Engineer's Reimbursable Expenses Schedule and Standard Hourly Rates are attached to this Exhibit as Appendices 1 and 2.

4. The total estimated compensation for the specified category of services shall be stated in the Task Order. This total estimated compensation will incorporate all labor at Standard Hourly Rates, and reimbursable expenses (including Consultants' charges, if any).

5. The amounts billed will be based on the cumulative hours charged to the specified category of services on the Specific Project during the billing period by each class of Engineer's employees times Standard Hourly Rates for each applicable billing class, plus reimbursable expenses (including Consultant's charges, if any).

6. The Standard Hourly Rates and Reimbursable Expenses Schedule shall be adjusted annually (as of [ ]) to reflect equitable changes in the compensation payable to Engineer.

C. *Direct Labor Costs Times a Factor*

1. For the specified category of services, the Owner shall pay Engineer an amount equal to Engineer's Direct Labor Costs times a factor of [ ] for the services of Engineer's employees engaged on the Specific Project. Direct Labor Costs means salaries and wages paid to employees but does not include payroll-related costs or benefits. Under this method, Engineer shall also be entitled to reimbursement from Owner for the expenses identified in Paragraph C2.03 below, and Appendix 1.

2. Engineer's Reimbursable Expenses Schedule is attached to this Exhibit as Appendix 1.

3. The total estimated compensation for the specified category of services shall be stated in the Task Order. This total estimated compensation incorporates all labor, overhead, profit, and reimbursable expenses (including Consultant's charges, if any).

4. The amounts billed will be based on the applicable Direct Labor Costs for the cumulative hours charged to the specified category of services on the Specific Project during the billing period times the above-designated Factor, plus reimbursable expenses (including Consultant's charges, if any).

5. The Direct Labor Costs and the factor applied to Direct Labor Costs will be adjusted annually (as of [ ]) to reflect equitable changes in the compensation payable to Engineer.

C2.03 *Reimbursable Expenses*

A. Under the Lump Sum method basis of compensation to Engineer, unless expressly indicated otherwise the Lump Sum amount **includes** the following categories of expenses: transportation (including mileage), lodging, and subsistence incidental thereto; providing and maintaining field office facilities including furnishings and utilities; toll telephone calls, mobile phone services, and courier charges; reproduction of reports, Drawings, Specifications, bidding-related or other procurement documents, Construction Contract Documents, and similar Specific Project-related items; and Consultant charges. These expenses are not reimbursable under the Lump Sum method, unless expressly indicated otherwise in C2.02.A.3 above.

B. Expenses eligible for reimbursement under the Direct Labor Costs Times a Factor and Standard Hourly Rate methods of compensation include the following expenses reasonably and necessarily incurred by Engineer in connection with the performing or furnishing of Basic and Additional Services for the Task Order: transportation (including mileage), lodging, and subsistence incidental thereto; providing and maintaining field office facilities including furnishings and utilities; toll telephone calls, mobile phone services, and courier services; reproduction of reports, Drawings, Specifications, bidding-related or other procurement documents, Construction Contract Documents, and similar Specific Project-related items; Consultant charges; and any other expenses identified in Appendix 1.

C. Reimbursable expenses reasonably and necessarily incurred in connection with services provided under the Direct Labor Costs Times a Factor and Standard Hourly Rate methods shall be paid at the rates set forth in Appendix 1, Reimbursable Expenses Schedule, subject to the factors set forth below.

D. The amounts payable to Engineer for reimbursable expenses will be the Project-specific internal expenses actually incurred or allocated by Engineer, plus all invoiced external reimbursable expenses allocable to the Specific Project, the latter multiplied by a factor of [ 1.1 ].

E. Whenever Engineer is entitled to compensation for the charges of its Consultants, those charges shall be the amount billed by such Consultants to Engineer times a factor of [ ].

F. The external reimbursable expenses and Consultants' factors include Engineer's overhead and profit associated with Engineer's responsibility for the administration of such services and costs.

C2.04 *Serving as a Witness*

A. SECTION DELETED / NOT USED

C2.05 *Other Provisions Concerning Payment*

A. *Extended Contract Times:* Should the Contract Times to complete the Work be extended beyond the period stated in the Task Order, payment for Engineer's services shall be continued based on the Standard Hourly Rates Method of Payment.

B. *Estimated Compensation Amounts*

1. Engineer's estimate of the amounts that will become payable for services are only estimates for planning purposes, are not binding on the parties, and are not the minimum or maximum amounts payable to Engineer under the Agreement.

2. When estimated compensation amounts have been stated in a Task Order and it subsequently becomes apparent to Engineer that a compensation amount thus estimated will be exceeded, Engineer shall give Owner written notice thereof. Promptly thereafter Owner and Engineer shall review the matter of services remaining to be performed and compensation for such services. Owner shall either agree to such compensation exceeding said estimated amount or Owner and Engineer shall agree to a reduction in the remaining services to be rendered by Engineer so that total compensation for such services will not exceed said estimated amount when such services are completed. If Engineer exceeds the estimated amount before Owner and Engineer have agreed to an increase in the compensation due Engineer or a reduction in the remaining services, the Engineer shall give written notice thereof to Owner and shall be paid for all services rendered thereafter.

This is **Appendix 1 to EXHIBIT C**, referred to in and part of the **Agreement between Owner and Engineer for Professional Services – Task Order Edition**, dated [ ].

## Reimbursable Expenses Schedule

Expenses eligible for reimbursement are subject to review and adjustment per Exhibit C. Rates and charges for reimbursable expenses as of the date of the Agreement are:

| | |
|---|---|
| 8"x11" Copies/Impressions | _____/page |
| Copies of Drawings | _____/sq. ft. |
| Mileage (auto) | _____/mile |
| Air Transportation | at cost |
| CAD Charge | _____/hour |
| Laboratory Testing | at cost |
| Health and Safety Level D | _____/day |
| Health and Safety Level C | _____/day |
| Meals and Lodging | at cost |

***[Note to User: Customize this Schedule to reflect anticipated reimbursable expenses on this Specific Project]***

This is **Appendix 2 to EXHIBIT C**, referred to in and part of the **Agreement between Owner and Engineer for Professional Services – Task Order Edition** dated [ ].

**Standard Hourly Rates Schedule**

The following standard hourly rates are subject to review and adjustment per Exhibit C. Hourly rates for services as of the Effective Date of the Task Order are:

| | |
|---|---|
| Billing Class VIII | $ _____/hour |
| Billing Class VII | $ _____/hour |
| Billing Class VI | $ _____/hour |
| Billing Class V | $ _____/hour |
| Billing Class IV | $ _____/hour |
| Billing Class III | $ _____/hour |
| Billing Class II | $ _____/hour |
| Billing Class I | $ _____/hour |

***[Note to User: The categories above (Billing Classes VIII through I) are traditional hourly rate classes for engineering services, but the classes themselves do not currently have widely accepted or understood meanings or definitions. Many approaches are possible for establishing the hourly rates that will be charged. These include defining the categories (for example, "Billing Class VI—Assistant Project Manager"), or using the engineering firm's own professional classifications. If hourly rates are ascribed to specific individuals, the user should ensure that changes in professional personnel and rates are allowable over the Project's course.]***

This is **EXHIBIT D**, consisting of [ ] pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services – Task Order Edition** dated [ ].

**Schedule of Duties, Responsibilities, and Limitations of Authority of Owner's Project Representative (NOT USED)**

This is **EXHIBIT E**, consisting of [ ] pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services – Task Order Edition** dated [ ].

## NOTICE OF ACCEPTABILITY OF WORK

SPECIFIC PROJECT:

OWNER:

OWNER'S CONSTRUCTION CONTRACT IDENTIFICATION:

EFFECTIVE DATE OF THE CONSTRUCTION CONTRACT:

ENGINEER:

**NOTICE DATE:**

To: _____
OWNER

And To: _____
CONTRACTOR

From: _____
ENGINEER

The Engineer hereby gives notice to the above Owner and Contractor that Engineer has recommended final payment of Contractor, and that the Work furnished and performed by Contractor under the above Construction Contract is acceptable, expressly subject to the provisions of the related Contract Documents, the Agreement between Owner and Engineer for Professional Services dated _____, _____, and the following terms and conditions of this Notice.

## CONDITIONS OF NOTICE OF ACCEPTABILITY OF WORK

The Notice of Acceptability of Work ("Notice") is expressly made subject to the following terms and conditions to which all persons who receive said Notice and rely thereon agree:

1. This Notice is given with the skill and care ordinarily used by members of the engineering profession practicing under similar conditions at the same time and in the same locality.

2. This Notice reflects and is an expression of the professional judgment of Engineer.

3. This Notice is given as to the best of Engineer's knowledge, information, and belief as of the Notice Date.

4. This Notice is based entirely on and expressly limited by the scope of services Engineer has been employed by Owner to perform or furnish during construction of the Specific Project (including observation of the Contractor's work) under Engineer's Agreement with Owner, and applies only to facts that are within Engineer's knowledge or could reasonably have been ascertained by Engineer as a result of carrying out the responsibilities specifically assigned to Engineer under such Agreement.

5. This Notice is not a guarantee or warranty of Contractor's performance under the Construction Contract, an acceptance of Work that is not in accordance with the related Contract Documents, including but not limited to defective Work discovered after final inspection, nor an assumption of responsibility for any failure of Contractor to furnish and perform the Work thereunder in accordance with the Construction Contract Documents, or to otherwise comply with the Construction Contract Documents or the terms of any special guarantees specified therein.

6. This Notice does not relieve Contractor of any surviving obligations under the Construction Contract, and is subject to Owner's reservations of rights with respect to completion and final payment.

By:_____

_____

Title:_____

_____

Dated:_____

_____

This is **EXHIBIT F**, consisting of [ ] pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services – Task Order Edition** dated [ ].

**Construction Cost Limit**
**(NOT USED)**

This is **EXHIBIT G**, consisting of [ ] pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services – Task Order Edition** dated [ ].

## Insurance

Paragraph 6.05 of the Agreement is amended and supplemented to include the following agreement of the parties.

G6.05 *Insurance*

A. The limits of liability for the insurance required by Paragraphs 6.05.A and 6.05.B of the Agreement are as follows, unless and except as specifically modified by a specific Task Order:

1. By Engineer:

| | | | |
|---|---|---|---|
| a. | Workers' Compensation: | | Statutory |
| b. | Employer's Liability – | | |
| | 1) | Bodily injury, each accident: | $100,000 |
| | 2) | Bodily injury by disease, each employee: | $100,000 |
| | 3) | Bodily injury/disease, aggregate: | $200,000 |
| c. | General Liability – | | |
| | 1) | Each Occurrence (Bodily Injury and Property Damage): | $1,000,000 |
| | 2) | General Aggregate: | $2,000,000 |
| d. | Excess or Umbrella Liability – | | |
| | 1) | Each Occurrence: | $2,000,000 |
| | 2) | General Aggregate: | $4,000,000 |
| e. | Automobile Liability – Combined Single Limit (Bodily Injury and Property Damage): | | $500,000 |
| f. | Professional Liability – | | |
| | 1) | Each Claim Made: | $2,000,000 |
| | 2) | Annual Aggregate: | $4,000,000 |

To maintain, and cause to maintain throughout the life of the contract and up until the completely constructed, Insurance for the Engineer and the named sub-consultants amounts and types specific

below which name the Guam Waterworks Authority as an insured for the project in a separate endorsement:

1.

2.

3.

B. Additional Insureds:

1. The following individuals or entities are to be included on Engineer's general liability policies of insurance as additional insureds:

**Guam Waterworks Authority**

This is **EXHIBIT H**, consisting of [ ] pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services – Task Order Edition** dated [ ].

## Dispute Resolution

Paragraph 6.09 of the Agreement is supplemented to include the following agreement of the parties:

H6.09 *Dispute Resolution*

A. *Mediation:* Owner and Engineer agree that they shall first submit any and all unsettled claims, counterclaims, disputes, and other matters in question between them arising out of or relating to this Agreement, including any Task Order, or the breach thereof ("Disputes") to mediation by Owner and Engineer agree to participate in the mediation process in good faith. The process shall be conducted on a confidential basis, and shall be completed within 120 days. If such mediation is unsuccessful in resolving a Dispute, either party may seek to have the Dispute resolved by the laws of Guam or a court of competent jurisdiction, as applicable.

This is **EXHIBIT I**, consisting of [ ] pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services – Task Order Edition** dated [ ].

## Limitations of Liability

Paragraph 6.11 of the Agreement is supplemented to include the following agreement of the parties:

I6.11.A *Limitation of Engineer's Liability*

1. *Engineer's Liability Limited to Amount of Insurance Proceeds:* Engineer shall procure and maintain insurance as required by and set forth in Exhibit G to this Agreement. Notwithstanding any other provision of this Agreement, and to the fullest extent permitted by law, the total liability, in the aggregate, of Engineer and Engineer's officers, directors, members, partners, agents, employees, and Consultants to Owner and anyone claiming by, through, or under Owner for any and all claims, losses, costs, or damages whatsoever arising out of, resulting from, or in any way related to the Specific Project or the Task Order from any cause or causes, including but not limited to the negligence, professional errors or omissions, strict liability, breach of contract, indemnity obligations, or warranty express or implied, of Engineer or Engineer's officers, directors, members, partners, agents, employees, or Consultants (hereafter "Owner's Claims"), shall not exceed the total insurance proceeds paid on behalf of or to Engineer by Engineer's insurers in settlement or satisfaction of Owner's Claims under the terms and conditions of Engineer's insurance policies applicable thereto (excluding fees, costs and expenses of investigation, claims adjustment, defense, and appeal), up to the amount of insurance required under this Agreement. If no such insurance coverage is provided with respect to Owner's Claims, then the total liability, in the aggregate, of Engineer and Engineer's officers, directors, members, partners, agents, employees, and Consultants to Owner and anyone claiming by, through, or under Owner for any and all such uninsured Owner's Claims shall not exceed $[ ].

This is **EXHIBIT J**, consisting of [ ] pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated [ ].

**Special Provisions**
**(NOT USED)**

This is **EXHIBIT K**, consisting of [ ] pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services – Task Order Edition** dated [ ].

**Amendment To Task Order No. _____**

**1. Background Data:**

a. Effective Date of Task Order:

b. Owner:

c. Engineer:

d. Specific Project:

**2. Description of Modifications**

***[Include the following paragraphs that are applicable and delete those not applicable to this amendment. Refer to paragraph numbers used in the Agreement or a previous amendment for clarity with respect to the modifications to be made. Use paragraph numbers in this document for ease of reference herein and in future correspondence or amendments.]***

a. Engineer shall perform the following Additional Services: [ ]

b. The Scope of Services currently authorized to be performed by Engineer in accordance with the Task Order and previous amendments, if any, is modified as follows: [ ]

c. The responsibilities of Owner with respect to the Task Order are modified as follows: [ ]

d. For the Additional Services or the modifications to services set forth above, Owner shall pay Engineer the following additional or modified compensation: [ ]

e. The schedule for rendering services under this Task Order is modified as follows: [ ]

f. Other portions of the Task Order (including previous amendments, if any) are modified as follows: [ ]

***[List other Attachments, if any]***

**3. Task Order Summary (Reference only)**

| | | |
|---|---|---|
| a. | Original Task Order amount: | $[ ] |
| b. | Net change for prior amendments: | $[ ] |
| c. | This amendment amount: | $[ ] |
| d. | Adjusted Task Order amount: | $[ ] |

The foregoing Task Order Summary is for reference only and does not alter the terms of the Task Order, including those set forth in Exhibit C.

Owner and Engineer hereby agree to modify the above-referenced Task Order as set forth in this Amendment. All provisions of the Agreement and Task Order not modified by this or previous Amendments remain in effect. The Effective Date of this Amendment is _____.

| OWNER: | | ENGINEER: | |
|---|---|---|---|
| By: | _____ | By: | _____ |
| Title: | _____ | Title: | _____ |
| Date Signed: | _____ | Date Signed: | _____ |

This is **EXHIBIT L**, consisting of [ ] pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services – Task Order Edition** dated [ ].

## Disclosure of Known Constituents of Concerns

Paragraph 6.10 of the Agreement is supplemented to include the following agreement of the parties.

L6.10 *Known Constituents of Concerns*

A. Owner's utility systems can be reasonably expected to contain the following Constituents of Concern: Per- and Poly-fluoroalkyl substances (PFOS/PFOA), Dieldrin, microorganisms, cleaning products, and medicines.

B. In addition, the following list includes, to the best of Owner's knowledge at date of this Task Order, existing Constituents of Concern at or adjacent to the Site:

1. [*Site #1 Name/Location*]

    a. [*List all known Constituents of Concern*]

# APPENDIX A

April 18, 2024

Brown AND Caldwell

Jeanet Babauta, P.E.
Assistant General Manager - Engineering
Guam Waterworks Authority
Gloria B. Nelson Public Service Building
Route 15
Mangilao, GU 96913

**GWA Project No. S22-02-BND**

**Subject:** Revised Budget Proposal for Engineering Services of Task Order 1
**Ref:** Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Island-wide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement

Dear Ms. Babauta:

Brown and Caldwell (BC) is pleased to submit the attached budget proposal for Task Order 1 of the referenced project in the amount of **$989,532.** This total is comprised of a Lump Sum amount for Task Management and a part of the NASSCO training in the amount of $104,642 and a Time and Materials based cost of $884,890 to provide DB Contract Support, Tamuning/Tumon Hot Spots PM/CM, and the variable part of NASSCO training. Table 1 below summarizes the budget breakdown by each task of Task Order 1 and fee type. Attachment A provides further information for the budget of each subtask and Attachment B shows the breakdown of the Time and Materials portion of the budget.

**Table 1. Task Order 1 Cost Breakdown**

| Lump Sum | | | |
|---|---|---|---|
| Task | BC Fee | Subconsultant Fees | Total |
| 1 – Task Management | $69,921 | $0 | $69,921 |
| 3 – NASSCO Training | $1,771 | $27,718 | $29,489 |
| | | Lump Sum Total | $99,410 |
| | | Tax (5.263%) | $5,232 |
| | | Lump Sum Grand Total Cost | $104,642 |
| **Time and Materials** | | | |
| Task | BC Fee | Subconsultant Fees | Total |
| 2 – ID/IQ DB Contract Support | $49,714 | $0 | $49,714 |
| 3 – NASSCO Training | $0 | $17,028 | $17,028 |
| 4 – Tamuning/Tumon Hotspots PM/CM | $187,234 | $579,730 | $766,964 |
| Expenses | $6,941 | - | $6,941 |
| | | T&M Total | $840,647 |
| | | Tax (5.263%) | $44,243 |
| | | T&M Grand Total Cost | $884,890 |
| | | Task Order 1 Grand Total (Lump Sum Grand Total + T&M Grand Total) | $989,532 |

The items below outline BC's assumptions and limitations for the tasks included in the scope of work (Attachment B).

- Task 2 – ID/IQ DB Contract Support
  - GWA will prepare the DB ID/IQ Contract from an EJCDC template for a DB ID/IQ.
  - BC will support and review GWA's draft ID/IQ DB Contract and provide consultation to define essential inclusion topics and objective for the DB contract.
  - BC will provide recommendations for revisions to GWA's draft DB ID/IQ contract.
  - BC will prepare the scope of work for the Tamuning/Tumon Hot Spots project.
  - BC will prepare the general scope of work for the remaining projects intended to be included in this ID/IQ DB contract that are currently in the planning stage.
  - BC, as requested by GWA, will support the procurement process, to include: supporting the pre-bid meeting, responding to RFIs, preparing addendums, reviewing and evaluating proposals, and preparing necessary resolution documents. Additional procurement support, such as re-bidding, can be provided at the request of GWA, within the budget approved by GWA.
- Task 3 - NASSCO Training
  - Cost assumes 12 students attending the PACP, LACP, MACP, and CIPP/ITCP training courses. Reductions or additions to the number of students attending will affect the T&M cost of this subtask by $570 per student for the PACP, LACP, and MACP training, and $720 per student for CIPP/ITCP training.
  - This task's budget is based on NASSCO's 2023 Training Fee with a 20% contingency to account for an anticipated increase in class cost for 2024 and assumes 12 attendees. BC will invoice this task based on the actual cost of the class and number of attendees.
- Task 4 - Tamuning/Tumon HS PM/CM
  - Contract period of 1.5 years from contractor NTP
  - Design and Constructability review:
    - One (1) site-visit will be conducted to compare existing conditions to site conditions indicated on the TGE plans. CCTV videos that were used by the EOR to develop the Tamuning/Tumon HS design documents will be reviewed. If GWA provides newer CCTV videos, BC will review them as well. Based on the age of the CCTV videos, it is possible that further deterioration and other defects may have developed that will not be known until either construction begins or new CCTV inspections are performed. BC cannot attest to the current condition of the existing pipe or the feasibility of CIPP installation based on review of dated CCTV.
    - The design review will be limited to an opinion of design suitability and feasibility of renovation method chosen based on CCTV available, noting the limitation above. The design review will consider completeness of contract plans and specifications documents.
    - If newer CCTV videos are available, the feasibility of the selected construction method to those captured conditions will be assessed.
    - BC will identify and provide to GWA recommendations to mitigate potential risks associated with the selected construction method for sewer replacement or rehabilitation.
    - Review of underground utilities is limited to identifying visible sewer service lateral connections in the CCTV videos. Other underground utility information will not be reviewed.

- NEPA process is complete.
- EOR for the Tamuning-Tumon HS design will address all 1) design related RFIs; 2) design revision submittals; and 3) design change approvals, under separate contract between GWA and the EoR. BC will coordinate activity between DB contractor and EoR.
- Contractor will hire a third-party testing firm for specialized tests required (such as compaction density, CIPP liner, etc.), BC and EMPSCO to oversee field tests, as needed, and review test results for compliance.
- Contractor will prepare and furnish all necessary permits and plans to proceed with construction. BC will ensure permit requirements are followed during construction.
- Monthly and final reports will only include key project milestones and highlights.

The majority of the total task order cost outlined in Table 1 above is related to the construction management task, which are based on time and materials. Amount of effort required for the contract is difficult to estimate and can be variable. Further, level of effort and construction inspection can be customized and refined to GWA's preference if the level of effort assumed is different than GWA's intent.

The level of effort by BC in the development of the DB contract provisions focuses on advising the owner and reviewing draft documents produced by GWA from a EJCDC template for a DB ID/IQ contract. BC can provide the level of effort in this task (#2) as desired by GWA. It is limited in the proposed fee but can be raised to match GWA's need for assistance, as directed by GWA.

Lastly, this cost proposal does not include costs for ProCore Licensing and use. ProCore's pricing model is not fitting at this time without knowing the estimated annual construction cost for the projects to be included under the DB ID/IQ contract.

BC discussed the ProCore pricing structure with ProCore representatives so that we could provide a cost to GWA for this Task Order. We found that the price is based on two factors – first, the dollar value of the construction contract(s) that will utilize ProCore; and second, the duration of the contract(s) that will utilize ProCore. Therefore, for purposes of Task Order #1 fee proposal, BC would have to make an assumption about the ultimate cost of the entire DB ID/IQ contracts and their durations in order to provide a fee.

An assumption could result in GWA paying more than necessary or amending the TO fee after execution of the construction contract. In addition, for each Task Order, a fee for use of ProCore will be necessary. We have not included a cost for ProCore in this proposal believing that GWA will be better served (and more exactly assign cost) if ProCore is acquired by either A) making use of ProCore a DB contract requirement; or, B) adding ProCore to BC Task Order(s) once GWA issues Task Orders under the DB contract when price and duration of construction is established. I also note that ProCore is geared toward contractors' acquisition and use.

If you agree, we can proceed with option A or B described above, as you choose. If you would rather we include a price for ProCore at this time, please let us know and we can provide that quickly.

Please let me know if you would like to discuss any aspect of the scope of work or proposed fee. We look forward to beginning work on Task Order #1 and working with you to complete the scope of work.

Very truly yours,

**Brown and Caldwell**

John Riegel, Project Manager

Attachments (3)
1. Attachment A: Detailed fee breakdown
2. Attachment B: Time and Materials Breakdown
3. Attachment C: Task Order 1 Scope of Work

# Attachment A: Detailed Fee Breakdown

**Guam Waterworks Authority**
**Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Islandwide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement**
**GWA Project No. S22-02-BND**
*Task Order No. 1 - DB ID/IQ Contract Development, NASSCO Training, Tamuning/Tumon Hotspots PM/CM*

| Grand total Lump Sum plus Time and Materials: | $989,532 |
|---|---|

**Lump Sum Items**

**DB Contract Development and NASSCO Training**

| Sub-Task | Description | BC Fee | Subconsultants | Subtotal |
|---|---|---|---|---|
| 1 | Task Management | | | |
| 1.1 | Coordination, progress reporting, invoicing, meetings | $20,111 | $0 | $20,111 |
| 1.2 | Scope Documentation (Risk Register, CO Log, etc.) | $6,622 | $0 | $6,622 |
| 1.3 | Scheduling | $1,357 | $0 | $1,357 |
| 1.4 | Subcontractor coordination | $6,148 | $0 | $6,148 |
| 1.4 | Internal coordination meetings | $35,682 | $0 | $35,682 |
| | Sub-Task Totals | $69,921 | $0 | $69,921 |
| 3 | Education and Training | | | |
| 3.1 | NASSCO Coordination and Logistics | $1,771 | $0 | $1,771 |
| 3.2 | NASSCO Training Plan and Instruction | $0 | $27,718 | $27,718 |
| | Sub-Task Totals | $1,771 | $27,718 | $29,489 |
| | Total Lump Sum Items | $71,691 | $27,718 | $99,410 |
| | | Subtotal | | $99,410 |
| | | Tax | | $5,232 |
| | | Grand Total LS | | $104,642 |

**Guam Waterworks Authority**
**Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Islandwide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement**
**GWA Project No. S22-02-BND**
*Task Order No. 1 - DB ID/IQ Contract Development, NASSCO Training, Tamuning/Tumon Hotspots PM/CM*

**T&M Items** — **Construction Support and T&M of NASSCO Training**

| Sub-Task | Description | BC Fee | Subconsultants | Subtotal |
|---|---|---|---|---|
| 2 | **ID/IQ DB Contract Review** | | | |
| 2.1 | **Meetings, coordination, correspondence** | $5,867 | $0 | $5,867 |
| 2.2 | **Develop Scope of Work for DB Contract** | | | |
| 2.2.1 | Tamuning/Tumon HS | $6,113 | $0 | $6,113 |
| 2.2.2 | General SOW | $6,113 | $0 | $6,113 |
| 2.3 | **Review and Assess DB RFP Package** | $18,659 | $0 | $18,659 |
| 2.4 | **Procurement Support** | | | |
| 2.4.1 | Pre-Bid Meeting Support | $1,954 | $0 | $1,954 |
| 2.4.2 | Respond to RFIs | $3,798 | $0 | $3,798 |
| 2.4.3 | Prepare Addendums | $2,798 | $0 | $2,798 |
| 2.4.4 | Review and Evaluate proposals (includes ranking of proposals) | $4,412 | $0 | $4,412 |
| | **Sub-Task Totals** | $49,714 | $0 | $49,714 |
| 3 | **Education and Training** | | | |
| 3.3 | **NASSCO PACP/MACP/LACP Certification** | $0 | $7,524 | $7,524 |
| 3.4 | **NASSCO ITCP/CIPP Certification** | $0 | $9,504 | $9,504 |
| | **Sub-Task Totals** | $0 | $17,028 | $17,028 |
| 4 | **Tamuning/Tumon Hotspots Project and Construction Management** | | | |
| 4.1 | DB Contract Management (Change Orders, Invoicing, etc.) | $10,190 | $0 | $10,190 |
| 4.3 | Permit Development | $11,886 | $0 | $11,886 |
| 4.4 | Design and Constructibility Review | $11,372 | $0 | $11,372 |
| 4.5 | Subcontractor Expenses | $0 | $27,781 | $27,781 |
| 4.6 | **PreConstruction** | | $0 | $0 |
| 4.6.1 | Pre-Con Meeting and Documentation | $5,838 | $5,772 | $11,610 |
| 4.6.2 | Pre-Con Submittal Reviews (schedule, submittal log, phasing plan, permits etc.) | $6,282 | $19,707 | $25,989 |
| 4.7 | **Construction** | | $0 | $0 |
| 4.7.1 | Progress Meetings | $26,544 | $19,386 | $45,929 |
| 4.7.2 | Documentation (reports, as-builts, etc.) | $7,167 | $28,325 | $35,492 |
| 4.7.3 | Construction Coordination and Monitoring (schedule updates, progress tracking, permit compliance, RFIs) | $19,947 | $101,970 | $121,917 |
| 4.7.4 | Construction Invoice Review | $5,090 | $33,990 | $39,080 |
| 4.7.5 | Change Management (CCRs, claim negotiations, field orders) | $22,035 | $36,071 | $58,106 |
| 4.7.6 | Construction Inspection, including witnessing third-party testing, acceptance of work, non-conformance notice | $23,135 | $215,270 | $238,405 |
| 4.7.7 | Submittal Review | $14,940 | $22,660 | $37,600 |
| 4.7.8 | Contract reporting & documentation | $5,347 | $0 | $5,347 |
| 4.7.9 | As-builts | $1,954 | $14,345 | $16,299 |
| 4.8 | **PostConstruction** | | $0 | $0 |
| 4.8.1 | Punch List development | $1,995 | $20,373 | $22,368 |
| 4.8.2 | Final Inspection | $5,264 | $7,555 | $12,820 |
| 4.8.3 | Contract Warranties | $1,357 | $7,095 | $8,452 |
| 4.8.4 | Final Construction Report | $6,893 | $19,430 | $26,323 |
| | **Sub-Task Totals** | $187,234 | $579,730 | $766,964 |
| | **Expenses (Time and Materials)** | | | |
| | Printing and electronic file assembly | $5,500 | - | $5,500 |
| | Mileage (2000miles at $0.655/mile) | $1,441 | - | $1,441 |
| | **Expenses Totals** | $6,941 | $0 | $6,941 |
| | **Total T&M Items** | $243,889 | $596,758 | $840,647 |
| | | Subtotal | | $840,647 |
| | | Tax | | $44,243 |
| | | **Grand Total T&M** | | **$884,890** |

| | |
|---|---|
| **Grand total Lump Sum plus Time and Materials:** | **$989,532** |

# Attachment B: Time and Materials Breakdown

| Task 2 - ID/IQ DB Contract Support (T&M) | | | | | | |
|---|---|---|---|---|---|---|
| Item | Description | BC Labor | | | | Labor Cost |
| | | Riegel | Claveria | Hrncir | Weber | |
| | | $318.76 | $169.65 | $320.32 | $294.32 | |
| 2.1 | Meetings, Coordination, Correspondence | 8 | 12 | 4 | 0 | $5,867 |
| 2.2 | Develop Scope of Work for DB Contract | | | | | |
| 2.2.1 | Tamuning/Tumon HS | 10 | 10 | 2 | 2 | $6,113 |
| 2.2.2 | General SOW | 10 | 10 | 2 | 2 | $6,113 |
| 2.3 | Review and Assess DB RFP Package | 8 | 8 | 24 | 24 | $18,659 |
| 2.4 | Procurement Support | | | | | |
| 2.4.1 | Pre-Bid Meeting Support | 4 | 4 | 0 | 0 | $1,954 |
| 2.4.2 | Respond to RFIs | 4 | 4 | 3 | 3 | $3,798 |
| 2.4.3 | Prepare Addendums | 0 | 2 | 4 | 4 | $2,798 |
| 2.4.4 | Review and Evaluate Proposals (includes ranking of proposals) | 4 | 4 | 4 | 4 | $4,412 |
| | | | | | Sub-Task Totals | $49,714 |
| | | | | | Tax (5.263%) | $2,616 |
| | | | | | Sub-Task Grand Total | $52,330 |

| Task 3 - NASSCO Training (T&M) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Item | Description | BC Labor | | | | Labor Cost | Subconsultants |
| | | Riegel | Claveria | Hrncir | Weber | | |
| | | $318.76 | $169.65 | $320.32 | $294.32 | | |
| 3.3 | NASSCO PACP/MACP/LACP Certification ($570/person @ 12 pax) | 0 | 0 | 0 | 0 | $0 | $6,840 |
| 3.4 | NASSCO ITCP/CIPP Certification ($720/person @ 12 pax) | 0 | 0 | 0 | 0 | $0 | $8,640 |
| | | | | | 10% Markup on Subconsultants | - | $1,548 |
| | | | | | Sub-Task Totals | $0 | $17,028 |
| | | | | | Tax (5.263%) | | $896 |
| | | | | | Sub-Task Grand Total | | $17,924 |

| Task 4 - Tamuning/Tumon Hotspots Project and Construction Management | | | | | | | |
|---|---|---|---|---|---|---|---|
| Item | Description | BC Labor | | | | Labor Cost | Subconsultants |
| | | Riegel | Claveria | Poppe | Heramil | | |
| | | $312.49 | $169.65 | $278.30 | $87.52 | | |
| 4.1 | DB Contract Management (Change Orders, Invoicing, etc.) | 16 | 30 | | | $10,190 | |
| 4.2 | ProCore Software | | | | | | |
| 4.3 | Permit Development | 16 | 40 | | | $11,886 | |
| 4.4 | Subcontractor Expenses | | | | | | $25,256 |
| 4.5 | PreConstruction | | | | | | |
| 4.5.1 | Design and Constructability Review | | 40 | 16 | | $11,372 | |
| 4.5.1 | Pre-Con Meeting and Documentation | 8 | 16 | 2 | | $5,838 | $5,248 |
| 4.5.2 | Pre-Con Submittal Reviews (schedule, submittal log, phasing plan, permits etc.) | 4 | 16 | 8 | | $6,282 | $17,915 |
| 4.6 | Construction | | | | | | |
| 4.6.1 | Progress Meetings | 52 | 52 | 4 | | $26,544 | $17,623 |
| 4.6.2 | Documentation (reports, as-builts, etc.) | 4 | 24 | | 20 | $7,167 | $25,750 |
| 4.6.3 | Construction Coordination and Monitoring (schedule updates, progress tracking, permit compliance, RFIs) | 20 | 80 | | | $19,947 | $92,700 |
| 4.6.4 | Construction Invoice Review | | 30 | | | $5,090 | $30,900 |
| 4.6.5 | Change Management (CCRs, claim negotiations, field orders) | 30 | 60 | 8 | | $22,035 | $32,792 |
| 4.6.6 | Construction Inspection, including witnessing third-party testing, acceptance of work, non-conformance notice | 30 | 80 | | | $23,135 | $195,700 |
| 4.6.7 | Submittal Review | 4 | 40 | 24 | | $14,940 | $20,600 |
| 4.6.8 | Contract reporting & documentation | 4 | 24 | | | $5,347 | |
| 4.6.9 | As-builts | 4 | 4 | | | $1,954 | $13,041 |
| 4.7 | Post Construction | | | | | | |
| 4.7.1 | Punch List development | 2 | 8 | | | $1,995 | $18,521 |
| 4.7.2 | Final Inspection | 8 | 16 | | | $5,264 | $6,868 |
| 4.7.3 | Contract Warranties | | 8 | | | $1,357 | $6,450 |
| 4.7.4 | Final Construction Report | 2 | 24 | | 24 | $6,893 | $17,664 |
| | | | | | 10% Markup on Subconsultants | - | $52,703 |
| | | | | | Sub-Task Totals | $187,234 | $579,730 |
| | | | | | Tax (5.263%) | $40,365 | |
| | | | | | Sub-Task Grand Total | $807,329 | |

| Expenses | | | | |
|---|---|---|---|---|
| Item | Qty | Unit | Rate | Cost |
| Printing and Electronic File Assembly | 1 | ea | $5,000 | $5,000 |
| Mileage | 2000 | mi | $0.655 | $1,310 |
| | | | Expenses Total | $6,310 |
| | | | Markup (10%) | $631 |
| | | | Tax (5.263%) | $365 |
| | | | Expenses Grand Total | $7,306 |

# Attachment C: Task Order 1 Scope of Work

## TASK ORDER #1 SCOPE OF WORK

This Task Order #1 will be performed by Brown and Caldwell, herein referred to as "Engineer", under the **Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Islandwide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement Project** contract.

### Task 1: Task Management

**Approach:** Engineer staff will manage the scope, schedule, and budget associated with the work described in this Task Order to ensure that this work is managed in a manner that meets contract requirements. This includes, but is not limited to, management of documents, change, risk, and quality assurance and control. This task shall include regular progress conference calls (at least every two weeks) or meetings between Engineer and GWA personnel to review project progress, issues to be resolved, early study results, etc. This task covers efforts associated with the internal quality control and technical review process. Specifically, the Engineer will conduct internal QA/QC meetings and follow-up with technical experts as necessary during the course of the project. Internal checking or peer review of all deliverables will also be performed.

**Engineer Team Responsibilities:** Engineer staff will manage the scope, schedule and budget.

**GWA Responsibilities:** GWA staff will attend meetings, review progress reports, and assist as necessary towards the construction project completion.

### Task 2: ID/IQ Design-Build Invitation for Bid Development

**Approach:** Engineer staff will review all available information and work with GWA staff to develop the multi- step bid for a multi-award Progressive Design-Build ID/IQ for the Islandwide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement Project.

The work will include, but is not limited to:

- Conduct meetings and discussions with GWA staff on design-build (DB) contract provisions, as well as the goals and approach in DB RFP package.
- Develop, organize, and assemble a DB RFP package for GWA production.
- Submittal to GWA staff for comments, as well as review and edit of DB IFB package based on comments and discussion.
- Assist GWA staff with advertisement, pre-bid meeting(s), bid openings, review of bid packages to evaluate and rank qualified bidders, rebidding (if needed), and contracting as requested.

**Engineer Team Responsibilities:** Request and review documentation, meet with GWA staff, assist GWA to produce DB RFP, and assist as necessary throughout the procurement and bidding process. Prepare scope of work for Tumon and Tamuning Hot Spots Construction as part of the DB contract solicitation package.

**GWA Responsibilities:** Provide requested information, participate in meetings to develop and produce DB RFP. Draft DB contract package based on EJCDC template for a DB ID/IQ contract for BC review and comment.

**Products:** Invitation for Bid for the Progressive Design-Build ID/IQ for the Islandwide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement Project.

**Task 3: NASSCO Certification Training**

**Approach:** Engineer will work with GWA staff and review training needs pertaining to the National Association of Sewer Service Companies (NASSCO) Certifications, develop a training plan, and implement the training as described in the training plan.

NASSCO Certifications include:

- Pipeline Assessment Certification Program (PACP)
- Manhole Assessment Certification Program (MACP)
- Lateral Assessment Certification Program (LACP)
- Inspector Training and Certification Program (ITCP) for the inspection of Cured-in-Place Pipe (CIPP) Installation

**Engineer Team Responsibilities:** Develop a training plan/curriculum and implement training identified as in training plan.

**GWA Responsibilities:** GWA staff will provide information requested and confirm training needs, attend classes, and arrange and provide training sources as necessary.

**Products:** NASSCO Training plan/curriculum and classes with associated certifications.

**Task 4: Tamuning/Tumon Hot Spots Project/Contract Management**

**Approach**: The Engineer will manage the project and contract for the Tumon and Tamuning Hot Spots construction project when GWA awards the Task Order to the successful DB firm. The Engineer will provide project management oversight and technical subject matter expertise for the subject project. The Engineer will perform contract management, monitor contractor work plans, attend meetings with USEPA, verify as-built drawings are being prepared by others, and submit final copies of work products to GWA and USEPA. The Engineer will perform Change Order management and provide advance notification of change conditions and budget category transfer request to USEPA and seek USEPA approvals. The Engineer will assist GWA in meeting Federal requirements and conformance compliance with Federal regulations.

Work to be performed may include, but are not limited to:

a. Pre-Construction – the following elements of construction activity are required during the pre- construction stage of construction management. From the time of issuance of the Notice to Proceed (NTP for pre-construction activities prior to the issuance of DPW building permit), all duties listed in this section, at a minimum, shall be part of the CM's daily duties within typical working hours. The consultant shall perform these tasks when required in a TO.

    - Conduct a design and constructability review of the Tumon and Tamuning Hot Spots design documents. This review shall be based on the CCTV data used by the EOR to develop the Tumon and Tamuning Hot Spots contract plans and specifications, or newer CCTV videos if available. This review shall consist of:
        - Evaluation of the completeness and accuracy of the design drawings,

specifications, and other relevant documents.
  - Identifying potential conflicts, discrepancies, or ambiguities in the design.
  - Assess the constructability of the proposed design based on review of the CCTV data and site visits.
  - Evaluating the feasibility of construction activities, such as new pipe and CIPP installation.
  - Provide recommendations for updates to the Drawings and Specifications
- Attend the pre-construction conference with GWA and Contractor. Record notes of discussion, questions, answers, decisions, and other relevant items.
- Conduct weekly/bi-weekly meetings, as needed, with GWA and the Contractor.
- Review Contractor's schedule for sequencing, meeting the performance deadline, etc. Provide recommendation for approval to GWA.
- Review Contractor's master submittal log.
- Review contract material and design submittals for conformance with the specifications. Ensure all submittals are provided by the designer/contractor. Recommend approval or rejection (and why) of each submittal item. Design change submittals shall be sealed by the DB firm designer. The DB firm designer shall concur with all material substitutions. Review contractor's safety and traffic control plans. Recommend approval or rejection to GWA.
- Review the Storm Water Pollution Prevention Plan for suitability and Recommend approval or rejection to GWA for submittal to GEPA.
- Review all permits required for construction to proceed. Recommend approval or rejection to GWA for submittal to local regulatory agencies.
- If added by GWA, set up and maintain ProCore Construction Management Software for the duration of the BC IDIQ contract.

b. Construction - the following elements of construction activity are required during the construction stage of construction management. From the time of issuance of the NTP (after issuance of the DPW building permit), all duties listed in this section, at a minimum, shall be part of the CM and Inspectors daily duties within typical working hours.

- Monitor daily construction activities in compliance with the technical provisions of the contract, specifications, drawings, and applicable codes and regulations. Make daily site inspections during the course of the project to monitor construction related activities.
- Witness and document all quality control testing by the Contractor.
- If added by GWA, maintain a Construction Management Software (ProCore). All submittals shall be submitted through the management software. Daily activities shall be entered into the software.
- Review quality assurance testing conducted by independent testing consultants, as required by the plans and specifications.
- Review surveying performed under the DB Task Order.
- Prepare general correspondence as requested by GWA.
- Conduct Davis-Bacon interviews as requested by GWA, when applicable.
- Review progress payment requests for accuracy and proper reflection of actual work performed and make recommendations to GWA regarding appropriateness and approval.

- Review contractor submitted payroll records for each payment request according to contract requirements.
- Issue directives and corrective action notices dealing with quality of workmanship, non-compliance, and performance.
- At GWA's request, prepare field orders to change specific scope of work requirements.
- Monitor contractor's construction schedule and activities to ensure the contract/change order schedule is met. Review updated contractor's progress schedule and recommend approval, rejection, and corrective actions to GWA.
- Verify contractor's material supply list with regard to delivery timetable, progress schedule, and justification for payment.
- Analyze and participate in negotiating claims and contract change requests; recommend action deemed appropriate.
- Prepare for GWA approval, change orders to modify the terms of the contract (change in cost, performance time, or technical provisions). With GWA's approval, review changes to the design made by the DB firm, as necessary.
- Provide daily construction reports using the management software (ProCore), if added by GWA, which include pictures of construction highlighting on-going, finished, and deficient work, safety violations, examples of acceptable work, and other critical items. Pictures shall be clearly labeled and be taken before (to show existing conditions), during, and after construction.
- Provide monthly construction reports to highlight accomplishments, milestones achieved, summarize construction activities and significant events, meetings, and review and comment on construction schedule status. Periodically provide updated construction schedule.
- Maintain a set of As-Built drawings recording all installed facilities, deviations from the original plans, details of installation, encountered subsurface features and utilities, and critical dimensions. This set of As-Built drawings is to be separate from the Contractor's as-built drawing set to ensure the CM has their own set to check against the Contractor's set.
- Conduct weekly (or otherwise specified interval) project meetings with the contractor and GWA to discuss work progress and any concerns relating to the construction.
- Witness field tests performed by the construction contractor or his representative for compliance with the contract drawings and specifications.
- Inspect construction, installation, and assemblage of work agreed to with GWA. Verify conformance to the contract provisions and check for acceptable workmanship. Report acceptable and unacceptable work to GWA, and, if added by GWA, file through the management software (ProCore).
- Monitor and track the contractor's compliance with permits.
- Monitor and track permit and insurance expiration dates.
- Review contractor claims and provide recommendations to GWA.

c. Post Construction – the following elements of construction activity are required during the post- construction stage of construction management.

- Lead the pre-final inspection and prepare a list of incomplete work to be completed before substantial completion.
- Determine the date of beneficial occupancy, and, substantial completion according to the contract terms.
- Lead the final inspection and prepare a punch list of deficiencies to be completed before final acceptance and final payment.
- Perform or observe all operational testing for proper operation, functionality, and performance. Accumulate all performance test data and submit to GWA.
- Verify all debris removal and clean-up is done.
- Verify final quantities installed and note differences from the estimated contract amount.
- Accumulate and provide to GWA all records, documents, submittals, log books, files, test results, etc.
- Review contract required warranties, O&M manuals, etc. and verify full compliance by the contractor.
- Provide a final review of construction contractor's as-built drawings and transmit the as-built drawings to GWA.
- Provide CM's as-built drawings and transmit to GWA.
- Prepare a final construction report summarizing construction activities and issues.

**Engineer Team Responsibilities**: Manage the project and contract associated with the Tumon and Tamuning Hot Spots construction project in accordance with the Grant Conditions (Appendix B).

**GWA Responsibilities**: Provide completed design (drawings, specifications, bid schedule, and related provisions completed by the Tumon and Tamuning Hot Spots designer) for the Tumon and Tamuning Hot Spots construction project that are to be part of the DB IDIQ Task Order concurrent with and managed by this Task Order #1. Provide information, when available, as requested by the Engineer and participate in meetings and reviews of project progress. Provide CCTV data used to develop the Tumon and Tamuning Hotspots design documents.

**Products:** Project documentation

**IN WITNESS WHEREOF, the parties hereto have executed this Agreement, the Effective Date of which is indicated on Page 1.**

| OWNER: Guam Waterworks Authority | ENGINEER: |
|---|---|
| By: | By: |
| Print Name: MIGUEL C. BORDALLO, P.E. | Print Name: John Riegel |
| Title: General Manager | Title: Sr. Program Manager |
| | Date Signed: |
| | Engineer License or Firm's Certificate No. (if required): |
| | State of: |
| Date Signed: | Date Signed: |
| Address for Owner's receipt of notices: | Address for Engineer's receipt of notices: |
| Gloria B. Nelson Public Service Building | Brown and Caldwell |
| 688 Route 15 | 414 West Soledad Ave<br>STE 602, GCIC Bldg |
| Mangilao, Guam 96913 | Hagatna, GU 96910 |
| DESIGNATED REPRESENTATIVE (Paragraph 8.04): | DESIGNATED REPRESENTATIVE (Paragraph 8.04): Joseph Claveria, P.E. |
| Title: | Title: Project Manager |
| Phone Number: | Phone Number: 671-300-4227 |
| Certified Funds Available: | Approved as to Form: |
| By: | By: |
| TALING M. TAITANO, CPA, CGFM<br>GWA Chief Financial Officer | THERESA G. ROJAS, ESQ.<br>GWA Legal Counsel |

Contract Amount: $ 1,000,000.00
Contingency: $ _____
Amount Certified: $ 1,000,000.00
Funding Source: ID/IQ Placeholder Account

# Exhibit B

## ATTACHMENT 1
## TASK ORDER FORM

Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for
Islandwide Sewer Collection/Transmission System
Repair, Rehabilitation, and Replacement Project
Project No. S22-02-BND

**Task Order No. [01], consisting of ___ pages.**

In accordance with Paragraph 1.01 of the Agreement Between Owner and Engineer for Professional Services – Task Order Edition, dated [ ] ("Agreement"), Owner and Engineer agree as follows:

### 1. Background Data

| | | |
|---|---|---|
| a. | Effective Date of Task Order: | 7/12/24 |
| b. | Owner: | Guam Waterworks Authority |
| c. | Engineer: | Brown and Caldwell |
| d. | Specific Project (title): | Design-Build ID/IQ Contract Development, NASSCO Training, Tamuning/Tumon Hot Spots PM/CM |
| e. | Specific Project (description): | Provide GWA with Design-Build contract development support, design review, project and construction management services for the Tamuning/Tumon Hot Spots project, and NASSCO Training. |

### 2. Services of Engineer

A. The specific services to be provided or furnished by Engineer under this Task Order are:

SEE ATTACHED SCOPE OF WORK, ATTACHMENT A – April 18, 2024, Brown and Caldwell, Task Order No. 1 Scope of Work and Fee Proposal.

B. All of the services included above comprise Basic Services for purposes of Engineer's compensation under this Task Order.

### 3. Additional Services

Additional Services that may be authorized or necessary under this Task Order are set forth as Additional Services in Part 2—Additional Services, of Exhibit A, "Engineer's Services for Task Order," of the Agreement modified for this specific Task Order, and attached to and incorporated as part of this Task Order.

### 4. Owner's Responsibilities

Owner shall have those responsibilities set forth in Article 2 and Exhibit B of the Agreement, under this Task Order, subject to the following: None

## 5. Task Order Schedule

In addition to any schedule provisions provided in Exhibit A under this Task Order or elsewhere, the parties shall meet the following schedule:

| Party | Action | Schedule |
|---|---|---|
| Engineer | Conduct meetings and Assist Owner with Design-Build Contract Development, including organize and assemble Design-Build package, and submit for Owner comments. | Within 90 days of effective Date of Task Order |
| Engineer | Complete Constructability Review of Tamuning/Tumon Hot Spots Design and provide comments to Owner. | Within 30 days of effective Date of Task Order. |
| Owner | Submit comments regarding Design-Build package to Engineer. | Within 14 days of receipt of Design-Build Package from Engineer. |
| Owner | Submit comments and instructions regarding the Tamuning/Tumon Hot Spots Design to Engineer. | Within 14 days of receipt of Tamuning/Tumon Hot Spots Design comments from Engineer. |
| Engineer | Schedule and Provide NASSCO Training to Owner. | Within 180 days of effective Date of Task Order. |
| Engineer | Complete Pre-Construction, Construction and Closeout Phases for Tamuning/Tumon Hot Spots as described in ATTACHMENT A. | Within 360 days of Notice to Proceed for Pre-Construction, Construction, and Closeout Phases |

## 6. Payments to Engineer

A. Owner shall pay Engineer for services rendered under this Task Order based on the attached approved Task Order No. 01 Scope of Work and Fee

| Description of Service | Amount | Basis of Compensation |
|---|---|---|
| 1. Task Managment | $69,921.00 | Lump Sum |
| 2. ID/IQ DB Contract Support | $49,714.00 | Time and Materials |
| 3. NASSCO Training | | |
| i) Coordination, Logistics, Training Plan | $29,489.00 | Lump Sum |
| ii) NASSCO Certification | $17,028.00 | Time and Materials |
| 4. Tamuning/Tumon Hot Spots PM/CM | | |

| | | |
|---|---|---|
| i) PM/CM | $755,592.00 | Time and Materials |
| ii) Design and Constructability Review | $11,372.00 | Time and Materials |
| Expenses | $6,941.00 | Time and Materials |
| GRT (5.263%) | $49,475.00 | |
| | | |
| **TOTAL COMPENSATION** | $989,532.00 | |
| | | |

Compensation items and totals based in whole or in part on Hourly Rates or Direct Labor are estimates only. Lump sum amounts and estimated totals included in the breakdown by phases incorporate Engineer's labor, overhead, profit, reimbursable expenses (if any), and Consultants' charges, if any. For lump sum items, Engineer may alter the distribution of compensation between individual phases (line items) to be consistent with services actually rendered, but shall not exceed the total lump sum compensation amount unless approved in writing by the Owner.

B. The terms of payment are set forth in Article 4 of the Agreement and in the applicable governing provisions of Exhibit C of the Agreement.

7. **Consultants retained as of the Effective Date of the Task Order**: Not Applicable

8. **Other Modifications to Agreement and Exhibits:**

   a. The following replaces and supersedes Agreement, Article 6, Paragraph 6.02.A:

      For each design performed or furnished, Engineer shall be responsible for Design Services during Construction as well as all duties required in performance of the Engineer as the Construction/Project manager as defined in the Scope of Work and/or Task Order. Engineer, as both designer and Construction/Project Manager, shall be responsible for design and Shop Drawing review, review and response to Requests for Information and Contractor claims, Construction Contract administration, processing of Change Orders and submittals, revisions to the Construction Contract Documents during construction, construction observation and review, review of Contractor's payment applications, and all other necessary Construction Phase administrative, engineering, and professional services.

   b. The following replaces and supersedes Agreement, Article 7, Paragraph 7.01.A.15

      *Construction Management* – Represent the owner's interest and provide technical expertise in the oversight of the project, directly for the owner. Primary duties shall be to observe and monitor contractor activities at a construction site to meet a project's goals, plans, specifications, schedule, and safety standards as defined in the Task Order.

9. **Attachments:** ATTACHMENT A – April 18, 2024, Brown and Caldwell, Task Order No. 1 Scope of Work and Fee Proposal.

10. **Other Documents Incorporated by Reference:** Not Applicable

**11. Terms and Conditions**

Execution of this Task Order by Owner and Engineer shall make it subject to the terms and conditions of the Agreement (as modified above), which Agreement is incorporated by this reference. Engineer is authorized to begin performance upon its receipt of a copy of this Task Order signed by Owner.

The Effective Date of this Task Order is [ ]

OWNER: Guam Waterworks Authority

By: Acting GM 7/12/24

Print Name: For MIGUEL C. BORDALLO, P.E.

Title: General Manager

ENGINEER:

By:

Print Name: John Riegel

Title: Sr. Program Manager

Engineer License or Firm's Certificate No. (if required):

State of:

DESIGNATED REPRESENTATIVE FOR TASK ORDER:

Name:

Title:

Address:

E-Mail Address:

Phone:

DESIGNATED REPRESENTATIVE FOR TASK ORDER:

Name: Joseph Claveria, P.E.

Title: Project Manager

Address: Brown and Caldwell
414 West Soledad Ave
STE 602, GCIC Bldg
Hagatna, GU 96910

Email Address: jclaveria@brwncald.com

Phone: 671-300-4227

Engineering Department Approval:

By:

JEANET B. OWENS, P.E.
GWA Asst. General Manager of Engineering

Certified Funds Available:

By: _____ 7/11/2024
TALING M. TAITANO, CPA, CGFM
GWA Chief Financial Officer
7/11/24
07/11/24

Approved as to Form:

Note: Contract sent for OAG review on 6/18/24. Response requested by 7/2/2024 but no OAG response received. If amendments as to form and legality are later required GWA can comply and seek amendments under the relevant procurement rules and regs OR seek out the legal remedies at 5 G.C.A. 5452

By: _____ 7/8/24
THERESA G. ROJAS, ESQ.
GWA Legal Counsel

Contract Amount: $ 989,532.00
Contingency: $ _____
Amount Certified: $ 989,532.00
Funding Source: ~~USEPA Grant M96902621~~
BOND 2020 MP-NW-PIPE-01
AC PLACEHOLDER.
7/11/24

# ATTACHMENT A

April 18, 2024

Brown AND Caldwell

Jeanet Babauta, P.E.
Assistant General Manager - Engineering
Guam Waterworks Authority
Gloria B. Nelson Public Service Building
Route 15
Mangilao, GU 96913

**GWA Project No. S22-02-BND**

**Subject:** Revised Budget Proposal for Engineering Services of Task Order 1
**Ref:** Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Island-wide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement

Dear Ms. Babauta:

Brown and Caldwell (BC) is pleased to submit the attached budget proposal for Task Order 1 of the referenced project in the amount of **$989,532.** This total is comprised of a Lump Sum amount for Task Management and a part of the NASSCO training in the amount of $104,642 and a Time and Materials based cost of $884,890 to provide DB Contract Support, Tamuning/Tumon Hot Spots PM/CM, and the variable part of NASSCO training. Table 1 below summarizes the budget breakdown by each task of Task Order 1 and fee type. Attachment A provides further information for the budget of each subtask and Attachment B shows the breakdown of the Time and Materials portion of the budget.

**Table 1. Task Order 1 Cost Breakdown**

| Lump Sum | | | |
|---|---|---|---|
| Task | BC Fee | Subconsultant Fees | Total |
| 1 – Task Management | $69,921 | $0 | $69,921 |
| 3 – NASSCO Training | $1,771 | $27,718 | $29,489 |
| | | Lump Sum Total | $99,410 |
| | | Tax (5.263%) | $5,232 |
| | | Lump Sum Grand Total Cost | $104,642 |
| **Time and Materials** | | | |
| Task | BC Fee | Subconsultant Fees | Total |
| 2 – ID/IQ DB Contract Support | $49,714 | $0 | $49,714 |
| 3 – NASSCO Training | $0 | $17,028 | $17,028 |
| 4 – Tamuning/Tumon Hotspots PM/CM | $187,234 | $579,730 | $766,964 |
| Expenses | $6,941 | - | $6,941 |
| | | T&M Total | $840,647 |
| | | Tax (5.263%) | $44,243 |
| | | T&M Grand Total Cost | $884,890 |
| | | Task Order 1 Grand Total (Lump Sum Grand Total + T&M Grand Total) | $989,532 |

The items below outline BC's assumptions and limitations for the tasks included in the scope of work (Attachment B).

- Task 2 – ID/IQ DB Contract Support
  - GWA will prepare the DB ID/IQ Contract from an EJCDC template for a DB ID/IQ.
  - BC will support and review GWA's draft ID/IQ DB Contract and provide consultation to define essential inclusion topics and objective for the DB contract.
  - BC will provide recommendations for revisions to GWA's draft DB ID/IQ contract.
  - BC will prepare the scope of work for the Tamuning/Tumon Hot Spots project.
  - BC will prepare the general scope of work for the remaining projects intended to be included in this ID/IQ DB contract that are currently in the planning stage.
  - BC, as requested by GWA, will support the procurement process, to include: supporting the pre-bid meeting, responding to RFIs, preparing addendums, reviewing and evaluating proposals, and preparing necessary resolution documents. Additional procurement support, such as re-bidding, can be provided at the request of GWA, within the budget approved by GWA.
- Task 3 - NASSCO Training
  - Cost assumes 12 students attending the PACP, LACP, MACP, and CIPP/ITCP training courses. Reductions or additions to the number of students attending will affect the T&M cost of this subtask by $570 per student for the PACP, LACP, and MACP training, and $720 per student for CIPP/ITCP training.
  - This task's budget is based on NASSCO's 2023 Training Fee with a 20% contingency to account for an anticipated increase in class cost for 2024 and assumes 12 attendees. BC will invoice this task based on the actual cost of the class and number of attendees.
- Task 4 - Tamuning/Tumon HS PM/CM
  - Contract period of 1.5 years from contractor NTP
  - Design and Constructability review:
    - One (1) site-visit will be conducted to compare existing conditions to site conditions indicated on the TGE plans. CCTV videos that were used by the EOR to develop the Tamuning/Tumon HS design documents will be reviewed. If GWA provides newer CCTV videos, BC will review them as well. Based on the age of the CCTV videos, it is possible that further deterioration and other defects may have developed that will not be known until either construction begins or new CCTV inspections are performed. BC cannot attest to the current condition of the existing pipe or the feasibility of CIPP installation based on review of dated CCTV.
    - The design review will be limited to an opinion of design suitability and feasibility of renovation method chosen based on CCTV available, noting the limitation above. The design review will consider completeness of contract plans and specifications documents.
    - If newer CCTV videos are available, the feasibility of the selected construction method to those captured conditions will be assessed.
    - BC will identify and provide to GWA recommendations to mitigate potential risks associated with the selected construction method for sewer replacement or rehabilitation.
    - Review of underground utilities is limited to identifying visible sewer service lateral connections in the CCTV videos. Other underground utility information will not be reviewed.

- NEPA process is complete.
- EOR for the Tamuning-Tumon HS design will address all 1) design related RFIs; 2) design revision submittals; and 3) design change approvals, under separate contract between GWA and the EoR. BC will coordinate activity between DB contractor and EoR.
- Contractor will hire a third-party testing firm for specialized tests required (such as compaction density, CIPP liner, etc.), BC and EMPSCO to oversee field tests, as needed, and review test results for compliance.
- Contractor will prepare and furnish all necessary permits and plans to proceed with construction. BC will ensure permit requirements are followed during construction.
- Monthly and final reports will only include key project milestones and highlights.

The majority of the total task order cost outlined in Table 1 above is related to the construction management task, which are based on time and materials. Amount of effort required for the contract is difficult to estimate and can be variable. Further, level of effort and construction inspection can be customized and refined to GWA's preference if the level of effort assumed is different than GWA's intent.

The level of effort by BC in the development of the DB contract provisions focuses on advising the owner and reviewing draft documents produced by GWA from a EJCDC template for a DB ID/IQ contract. BC can provide the level of effort in this task (#2) as desired by GWA. It is limited in the proposed fee but can be raised to match GWA's need for assistance, as directed by GWA.

Lastly, this cost proposal does not include costs for ProCore Licensing and use. ProCore's pricing model is not fitting at this time without knowing the estimated annual construction cost for the projects to be included under the DB ID/IQ contract.

BC discussed the ProCore pricing structure with ProCore representatives so that we could provide a cost to GWA for this Task Order. We found that the price is based on two factors – first, the dollar value of the construction contract(s) that will utilize ProCore; and second, the duration of the contract(s) that will utilize ProCore. Therefore, for purposes of Task Order #1 fee proposal, BC would have to make an assumption about the ultimate cost of the entire DB ID/IQ contracts and their durations in order to provide a fee.

An assumption could result in GWA paying more than necessary or amending the TO fee after execution of the construction contract. In addition, for each Task Order, a fee for use of ProCore will be necessary. We have not included a cost for ProCore in this proposal believing that GWA will be better served (and more exactly assign cost) if ProCore is acquired by either A) making use of ProCore a DB contract requirement; or, B) adding ProCore to BC Task Order(s) once GWA issues Task Orders under the DB contract when price and duration of construction is established. I also note that ProCore is geared toward contractors' acquisition and use.

If you agree, we can proceed with option A or B described above, as you choose. If you would rather we include a price for ProCore at this time, please let us know and we can provide that quickly.

Please let me know if you would like to discuss any aspect of the scope of work or proposed fee. We look forward to beginning work on Task Order #1 and working with you to complete the scope of work.

Very truly yours,

**Brown and Caldwell**

John Riegel, Project Manager

Attachments (3)
1. Attachment A: Detailed fee breakdown
2. Attachment B: Time and Materials Breakdown
3. Attachment C: Task Order 1 Scope of Work

# Attachment A: Detailed Fee Breakdown

**Guam Waterworks Authority**
**Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Islandwide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement**
**GWA Project No. S22-02-BND**
*Task Order No. 1 - DB ID/IQ Contract Development, NASSCO Training, Tamuning/Tumon Hotspots PM/CM*

| Grand total Lump Sum plus Time and Materials: | $989,532 |
|---|---|

**Lump Sum Items** — DB Contract Development and NASSCO Training

| Sub-Task | Description | BC Fee | Subconsultants | Subtotal |
|---|---|---|---|---|
| 1 | Task Management | | | |
| 1.1 | Coordination, progress reporting, invoicing, meetings | $20,111 | $0 | $20,111 |
| 1.2 | Scope Documentation (Risk Register, CO Log, etc.) | $6,622 | $0 | $6,622 |
| 1.3 | Scheduling | $1,357 | $0 | $1,357 |
| 1.4 | Subcontractor coordination | $6,148 | $0 | $6,148 |
| 1.4 | Internal coordination meetings | $35,682 | $0 | $35,682 |
| | Sub-Task Totals | $69,921 | $0 | $69,921 |
| 3 | Education and Training | | | |
| 3.1 | NASSCO Coordination and Logistics | $1,771 | $0 | $1,771 |
| 3.2 | NASSCO Training Plan and Instruction | $0 | $27,718 | $27,718 |
| | Sub-Task Totals | $1,771 | $27,718 | $29,489 |
| | Total Lump Sum Items | $71,691 | $27,718 | $99,410 |
| | | Subtotal | | $99,410 |
| | | Tax | | $5,232 |
| | | Grand Total LS | | $104,642 |

**Guam Waterworks Authority**
**Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Islandwide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement**
**GWA Project No. S22-02-BND**
*Task Order No. 1 - DB ID/IQ Contract Development, NASSCO Training, Tamuning/Tumon Hotspots PM/CM*

**T&M Items** — **Construction Support and T&M of NASSCO Training**

| Sub-Task | Description | BC Fee | Subconsultants | Subtotal |
|---|---|---|---|---|
| 2 | **ID/IQ DB Contract Review** | | | |
| 2.1 | **Meetings, coordination, correspondence** | $5,867 | $0 | $5,867 |
| 2.2 | **Develop Scope of Work for DB Contract** | | | |
| 2.2.1 | Tamuning/Tumon HS | $6,113 | $0 | $6,113 |
| 2.2.2 | General SOW | $6,113 | $0 | $6,113 |
| 2.3 | **Review and Assess DB RFP Package** | $18,659 | $0 | $18,659 |
| 2.4 | **Procurement Support** | | | |
| 2.4.1 | Pre-Bid Meeting Support | $1,954 | $0 | $1,954 |
| 2.4.2 | Respond to RFIs | $3,798 | $0 | $3,798 |
| 2.4.3 | Prepare Addendums | $2,798 | $0 | $2,798 |
| 2.4.4 | Review and Evaluate proposals (includes ranking of proposals) | $4,412 | $0 | $4,412 |
| | **Sub-Task Totals** | $49,714 | $0 | $49,714 |
| 3 | **Education and Training** | | | |
| 3.3 | **NASSCO PACP/MACP/LACP Certification** | $0 | $7,524 | $7,524 |
| 3.4 | **NASSCO ITCP/CIPP Certification** | $0 | $9,504 | $9,504 |
| | **Sub-Task Totals** | $0 | $17,028 | $17,028 |
| 4 | **Tamuning/Tumon Hotspots Project and Construction Management** | | | |
| 4.1 | DB Contract Management (Change Orders, Invoicing, etc.) | $10,190 | $0 | $10,190 |
| 4.3 | Permit Development | $11,886 | $0 | $11,886 |
| 4.4 | Design and Constructibility Review | $11,372 | $0 | $11,372 |
| 4.5 | Subcontractor Expenses | $0 | $27,781 | $27,781 |
| 4.6 | **PreConstruction** | | $0 | $0 |
| 4.6.1 | Pre-Con Meeting and Documentation | $5,838 | $5,772 | $11,610 |
| 4.6.2 | Pre-Con Submittal Reviews (schedule, submittal log, phasing plan, permits etc.) | $6,282 | $19,707 | $25,989 |
| 4.7 | **Construction** | | $0 | $0 |
| 4.7.1 | Progress Meetings | $26,544 | $19,386 | $45,929 |
| 4.7.2 | Documentation (reports, as-builts, etc.) | $7,167 | $28,325 | $35,492 |
| 4.7.3 | Construction Coordination and Monitoring (schedule updates, progress tracking, permit compliance, RFIs) | $19,947 | $101,970 | $121,917 |
| 4.7.4 | Construction Invoice Review | $5,090 | $33,990 | $39,080 |
| 4.7.5 | Change Management (CCRs, claim negotiations, field orders) | $22,035 | $36,071 | $58,106 |
| 4.7.6 | Construction Inspection, including witnessing third-party testing, acceptance of work, non-conformance notice | $23,135 | $215,270 | $238,405 |
| 4.7.7 | Submittal Review | $14,940 | $22,660 | $37,600 |
| 4.7.8 | Contract reporting & documentation | $5,347 | $0 | $5,347 |
| 4.7.9 | As-builts | $1,954 | $14,345 | $16,299 |
| 4.8 | **PostConstruction** | | $0 | $0 |
| 4.8.1 | Punch List development | $1,995 | $20,373 | $22,368 |
| 4.8.2 | Final Inspection | $5,264 | $7,555 | $12,820 |
| 4.8.3 | Contract Warranties | $1,357 | $7,095 | $8,452 |
| 4.8.4 | Final Construction Report | $6,893 | $19,430 | $26,323 |
| | **Sub-Task Totals** | $187,234 | $579,730 | $766,964 |
| | **Expenses (Time and Materials)** | | | |
| | Printing and electronic file assembly | $5,500 | - | $5,500 |
| | Mileage (2000miles at $0.655/mile) | $1,441 | - | $1,441 |
| | **Expenses Totals** | $6,941 | $0 | $6,941 |
| | **Total T&M Items** | $243,889 | $596,758 | $840,647 |
| | | | Subtotal | $840,647 |
| | | | Tax | $44,243 |
| | | | **Grand Total T&M** | **$884,890** |

| | |
|---|---|
| **Grand total Lump Sum plus Time and Materials:** | **$989,532** |

# Attachment B: Time and Materials Breakdown

| Task 2 - ID/IQ DB Contract Support (T&M) | | | | | | |
|---|---|---|---|---|---|---|
| Item | Description | BC Labor | | | | Labor Cost |
| | | Riegel | Claveria | Hrncir | Weber | |
| | | $318.76 | $169.65 | $320.32 | $294.32 | |
| 2.1 | Meetings, Coordination, Correspondence | 8 | 12 | 4 | 0 | $5,867 |
| 2.2 | Develop Scope of Work for DB Contract | | | | | |
| 2.2.1 | Tamuning/Tumon HS | 10 | 10 | 2 | 2 | $6,113 |
| 2.2.2 | General SOW | 10 | 10 | 2 | 2 | $6,113 |
| 2.3 | Review and Assess DB RFP Package | 8 | 8 | 24 | 24 | $18,659 |
| 2.4 | Procurement Support | | | | | |
| 2.4.1 | Pre-Bid Meeting Support | 4 | 4 | 0 | 0 | $1,954 |
| 2.4.2 | Respond to RFIs | 4 | 4 | 3 | 3 | $3,798 |
| 2.4.3 | Prepare Addendums | 0 | 2 | 4 | 4 | $2,798 |
| 2.4.4 | Review and Evaluate Proposals (includes ranking of proposals) | 4 | 4 | 4 | 4 | $4,412 |
| | | | | | Sub-Task Totals | $49,714 |
| | | | | | Tax (5.263%) | $2,616 |
| | | | | | Sub-Task Grand Total | $52,330 |

| Task 3 - NASSCO Training (T&M) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Item | Description | BC Labor | | | | Labor Cost | Subconsultants |
| | | Riegel | Claveria | Hrncir | Weber | | |
| | | $318.76 | $169.65 | $320.32 | $294.32 | | |
| 3.3 | NASSCO PACP/MACP/LACP Certification ($570/person @ 12 pax) | 0 | 0 | 0 | 0 | $0 | $6,840 |
| 3.4 | NASSCO ITCP/CIPP Certification ($720/person @ 12 pax) | 0 | 0 | 0 | 0 | $0 | $8,640 |
| | | | | | 10% Markup on Subconsultants | - | $1,548 |
| | | | | | Sub-Task Totals | $0 | $17,028 |
| | | | | | Tax (5.263%) | $896 | |
| | | | | | Sub-Task Grand Total | $17,924 | |

| Task 4 - Tamuning/Tumon Hotspots Project and Construction Management | | | | | | | |
|---|---|---|---|---|---|---|---|
| Item | Description | BC Labor | | | | Labor Cost | Subconsultants |
| | | Riegel | Claveria | Poppe | Heramil | | |
| | | $312.49 | $169.65 | $278.30 | $87.52 | | |
| 4.1 | DB Contract Management (Change Orders, Invoicing, etc.) | 16 | 30 | | | $10,190 | |
| 4.2 | ProCore Software | | | | | | |
| 4.3 | Permit Development | 16 | 40 | | | $11,886 | |
| 4.4 | Subcontractor Expenses | | | | | | $25,256 |
| 4.5 | PreConstruction | | | | | | |
| 4.5.1 | Design and Constructability Review | | 40 | 16 | | $11,372 | |
| 4.5.1 | Pre-Con Meeting and Documentation | 8 | 16 | 2 | | $5,838 | $5,248 |
| 4.5.2 | Pre-Con Submittal Reviews (schedule, submittal log, phasing plan, permits etc.) | 4 | 16 | 8 | | $6,282 | $17,915 |
| 4.6 | Construction | | | | | | |
| 4.6.1 | Progress Meetings | 52 | 52 | 4 | | $26,544 | $17,623 |
| 4.6.2 | Documentation (reports, as-builts, etc.) | 4 | 24 | | 20 | $7,167 | $25,750 |
| 4.6.3 | Construction Coordination and Monitoring (schedule updates, progress tracking, permit compliance, RFIs) | 20 | 80 | | | $19,947 | $92,700 |
| 4.6.4 | Construction Invoice Review | | 30 | | | $5,090 | $30,900 |
| 4.6.5 | Change Management (CCRs, claim negotiations, field orders) | 30 | 60 | 8 | | $22,035 | $32,792 |
| 4.6.6 | Construction Inspection, including witnessing third-party testing, acceptance of work, non-conformance notice | 30 | 80 | | | $23,135 | $195,700 |
| 4.6.7 | Submittal Review | 4 | 40 | 24 | | $14,940 | $20,600 |
| 4.6.8 | Contract reporting & documentation | 4 | 24 | | | $5,347 | |
| 4.6.9 | As-builts | 4 | 4 | | | $1,954 | $13,041 |
| 4.7 | Post Construction | | | | | | |
| 4.7.1 | Punch List development | 2 | 8 | | | $1,995 | $18,521 |
| 4.7.2 | Final Inspection | 8 | 16 | | | $5,264 | $6,868 |
| 4.7.3 | Contract Warranties | | 8 | | | $1,357 | $6,450 |
| 4.7.4 | Final Construction Report | 2 | 24 | | 24 | $6,893 | $17,664 |
| | | | | | 10% Markup on Subconsultants | - | $52,703 |
| | | | | | Sub-Task Totals | $187,234 | $579,730 |
| | | | | | Tax (5.263%) | $40,365 | |
| | | | | | Sub-Task Grand Total | $807,329 | |

| Expenses | | | | |
|---|---|---|---|---|
| Item | Qty | Unit | Rate | Cost |
| Printing and Electronic File Assembly | 1 | ea | $5,000 | $5,000 |
| Mileage | 2000 | mi | $0.655 | $1,310 |
| | | | Expenses Total | $6,310 |
| | | | Markup (10%) | $631 |
| | | | Tax (5.263%) | $365 |
| | | | Expenses Grand Total | $7,306 |

# Attachment C: Task Order 1 Scope of Work

## TASK ORDER #1 SCOPE OF WORK

This Task Order #1 will be performed by Brown and Caldwell, herein referred to as "Engineer", under the **Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Islandwide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement Project** contract.

### Task 1: Task Management

**Approach:** Engineer staff will manage the scope, schedule, and budget associated with the work described in this Task Order to ensure that this work is managed in a manner that meets contract requirements. This includes, but is not limited to, management of documents, change, risk, and quality assurance and control. This task shall include regular progress conference calls (at least every two weeks) or meetings between Engineer and GWA personnel to review project progress, issues to be resolved, early study results, etc. This task covers efforts associated with the internal quality control and technical review process. Specifically, the Engineer will conduct internal QA/QC meetings and follow-up with technical experts as necessary during the course of the project. Internal checking or peer review of all deliverables will also be performed.

**Engineer Team Responsibilities:** Engineer staff will manage the scope, schedule and budget.

**GWA Responsibilities:** GWA staff will attend meetings, review progress reports, and assist as necessary towards the construction project completion.

### Task 2: ID/IQ Design-Build Invitation for Bid Development

**Approach:** Engineer staff will review all available information and work with GWA staff to develop the multi- step bid for a multi-award Progressive Design-Build ID/IQ for the Islandwide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement Project.

The work will include, but is not limited to:

- Conduct meetings and discussions with GWA staff on design-build (DB) contract provisions, as well as the goals and approach in DB RFP package.
- Develop, organize, and assemble a DB RFP package for GWA production.
- Submittal to GWA staff for comments, as well as review and edit of DB IFB package based on comments and discussion.
- Assist GWA staff with advertisement, pre-bid meeting(s), bid openings, review of bid packages to evaluate and rank qualified bidders, rebidding (if needed), and contracting as requested.

**Engineer Team Responsibilities:** Request and review documentation, meet with GWA staff, assist GWA to produce DB RFP, and assist as necessary throughout the procurement and bidding process. Prepare scope of work for Tumon and Tamuning Hot Spots Construction as part of the DB contract solicitation package.

**GWA Responsibilities:** Provide requested information, participate in meetings to develop and produce DB RFP. Draft DB contract package based on EJCDC template for a DB ID/IQ contract for BC review and comment.

**Products:** Invitation for Bid for the Progressive Design-Build ID/IQ for the Islandwide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement Project.

**Task 3: NASSCO Certification Training**

**Approach:** Engineer will work with GWA staff and review training needs pertaining to the National Association of Sewer Service Companies (NASSCO) Certifications, develop a training plan, and implement the training as described in the training plan.

NASSCO Certifications include:

- Pipeline Assessment Certification Program (PACP)
- Manhole Assessment Certification Program (MACP)
- Lateral Assessment Certification Program (LACP)
- Inspector Training and Certification Program (ITCP) for the inspection of Cured-in-Place Pipe (CIPP) Installation

**Engineer Team Responsibilities:** Develop a training plan/curriculum and implement training identified as in training plan.

**GWA Responsibilities:** GWA staff will provide information requested and confirm training needs, attend classes, and arrange and provide training sources as necessary.

**Products:** NASSCO Training plan/curriculum and classes with associated certifications.

**Task 4: Tamuning/Tumon Hot Spots Project/Contract Management**

**Approach**: The Engineer will manage the project and contract for the Tumon and Tamuning Hot Spots construction project when GWA awards the Task Order to the successful DB firm. The Engineer will provide project management oversight and technical subject matter expertise for the subject project. The Engineer will perform contract management, monitor contractor work plans, attend meetings with USEPA, verify as-built drawings are being prepared by others, and submit final copies of work products to GWA and USEPA. The Engineer will perform Change Order management and provide advance notification of change conditions and budget category transfer request to USEPA and seek USEPA approvals. The Engineer will assist GWA in meeting Federal requirements and conformance compliance with Federal regulations.

Work to be performed may include, but are not limited to:

a. Pre-Construction – the following elements of construction activity are required during the pre- construction stage of construction management. From the time of issuance of the Notice to Proceed (NTP for pre-construction activities prior to the issuance of DPW building permit), all duties listed in this section, at a minimum, shall be part of the CM's daily duties within typical working hours. The consultant shall perform these tasks when required in a TO.

    - Conduct a design and constructability review of the Tumon and Tamuning Hot Spots design documents. This review shall be based on the CCTV data used by the EOR to develop the Tumon and Tamuning Hot Spots contract plans and specifications, or newer CCTV videos if available. This review shall consist of:
        - Evaluation of the completeness and accuracy of the design drawings,

specifications, and other relevant documents.
  - Identifying potential conflicts, discrepancies, or ambiguities in the design.
  - Assess the constructability of the proposed design based on review of the CCTV data and site visits.
  - Evaluating the feasibility of construction activities, such as new pipe and CIPP installation.
  - Provide recommendations for updates to the Drawings and Specifications
- Attend the pre-construction conference with GWA and Contractor. Record notes of discussion, questions, answers, decisions, and other relevant items.
- Conduct weekly/bi-weekly meetings, as needed, with GWA and the Contractor.
- Review Contractor's schedule for sequencing, meeting the performance deadline, etc. Provide recommendation for approval to GWA.
- Review Contractor's master submittal log.
- Review contract material and design submittals for conformance with the specifications. Ensure all submittals are provided by the designer/contractor. Recommend approval or rejection (and why) of each submittal item. Design change submittals shall be sealed by the DB firm designer. The DB firm designer shall concur with all material substitutions. Review contractor's safety and traffic control plans. Recommend approval or rejection to GWA.
- Review the Storm Water Pollution Prevention Plan for suitability and Recommend approval or rejection to GWA for submittal to GEPA.
- Review all permits required for construction to proceed. Recommend approval or rejection to GWA for submittal to local regulatory agencies.
- If added by GWA, set up and maintain ProCore Construction Management Software for the duration of the BC IDIQ contract.

b. Construction - the following elements of construction activity are required during the construction stage of construction management. From the time of issuance of the NTP (after issuance of the DPW building permit), all duties listed in this section, at a minimum, shall be part of the CM and Inspectors daily duties within typical working hours.

- Monitor daily construction activities in compliance with the technical provisions of the contract, specifications, drawings, and applicable codes and regulations. Make daily site inspections during the course of the project to monitor construction related activities.
- Witness and document all quality control testing by the Contractor.
- If added by GWA, maintain a Construction Management Software (ProCore). All submittals shall be submitted through the management software. Daily activities shall be entered into the software.
- Review quality assurance testing conducted by independent testing consultants, as required by the plans and specifications.
- Review surveying performed under the DB Task Order.
- Prepare general correspondence as requested by GWA.
- Conduct Davis-Bacon interviews as requested by GWA, when applicable.
- Review progress payment requests for accuracy and proper reflection of actual work performed and make recommendations to GWA regarding appropriateness and approval.

- Review contractor submitted payroll records for each payment request according to contract requirements.
- Issue directives and corrective action notices dealing with quality of workmanship, non-compliance, and performance.
- At GWA's request, prepare field orders to change specific scope of work requirements.
- Monitor contractor's construction schedule and activities to ensure the contract/change order schedule is met. Review updated contractor's progress schedule and recommend approval, rejection, and corrective actions to GWA.
- Verify contractor's material supply list with regard to delivery timetable, progress schedule, and justification for payment.
- Analyze and participate in negotiating claims and contract change requests; recommend action deemed appropriate.
- Prepare for GWA approval, change orders to modify the terms of the contract (change in cost, performance time, or technical provisions). With GWA's approval, review changes to the design made by the DB firm, as necessary.
- Provide daily construction reports using the management software (ProCore), if added by GWA, which include pictures of construction highlighting on-going, finished, and deficient work, safety violations, examples of acceptable work, and other critical items. Pictures shall be clearly labeled and be taken before (to show existing conditions), during, and after construction.
- Provide monthly construction reports to highlight accomplishments, milestones achieved, summarize construction activities and significant events, meetings, and review and comment on construction schedule status. Periodically provide updated construction schedule.
- Maintain a set of As-Built drawings recording all installed facilities, deviations from the original plans, details of installation, encountered subsurface features and utilities, and critical dimensions. This set of As-Built drawings is to be separate from the Contractor's as-built drawing set to ensure the CM has their own set to check against the Contractor's set.
- Conduct weekly (or otherwise specified interval) project meetings with the contractor and GWA to discuss work progress and any concerns relating to the construction.
- Witness field tests performed by the construction contractor or his representative for compliance with the contract drawings and specifications.
- Inspect construction, installation, and assemblage of work agreed to with GWA. Verify conformance to the contract provisions and check for acceptable workmanship. Report acceptable and unacceptable work to GWA, and, if added by GWA, file through the management software (ProCore).
- Monitor and track the contractor's compliance with permits.
- Monitor and track permit and insurance expiration dates.
- Review contractor claims and provide recommendations to GWA.

c. Post Construction – the following elements of construction activity are required during the post- construction stage of construction management.

- Lead the pre-final inspection and prepare a list of incomplete work to be completed before substantial completion.
- Determine the date of beneficial occupancy, and, substantial completion according to the contract terms.
- Lead the final inspection and prepare a punch list of deficiencies to be completed before final acceptance and final payment.
- Perform or observe all operational testing for proper operation, functionality, and performance. Accumulate all performance test data and submit to GWA.
- Verify all debris removal and clean-up is done.
- Verify final quantities installed and note differences from the estimated contract amount.
- Accumulate and provide to GWA all records, documents, submittals, log books, files, test results, etc.
- Review contract required warranties, O&M manuals, etc. and verify full compliance by the contractor.
- Provide a final review of construction contractor's as-built drawings and transmit the as-built drawings to GWA.
- Provide CM's as-built drawings and transmit to GWA.
- Prepare a final construction report summarizing construction activities and issues.

**Engineer Team Responsibilities**: Manage the project and contract associated with the Tumon and Tamuning Hot Spots construction project in accordance with the Grant Conditions (Appendix B).

**GWA Responsibilities**: Provide completed design (drawings, specifications, bid schedule, and related provisions completed by the Tumon and Tamuning Hot Spots designer) for the Tumon and Tamuning Hot Spots construction project that are to be part of the DB IDIQ Task Order concurrent with and managed by this Task Order #1. Provide information, when available, as requested by the Engineer and participate in meetings and reviews of project progress. Provide CCTV data used to develop the Tumon and Tamuning Hotspots design documents.

**Products:** Project documentation

**Janessa Blas**

**From:** jbabauta@guamwaterworks.org
**Sent:** Thursday, July 11, 2024 2:37 PM
**To:** 'Janessa Blas'; prudencio@guamwaterworks.org; 'Yvonne Cruz'
**Cc:** 'Jude Calvo'; gjwatson@guamwaterworks.org; thomas@guamwaterworks.org
**Subject:** RE: IDIQ RRR- Brown & Caldwell

Hi Janessa; Tamuning/Tumon Hotspots is to rehab our gravity line to address Sanitary Sewer Overflows therefore please temporarily use MP-WW-Pipe-01 Gravity Pipe Rehabilitation/Replacement Program. Please let me know if you have any concerns or questions. Please approve this asap.

Thanks,
Jeanet

**From:** Janessa Blas <janessab@guamwaterworks.org>
**Sent:** Thursday, July 11, 2024 10:10 AM
**To:** prudencio@guamwaterworks.org; 'Yvonne Cruz' <ymcruz@guamwaterworks.org>
**Cc:** 'Jude Calvo' <judecalvo@guamwaterworks.org>; jbabauta@guamwaterworks.org; gjwatson@guamwaterworks.org
**Subject:** RE: IDIQ RRR- Brown & Caldwell

Encho,

Yes, there are other funds we can use as a placeholder until such time we receive the FY24 EPA Grant. Please get with Jeanet to identify. I can clear the parent ID/IQ but I cannot clear the Task Order for Design-Build ID/IQ Contract Development, NASSCO Training, Tamuning/Tumon Hot Spots PM/CM contract until a fund source is identified.

Janessa

**From:** prudencio@guamwaterworks.org <prudencio@guamwaterworks.org>
**Sent:** Tuesday, July 9, 2024 5:21 PM
**To:** 'Janessa RC Blas' <janessab@guamwaterworks.org>; 'Yvonne Cruz' <ymcruz@guamwaterworks.org>
**Cc:** 'Jude Calvo' <judecalvo@guamwaterworks.org>; jbabauta@guamwaterworks.org; gjwatson@guamwaterworks.org
**Subject:** FW: IDIQ RRR- Brown & Caldwell

Janessa,

To recap, you are holding on two agreements for signature, 1) IDIQ PM/CM for Island wide Sewer Collection/Transmission System Repair, Rehabilitation and Replacement, 2) IDIQ Engineering Design and CM Service for Asbestos Cement Pipe(ACP) Waterline Replacement. Both agreements were accompanied with with a Task Order #1.

This email is evidence of approval for item number 1- IDIQ PM/CM for Island wide sewer/collection/transmission system RRR- Task Order#1 Tumon-Tamuning Hotspots CM. Full disclosure—we are pending USEPA FY 2024 award for $850K portion. We do not expect the project to progress till another few months. Can other funds-bonds be used in-lieu of grant till award is transmitted to GWA, and agreement signed. Your call.

encho

**From:** Jude Calvo <judecalvo@guamwaterworks.org>
**Sent:** Tuesday, July 9, 2024 3:22 PM

# Exhibit C



**THE DISTRICT COURT OF GUAM**

| | |
|---|---|
| UNITED STATES OF AMERICA,<br><br>Plaintiff,<br><br>vs.<br><br>GUAM WATERWORKS AUTHORTIY and the GOVERNMENT OF GUAM,<br><br>Defendants. | CIVIL CASE NO. 24-00004<br><br>**ORDER** |

Before the court is Plaintiff United States of America's[1] Consented-To Motion to Enter Proposed Partial Consent Decree Under the Clean Water Act. *See* Mot., ECF No. 5. After a thorough review of the Partial Consent Decree, filed on January 31, 2024, the court hereby finds that the Partial Consent Decree is fair, reasonable, and consistent with the Clean Water Act. *See* Partial Consent Decree, ECF No. 2-1. Accordingly, the court will sign and enter the Partial Consent Decree as an order of this court.[2]

**SO ORDERED.**

**/s/ Frances M. Tydingco-Gatewood**
**Chief Judge**
**Dated: Aug 09, 2024**

[1] The Plaintiff is acting on behalf of the United States Environmental Protection Agency. *See* Mot. at 2, ECF No. 5.

[2] The court finds that there appear to be the following typographical errors in the Partial Consent Decree: (1) page 30, line 21, the letter "h" after the end of the sentence seems superfluous; (2) page 48, line 10, cites to "2.c"; the citation should be to "12.c"; and (3) page 56, line 5, cites to "Paragraph 476", the citation should be to "Paragraph 46". Partial Consent Decree, ECF No. 2-1. The court notes that the page numbers referenced in this footnote are taken from the document itself and not CM/ECF. If the parties agree that these are typographical errors, the court will allow the parties to come to the clerk's office and make the corrections by interlineation.

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United States Department of Justice
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Attorneys for the United States of America



IN THE DISTRICT COURT OF GUAM

UNITED STATES OF AMERICA,

Plaintiff,

v.

GUAM WATERWORKS AUTHORITY and the GOVERNMENT OF GUAM,

Defendants.

Civil Action No. 24-00004

PARTIAL CONSENT DECREE

## TABLE OF CONTENTS

Plaintiff United States of America, on behalf of the United States Environmental Protection Agency ("EPA"), has filed a complaint in this action concurrently with the lodging of this Consent Decree (the "Complaint"), alleging that Guam Waterworks Authority ("GWA" or "Defendant") violated the conditions and limitations of GWA's National Pollutant Discharge Elimination System ("NPDES") permits EPA issued to GWA pursuant to Section 402 of the Clean Water Act ("CWA" or "Act"), 33 U.S.C. § 1342.

GWA, a public corporation, owns and operates a publicly owned treatment works ("POTW") that collects, treats, and disposes of sanitary sewage for the Territory of Guam including certain U.S. military installations. The Complaint alleges that GWA is violating the Act by discharging untreated sewage from its Wastewater Collection System in violation of its NPDES permits. The Complaint also alleges that GWA is violating the Act by discharging sewage from its Northern District Wastewater Treatment Plant ("Northern District WWTP") and Agaña/Hagåtña Wastewater Treatment Plant ("Hagåtña WWTP") in violation of its NPDES permits. The Parties acknowledge that in 2022, GWA upgraded its Northern District WWTP to secondary treatment technology to address certain of these alleged violations. The Parties also acknowledge that GWA has initiated several other actions specified herein in Section V (Compliance Requirements).

GWA has alleged certain hardships and provided documentation to the United States, detailing its financial hardship and other limitations on its ability to make infrastructure improvements due to Guam regulatory, labor, and construction-related constraints.

The Government of Guam ("Guam") is joined as a statutory defendant in this action pursuant to CWA Section 309(e), 33 U.S.C. § 1319(e), and shall be liable for payment of any judgment or any expenses incurred as a result of complying with any judgment entered against

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

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

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

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

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,

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

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

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. Implementation of Compliance Requirements. 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. Gravity Main Condition Assessment. 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.

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. Gravity Main Repair, Rehabilitation, and Replacement Program. 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. Rehabilitation or Replacement. 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

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;

c. Work Plan. Within the earlier of three (3) months of the EPA's approval 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. Annual Evaluation. 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 Long-Term 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. Capacity Assurance Program. 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. Capacity Evaluation Report. 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).

16. Capacity Assurance Report. After completing all of the Capacity Assurance 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;

e. Conduct pressure testing evaluations on all segments of Table A Force 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. Force Main Assessment Report. 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 Cove | Hagåtña | 6 | 905 | PVC | 1991 | 1.7 | 2.8 |

20. Force Main Action Plan. 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. Force Main Information. 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. Spill Response Procedures. 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. Equipment, Parts, and Supplies. 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. Force Main Operation and Maintenance Program. 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. Pump Stations: Scope of Work. 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. Pump Station priority projects. 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. Sewage Pump Stations: Tiers. 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**[1]

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

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

[1] 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. Emergency Operations. 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. Screening baskets, comminutors, or grit removal devices. 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. Proper site security and safety measures. 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. Emergency action sheets. 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. Backflow prevention devices. GWA shall install backflow prevention devices to protect potable water sources from cross-contamination from wastewater backflow.

f. Alarms and SCADA systems. GWA shall install and maintain alarms, controls, and supervisory control and data acquisition (SCADA) systems and integrate all alarms and controls to the SCADA 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 ensure that the SCADA system continuously monitors, reports, and transmits the following information:

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. MWS

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. Corrosion protection. 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. Adequate electrical panels, lighting, and Power Supply. GWA shall ensure that each Pump Station has adequate electrical panels, lighting, and Power Supply.

k. Force Mains. 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.

l. 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. Valves. 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. Computerized Maintenance Management System ("CMMS"). 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. Operational testing and performance period. GWA shall ensure that each Pump Station completes the operational testing and performance period successfully.

p. Operational Testing. 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. Performance Period. 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. Hagåtña WWTP Secondary Treatment Feasibility Study. 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 Oxygen Demand (5-day) | 97 | 140 | -- | mg/L | Weekly | 24-hour composite |
| | 4,911 | 7,055 | -- | lbs/day | | |
| | Average monthly percent removal shall not be less than 33% | | | % | | |
| Total Suspended Solids | 64 | 125 | -- | mg/L | Weekly | 24-hour composite |
| | 2,827 | 5,500 | -- | lbs/day | | |
| | Average monthly percent removal shall not be less than 50% | | | % | | |