D. *No Defense Obligation:* The indemnification commitments in this Agreement do not include a defense obligation by the indemnitor unless such obligation is expressly stated.

E. *Percentage Share of Negligence:* To the fullest extent permitted by Laws and Regulations, a party's total liability to the other party and anyone claiming by, through, or under the other party for any cost, loss, or damages caused in part by the negligence of the party and in part by the negligence of the other party or any other negligent entity or individual, shall not exceed the percentage share that the party's negligence bears to the total negligence of Owner, Engineer, and all other negligent entities and individuals.

F. *Mutual Waiver:* To the fullest extent permitted by Laws and Regulations, Owner and Engineer waive against each other, and the other's employees, officers, directors, members, agents, insurers, partners, and consultants, any and all claims for or entitlement to special, incidental, indirect, or consequential damages arising out of, resulting from, or in any way related to this Agreement or the Project, from any cause or causes.

6.12 *Records Retention*

A. Engineer shall maintain on file in legible form, for a period of five years following completion or termination of its services, all Documents, records (including cost records), and design calculations related to Engineer's services or pertinent to Engineer's performance under this Agreement. Upon Owner's request, Engineer shall provide a copy of any such item to Owner at cost.

6.13 *Miscellaneous Provisions*

A. *Notices:* Any notice required under this Agreement will be in writing, addressed to the appropriate party at its address on the signature page and given personally, by registered or certified mail postage prepaid, or by a commercial courier service. All notices shall be effective upon the date of receipt.

B. *Survival:* All express representations, waivers, indemnifications, and limitations of liability included in this Agreement will survive its completion or termination for any reason.

C. *Severability:* Any provision or part of the Agreement held to be void or unenforceable under any Laws or Regulations shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Engineer, which agree that the Agreement shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

D. *Waiver:* A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Agreement.

E. *Accrual of Claims:* To the fullest extent permitted by Laws and Regulations, all causes of action arising under this Agreement shall be deemed to have accrued, and all statutory periods of limitation shall commence, no later than the date of Substantial Completion.

ARTICLE 7 – DEFINITIONS

7.01 *Defined Terms*

A. Wherever used in this Agreement (including the Exhibits hereto) terms (including the singular and plural forms) printed with initial capital letters have the meanings indicated in the text above, in the exhibits, or in the following definitions:

1. *Addenda*—Written or graphic instruments issued prior to the opening of bids which clarify, correct, or change the bidding requirements or the proposed Construction Contract Documents.

2. *Additional Services*—The services to be performed for or furnished to Owner by Engineer in accordance with Part 2 of Exhibit A of this Agreement.

3. *Agreement*—This written contract for professional services between Owner and Engineer, including all exhibits identified in Paragraph 8.01 and any duly executed amendments.

4. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Construction Contract.

5. *Basic Services*—The services to be performed for or furnished to Owner by Engineer in accordance with Part 1 of Exhibit A of this Agreement.

6. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Construction Contract Price or the Construction Contract Times, or other revision to the Construction Contract, issued on or after the effective date of the Construction Contract.

7. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth in the Construction Contract, seeking an adjustment in Construction Contract Price or Construction Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Construction Contract Documents or the acceptability of Work under the Construction Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Construction Contract.

8. *Constituent of Concern*—Asbestos, petroleum, radioactive material, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. ("CERCLA"); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. ("RCRA"); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, State, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or

standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

9. *Construction Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.

10. *Construction Contract Documents*—Those items designated as "Contract Documents" in the Construction Contract, and which together comprise the Construction Contract.

11. *Construction Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Construction Contract Documents.

12. *Construction Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve milestones, if any, in the Construction Contract; (b) achieve Substantial Completion; and (c) complete the Work.

13. *Construction Cost*—The cost to Owner of the construction of those portions of the entire Project designed or specified by or for Engineer under this Agreement, including construction labor, services, materials, equipment, insurance, and bonding costs, and allowances for contingencies. Construction Cost does not include costs of services of Engineer or other design professionals and consultants; cost of land or rights-of-way, or compensation for damages to property; Owner's costs for legal, accounting, insurance counseling, or auditing services; interest or financing charges incurred in connection with the Project; or the cost of other services to be provided by others to Owner. Construction Cost is one of the items comprising Total Project Costs.

14. *Constructor*—Any person or entity (not including the Engineer, its employees, agents, representatives, and Consultants), performing or supporting construction activities relating to the Project, including but not limited to Contractors, Subcontractors, Suppliers, Owner's work forces, utility companies, other contractors, construction managers, testing firms, shippers, and truckers, and the employees, agents, and representatives of any or all of them.

15. *Consultants*—Individuals or entities having a contract with Engineer to furnish services with respect to this Project as Engineer's independent professional associates and consultants; subcontractors; or vendors.

16. *Contractor*—The entity or individual with which Owner enters into a Construction Contract.

17. *Documents*—Data, reports, Drawings, Specifications, Record Drawings, building information models, civil integrated management models, and other deliverables, whether in printed or electronic format, provided or furnished in appropriate phases by Engineer to Owner pursuant to this Agreement.

18. *Drawings*—That part of the Construction Contract Documents that graphically shows the scope, extent, and character of the Work to be performed by Contractor.

19. *Effective Date*—The date indicated in this Agreement on which it becomes effective, but if no such date is indicated, the date on which this Agreement is signed and delivered by the last of the parties to sign and deliver.

20. *Engineer*—The individual or entity named as such in this Agreement.

21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Construction Contract Price or the Construction Contract Times.

22. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

23. *Owner*—The individual or entity named as such in this Agreement and for which Engineer's services are to be performed. Unless indicated otherwise, this is the same individual or entity that will enter into any Construction Contracts concerning the Project.

24. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the services to be performed or furnished by Engineer under this Agreement are a part.

25. *Record Drawings*—Drawings depicting the completed Project, or a specific portion of the completed Project, prepared by Engineer as an Additional Service and based on Contractor's record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications, as delivered to Engineer and annotated by Contractor to show changes made during construction.

26. *Reimbursable Expenses*—The expenses incurred directly by Engineer in connection with the performing or furnishing of Basic Services and Additional Services for the Project.

27. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site during the Construction Phase. As used herein, the term Resident Project Representative or "RPR" includes any assistants or field staff of Resident Project Representative. The duties and responsibilities of the Resident Project Representative, if any, are as set forth in Exhibit D.

28. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.

29. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Construction Contract Documents.

30. *Site*—Lands or areas to be indicated in the Construction Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.

31. *Specifications*—The part of the Construction Contract Documents that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.

32. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.

33. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Construction Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

34. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.

35. *Total Project Costs*—The total cost of planning, studying, designing, constructing, testing, commissioning, and start-up of the Project, including Construction Cost and all other Project labor, services, materials, equipment, insurance, and bonding costs, allowances for contingencies, and the total costs of services of Engineer or other design professionals and consultants, together with such other Project-related costs that Owner furnishes for inclusion, including but not limited to cost of land, rights-of-way, compensation for damages to properties, Owner's costs for legal, accounting, insurance counseling, and auditing services, interest and financing charges incurred in connection with the Project, and the cost of other services to be provided by others to Owner.

36. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Construction Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Construction Contract Documents.

37. *Work Change Directive*—A written directive to Contractor issued on or after the effective date of the Construction Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

B. *Day*:

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

ARTICLE 8 – EXHIBITS AND SPECIAL PROVISIONS

8.01 *Exhibits Included:*

A. Exhibit A, Engineer's Services.

B. Exhibit B, Owner's Responsibilities.

C. Exhibit C, Payments to Engineer for Services and Reimbursable Expenses.

D. Exhibit D, Incorporated Guam Procurement Law Clauses.

E. Exhibit E, Notice of Acceptability of Work.

F. Exhibit F, DELETED.

G. Exhibit G, Insurance.

H. Exhibit H, Dispute Resolution.

I. Exhibit I, Limitations of Liability.

J. Exhibit J, DELETED.

K. Exhibit K, Amendment to Owner-Engineer Agreement.

8.02 *Total Agreement*

A. This Agreement, (together with the exhibits included above) constitutes the entire agreement between Owner and Engineer and supersedes all prior written or oral understandings. This Agreement may only be amended, supplemented, modified, or canceled by a written instrument duly executed by both parties. Amendments should be based whenever possible on the format of Exhibit K to this Agreement.

8.03 *Designated Representatives*

A. With the execution of this Agreement, Engineer and Owner shall designate specific individuals to act as Engineer's and Owner's representatives with respect to the services to be performed or furnished by Engineer and responsibilities of Owner under this Agreement. Such an individual shall have authority to transmit instructions, receive information, and render decisions relative to this Agreement on behalf of the respective party whom the individual represents.

8.04 *Engineer's Certifications*

A. Engineer certifies that it has not engaged in corrupt, fraudulent, or coercive practices in competing for or in executing the Agreement. For the purposes of this Paragraph 8.04:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the selection process or in the Agreement execution;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the selection process or the execution of the Agreement to the detriment of Owner, or (b) to deprive Owner of the benefits of free and open competition;

3. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the selection process or affect the execution of the Agreement.

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

Owner: **Guam Waterworks Authority**

By: _____ For

Print name: **MIGUEL C. BORDALLO, P.E.**

Title: General Manager

Date Signed: 04/02/2021

Engineer: **Duenas, Camacho & Associates Inc.**

By: _____

Print name: **THOMAS P. CAMACHO, SE**

Title: Executive Vice President

Date Signed: 2-22-21

Engineer License or Firm's Certificate No.: 252

State of: Territory of Guam

Address for Owner's receipt of notices:
Gloria B. Nelson Public Service Building
688 Route 15, Mangilao, Guam 96913

Address for Engineer's receipt of notices:
238 E. Marine Corps Drive
Suite 201 Diamond Plaza
Hagatña, Guam 96910

Certified Funds Available:

By: _____

TALING M. TAITANO, CPA, CGFM
GWA Chief Financial Officer

Date Signed: 4/1/2021

Approved as to Form:

By: _____

KELLY O. CLARK
GWA General Counsel

Date Signed: 4/1/21

Contract Amount: $114,820.00

Contingency: $ -0-

Amount Certified: $114,820.00

Source of Funding: GWA Bond MP-Gen-Misc-05

(GWA Infrastructure Improvements)

This is **EXHIBIT A**, consisting of ___ pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated _____.

Engineer's Services

Article 1 of the Agreement is supplemented to include the following agreement of the parties.

Engineer shall provide Basic and Additional Services as set forth below in the Scope of Work dated December 31, 2020.

This is **EXHIBIT B**, consisting of 3 pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated _____.

Owner's Responsibilities

Article 2 of the Agreement is supplemented to include the following agreement of the parties.

B2.01 In addition to other responsibilities of Owner as set forth in this Agreement, Owner shall at its expense:

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

B. 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.

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

D. Following Engineer's assessment of initially-available 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:

1. Property descriptions.

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

3. Utility and topographic mapping and surveys.

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

5. 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.

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

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

E. 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.

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

1. 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.

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

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

G. 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.

H. 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.

I. 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.

J. 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.

K. If more than one prime contract is to be awarded for the Work designed or specified by Engineer, then designate a person or entity to have authority and responsibility for coordinating the activities among the various prime Contractors, and 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.

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

M. 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.

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

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

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

Q. 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.

R. 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.

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

This is **EXHIBIT C**, consisting of 1 page, referred to in and part of the Agreement between Owner and Engineer for Professional Services dated _____.

Payments to Engineer for Services and Reimbursable Expenses
COMPENSATION PACKET BC-1: Basic Services – Lump Sum

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

ARTICLE 2 – OWNER'S RESPONSIBILITIES

C2.01 *Compensation for Basic Design Services – Lump Sum Method of Payment*

A. Owner shall pay Engineer for Basic Design Services set forth in Exhibit A as follows:

1. A Lump Sum amount of $114,820.00 based on the following estimated distribution of compensation:

See attached Design Fee Proposal, December 31, 2020.

Engineer may alter the distribution of compensation between individual phases noted herein to be consistent with services actually rendered, but shall not exceed the total Lump Sum amount unless approved in writing by the Owner.

2. The Lump Sum includes compensation for Engineer's services and services of Engineer's Consultants, if any. Appropriate amounts have been incorporated in the Lump Sum to account for labor costs, overhead, profit, expenses (other than any expressly allowed Reimbursable Expenses), and Consultant charges.

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

4. The basis of any adjustment under this Article may include 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.

A. *Period of Service:* The compensation amount stipulated in Compensation Packet BC-1 is conditioned on a period of service not exceeding _____months. If such period of service is extended, the compensation amount for Engineer's services shall be appropriately adjusted.

Payments to Engineer for Services and Reimbursable Expenses
COMPENSATION PACKET BC-2: Basic Services – Standard Hourly Rates

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

ARTICLE 2 – OWNER'S RESPONSIBILITIES

C2.01 *Compensation For Basic Post-Design Services – Standard Hourly Rates Method of Payment*

A. Owner shall pay Engineer for Basic Post-Design Services set forth in Exhibit A as follows:

1. An amount equal to the cumulative hours charged to the Project by each class of Engineer's personnel times Standard Hourly Rates for each applicable billing class for all services performed on the Project, plus Reimbursable Expenses and Engineer's Consultants' charges, if any.

2. The Standard Hourly Rates charged by Engineer constitute full and complete compensation for Engineer's services, including labor costs, overhead, and profit; the Standard Hourly Rates do not include Reimbursable Expenses or Engineer's Consultants' charges.

3. Engineer's Standard Hourly Rates are attached to this Exhibit as _____Project Team Hourly Rates.

4. The total compensation for services under Paragraph C2.01 is estimated to be $114,820.00 based on the following estimated distribution of compensation:

   a. See attached Revised Design Fee Proposal, December 31, 2020 .

5. Engineer may alter the distribution of compensation between individual phases of the work noted herein to be consistent with services actually rendered, but shall not exceed the total estimated compensation amount unless approved in writing by Owner.

6. The total estimated compensation for Engineer's services included in the breakdown by phases as noted in Paragraph C2.01.A.3 incorporates all labor, overhead, profit, Reimbursable Expenses, and Engineer's Consultants' charges.

7. The amounts billed for Engineer's services under Paragraph C2.01 will be based on the cumulative hours charged to the Project during the billing period by each class of Engineer's employees times Standard Hourly Rates for each applicable billing class, plus Reimbursable Expenses and Engineer's Consultants' charges.

C2.02 *Compensation For Reimbursable Expenses*

A. Owner shall pay Engineer for all Reimbursable Expenses.

B. Reimbursable Expenses include the following: transportation (including mileage), lodging, and subsistence incidental thereto; providing and maintaining field office facilities including furnishings and utilities; toll telephone calls, mobile phone charges, and courier charges; reproduction of reports, Drawings, Specifications, bidding-related or other procurement documents, Construction Contract Documents, and similar Project-related items; and Consultants' charges. In addition, if authorized in advance by Owner, Reimbursable Expenses will also include expenses incurred for the use of highly specialized equipment.

C. The amounts payable to Engineer for Reimbursable Expenses will be the Project-related internal expenses actually incurred or allocated by Engineer, plus all invoiced external Reimbursable Expenses allocable to the Project, the latter multiplied by a factor of 1.0.

C2.03 *Estimated Compensation Amounts:*

1. Engineer's estimate of the amounts that will become payable for specified 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 herein and it subsequently becomes apparent to Engineer that the total compensation amount thus estimated will be exceeded, Engineer shall give Owner written notice thereof, allowing Owner to consider its options, including suspension or termination of Engineer's services for Owner's convenience. Upon notice, Owner and Engineer promptly shall review the matter of services remaining to be performed and compensation for such services. Owner shall either exercise its right to suspend or terminate Engineer's services for Owner's convenience, agree to such compensation exceeding said estimated amount, or 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 Owner decides not to suspend the Engineer's services during the negotiations and 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, then Engineer shall be paid for all services rendered hereunder.

D. To the extent necessary to verify Engineer's charges and upon Owner's timely request, Engineer shall make copies of such records available to Owner at cost.

This is **EXHIBIT D has been deleted.**

This is **EXHIBIT E**, consisting of 2 pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated _____.

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

NOTICE OF ACCEPTABILITY OF WORK

PROJECT: **Hagatna Wastewater Treatment Plant Causeway and Facility Structural Analysis**
GWA Project No. S20-004-BND

OWNER: **Guam Waterworks Authority**

CONTRACTOR:

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 those 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 Engineer's professional opinion.

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 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: _____

EXHIBIT F has been DELETED.

This is **EXHIBIT G**, consisting of 1 page, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated _____.

Insurance

Paragraph 6.05 of the Agreement is supplemented to include the following agreement of the parties:

G6.05 *Insurance*

A. The limits of liability for the insurance required by Paragraph 6.05.A of the Agreement are as follows:

1. By Engineer:

a.	Workers' Compensation:	Statutory
b.	Employer's Liability:	
	Bodily Injury, each accident:	$100,000
	Bodily injury by disease, each employee:	$100,000
	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	
	Per Occurrence:	$2,000,000
	General Aggregate:	$4,000,000
e.	Automobile Liability --Combined Single Limit (Bodily Injury and Property Damage):	$ 500,000
f.	Professional Liability :	
	Each Claim Made	$2,000,000
	Annual Aggregate	$4,000,000

To maintain, and cause to maintain throughout the life of the contract and up until the project is completely constructed, insurance for the Engineer and the named subs-consultants, in the amounts and types specified below which name Guam Waterworks Authority as an additional insured for the project in a separate endorsement:

1.

2.

3.

B. *Additional Insureds:*

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

Guam Waterworks Authority

2. The Owner shall be listed on Engineer's general liability policy as provided in Paragraph 6.05.B.

This is **EXHIBIT H**, consisting of 1 page, referred to in and part of the **Agreement between Owner and Engineer for Professional Services**
dated _____.

Dispute Resolution

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

H6.09 Mediation, Decision and Action

A. In the event a claim or controversy is not resolved by mutual agreement, the GWA General Manager shall, after written request by the Contractor for a final decision, promptly issue a written decision. A copy of the decision shall be immediately transmitted to the Contractor by a method that provides evidence of receipt.

B. All claims or controversies that remain unresolved after a final decision by the GWA General Manager shall be submitted to mediation in accordance with the rules of the American Arbitration Association, or other dispute resolution rules accredited on Guam. This agreement to mediate is authorized under 5 GCA §5427 (b) and 2 GAR §9103 (a)(1). The parties shall each pay one-half of the mediation expenses.

C. In the event mediation is not successful, the General Manager's decision remains final and conclusive unless the Contractor files an appeal with the Guam Office of Public Accountability ("OPA") after receipt of the decision. Upon written request by the Contractor, the 60-day appeal period may be extended for a mutually agreed upon tolling period to allow for mediation after the final decision. In the event the dispute is not resolved by the OPA, the Contractor may seek redress through the Guam Government Claims Act and/or the Guam Superior Court.

This is **EXHIBIT I**, consisting of 1 page, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated _____.

Limitations of Liability

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

A. *Limitation of Engineer's Liability*

1. *Engineer's Liability Limited to Stated Amount, or Amount of Engineer's Compensation:* To the fullest extent permitted by Laws and Regulations, and notwithstanding any other provision of this Agreement, 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 injuries, claims, losses, expenses, costs, or damages whatsoever arising out of, resulting from, or in any way related to the Project, Engineer's or its Consultants' services. or this Agreement, from any cause or causes whatsoever, 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, shall not exceed the total amount of $_____ or the total compensation received by Engineer under this Agreement, whichever is greater. Higher limits are available for an additional fee.

2. *Exclusion of Special, Incidental, Indirect, and Consequential Damages:* To the fullest extent permitted by Laws and Regulations, and notwithstanding any other provision in the Agreement, consistent with the terms of Paragraph 6.11, the Engineer and Engineer's officers, directors, members, partners, agents, Consultants, and employees shall not be liable to Owner or anyone claiming by, through, or under Owner for any and all claims for or entitlement to special, incidental, indirect, or consequential damages arising out of, resulting from, or in any way related to this Agreement or the Project, from any cause or causes, including but not limited to:

B. *Indemnification by Owner*: To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Engineer and its officers, directors, members, partners, agents, employees, and Consultants from and against any and all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to the Project, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Owner or Owner's officers, directors, members, partners, agents, employees, consultants, or others retained by or under contract to the Owner with respect to this Agreement or to the Project.

EXHIBIT J has been DELETED.

This is **EXHIBIT K**, consisting of 2 pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated _____.

AMENDMENT TO OWNER-ENGINEER AGREEMENT
Amendment No. 00

The Effective Date of this Amendment is: _____.

Background Data

Owner: Guam Waterworks Authority

Engineer: Dueñas, Camacho & Associates Inc.

Project: Hagatna Wastewater Treatment Plant Causeway and Facility Structural Analysis
GWA Project No. S20-004-BND

Nature of Amendment: [Check those that are applicable and delete those that are inapplicable.]

____ Additional Services to be performed by Engineer

____ Modifications to services of Engineer

____ Modifications to responsibilities of Owner

____ Modifications of payment to Engineer

____ Modifications to time(s) for rendering services

___ Modifications to other terms and conditions of the Agreement

Description of Modifications:

Incorporated Guam Procurement Law Clauses

Article 6.07 of the Agreement is supplemented to include the following agreement of the parties:

B. Engineer hereby warrants that it will abide by 5 GCA Section 5630 prohibiting gratuities, kickbacks and favors in relation to the solicitation and execution of this Contract.

C. Engineer hereby warrants that it has not retained any person or entity to solicit or secure this Contract, or paid a contingent fee, commission or brokerage fee as proscribed in 5 GCA Section 5631(a).

D. Engineer hereby warrants that it has not knowingly influence a government employee to breach any of the ethical standards set forth in 5 GCA Chapter 5 Article 11 and in Chapter 11 of the Guam Procurement Regulations.

E. Engineer hereby warrants that no person, providing services on behalf of the Engineer has been convicted of a sex offense under the provisions of Chapter of Title 9 GCA or any offense as defined

in Article 2 of Chapter 28, Title 9 GCA; and should any person providing services on behalf of the Engineer be convicted during the course of this Contract, such person shall be immediately removed from GWA projects and GWA will be informed of the conviction within twenty-four (24) hours.

Agreement Summary:

Original agreement amount:	$_____
Net change for prior amendments:	$_____
This amendment amount:	$_____
Adjusted Agreement amount:	$_____

Change in time for services (days or date, as applicable): _____

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

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

OWNER:	ENGINEER:
Guam Waterworks Authority	
By:	By:
Print name: MIGUEL C. BORDALLO, P.E.	Print name:
Title: General Manager	Title:
Date Signed:	Date Signed:

DUEÑAS · CAMACHO
& Associates, Inc

Website: www.dcaguam.com
Email: dca@dcaguam.com

December 31, 2020

MIGUEL C. BORDALLO,P.E. - General Manager
GUAM WATERWORKS AUTHORITY
Gloria b. nelson Public Service Building
Mangilao, Guam 96913

Attention: **Mauryn McDonald, P.E.**
Wastewater CIP Supervisor
Guam Waterworks Authority

Subject: **GWA RFP-08-ENG, Design of Hagatna Wastewater Treatment Plant Causeway and Facility Structural Analysis, GWA Project No. S20-004-BND**

Ref: **Phase 1: Structural Assessment of the Causeway Bridges and Building Structures within the Hagatna Wastewater Treatment Plant Facility**

Hafa Adai Mrs. McDonald:

At the request of the Guam Waterworks Authority (GWA), Duenas, Camacho, and Associates (DCA) is submitting this proposal for the referenced services. The requested services are intended to provide the Phase 1 Structural Assessment of the Causeway Bridges and Building Structures within the Hagatna Wastewater Treatment Plant Facility.

I have attached the proposed Scope of Work for the Phase 1: Structural Assessment work with our detailed estimated effort to complete the Structural Assessment Report for the Causeway Bridges and the Building Structures. The estimated effort to conduct the Phase 1 Structural Assessment work is ***One Hundred Fourteen Thousand Eight Hundred Twenty and no/100 Dollars ($114,820.00)***.

The following assumptions are made part of the scope of services:

1) We have budgeted $7,500 for any invasive sampling and testing to be performed by Geo Engineering & Testing during the assessment phase. However, as much as we would like to obtain core samples on the Causeway Bridges, it may not be physically possible to do so because of restricted access to the areas of concern, i.e., base of the existing causeway bridge slabs which are severely corroded. Therefore, this budgeted amount may be credited back to GWA if no

ENGINEERING * PLANNING * SURVEYING * ENVIRONMENTAL SERVICES * GEOGRAPHIC INFORMATION SYSTEM * CONSTRUCTION MANAGEMENT
GUAM P.O. Box 8900, Tamuning, Guam 96931 / 238 E. Marine Corps Drive, Suite 201 Diamond Plaza, Hagatña, GU 96910 / Tel: (671) 477-7991 / Fax: (671) 479-6315
SAIPAN PMB 164 Box 10000 Saipan, CNMI MP 96950 / Chalan Pale Arnold Rd, Island Commercial Center, Gualo Rai , Saipan 96950 /Tel:(670)234-9017/Fax:(670)234-3842

December 31, 2020

sampling or testing is done. GWA has the option of eliminating invasive investigation/concrete coring from the scope of work.

2) We have budgeted hours for non-invasive testing and scanning work. Similarly, testing and scanning may not be physically possible to do because of restricted access to the base of the existing causeway bridge slabs. Therefore, these budgeted hours may also be credited back to GWA if no non-invasive testing or scanning is done. GWA has the option of eliminating the non-invasive testing and scanning from the scope of work..

3) The assessment work will include in-water and underwater investigations. I have attached the proposal received from Mako Pacific for the underwater investigation. They will obtain CCTV recordings of both underwater structures and in-water overhead surveillance of the Causeway Bridges. We have also asked if they include any CCTV documentation of coral growth on the bridge structures.

4) The Hydraulic analysis is included in the scope and fee as well as the identification of the required work permits for the in-water and above -water work. Our environmental department will begin the permit application process as part of the Assessment phase in anticipation of completing the application during the design Phase if GWA elects to proceed.

I will be available to address any questions or concerns you may have regarding the proposal and scope of services. Please feel free to call or e-mail me at your convenience.

Sincerely,

Thomas P. Camacho, SE
Executive Vice President

Attachments:
Scope of Work; Fee Breakdown; Mako Pacific Proposal

ENGINEERING * PLANNING * SURVEYING * ENVIRONMENTAL SERVICES * GEOGRAPHIC INFORMATION SYSTEM * CONSTRUCTION MANAGEMENT
GUAM P.O. Box 8900, Tamuning, Guam 96931 / 238 E. Marine Corps Drive, Suite 201 Diamond Plaza, Hagatña, GU 96910 / Tel: (671) 477-7991 / Fax: (671) 479-6315
SAIPAN PMB 164 Box 10000 Saipan, CNMI MP 96950 / Chalan Pale Arnold Rd, Island Commercial Center, Gualo Rai , Saipan 96950 /Tel:(670)234-9017/Fax:(670)234-3842

5.0 PROJECT APPROACH AND METHODOLOGY

The Hagatna WWTP located in Hagatna Bay was constructed in 1975 by Naval Facilities Engineering Command (NAVFAC) and receives, treats, and discharges wastewater from the central villages of Guam. Operations of the plant were transferred to the Guam Waterworks Authority (GWA), then known as the Public Utility Agency of Guam (PUAG), in 1988. Since then, the plant has undergone several improvements over the years, most recently in 2013. Access to the Treatment Plant is by means of a Causeway constructed of Armor Stones and three Reinforced Concrete Culvert Bridge crossings (Causeway Bridges) that allow circulation of ocean waters within Hagatna Bay. Water, power, and communication utilities serving the Hagatna WWTP are embedded within the entire length of the causeway.

The Causeway Bridges have been severely compromised, with corrosion of the concrete reinforcement particularly at the underside of the top slab of the Bridges. Concrete has spalled and the exposed reinforcement has completely deteriorated. In 2007, DCA was part of the Black Construction Corporation team that performed improvements to the Hagatna WWTP and mitigated the Causeway Bridges by means of installing a new Bridge top slab over the existing culverts and tying into the Bridge Culvert vertical supports. However, treatment of the deteriorated Bridge Culvert slabs was not addressed because no in-water work was permitted for the project.

The GWA is intent on addressing the structural integrity of on-going deterioration of the Causeway Bridges and its effect on the current access to the Hagatna WWTP. Additionally, the plant structures themselves have integrity issues that need to be addressed. Structural assessments and repair recommendations for both the Causeway Bridges and Building Structures are necessary to address Life Safety concerns.

I. Phase I: Project Management

Project Management Plan – DCA will prepare a project management plan that meets the requirement of the intended scope of work. DCA will deploy key personnel from the Project Team to conduct the initial coordination meeting with GWA staff to begin work on the project. During the meeting, the Project Team and GWA staff will work out the specific roles and responsibilities of each person assigned to the project. This includes work by the necessary A-E disciplines, as well as project management and internal quality control.

A. The management plan will address the following:

- **Project Description** – Define the specific tasks of the assessment with an outline and mapping of the areas of the Causeway Bridges and WWTP Building Structures to be investigated. The investigation will include both the in-water and exposed surfaces of the Causeway Bridges and WWTP Building structures.

- **Scope of Work** – Discuss and agree on the scope of services with GWA that will be defined in the Contract.

- **Work Plan** – Lay out the work plan with the team members in coordination with GWA and the Operations staff of the Hagatna WWTP. We anticipate that there will be no disruption to current operations of the plant during the structural assessment work.

- **Progress Evaluation** –Update GWA on the progress and schedule of the assessment work as it progresses on a bi-weekly basis. Updates on a two-week look ahead schedule will also be provided.

- **Quality Assurance and Quality Control Plan** – Develop and submit a Quality Assurance and Quality Control (QA/QC) Plan for review and approval by GWA. The QA/QC plan will include all disciplines involved in the project.

- **Risk Management** – Develop a risk matrix that addresses all risks associated with proposed assessment methods and repair options being considered.

- **Scope Change** – DCA will bring proposed Scope changes to GWA's attention immediately upon discovery during any phase of this project. This may include expanded or deductive scope items.

- **Communication Plan** – Set up protocols for project communication through e-mail, phone calls, exchange of physical documentation, on-site and off-site meetings, and video meeting accounting for social distancing protocols during the

COVID-19 Pandemic. Point of contacts will be established for all disciplines and proper documentation of all communications will be required.

- **Documentation Plan** – Discuss and agree on a documentation plan and format with GWA. Protocols for documentation will be established among and between GWA and the DCA Project Team. In order to allow for the preparation of usable design documentation that is coordinated with and focused on the general intent of the project and subsequent uses of the documents developed as part of this project, we will seek to gain a better understanding of the format and structure of the final documents as envisioned by the GWA. The ASCE Manual of Practice No. 130: Waterfront Facilities Inspection and Assessment guidelines may be used in the performance of the inspection and assessment work. Using this information, the Project Team will revise preliminary evaluation and report documentation formats so that the field notes, photos, sketches, and other documentation generated are integrated with the format, concept and structure of future documents (such as grant applications, etc.). Changes to preliminary drafts developed as part of this proposal can be executed in the field and reproduced for immediate use after the coordination meeting.

- **Subcontractors and Organization Chart** – Provide the Organization Chart listing all Subcontractors/Subconsultants (Electrical and Communications, Geotechnical, Underwater Divers, and SUE services, if required) that will be working on this project. Specific individuals will be listed, and their responsibilities will be established and outlined in detail.

B. Project Schedule – Provide the project schedule setting milestones per each work task, completion dates, meeting dates, and environmental Permitting target dates. The Owner's program development requirements shall be included in the project schedule. The tentative project schedule follows:

ASSESSMENT PHASE:

- Contract Execution/Notice to Proceed – January 2021
- Structural Assessment Report - June 2021
- GWA Review/Evaluation & Decision – July 2021

C. Progress Reports – Submit monthly progress reports to support DCA invoicing.

D. Meeting and Coordination – Coordinate and communicate with local and federal government agencies including but not limited to Guam EPA, DPW, DPR, USFWS, and ACOE. Coordinate all agency requirements for the 30%, 60%, 90% and 100% submittals. All meeting minutes will be prepared by DCA and provided to GWA.

II. Structural Assessment

A. Research – Prior to the coordination meeting, DCA will provide the GWA with a list of documents necessary for the preparatory work on the project. The initial coordination meeting will be used to disseminate the existing documentation to the appropriate project personnel, as well as allow for the clarification of issues relating to these documents. DCA will review the documentation to become familiar with the Bridges and Building structural systems. The documents will also be used in the assessment phase of the project. Limited analyses of the bridge and building system components may be performed to determine the load carrying capacities of the specific bridge and building components. The analysis may add some insight into the structural deficiencies, i.e. cracks, deterioration and corrosion, and concrete spalls.

As part of, or subsequent to the coordination meeting, the Project Team will meet with GWA personnel or representatives who may be familiar with the various bridges and building systems to be surveyed and assessed. The purpose of this task is to identify inherent and systemic deficiencies and issues within the project areas. Information from these interviews will serve as the basis of specific field investigative efforts.

At this time, environmental permitting requirements for the expected above water, in-water, and underwater repairs will be identified and the permit application process shall commence. DCA Environmental Services staff will coordinate with the U.S. Army Corps of Engineers (USACOE) and Guam Environmental Protection Agency (GEPA) regarding the working permits required within navigable waterways. It is our understanding that no permits will be required for the in-water and underwater inspections during the assessment work so long as no intrusive activities (such as core sampling) are involved.

B. Field Investigation – Immediately following the coordination meeting, Project Team personnel will begin conducting field inspections, In-Water and Underwater inspections, and survey of the Causeway Bridges and the Hagatna WWTP Buildings. Multiple personnel from appropriate disciplines within the team will be mobilized and will stay on the project until completed. The inspections will be coordinated with the GWA operations and maintenance personnel. Proper safety attire will always be worn during inspections.

- DCA will conduct a **Survey of All Structural Components** including floors, walls, beams, columns, and roof slabs for Hagatna WWTP Buildings. Field inspections will include the following areas:
  - Structural inspection of interior concrete ceilings and exterior concrete roof surfaces.
  - Structural inspection of interior and exterior beam and column surfaces and stairs.
  - Structural inspection of interior and exterior Concrete and CMU Wall surfaces.
  - Deficiencies in the field will be noted, measured for quantities, and documented with sketches and photos.

- Concurrently, DCA and Mako Pacific Divers will conduct an **In-Water Survey** of all structural components of the Hagatna WWTP Causeway Bridges. Field inspections will include the following areas:
  - Structural inspection of exposed concrete ceilings, walls, and floor surfaces of the bridges. These inspections will include both Surface, In-Water, and Underwater Inspections.
  - Deficiencies in the field will be noted, measured for quantities, and documented with sketches, videos, and photos.

  DCA may conduct a **Non-Destructive Survey** of the Causeway Bridges and Building structures if deemed necessary for purposes of analysis. A Concrete Scanner will be used to identify the presence of reinforcement (depth and spacing of reinforcing bars)

- DCA will conduct a **Hydraulic Analysis** to determine flow capacities through the existing Causeway Bridges and parameters related to modifications of the bridge openings.

  A desktop review of readily available information will be done to ascertain the existing hydraulics across the three causeway openings. Analysis will be done to estimate the headloss across these three openings using the desktop data. This is not intended to see if encroachment into the flow path is possible, but rather to see how future increase in sea level may impact the openings. This analysis will also be used to support permitting and construction options.

- **Geotechnical Investigations** may be conducted if deemed necessary to determine soil bearing capacities for new structures if they are being considered as a recommendation to address deficient structures.

  Geo-Engineering and Testing, in conjunction with DCA, may conduct **Core Sampling** of specific structures selected by the team after the initial surveys are completed. Core locations will be determined by Geo-Engineering & Testing and DCA Personnel and physically marked on the bridge and building structures. The core samples extracted will be examined for deficiencies and noted, catalogued, and photo documented for record. The samples will then be subjected to compression tests and testing for corrosive properties.

  Reinforcing Steel Sampling – Steel sample locations will be determined by Geo-Engineering & Testing and DCA Personnel and physically marked on the bridge and building structures. The reinforcing steel samples extracted will be examined for deficiencies and noted, catalogued, and photo documented for record. The samples will then be subjected to tensile strength tests and testing for corrosive properties.

- *Oyo Pacific may be requested to assist in locating and documenting all underground utilities within the causeway as it relates to the repairs for the Causeway Bridges.*

C. Inspection and Recommendation Report – DCA will prepare a Structural Inspection and Assessment Report that will consist of the visual structural inspection deficiency findings on the Causeway Bridge and Hagatna WWTP Building Structures. Concrete core sample and testing results if retrieved will be included in the report along with the non-destructive scanning results. Structural analysis and calculations will be provided along with all as-built plans prepared for the Causeway and WWTP facilities.

Structural recommendations for repair, retrofit, and/or replacement will be addressed in the report. Several Repair and retrofit options will be considered along with construction methodology and approaches to the repairs/retrofit. DCA will consider the use of state-of-the-art techniques and structural repair products that are made specifically for Marine Environments.

Repair quantities will be determine as detailed as possible and a cost estimate prepared for the structural repairs The repairs will be categorized in terms of priority as it relates to Life Safety and critical for Plant Operations.

	Task Description		Principal	Project Manager	Civil Engineer	Structural Engineer	Project Engineer	Environmental Engineer	Staff Engineer/Designer	Spec Writer	Cost Estimator	Engineering Tech	CAD Tech	Sr CAD Tech	Planner	GIS Specialist	Chief Environmental Scientist	Environmental Scientist	Construction Manager	Project Construction Engineer	Inspector	Chief Surveyor	2-Man Crew	3-Man Crew	4-Man Crew	Surveyor	Assistant Chief Surveyor	Crew Chief	Computer	Carthographer	Instrument Man	Survey Tech	Survey Researcher	Survey Aide	Administrative Assistant	Secretary	
			PRIN	PM	CE	SE	PE	EE	SED	SPEC	CEST	ETECH	CAD	CAD3	PLNR	GIS	CES	ES	CM	PCE	INSP	RLS	2MSC	3MSC	4MSC	SUR	ASUR	SPC	COMP	CART	INSM	STECH	SVYRSR	SAID	ADM	TYP	Total
	Direct Labor Rates >>>>>	No. of Dwgs	$ 183.00	$ 149.00	$ 136.00	$ 172.00	$ 126.00	$ 115.00	$ 89.00	$ 134.00	$ 127.00	$ 57.00	$ 48.00	$ 59.00	$ 109.00	$ 82.00	$ 101.00	$ 89.00	$ 160.00	$ 112.00	$ 74.00	$ 114.00	$ 123.00	$ 161.00	$ 195.00	$ 115.00	$ 88.00	$ 61.00	$ 75.00	$ 67.00	$ 54.00	$ 58.00	$ 53.00	$ 34.00	$ 72.00	$ 67.00		
	Total Sheet Count and Effort >>>>	0	0	52	52	168	182	0	88	0	24	0	0	140	0	0	0	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ 91,484.00
A.	**Pre-Assessment Services**		0	28	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ 5,936.00
1	Work Plan			4			2																														$ 848.00
2	Progress Evaluation Reports			4			2																														$ 848.00
3	QA/QC Plan			4			2																														$ 848.00
4	Risk Management Matrix			4			2																														$ 848.00
5	Scope Change			4			2																														$ 848.00
6	Communication Plan			4			2																														$ 848.00
7	Documentation Plan			4			2																														$ 848.00
B.	**Assessment Phase Services**		0	24	0	168	168	0	0	0	24	0	0	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ 64,948.00
1	Research As-Built & Record Docs.			4		8	8																														$ 2,980.00
2	Review of As-Built & Recod Documents					8	8																														$ 2,384.00
3	Field Investigation - Building Structure			4		40	40							40																							$ 14,876.00
4	Field Investigation - Causeway			4		24	24							12																							$ 8,456.00
5	Non-Destructive Testing					8	8							8																							$ 2,856.00
6	Preliminary Structural Calculations			4		40	40																														$ 12,516.00
7	Assessment Report			4		40	40							80																							$ 17,236.00
8	Cost Estimate			4							24																										$ 3,644.00
9																																					$ -
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C	**Hydrulics and Permitting**	0	0	0	52	0	0	0	88	0	0	0	0	0	0	0	0	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ 20,600.00
1	Hydrulics- Data Collection				4				16																												$ 1,968.00
2	Hydrulics- Analysis				16				24																												$ 4,312.00
3	Hydrulics-Report				16				24																												$ 4,312.00
4	Accessay Engree/Egress				16				24																												$ 4,312.00
5	Identification of Construction Permits																	24																			$ 2,136.00
6	Commence with Permit Applications																	40																			$ 3,560.00
7																																					$ -
9																																			Direct Labor		$ 91,484.00

	Subconsultants	DL	Fee
S.1	Conc/GEO Testing		$ 7,500.00
S.2	MAKO Pacific		$ 9,270.00
S.3			
S.4			
S.5			
S.6			
S.7			
	Subtotal - Subconsultants	$ -	$ 16,770.00
	Coordination & Handling @	5%	$ 838.50
	Subtotal - Subconsultants + DCA Handling		$ 17,608.50

	DCA Expenses	Unit	Quan	Rate	Cost
1	Procore (ESTIMATE)	1	0	$ -	$ -
2	Mileage	1	0		$ -
3		1	0		$ -
4		1	0		$ -
5		1	0		$ -
6		1	0		$ -
7		1	0		$ -
8		1	0		$ -
9		1	0		$ -
10					
	Subtotal - Expenses				$ -

COST SUMMARY

1	LABOR				$ 91,484.00
2	OVERHEAD @	Included			
3	SUBCONSULTANTS			Subtotal, Subconsultants+DCA Handling	$ 17,608.50
4	Subtotal			Row 1 + Row 3	$ 109,092.50
5	PROFIT	Included			
6	EXPENSES			Expenses	$ -
7	Subtotal			Row 4 + Row 6	$ 109,092.50
8	GRT	@	5.25%		$ 5,727.36
				Total	$ 114,819.86
				Say	**$ 114,820**

CONFIDENTIAL
10 December 2020

QUOTATION (REVISION#1)

SUBMITTED TO **Tom Camacho, Duenas, Camacho & Associates**
ACTIVITY LOCATION **Hagatna Bay, Guam**
TITLE OF PROJECT/CONTRACT NO **Hagatna WWTP Causeway and Facility Structural Analysis (Diving Services only)**
NAME AND ADDRESS OF CONTRACTOR **Mako Pacific Divers, LLC PO Box 5180 Hagatna, Guam 96932**

WORK SUMMARY & COST BREAKDOWN

ITEM NO.	DESCRIPTION OF ITEM	QUANTITY		UNIT COST	TOTAL AMOUNT
		NO.	UNITS		
1	Dive Services (labor only)	1	LS	$ 4,275.00	$ 4,275.00
2	Equipment Use: CCTV	1	DAY	$ 275.00	$ 275.00
3	Dive Plan Preparation	1	LS	$ 400.00	$ 400.00
4	Mobilization/Demobilization	1	LS	$ 4,320.00	$ 4,320.00
				GRAND TOTAL	**$ 9,270.00**

QUOTATION VALIDITY: 60 DAYS FROM ABOVE DATE

SCOPE OF WORK:

Mako Pacific Divers, LLC will provide **LABOR** of a qualified 4-man dive team and 1 topside assistant. The above labor rate is inclusive of life-support dive equipment (SSA &/or SCUBA), and divers' safety equipment.

Divers to perform an underwater survey via CCTV of the structural components of the Hagatna WWTP Causeway Bridges. Structural inspections to include exposed concrete ceilings, walls, and floor surfaces of the bridges. Mako to provide dive plan & AHA in accordance with Army Core EM-385 requirements. Deficiencies in the field will be noted, measured for quantities, and documented with videos and photos.

CONDITIONS:

1. Dive Services rate is for a 10-hour work-day of a 4-man dive team and 1 topside assistant.
2. Charges commence upon arrival of dive team onto location (jobsite); Charges end upon departure from site. Time includes allowance for set-up and break down of dive station. Time expended above 10 hours will be charged at $430.00/hour (for labor of a 4-man dive team and 1 topside assistant). Mako will receive prior approval from DCA if additional hours are needed.
3. Exclusions include bonding, any construction & environmental permits.

TERMS OF PAYMENT:

All payments are due 30 days from date of invoice.
Guam GRT Law Bill 491-30, PL No. 30-230 applies to this project.

Prepared by: _____
Bruce Aguon- Mako Pacific Divers, LLC

Accepted by: _____
Tom Camacho- DCA

Mako Pacific Divers, LLC PO Box 5180 Hagatna, Guam 96932
Phone 671-797-1308/671-727-0110 makopacificdivers@gmail.com

Exhibit B

GUAM WATERWORKS AUTHORITY
Gloria B. Nelson Public Service Building
688 Route 15, Mangilao, Guam 96913

CHANGE ORDER NO. 1

Project Title:	Hagatna Wastewater Treatment Plant Causeway and Facility Structural Analysis		
Project No.:	S20-004- BND	**RFP No.** RFP-04-ENG-2020	
Contractor:	Duenas, Camacho & Associates, Inc.	NTP Date:	April 5, 2021

TO: Duenas, Camacho & Associates, Inc.

You are directed to make changes noted below in the subject contract. The changes are accepted by:

Thomas P. Camacho, Exec. V.P.
Contractor Representative (PRINT)

Contractor Representative (SIGNATURE) 5-15-2023 Date

PREPARED BY : George Watson 5/15/2023
George Watson Date
Project Manager, GWA

REVIEWED BY : George Watson 7/13/2023
George Watson Date
Acting Wastewater CIP Supervisor, GWA

RECOMMEND APPROVAL : 7/26/23
Jeanet Babauta Owens Date
Assistant General Manager - Engineering, GWA

NATURE OF CHANGES:

For *expanded services* on the assessment of the *Hagatna Wastewater Treatment Plant Facility* to include:

- **Architectural**: Assessement and recommendations on needed architectual work to be completed.
- **Fire Protection**: Fire-protection assessment of the treatment plant facility.
- **Electrical**: Inspection and assessment of facilities electrical components.
- **Additional Assessment Services**: Additional assessment services to include coordination with subconsultants, meetings, research, field investigation, reports and cost estimates.

THE CHANGES RESULT IN THE FOLLOWING ADJUSTMENT OF CONTRACT PRICE:

Contract price prior to this Change Order	$	114,820.00
Net INCREASE from this Change Order	$	65,679.00
Revised contract price after this Change Order	$	180,499.00

THE CHANGES RESULT IN THE FOLLOWING ADJUSTMENT OF CONTRACT TIME:

Contract time prior to this Change Order, with breakdown given below	900	Calendar Days
Net INCREASE from this Change Order with breakdown given below (subject to approved terms and conditions)"	0	Calendar Days
Revised contract time after this Change Order	900	Calendar Days
Revised Contract Expiration Date after this Change Order		n/a

CERTIFIED FUNDS AVAILABLE:

Vendor No.: 22569
Contract No.: 3016 OS
Funding Source: GWA Bond MP-WW-Misc-03
G.L. NO.: 22004.2997.300000
Amount: $ 65,679.00

Taling M. Taitano, CPA, CGFM Date
Chief Financial Officer

APPROVED AS TO FORM:

Theresa G. Tolas 7/28/2023
Legal Counsel, GWA Date

APPROVED:

Miguel C. Bordallo, P.E. Date
General Manager, GWA

Website: www.dcaguam.com
Email: dca@dcaguam.com

April 26, 2023

MIGUEL C. BORDALLO, P.E. – General Manager
GUAM WATERWORKS AUTHORITY
Gloria B. Nelson Public Service Building Mangilao,
Guam 96913

Attention: George Watson
Engineering Division
Guam Waterworks Authority

Subject: **GWA RFP-08-ENG, Hagatna Wastewater Treatment Plant Causeway and Facility Structural Analysis, GWA Project No. S20-004-BND**

Ref: **Phase 1: Additional Assessments of the Building Structures within the Hagatna Wastewater Treatment Plant Facility**

Hafa Adai Mr. Watson:

Duenas, Camacho, and Associates (DCA) is pleased to submit this revised proposal for expanded services on the Hagatna Wastewater Treatment Plant Facility. The assessments conducted through **GWA Project No. S20-004-BND** will be expanded to include Architectural, Fire-Protection, and Electrical Assessments. At the request of the Guam Waterworks Authority (GWA), the Mechanical assessment has been removed from the scope of services.

I have attached the proposed Scopes of Work provided by our sub-consultants for the Hagatna WWTP Facility Assessment Work. The estimated effort to conduct the additional services is ***Sixty-Five Thousand Six Hundred Seventy-Nine and no/100 Dollars ($65,679.00).***

The following summary and assumptions are made part of the scope of services and can be found in detail on the attached documents:

1. DCA has budgeted hours for the additional Assessment services that include coordination with our sub-consultants. These services include meetings, researching As-Built and record documents, field investigations of the building structures, compilation of assessment reports, and cost estimates.

ENGINEERING * PLANNING * SURVEYING * ENVIRONMENTAL SERVICES * GEOGRAPHIC INFORMATION SYSTEM * CONSTRUCTION MANAGEMENT
GUAM P.O. Box 8900, Tamuning, Guam 96931 / 238 E. Marine Corps Drive, Suite 201 Diamond Plaza, Hagatña, GU 96910 / Tel: (671) 477-7991 / Fax: (671) 479-6315
SAIPAN PMB 164 Box 10000 Saipan, CNMI MP 96950 / Chalan Pale Arnold Rd, Island Commercial Center, Gualo Rai , Saipan 96950 /Tel:(670)234-9017/Fax:(670)234- 3842

April 26, 2023

2. EMCE has budgeted $20,038 for inspections and assessments of the facility's electrical components requiring repair, enhancement and/or replacement.

3. TRMA has budgeted $15,000 for all architectural assessments and recommendations that will be done for the facility. Recommendations and programming included in the scope of work are for repairs necessary to meet safety requirements under normal and extreme conditions in Guam.

4. WMES has budgeted $12,500 for the Fire-Protection assessment. The budgeted compensation includes all document research and field investigations required to make a sound assessment of the facility.

We will be available to discuss any questions or concerns you may have regarding the revised proposal and the scope of services. Please feel free to call or e-mail me at your convenience.

Sincerely,

Thomas P. Camacho, SE
Executive Vice President

Attachments
HWWTP Assessment Proposal Breakdown
WM Engineering Services, LLC. Fee Proposal
EMCE Consulting Engineers Fee Proposal
TRMA Fee Proposal

ENGINEERING * PLANNING * SURVEYING * ENVIRONMENTAL SERVICES * GEOGRAPHIC INFORMATION SYSTEM * CONSTRUCTION MANAGEMENT
GUAM P.O. Box 8900, Tamuning, Guam 96931 / 238 E. Marine Corps Drive, Suite 201 Diamond Plaza, Hagatiia, GU 96910 / Tel: (671) 477-7991 / Fax: (671) 479-6315
SAIPAN PMB 164 Box 10000 Saipan, CNMI MP 96950 / Chalan Pale Arnold Rd, Island Commercial Center, Gualo Rai , Saipan 96950 /Tel:(670)234-9017/Fax:(670)234- 3842

	Task Description		Principal	Project Manager	Civil Engineer	Structural Engineer	Project Engineer	Environmental Engineer	Staff Engineer/Designer	Spec Writer	Cost Estimator	Engineering Tech	CAD Tech	Sr CAD Tech	Planner	GIS Specialist	Chief Environmental Scientist	Environmental Scientist	Construction Manager	Project Construction Engine	Inspector	Chief Surveyor	2-Man Crew	3-Man Crew	4-Man Crew	Surveyor	Assistant Chief Surveyor	Crew Chief	Computer	Carthographer	Instrument Man	Survey Tech	Survey Researcher	Survey Aide	Administrative Assistant	Secretary	
			PRIN	PM	CE	SE	PE	EE	SED	SPEC	CEST	ETECH	CAD	CAD3	PLNR	GIS	CES	ES	CM	PCE	INSP	RLS	2MSC	3MSC	4MSC	SUR	ASUR	SPC	COMP	CART	INSM	STECH	SVYRSR	SAID	ADM	TYP	Total
	Direct Labor Rates >>>>>	No. of Dwgs	$ 183.00	$ 149.00	$ 136.00	$ 172.00	$ 126.00	$ 115.00	$ 89.00	$ 134.00	$ 127.00	$ 57.00	$ 48.00	$ 59.00	$ 109.00	$ 82.00	$ 101.00	$ 89.00	$ 160.00	$ 112.00	$ 74.00	$ 114.00	$ 123.00	$ 161.00	$ 195.00	$ 115.00	$ 88.00	$ 61.00	$ 75.00	$ 67.00	$ 54.00	$ 58.00	$ 53.00	$ 34.00	$ 72.00	$ 67.00	
	Total Sheet Count and Effort >>>>	0	0	16	0	0	56	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ 12,488.00
B.	**Additional Assessment Phase Coordination Services**		0	16	0	0	56	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ 12,488.00
1	Research As-Built & Record Docs.			4			8																														$ 1,604.00
2	Review of As-Built & Recod Documents																																				$ -
3	Field Investigation - Building Structure			4			24																														$ 3,620.00
4	Field Investigation - Causeway																																				$ -
5	Non-Destructive Testing																																				$ -
6	Preliminary Structural Calculations																																				$ -
7	Assessment Report			4			24																														$ 3,620.00
8	Cost Estimate			4							24																										$ 3,644.00
																																					$ -
																																					$ -
																																					$ -
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																																					$ -
																																				Direct Labor	$ 12,488.00

	Subconsultants	DL	Fee
S.1	TRM+A		$ 15,000.00
S.2	EMCE		$ 20,038.00
S.3	WMES		$ 12,500.00
	Subtotal - Subconsultants	$ -	$ 47,538.00
	Coordination & Handling @	5%	$ 2,376.90
	Subtotal - Subconsultants + DCA Handling		$ 49,914.90

	DCA Expenses	Unit	Quan	Rate	Cost
1	Procore (ESTIMATE)	1	0	$ -	$ -
2	Mileage	1	0		$ -
3		1	0		$ -
4		1	0		$ -
5		1	0		$ -
6		1	0		$ -
7		1	0		$ -
8		1	0		$ -
9		1	0		$ -
10					
	Subtotal - Expenses				$ -

	COST SUMMARY				
1	LABOR				$ 12,488.00
2	OVERHEAD @	Included			
3	SUBCONSULTANTS			Subtotal, Subconsultants+DCA Handling	$ 49,914.90
4	Subtotal			Row 1 + Row 3	$ 62,402.90
5	PROFIT	Included			
6	EXPENSES			Expenses	$ -
7	Subtotal			Row 4 + Row 6	$ 62,402.90
8	GRT	@	5.25%		$ 3,276.15
				Total	$ 65,679.05
				Say	**$ 65,679**

TRMA
Taniguchi Ruth Makio Architects

December 24, 2022

Duenas Camacho & Associates
P.O. Box 8900
Tamuning, Guam 96931

Attn: Thomas Camacho, P.E.

Subject: Hagatna Wastewater Treatment Plant Causeway Upgrades and Modification Assessment and recommendations Services

Hafa Adai Tom;

We are pleased to provide DCA with TRMA's fee proposal for assessment and recommendations for the Hagatna Wastewater Treatment Plant Facility Upgrades and Modification.

Scope of Services

The primary consultants for this project will be the Wastewater Process engineers and the Civil Engineer.

TRMA+ will work with DCA in the survey, assessment of the facility and provide recommendations for any upgrades, repairs or modifications recommended to allow the facility to function optimally and address the wear and tear of materials, systems and finishes of the various facilities.

Additionally TRMA+ shall provide recommendations for upgrades or modifications addressing any code issues and concerns discovered during the assessment period.

Sketches, photos and diagrams may be included in the work products to illustrate concerns and recommendations however CADD, REVIT or detailed drawings will only be provided in subsequent phases and is not included in this proposal.

Scope of Services

The design team, including TRMA+ will survey the facility during the the preparation of assessment report.

1. **Assess the architectural aspects of WWTP structures:**

   Buildings (internal and external, to include walls, ceilings, roofs, stairs, etc.), secondary containment structures, hallways, and overhangs, including concrete and metal structures/components. The clarifiers are **not** included in this project, as they are currently undergoing repairs.

Guam • Northerm Marianas Islands • Micronesia
P.O. Box EA, Hagåtña , Guam 96932 • 100 Cliff Business Center
671/475-8772 • Fax: 671/472-3381 • email: arch@traguam.com

2. Recommendations and Programming :

Provide the recommendations (if any) for repairs necessary to meet safety requirements under normal and extreme conditions (including conditions resulting from seismic and large storm events).

Architectural Assessment and Recommendations $ 15,000.00

Additional services shall be via a subsequent proposal or may be undertaken on an hourly basis charged at the following rates:

Project Architect	$ 180.00 / hr
Associate Architect	$ 140.00 / hr
Technical	$ 85.00 / hr
Admin	$ 65.00 /hr

Please let us know if you have any questions or comments.

Si Yu'os Ma'ase
Taniguchi Ruth Makio Architects

Michael W. Makio, AIA
Principal

TRMA
Taniguchi Ruth Makio Architects

EMCE•Consulting Engineers
133 ANTONIA COURT, TAMUNING
P.O. BOX 9940 TAMUNING, GUAM 96931
TEL: (671) 649-0166/7
FAX: (671) 646-EMCE (3623)

Fee Proposal

TO: Tom Camacho	DATE: December 12, 2022
COMPANY: DCA	FAX NO.: VIA EMAIL
FROM: Abner Mariano	PROPOSAL NO: 7-
SUBJECT: Hagatna Causeway and WWTP Structural Assessment	

We are pleased to provide you with our Fee Proposal for Electrical Engineering Services:

A. PROJECT DESCRIPTION: Hagatna Causeway and WWTP Assessment

B. SCOPE OF SERVICES:

Inspection of the facility and providing an assessment of the Electrical components of the facility that need repair, enhancement, and/or replacement.

Notes:
The following are excluded from EMCE's scope of work.

- Design Services
- Fire alarm system - Under Fire Protection discipline.
- Control System
- PLC System

C. COMPENSATION: ..... $ 20,038.00

Sincerely,
EMCE Consulting Engineers

Abner Mariano, P.E.
Principal

EMCE INC. CONSULTING ENGINEERS

FEE PROPOSAL WORK SHEET (GUAM)

Project: Hagatna Causeway and WWTP Structural Assessment

EMCE # 7-xxx PREP. BY: AM DATE December 12, 2022

TASK:	misc. expenses	MANHOURS Princ EE	Proj EE	E. ENGR.	DRAFT.	CLERC
HOURLY RATES		$194.75	$159.60	$136.80	$67.45	$54.15
A Data Collection & Site Assessment						
1 Review Project Documents		4		8		
2 Field Investigations and Assessment						
1 week x 2 persons		8		80		
SUB TOTAL	$0					
Handling 5%	$0					
Profit 10%	$0					
SUB TOTAL - MHRS.		12	0	88	0	0
TOT FOR TASK **$14,375**	$0	$2,337	$0	$12,038	$0	$0

B Assessment Report	Misc.	P. ENGR.	Proj EE	E. ENGR.	DRAFT.	CLERC
1 Report		8		16		8
2 Coordination		2		8		
SUB TOTAL	$0.00					
Handling 5%	$0					
Profit 10%	$0					
SUB-TOTAL -MHRS.		10	0	24	0	8
TOT FOR TASK **$5,664**	$0	$1,948	$0	$3,283	$0	$433

A	Data Collection & Site Assessment	$14,375
B	Assessment Report	$5,664
	GRAND TOTAL	**$20,038**

Abner Mariano — **December 12, 2022** (Date)

WM ENGINEERING SERVICES, LLC

P.O. Box 392
Hagåtña, Guam 96932

Tel: (671) 646-8127
Fax: (671) 646-0704
E-mail: main@wmesguam.com

April 19, 2023

Dueñas, Camacho & Associates, Inc.
238 East Marine Corps Drive, Suite 201
Hagåtña, Guam 96910

ATTN.: Mr. Thomas P. Camacho, SE, Executive Vice President

Re.: HAGATNA WASTEWATER TREATMENT PLANT CAUSEWAY AND FACILITY STRUCTURAL ANALYSIS; GWA Project No. S20-004-BND

We are pleased to present this proposal for fire protection engineering services for the proposed project above.

A. Project Description:

The proposed project is to provide an Assessment of the existing condition of the causeway and facilities at the Hagåtña Wastewater Treatment Plant Causeway and Facilities in Hagåtña, Guam.

B. Scope of Services:

Provide an assessment of the existing facility for fire protection. The assessment will include:

- Research of available data including record drawings, interview with personnel, history of maintenance and repairs, etc.
- Conduct a field investigation to identify existing conditions and as-built drawings verification, as well as, identify any code deficiencies or needed repairs during site the investigation.
- Inspection and Recommendations Report including data gathered and analyzed from research, summary of findings and conclusions from the field investigation, and recommendations that include prioritization of any needed repairs/rehabilitation.

Mechanical Assessment, Design services, and all other services are excluded.

C. Compensation: Fire Protection: $ 12,500.00

I hope this proposal has met all your requirements. If you have any questions, please contact me at (671) 646-8127. Your approval and signature in the space provided below will form an agreement of services, when executed please return the signed copy via fax at (671) 646-0704 or via email at main@wmesguam.com. It will serve as our Notice to Proceed (NTP).

I would like to thank you for this opportunity and look forward to working with you.

Sincerely,

WMES

Signed: _____ Approved by: _____
William G. Miller, Jr., P.E.

Date: April 19, 2023 Date: _____

NFPA MEMBER 2022-2023

169 Tun Josen Fejeran Street
Tamuning, Guam

Exhibit C

GUAM WATERWORKS AUTHORITY
Gloria B. Nelson Public Service Building
688 Route 15, Mangilao, Guam 96913

CHANGE ORDER NO. 2

Project Title: Hagatna Wastewater Treatment Plant Causeway and Facility Structural Analysis
Project No.: S20-004- BND **RFP No.** RFP-04-ENG-2020
Contractor: Duenas, Camacho & Associates, Inc. NTP Date: April 5, 2021

TO: Duenas, Camacho & Associates, Inc.

You are directed to make changes noted below in the subject contract. The changes are accepted by:

Contractor Representative (PRINT)		PREPARED BY : William Esteves, Associate Engineer, GWA	Date
Contractor Representative (SIGNATURE)	Date	REVIEWED BY : George Watson, Acting Senior Engineering Supervisor, GWA	Date
		RECOMMEND APPROVAL : Jeanet Babauta Owens, P.E., Assistant General Manager - Engineering, GWA	Date

NATURE OF CHANGES:

For expanded services on the assessment of the Hagatna Wastewater Treatment Plant Facility to include **(Appendix A)**:

• **Mechanical Equipment:** Equipment assessment of: Process equipment; mechanical connections and systems; control panels, instrumentation, and communication; electrical equipment; surge protection

• **Additional Services:** Additional services to include the procurement and installation of interim communication systems for plant operators during non-working hours; tracing and labeling the communication systems leading to the existing Ozone and Chemical room PLCS; and providing an updated as-is panel drawings. Additional services to include SCADA system design upgrades to upgrade the existing control system to meet the standard implemented at NDWWTP

THE CHANGES RESULT IN THE FOLLOWING ADJUSTMENT OF CONTRACT PRICE:

Contract price prior to this Change Order	$	180,499.00
Net INCREASE from this Change Order	$	761,672.00
Revised contract price after this Change Order	$	942,171.00

THE CHANGES RESULT IN THE FOLLOWING ADJUSTMENT OF CONTRACT TIME:

Contract time prior to this Change Order, with breakdown given below.	1600	Calendar Days
Net INCREASE from this Change Order with breakdown given below (subject to approved terms and conditions)"	0	Calendar Days
Revised contract time after this Change Order	1600	Calendar Days
Revised Contract Expiration Date after this Change Order		n/a

CERTIFIED FUNDS AVAILABLE:

Vendor No.: 22569
Contract No.: 3016 OS
Funding Source: GWA Bond MP-Gen-Misc-08
G.L. NO.: 22004.2997.300000
Amount: $ 761,672.00

Taling M. Taitano, CPA, CGFM Date
Chief Financial Officer

APPROVED AS TO FORM:

Theresa G. Rojas Date
Legal Counsel, GWA

APPROVED:

Miguel C. Bordallo, P.E. Date
General Manager, GWA

Appendix A

Website: www.dcaguam.com
Email: dca@dcaguam.com

July 24, 2024
Miguel C. Bordallo, P.E.
General Manager, Guam Waterworks Authority
Gloria B. Nelson Public Service Building
688 Route 15
Mangilao, Guam, 96913

Subject: Hagatña WWTP SCADA and controls Upgrades

Reference: Fee Proposal Submission

Attn: Calvin Yam, GWA engineering

Hafa Adai,

Duenas, Camacho and Associates (DCA) is pleased to provide the attached fee proposal for the subject project. A breakdown of the project fee is presented below.

Task 1 PM	$	9,929
Task 2 Interim Communication	$	101,844
Task 3 Assessment	$	177,895
Task 4 SCADA Design	$	472,004
Total	**$**	**761,672**

For comparison purposes DCA offers the following:

- Task 2 is largely based on equipment supply and installation. A breakdown of this fee was provided by MCS (DCA Sub-contractor). This fee includes the equipment and installation of two communication panels. A quote for a single control panel, though not exactly similar for the Yigo pump station, was given at or about $70,000. The $101,844 fee provided is below this fee and is considered fair.
- Task 3 involves a multi-disciplined assessment for the control, mechanical and process systems at the HWWTP. A similar assessment was done for Ugum WTP about 3 years ago, This Ugum assessment was at or about $200,000. The $177,895 fee is considered fair.
- Task 4 includes a new SCADA design for the entire plant. This design is intended to follow the works done by DCA for the NDWWTP. This NDWWTP effort was at or about $400,000. Additional effort for this task included electrical design for power system and a new room enclosure. The $472,762 fee is considered fair.

Thank you,

Kenneth M. Rekdahl, PE
Vice President
Duenas, Camacho and Associates, Inc

ENGINEERING * PLANNING * SURVEYING * ENVIRONMENTAL SERVICES * GEOGRAPHIC INFORMATION SYSTEM * CONSTRUCTION MANAGEMENT
GUAM P.O. Box 8900, Tamuning, Guam 96931 / 238 E. Marine Corps Drive, Suite 201 Diamond Plaza, Hagatña, GU 96910 / Tel: (671) 477-7991 / Fax: (671) 479-6315
SAIPAN PMB 164 Box 10000 Saipan, CNMI MP 96950 / Chalan Pale Arnold Rd, Island Commercial Center, Gualo Rai , Saipan 96950 /Tel:(670)234-9017/Fax:(670)234-3842

July 8, 2024

Attachments

Attachment A GWA provided Interim Communication System Design
Attachment B 2013 Control Plans

1. GWA HWWTP SCADA and Equipment Assessment and Design

The overall goal of this scope is to provide a new control system at the HWWTP that will serve a 25-year life cycle and be capable of upgrade to GWA's future global communications network.

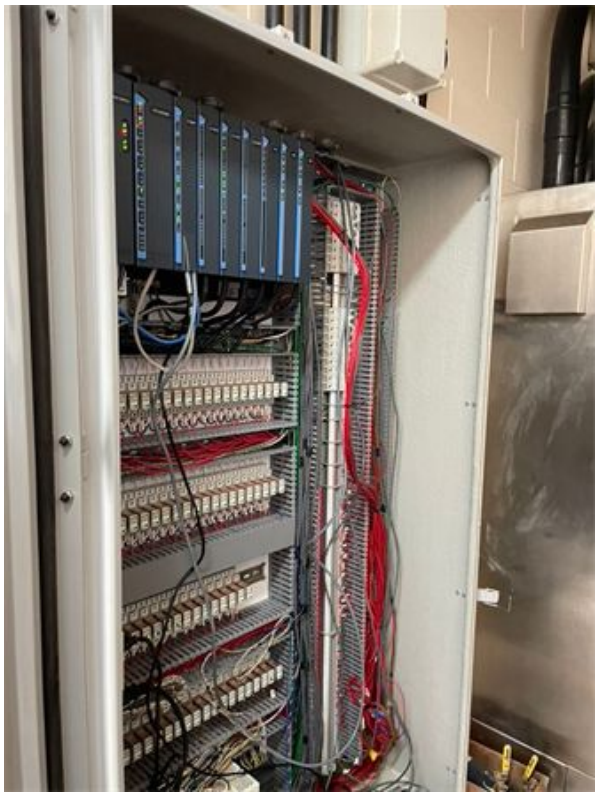
2. Installation of Interim Communication System, see attachment A

DCA will procure and install the parts needed to establish communication for plant operators during non-working hours. Only those operable and existing monitors that are wired to the two existing Ozone and chemical room PLCs will be connected and send transmitted.

Procurement of communication card shall be by GWA.

As part of this effort DCA and its sub-consultants will trace and label the communication systems leading up to Ozone and chemical room PLCs. This effort shall be limited to what is visible and accessible to the project team. An updated, field verified, as-is plant panel drawings will be provided.


Ozone PLC



Chemical Room PLC

3. Conduct mechanical equipment assessment, see attached PID.

Intent of this assessment will be to develop a repair and/or replacement list needed to bring the current equipment to the operations status provided in the 2013 refurbishment, see table 1.

All existing mechanical equipment reflected in the PID (attachment B) and table 1 below shall be physically inspected to determine operating status, useful life and replacement needs.

This assessment will include site visit(s) to inspect and document:

- Process Equipment to include equipment age, condition and useful life
- Mechanical connections and ancillary systems
- Equipment control panels, instrumentation, and communication.
- Electrical equipment including starters, drives, local control panels (LCPs), motor control centers, uninterruptible power supplies (UPS) and Hand/Off/Auto (HOAs) control stations.
- Surge protection

Asset assessment of the PLC system will begin with an asset break down structure.

Main power supply to equipment will be assessed to determine it replacement of power conductors, conduit, panels and supports are needed.

An assessment of the surge protection needs will be done. This will include review and recommendation of Type 1 and Type 2 surge protection devices. Assessment will include main power feed to the plant, power feed to PLC's and central computer systems.

A draft and final assessment report will be provided. This report will include:

1. Narrative and photos of existing conditions.
2. Requirements/recommendations for existing equipment upgrades.
3. Projected life span of assessed equipment.
4. Cost estimate.
5. Specifications and other cut sheets needed for reorder and/or repair.

Equipment	**Field Note**	**Field Note**	**Field Note**	**Field Note**
Influent Flow meter 1	**Assess**		**Remote and central Control systems**	**Exposed**
Bypass Flow Meter (Parshall Flume)	**Replace**		**Remote and central Control systems**	**Exposed**
Step Screen	**Replace**	**Consider Drum Screen**	**Remote and central Control systems**	**Exposed**
Step Screen PLC	**Replace**		**Remote and central Control systems**	**Exposed**
Rapid Mixer	**Replace, consider air**	**Consider Air**	**Remote and central Control systems**	**Exposed**
Rapid Mixer PLC	**Replace, consider air**		**Remote and central Control systems**	**Exposed**
Flocculating Mixers X 4	Assess Likely Replace	VFD Driven, Consider Air	Remote and central Control systems	Exposed
Chain and Flight Drivers X 6	**Assess Likely Replace**			**Exposed**
Chain and Flight Systems X3	**Assess Likely Replace**			**Exposed**
Coagulant feed pump/system X2	Assess Likely Replace		Remote and central Control systems	Inside
Coagulant feed pump/system PLC X2	Assess Likely Replace		Remote and central Control systems	Inside
Polymer feed system X2	Assess Likely Replace		Remote and central Control systems	Inside
Polymer feed system PLC X2	Assess Likely Replace		Remote and central Control systems	Inside

Coagulant transfer pump	Assess Likely Replace			Inside
Effluent pump X2	Assess	VFD Driven	Remote and central Control systems	Exposed
Effluent pump - PLC X2	Assess		Remote and central Control systems	Inside
Chopper Pumps X2	**Assess Likely Replace**		**Remote and central Control systems**	**Exposed**
Sludge Transfer Pumps X4	Assess Likely Replace			Inside
Sludge Grinder X4	Assess Likely Replace			Inside
Dewatering pumps X2	Assess Likely Replace	VFD Driven		Inside
Sludge Centrifuge Feed pumps X2	Assess	VFD Driven	Remote and central Control systems	Inside
Centrifuge X2	Assess	VFD Driven	Remote and central Control systems	Inside
Centrifuge PLC X2	Assess		Remote and central Control systems	Inside
Anaerobic Aerators X3	Assess			Exposed
System Valves	Assess			Inside
Chemical Room Blower X2	Assess			Inside
Influent Channel Blower	Assess			Exposed
Plant Water Pump System	Assess	VFD Driven		Inside

Table 1. Equipment List

*Items in **Bold** are related to separate scope of work (item 4) to remove clarifier covers and provide 2-ft freeboard on clarifier and upstream channels.*

4. SCADA Design

Provide the design to upgrade the control system for PLC-1, PLC-2, PLC-MST, PLC-OZ, and PLC-CHM and the communication with SCADA Server #1, SCADA Server #2, and SCADA Server #3. The SCADA system design upgrades will also include remote access and automated alarm system (autodialer).

The intent of this design is upgrade the existing control system meeting the standard currently implemented at the NDWWTP. Replacement of the PLCs, HMIs, SCADA Servers, and software will all be included in this design.

The design will provide for a new control system capable of notifying operators of system condition and status.

The design will include:

- Draft and final sealed plans and specification for bid
- A basis of design that follows the NDWWTP configuration.
- Software upgrades to meet GWA standards.
- Communications
- Existing system demolition plans
- Power Feed System Replacement
- Cost estimates

The design will also include:

- Review of Existing Instrumentation, Controls, Software, and Hardware
  - Record Drawings, Panel Drawings, Submittals, etc.
  - Includes review of any Corrective Action or Troubleshooting Completed to Date
- Site Visit to Agana WWTP.
  - Condition Assessment of Existing I&C Infrastructure
  - Including all necessary qualified labor, tools, and equipment for performing the assessment.
  - An updated, field verified, as-is plant drawing, and panel drawings to remain
  - Asset Breakdown Structure with tagging that correlates with new on-site SCADA system.
- Facility Condition Assessment Report
  - Recommendations for Repair/Replacement to Restart Operations
    - Parts List (Manufacturer, Make, Model)
    - Indicate if the identified item is included in the immediate repair/upgrade IFB.
  - This asset management system must have the ability to automatically generate work orders based on equipment manufacturer's recommended maintenance schedule.
  - Recommend maintenance schedule for all equipment on site shall be researched and collated by Designer or be included as scope for Contractor.

Area Considered for New Central SCADA System. Area to be enclosed for security

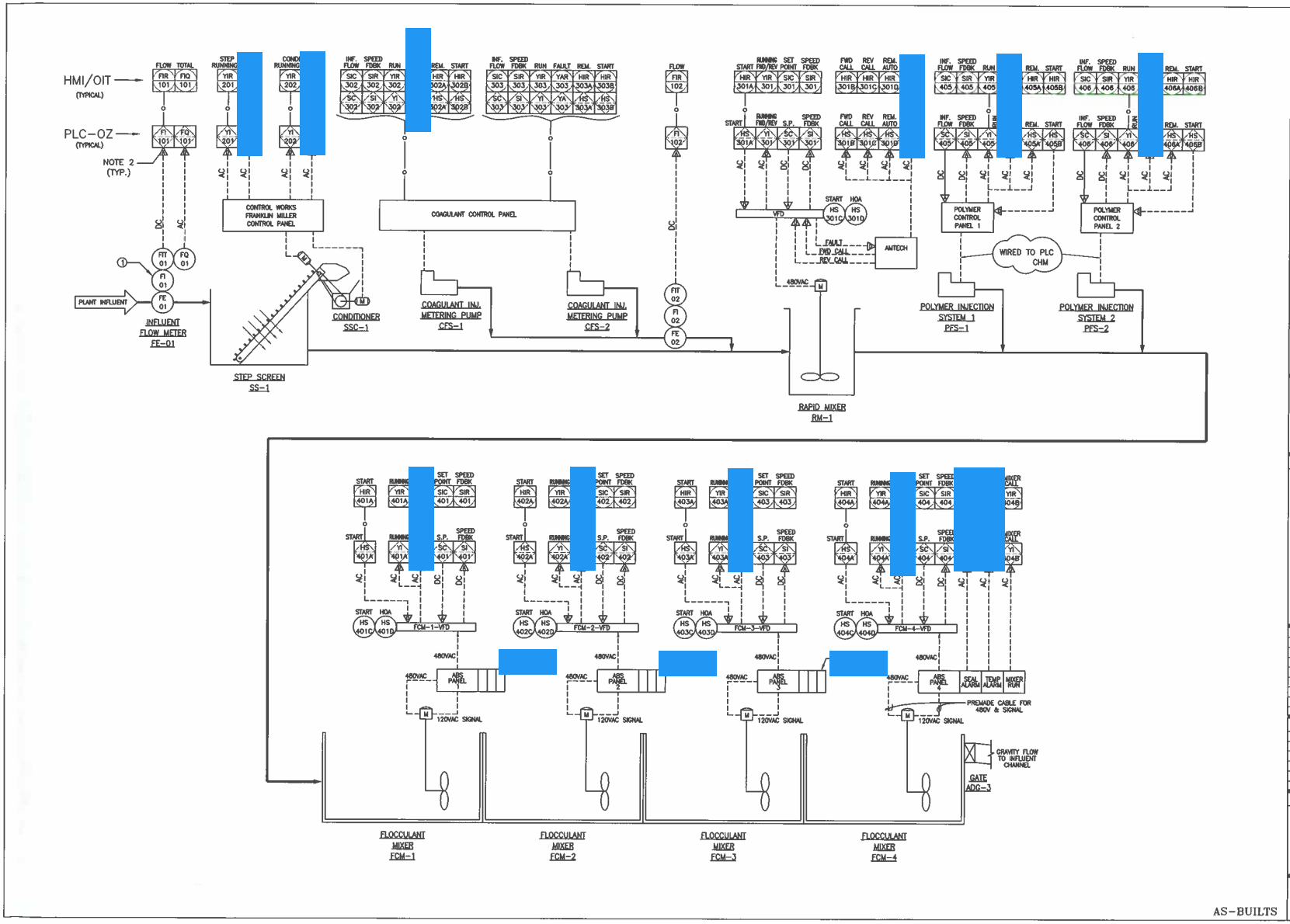
- Scope of work document as a deliverable for this design work that GWA can use for procuring SCADA maintenance service contract for use after the initial 2 (3) years.

- Include assessment and design for implementing Rockwell Automation Fixx asset management software at the plant level as an Additive Bid Item.

Design shall include:

- Assessment/preliminary plan set and design basis
- Draft Plans, specifications, estimate and contract documents
- Final Plans, specifications, estimate and contract documents

Two hard copies and a digital copy pf deliverable shall be provided to GWA.



NEW DIMENSION CONTROLS
80 SAND ISLAND ACCESS RD.
STE. 200
HONOLULU, HAWAII 96819
PH. (808) 847-7992

CONSULTANTS

PROJECT TITLE

GUAM WATERWORKS AUTHORITY

HAGATNA SEWAGE TREATMENT PLANT REFURBISHMENT DESIGN-BUILD PROJECT

CONTRACTOR:
IN ASSOCIATION WITH CORE TECH INTERNATIONAL & DCK

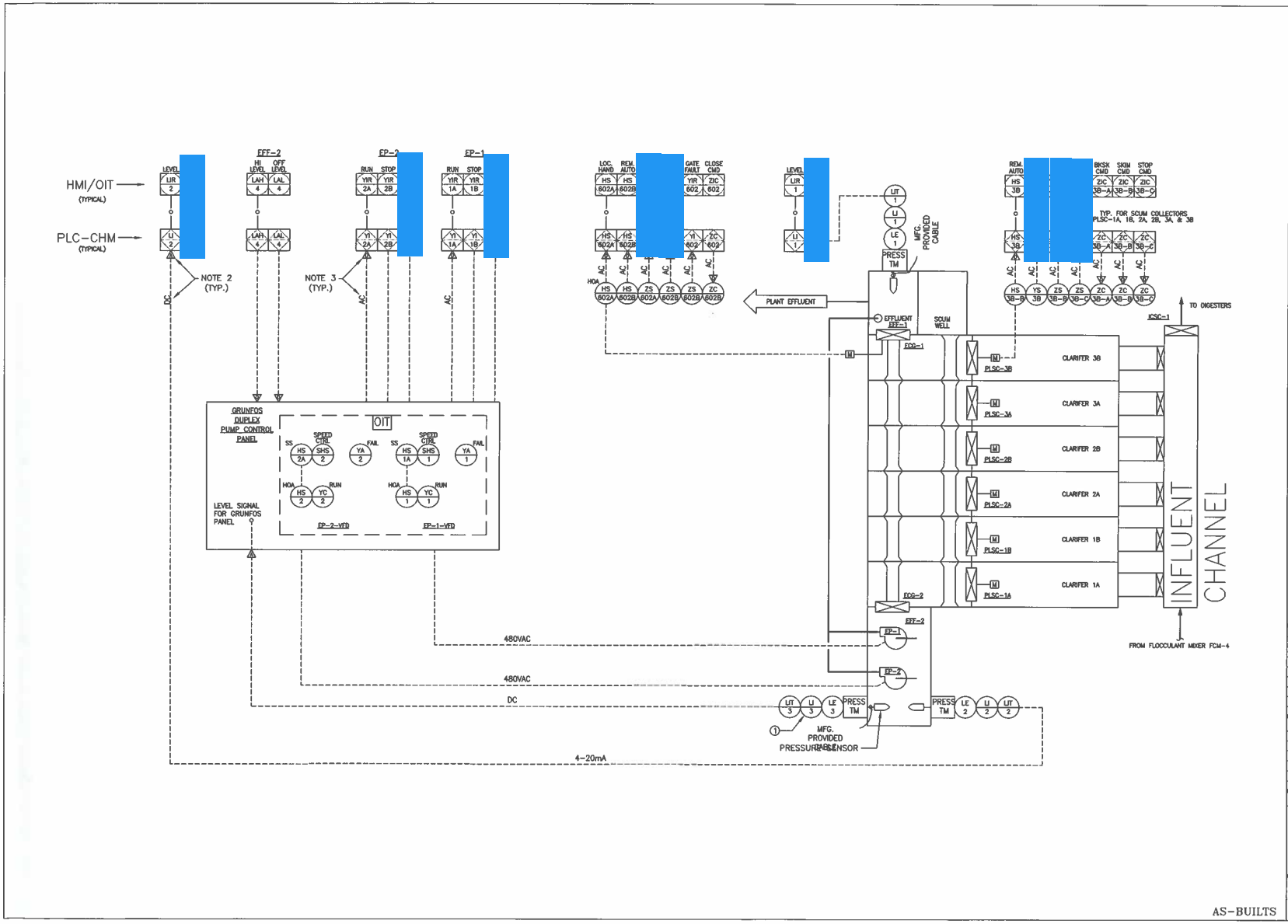
MARK	DATE	DESCRIPTION
REV 7	11.18.14	AS-BUILT
REV 6	05.22.14	REVISED
REV 5	03.20.14	REVISED
REV 3	09.23.13	100% DESIGN SUBMITTAL
REV 2	06.05.13	90% DESIGN SUBMITTAL

PROJECT NO:	CTI-2011-GWAM-CSA-112
CAD DWG FILE:	GWA P&ID.DWG
ISSUE DATE :	09/23/13
DRAWN BY:	WMC
CHECKED BY:	DFC
SUPV. BY:	DFC

SHEET TITLE

P&ID FOR NEW EQUIPMENT

N2
SHEET 2 OF 7



AS-BUILTS

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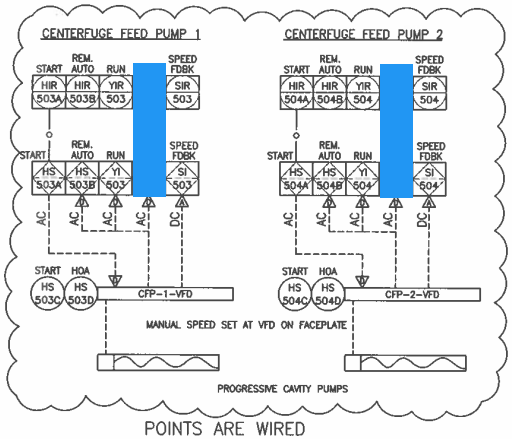
SHEET TITLE

P&ID FOR NEW EQUIPMENT

N3
SHEET 3 OF 7



POINTS ARE WIRED
TO
PLC-0Z

NOTES:

① 120VAC FOR POWER, REFER TO ELECTRICAL DRAWINGS.

②Ⓐ – ANALOG SIGNAL, EX.: LEVEL & FLOW.
DC – 24VDC POWER, 4-20 MA SIGNAL

③Ⓓ – DIGITAL SIGNAL, EX.: ON/OFF, OPEN/CLOSE.
AC – 120VAC POWER/SIGNAL.

ABBREVIATIONS FOR VALVE AREA:

REMT = REMOTE
COM = COMMON
BKSK = BACK SKIM
CMD = COMMAND
INJ. = INJECTION

AS-BUILTS

NEW DIMENSION CONTROLS
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SHEET TITLE

P&ID FOR NEW EQUIPMENT

N4

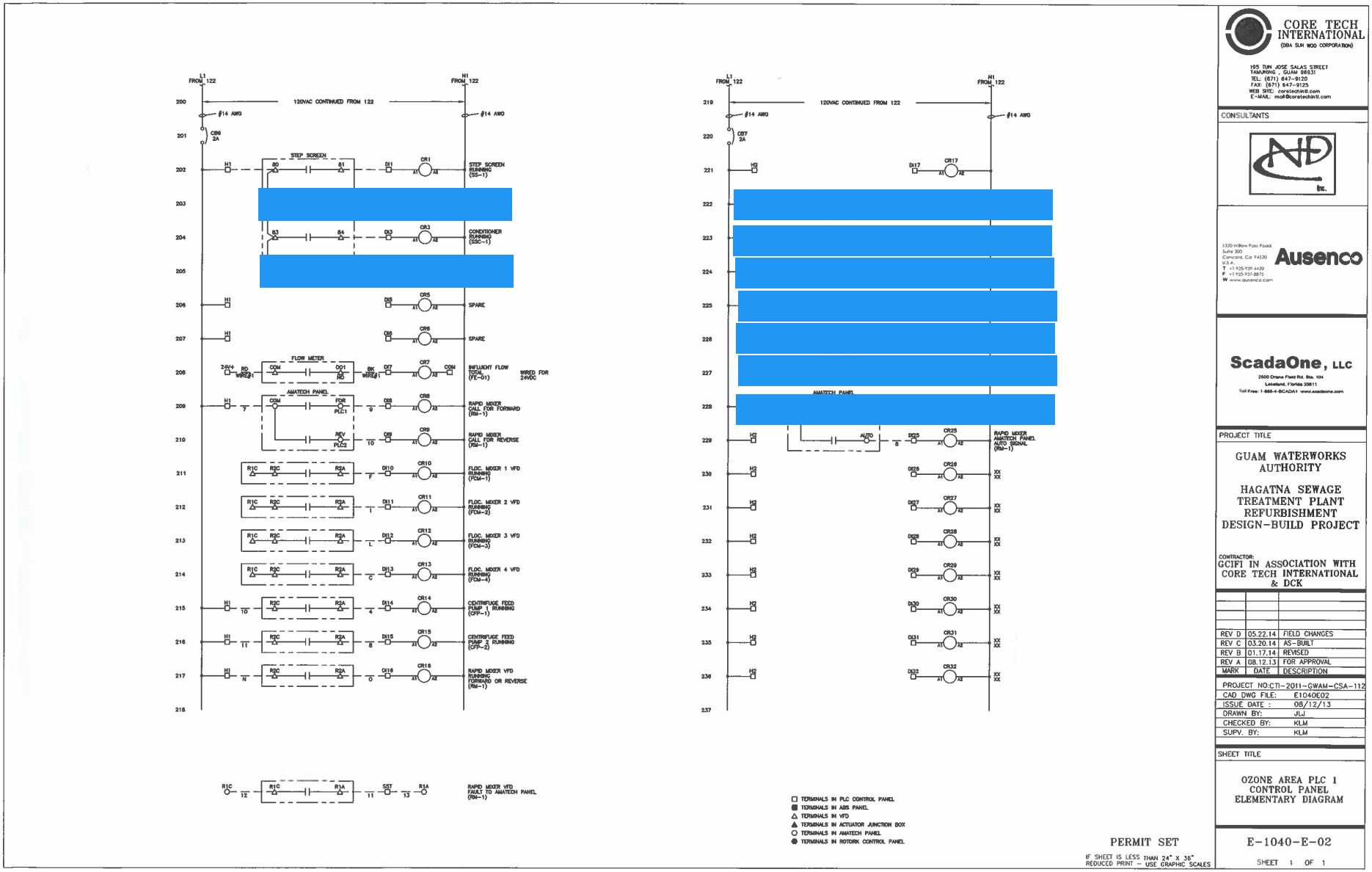
SHEET 4 OF 7

Hagatna Upgrade Project PLC Ozone

3/21/2014 DFC

Equipment	Tag Descriptor	Tag Number	Description	PLC	Rack	Slot	Point	Type	CR	Modbus Address	P&ID	Eng Units	Minimum Eng Units	Maximum Eng Units	Notes
SS-1	YIR	201	Step Screen Running	Ozone	1	2	1	DI	CR 1	2049	N2				
SSC-1	YIR	202	Conditioner Running	Ozone	1	2	3	DI	CR 3	2051	N2				
			Spare	Ozone	1	2	5	DI	CR 5	2053	N2				
			Spare	Ozone	1	2	6	DI	CR 6	2054	N2				
FE-01	FQ	101	Influent Flow Totalizer	Ozone	1	2	7	DI	CR 7	2055	N2	MG			Flow Pulse Counter Input(pulse = 0.02 MG) (Wired for 24VDC)
RM-1	HIR	301B	Rapid Mixer Call for Forward	Ozone	1	2	8	DI	CR 8	2056	N2				Coming from Amatech Panel not Drive,
RM-1	HIR	301C	Rapid Mixer Call for Reverse	Ozone	1	2	9	DI	CR 9	2057	N2				Coming from Amatech Panel not Drive,
FCM-1	YIR	401A	Flocculant Mixer 1 VFD Running	Ozone	1	2	10	DI	CR 10	2058	N2				
FCM-2	YIR	402A	Flocculant Mixer 2 VFD Running	Ozone	1	2	11	DI	CR 11	2059	N2				
FCM-3	YIR	403A	Flocculant Mixer 3 VFD Running	Ozone	1	2	12	DI	CR 12	2060	N2				
FCM-4	YIR	404A	Flocculant Mixer 4 VFD Running	Ozone	1	2	13	DI	CR 13	2061	N2				
CFP-1	YIR	503A	Centrifuge Feed Pump 1 Running	Ozone	1	2	14	DI	CR 14	2062	N2				480 VAC Not Wired
CFP-2	YIR	504A	Centrifuge Feed Pump 2 Running	Ozone	1	2	15	DI	CR 15	2063	N2				481 VAC Not Wired
RM-1	HIR	301A	Rapid Mixer VFD Running (Fdw & Rev)	Ozone	1	2	16	DI	CR 16	2064	N2				Is this running from the VFD (Forward and Reverse)
			SPARE	Ozone	1	2	17	DI	CR 17	2065	N2				
RM-1	HIR	301D	Rapid Mixer VFD Auto (Amatech Pnl)	Ozone	1	2	25	DI	CR 25	2073	N2				Coming from Amatech Panel not Drive,
			Spare	Ozone	1	2	26	DI	CR 26	2074	N2				
			Spare	Ozone	1	2	27	DI	CR 27	2075	N2				
			Spare	Ozone	1	2	28	DI	CR 28	2076	N2				
			Spare	Ozone	1	2	29	DI	CR 29	2077	N2				
			Spare	Ozone	1	2	30	DI	CR 30	2078	N2				
			Spare	Ozone	1	2	31	DI	CR 31	2079	N2				
			Spare	Ozone	1	2	32	DI	CR 32	2080	N2				
FCM-1	YIR	401B	Flocculant Mixer 1 Call to Run	Ozone	1	3	3	DI	CR 35	2307	N2				Wired to ABS Panel
			Spare	Ozone	1	3	4	DI	CR 36	2308	N2				
FCM-2	YIR	402B	Flocculant Mixer 2 Call to Run	Ozone	1	3	7	DI	CR 39	2311	N2				Wired to ABS Panel
			Spare	Ozone	1	3	8	DI	CR 40	2312	N2				
FCM-3	YIR	403B	Flocculant Mixer 3 Call to Run	Ozone	1	3	11	DI	CR 43	2315	N2				Wired to ABS Panel
			Spare	Ozone	1	3	12	DI	CR 44	2316	N2				
FCM-4	YIR	404B	Flocculant Mixer 4 Call to Run	Ozone	1	3	15	DI	CR 47	2319	N2				Wired to ABS Panel
			Spare	Ozone	1	3	16	DI	CR 48	2320	N2				
			Spare	Ozone	1	3	17	DI	CR 49	2321	N2				
			Spare	Ozone	1	3	18	DI	CR 50	2322	N2				
			Spare	Ozone	1	3	19	DI	CR 51	2323	N2				
			Spare	Ozone	1	3	20	DI	CR 52	2324	N2				
			Spare	Ozone	1	3	21	DI	CR 53	2325	N2				
			Spare	Ozone	1	3	22	DI	CR 54	2326	N2				

			Spare	Ozone	1	3	23	DI	CR 55	2327	N2				
			Spare	Ozone	1	3	24	DI	CR 56	2328	N2				
			Not Wired to a CR	Ozone	1	3	25	DI		2329	N2				
			Not Wired to a CR	Ozone	1	3	26	DI		2330	N2				
			Not Wired to a CR	Ozone	1	3	27	DI		2331	N2				
			Not Wired to a CR	Ozone	1	3	28	DI		2332	N2				
			Not Wired to a CR	Ozone	1	3	29	DI		2333	N2				
			Not Wired to a CR	Ozone	1	3	30	DI		2334	N2				
			Not Wired to a CR	Ozone	1	3	31	DI		2335	N2				
			Not Wired to a CR	Ozone	1	3	32	DI		2336	N2				
RM-1	HIR	301A	Rapid Mixer VFD Start	Ozone	1	4	1	DO	DO 1	2561	N2				TO AMATECH PANEL
FCM-1	HIR	401A	Flocculant Mixer 1 Start	Ozone	1	4	2	DO	DO 2	2562	N2				
FCM-2	HIR	402A	Flocculant Mixer 2 Start	Ozone	1	4	3	DO	DO 3	2563	N2				
FCM-3	HIR	403A	Flocculant Mixer 3 Start	Ozone	1	4	4	DO	DO 4	2564	N2				
FCM-4	HIR	404A	Flocculant Mixer 4 Start	Ozone	1	4	5	DO	DO 5	2565	N2				
CFP-1	HIR	503A	Centrifuge Feed Pump 1 Start	Ozone	1	4	6	DO	DO 6	2566	N2				480 VAC Not Wired
CFP-2	HIR	504A	Centrifuge Feed Pump 2 Start	Ozone	1	4	7	DO	DO 7	2567	N2				481 VAC Not Wired
			Spare	Ozone	1	4	8	DO	DO 8	2568	N2				
			Spare	Ozone	1	4	9	DO	DO 9	2569	N2				
			Spare	Ozone	1	4	10	DO	DO 10	2570	N2				
			Spare	Ozone	1	4	11	DO	DO 11	2571	N2				
			Spare	Ozone	1	4	12	DO	DO 12	2572	N2				
			Spare	Ozone	1	4	13	DO	DO 13	2573	N2				
			Spare	Ozone	1	4	14	DO	DO 14	2574	N2				
			Spare	Ozone	1	4	15	DO	DO 15	2575	N2				
			Spare	Ozone	1	4	16	DO	DO 16	2576	N2				
			Spare	Ozone	1	4	17	DO	DO 17	2577	N2				
			Spare	Ozone	1	4	18	DO	DO 18	2578	N2				
			Spare	Ozone	1	4	19	DO	DO 19	2579	N2				
			Spare	Ozone	1	4	20	DO	DO 20	2580	N2				
			Spare	Ozone	1	4	21	DO	DO 21	2581	N2				
			Spare	Ozone	1	4	22	DO	DO 22	2582	N2				
			Spare	Ozone	1	4	23	DO	DO 23	2583	N2				
			Spare	Ozone	1	4	24	DO	DO 24	2584	N2				
			Spare	Ozone	1	4	25	DO	DO 25	2585	N2				
			Spare	Ozone	1	4	26	DO	DO 26	2586	N2				
			Spare	Ozone	1	4	27	DO	DO 27	2587	N2				
			Spare	Ozone	1	4	28	DO	DO 28	2588	N2				
			Not Wired	Ozone	1	4	29	DO		2589	N2				
			Not Wired	Ozone	1	4	30	DO		2590	N2				
			Not Wired	Ozone	1	4	31	DO		2591	N2				
			Not Wired	Ozone	1	4	32	DO		2592	N2				
FIT-001	FIT	1	Influent Flow Meter	Ozone	1	5	1	AI		3073	N2	MGD	0	57.6	
RM-1	SIR	301	Rapid Mixer VFD Speed	Ozone	1	5	2	AI		3075	N2	Hz	30	60	
FCM-1	SIR	401	Flocculant Mixer 1 Speed	Ozone	1	5	3	AI		3077	N2	Hz	30	60	
FCM-2	SIR	402	Flocculant Mixer 2 Speed	Ozone	1	5	4	AI		3079	N2	Hz	30	60	
FCM-3	SIR	403	Flocculant Mixer 3 Speed	Ozone	1	5	5	AI		3081	N2	Hz	30	60	
FCM-4	SIR	404	Flocculant Mixer 4 Speed	Ozone	1	5	6	AI		3083	N2	Hz	30	60	
CFP-1	SIR	503	Centrifuge Feed Pump 1 Speed	Ozone	1	5	7	AI		3085	N2	Hz	30	60	480 VAC Not Wired
CFP-2	SIR	504	Centrifuge Feed Pump 2 Speed	Ozone	1	5	8	AI		3087	N2	Hz	30	60	481 VAC Not Wired
			Spare	Ozone	1	6	1	AO		3329	N2				
RM-1	SIC	301	Rapid Mixer VFD Speed Output	Ozone	1	6	2	AO		3331	N2	Hz	30	60	
FCM-1	SIC	401	Flocculant Mixer 1 Speed Output	Ozone	1	6	3	AO		3333	N2	Hz	30	60	
FCM-2	SIC	402	Flocculant Mixer 2 Speed Output	Ozone	1	6	4	AO		3335	N2	Hz	30	60	
FCM-3	SIC	403	Flocculant Mixer 3 Speed Output	Ozone	1	7	1	AO		3337	N2	Hz	30	60	
FCM-4	SIC	404	Flocculant Mixer 4 Speed Output	Ozone	1	7	2	AO		3339	N2	Hz	30	60	
CFP-1	SIC	503	Centrifuge Feed Pump 1 Speed Output	Ozone	1	7	3	AO		3341	N2	Hz	30	60	
CFP-2	SIC	504	Centrifuge Feed Pump 2 Speed Output	Ozone	1	7	4	AO		3343	N2	Hz	30	60	



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PROJECT TITLE

GUAM WATERWORKS AUTHORITY

HAGATNA SEWAGE TREATMENT PLANT REFURBISHMENT DESIGN-BUILD PROJECT

CONTRACTOR:
GCIFI IN ASSOCIATION WITH CORE TECH INTERNATIONAL & DCK

MARK	DATE	DESCRIPTION
REV D	05.22.14	FIELD CHANGES
REV C	03.20.14	AS-BUILT
REV B	01.17.14	REVISED
REV A	08.12.13	FOR APPROVAL

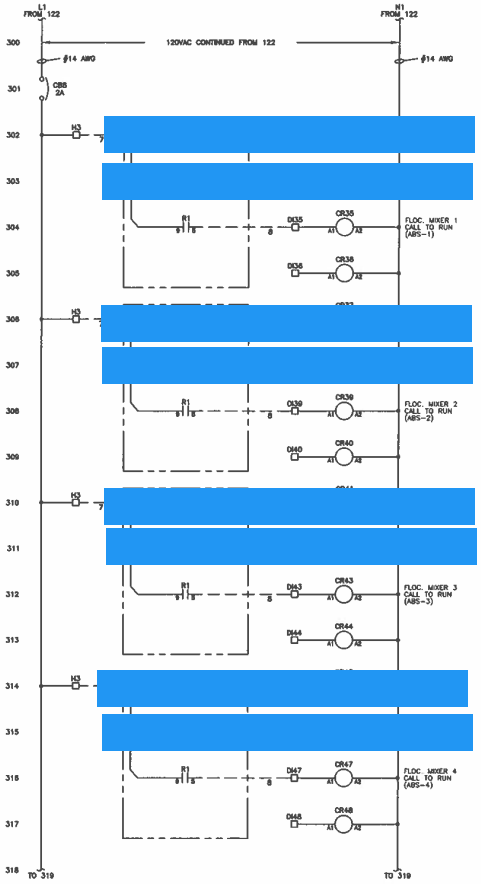
PROJECT NO:	CTI-2011-GWAM-CSA-112
CAD DWG FILE:	E1040E02
ISSUE DATE :	08/12/13
DRAWN BY:	JLJ
CHECKED BY:	KLM
SUPV. BY:	KLM

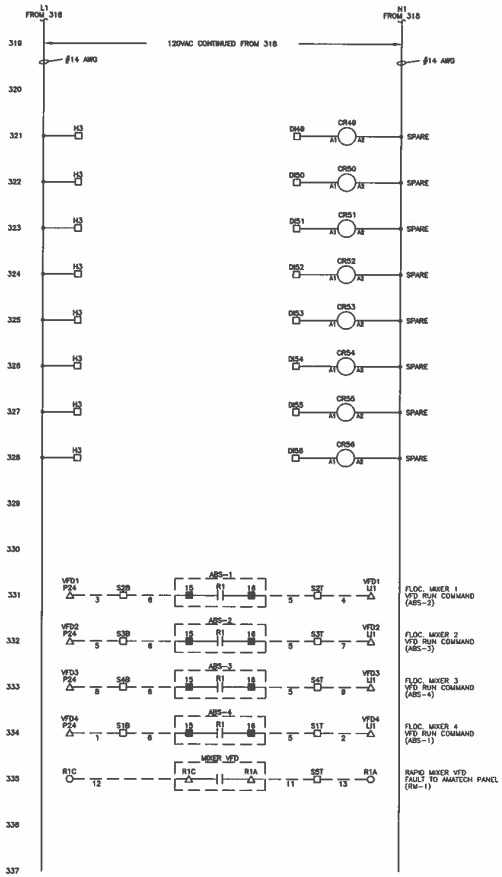
SHEET TITLE

OZONE AREA PLC 1 CONTROL PANEL ELEMENTARY DIAGRAM

E-1040-E-02

SHEET 1 OF 1





- TERMINALS IN PLC CONTROL PANEL
- TERMINALS IN ABS PANEL
- TERMINALS IN VFD
- TERMINALS IN ACTUATOR JUNCTION BOX
- TERMINALS IN AMATECH PANEL
- TERMINALS IN ROTORK CONTROL PANEL

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SHEET TITLE

OZONE AREA PLC 1
CONTROL PANEL
ELEMENTARY DIAGRAM

E-1040-E-03

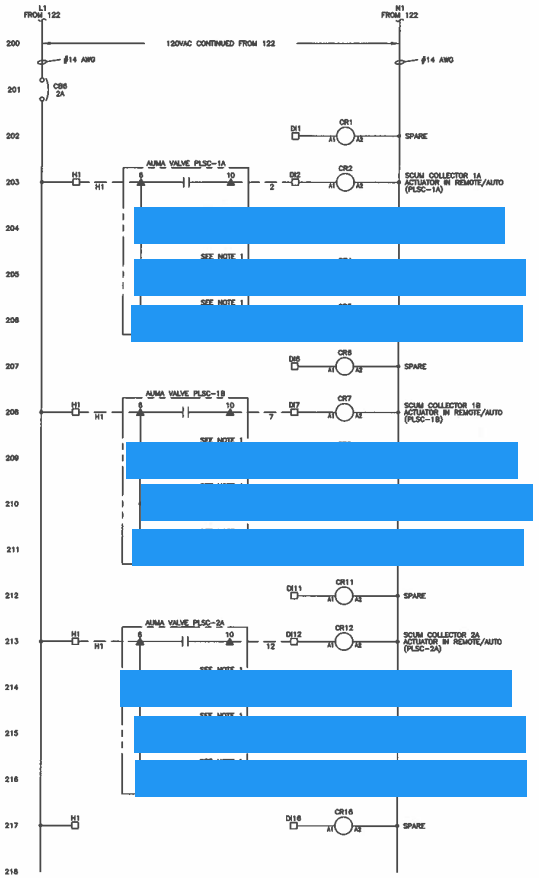
SHEET 1 OF 1

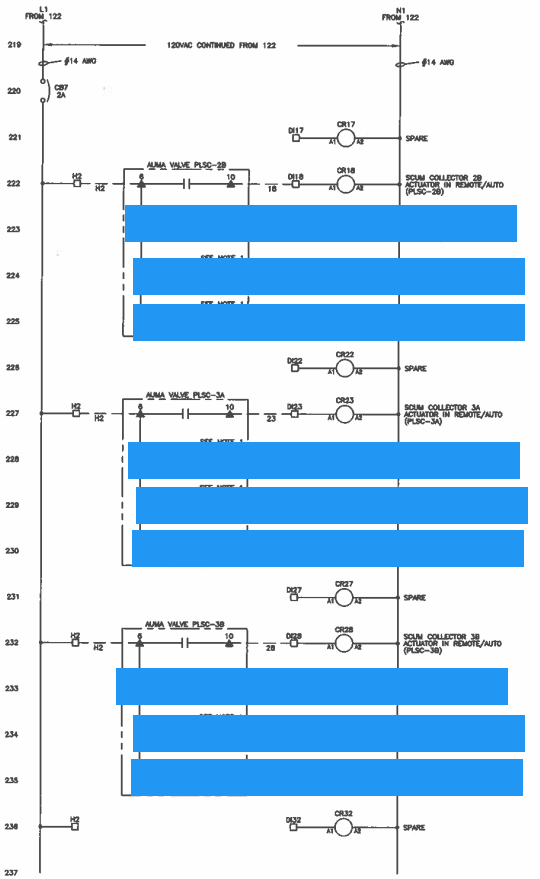
Hagatna Upgrade Project PLC Chem

3/21/2014 DFC

Equipment	Tag Descriptor	Tag Number	Description	PLC	Rack	Slot	Point	Type	CR	Modbus Address	P&ID	Eng Units	Minimum Eng Units	Maximum Eng Units	Notes
			Spare	Chem	1	2	1	DI	CR 1	2049	N2				
PLSC-1A	HS	1A	Scum Collector in Remote / Auto	Chem	1	2	2	DI	CR 2	2050	N2				
			Spare	Chem	1	2	6	DI	CR 6	2054	N2				
PLSC-1B	HS	1B	Scum Collector in Remote / Auto	Chem	1	2	7	DI	CR 7	2055	N2				
			Spare	Chem	1	2	11	DI	CR 11	2059	N2				
PLSC-2A	HS	2A	Scum Collector in Remote / Auto	Chem	1	2	12	DI	CR 12	2060	N2				
			Spare	Chem	1	2	16	DI	CR 16	2064	N2				
			Spare	Chem	1	2	17	DI	CR 17	2065	N2				
PLSC-2B	HS	2B	Scum Collector in Remote / Auto	Chem	1	2	18	DI	CR 18	2066	N2				
PLSC-3A			Spare	Chem	1	2	22	DI	CR 22	2070	N2				
PLSC-3A	HS	3A	Scum Collector in Remote / Auto	Chem	1	2	23	DI	CR 23	2071	N2				
PLSC-3B			Spare	Chem	1	2	27	DI	CR 27	2075	N2				
PLSC-3B	HS	3B	Scum Collector in Remote / Auto	Chem	1	2	28	DI	CR 28	2076	N2				
			Spare	Chem	1	2	32	DI	CR 32	2080	N2				
EP-1	YIR	1A	Effluent Pump VFD 1 Run	Chem	1	3	1	DI	CR 33	2305	N2				
EP-1	YIR	1B	Effluent Pump VFD 1 Stop	Chem	1	3	2	DI	CR 34	2306	N2				Grunfos startup tech agreed with my earlier assessment that their submittal drawing was wrong. Need Grunfos Updated drawing, current dwg shows this as Manual
EP-2	YIR	2A	Effluent Pump VFD 2 Run	Chem	1	3	4	DI	CR 36	2308	N2				
EP-2	YIR	2B	Effluent Pump VFD 2 Stop	Chem	1	3	5	DI	CR 37	2309	N2				Grunfos startup tech agreed with my earlier assessment that their submittal drawing was wrong. Need Grunfos Updated drawing, current dwg shows this as Manual
			Spare	Chem	1	3	7	DI	CR 39	2311	N2				
			Spare	Chem	1	3	8	DI	CR 40	2312	N2				
			Spare	Chem	1	3	9	DI	CR 41	2313	N2				
EFF-1	YA	3	EFF-1 HiHi Level Float	Chem	1	3	10	DI	CR 42	2314	N2				Float not installed, wiring provision finished at PLC
ECG-1	HS	602	Effluent Control Gate in Local / Hand	Chem	1	3	12	DI	CR 44	2316	N2				
ECG-1	HS	602	Effluent Control Gate in Remote / Auto	Chem	1	3	13	DI	CR 45	2317	N2				
ECG-1	YIR	602	Effluent Control Gate General Fault	Chem	1	3	16	DI	CR 48	2320	N2				
PFS-1	YIR	405A	Polymer Injection Metering Pump Run	Chem	1	3	17	DI	CR 49	2321	N2				
PFS-1	HS	405A	Polymer Injection Metering Remote	Chem	1	3	19	DI	CR 51	2323	N2				
PFS-2	YIR	405B	Polymer Injection Metering Pump Run	Chem	1	3	20	DI	CR 52	2324	N2				

PFS-2	HS	405B	Polymer Injection Metering Remote	Chem	1	3	22	DI	CR 54	2326	N2					
			Spare	Chem	1	3	23	DI	CR 55	2327	N2					
			Spare	Chem	1	3	24	DI	CR 56	2328	N2					
			Spare	Chem	1	3	25	DI		2329	N2					
			Spare	Chem	1	3	26	DI		2330	N2					
			Spare	Chem	1	3	27	DI		2331	N2					
			Spare	Chem	1	3	28	DI		2332	N2					
			Not Wired	Chem	1	3	29	DI		2333	N2					
			Not Wired	Chem	1	3	30	DI		2334	N2					
			Not Wired	Chem	1	3	31	DI		2335	N2					
			Not Wired	Chem	1	3	32	DI		2336	N2					
PLSC-1A	ZIC	1A-A	Scum Collector Backskim Output	Chem	1	4	1	DO	DO 1	2561	N2					
PLSC-1A	ZIC	1A-B	Scum Collector Skim Output	Chem	1	4	2	DO	DO 2	2562	N2					
PLSC-1A	ZIC	1A-C	Scum Collector Stop Output	Chem	1	4	3	DO	DO 3	2563	N2					
PLSC-1B	ZIC	1B-A	Scum Collector Backskim Output	Chem	1	4	4	DO	DO 4	2564	N2					
PLSC-1B	ZIC	1B-B	Scum Collector Skim Output	Chem	1	4	5	DO	DO 5	2565	N2					
PLSC-1B	ZIC	1B-C	Scum Collector Stop Output	Chem	1	4	6	DO	DO 6	2566	N2					
PLSC-2A	ZIC	2A-A	Scum Collector Backskim Output	Chem	1	4	7	DO	DO 7	2567	N2					
PLSC-2A	ZIC	2A-B	Scum Collector Skim Output	Chem	1	4	8	DO	DO 8	2568	N2					
PLSC-2A	ZIC	2A-C	Scum Collector Stop Output	Chem	1	4	9	DO	DO 9	2569	N2					
PLSC-2B	ZIC	2B-A	Scum Collector Backskim Output	Chem	1	4	10	DO	DO 10	2570	N2					
PLSC-2B	ZIC	2B-B	Scum Collector Skim Output	Chem	1	4	11	DO	DO 11	2571	N2					
PLSC-2B	ZIC	2B-C	Scum Collector Stop Output	Chem	1	4	12	DO	DO 12	2572	N2					
PLSC-3A	ZIC	3A-A	Scum Collector Backskim Output	Chem	1	4	13	DO	DO 13	2573	N2					
PLSC-3A	ZIC	3A-B	Scum Collector Skim Output	Chem	1	4	14	DO	DO 14	2574	N2					
PLSC-3A	ZIC	3A-C	Scum Collector Stop Output	Chem	1	4	15	DO	DO 15	2575	N2					
PLSC-3B	ZIC	3B-A	Scum Collector Backskim Output	Chem	1	4	16	DO	DO 16	2576	N2					
PLSC-3B	ZIC	3B-B	Scum Collector Skim Output	Chem	1	4	17	DO	DO 17	2577	N2					
PLSC-3B	ZIC	3B-C	Scum Collector Stop Output	Chem	1	4	18	DO	DO 18	2578	N2					
ECG-1	ZIC	602	Effluent Control Gate Close Command	Chem	1	4	19	DO	DO 19	2579	N2					Rotork actuator
				Chem	1	4	20	DO	DO 20	2580	N2					
PFS-1			Polymer Injection System 1 Start	Chem	1	4	21	DO	DO 21	2581	N2					
PFS-2			Polymer Injection System 1 Start	Chem	1	4	22	DO	DO 22	2582	N2					
			Spare	Chem	1	4	23	DO	DO 23	2583	N2					
			Spare	Chem	1	4	24	DO	DO 24	2584	N2					
			Spare	Chem	1	4	25	DO	DO 25	2585	N2					
			Spare	Chem	1	4	26	DO	DO 26	2586	N2					
SW-1			Scum Pump Hi Level Start	Chem	1	4	27	DO	DO 27	2587	N2					
SW-2			Scum Pump Off Level Stop	Chem	1	4	28	DO	DO 28	2588	N2					
			Not Wired	Chem	1	4	29	DO		2589	N2					
			Not Wired	Chem	1	4	30	DO		2590	N2					
			Not Wired	Chem	1	4	31	DO		2591	N2					
			Not Wired	Chem	1	4	32	DO		2592	N2					
SCM-1	LT	4		Chem	1	5	3	AI		3077	N2					
PFS-1	SIR	405	Poly system 1 speed feedback	Chem	1	5	4	AI		3079	N2	%	0	100		
PFS-2	SIR	406	Poly system 2 speed feedback	Chem	1	5	5	AI		3081	N2	%	0	100		
CFS-1	SIR	302	Coagulant system 1 speed feedback	Chem	1	5	6	AI		3083	N2	%	0	100		
			Spare	Chem	1	5	7	AI		3085	N2					
			Spare	Chem	1	5	8	AI		3087	N2					
			Spare	Chem	1	6	1	AO		3329	N2					
			Spare	Chem	1	6	2	AO		3331	N2					
			Spare	Chem	1	6	3	AO		3333	N2					
			Spare	Chem	1	6	4	AO		3335	N2					
			Spare	Chem	1	7	1	AO		3337	N2					
			Spare	Chem	1	7	2	AO		3339	N2					
			Spare	Chem	1	7	3	AO		3341	N2					
			Spare	Chem	1	7	4	AO		3343	N2					





NOTES:
1. MOVE INTERNAL WIRE FROM TERMINAL 11 TO TERMINAL 8.

□ TERMINALS IN PLC CONTROL PANEL
■ TERMINALS IN ABS PANEL
△ TERMINALS IN VFD
▲ TERMINALS IN ACTUATOR JUNCTION BOX
○ TERMINALS IN AMATECH PANEL
● TERMINALS IN ROTORK CONTROL PANEL

PERMIT SET

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PROJECT TITLE

GUAM WATERWORKS AUTHORITY

HAGATNA SEWAGE TREATMENT PLANT REFURBISHMENT DESIGN-BUILD PROJECT

CONTRACTOR:
GCIFI IN ASSOCIATION WITH CORE TECH INTERNATIONAL & DCK

MARK	DATE	DESCRIPTION
REV D	05.22.14	REVISED
REV C	03.20.14	AS-BUILT
REV B	01.15.14	REVISED
REV A	08.30.13	FOR APPROVAL

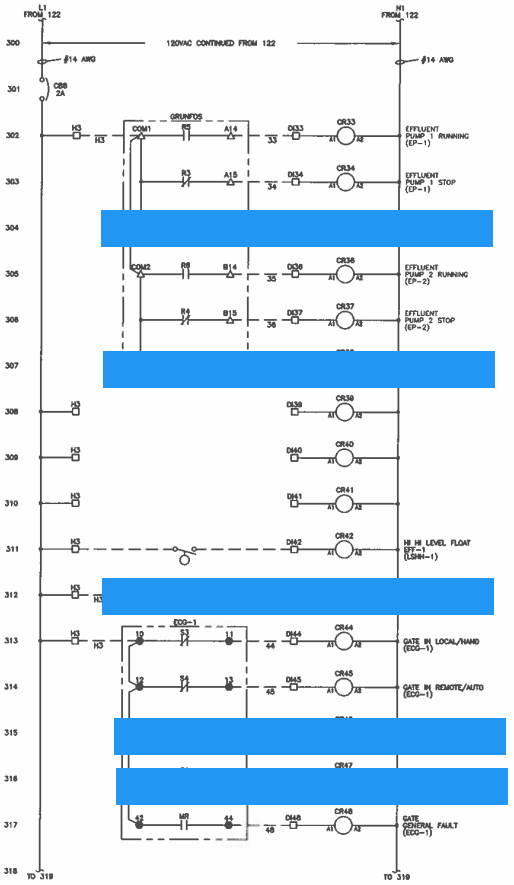
PROJECT NO:	CTI-2011-GWAM-CSA-112
CAD DWG FILE:	E1040E12
ISSUE DATE :	08/30/13
DRAWN BY:	JLJ
CHECKED BY:	KLM
SUPV. BY:	KLM

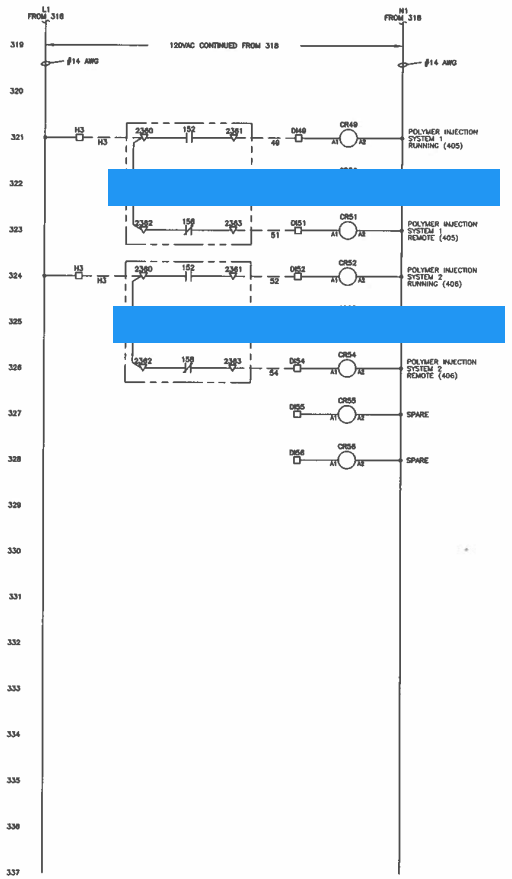
SHEET TITLE

CHEMICAL AREA PLC 2 CONTROL PANEL ELEMENTARY DIAGRAM

E-1040-E-12

SHEET 1 OF 1





- TERMINALS IN PLC CONTROL PANEL
- TERMINALS IN ABS PANEL
- TERMINALS IN VFD
- TERMINALS IN ACTUATOR JUNCTION BOX
- TERMINALS IN AMATECH PANEL
- TERMINALS IN ROTORK CONTROL PANEL
- TERMINALS IN POLYMER/COAGULANT PANEL

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HAGATNA SEWAGE TREATMENT PLANT REFURBISHMENT DESIGN-BUILD PROJECT

CONTRACTOR:
GCIFI IN ASSOCIATION WITH CORE TECH INTERNATIONAL & DCK

MARK	DATE	DESCRIPTION
REV E	11.17.14	FILED CHANGES
REV D	05.22.14	FILED CHANGES
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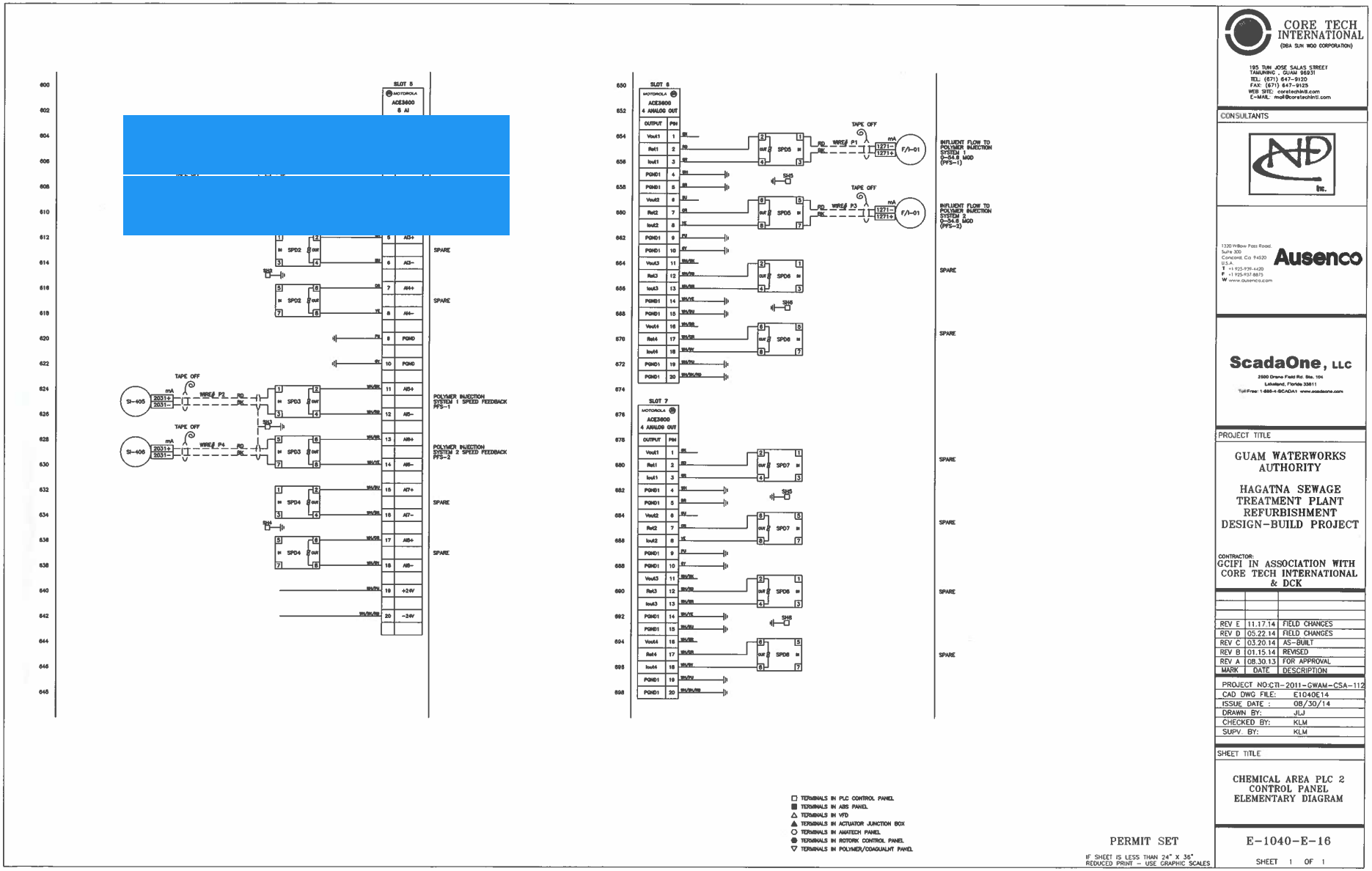
CHEMICAL AREA PLC 2 CONTROL PANEL ELEMENTARY DIAGRAM

E-1040-E-13

SHEET 1 OF 1



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PROJECT TITLE

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HAGATNA SEWAGE TREATMENT PLANT REFURBISHMENT DESIGN-BUILD PROJECT

CONTRACTOR:
GCIFI IN ASSOCIATION WITH CORE TECH INTERNATIONAL & DCK

MARK	DATE	DESCRIPTION
REV E	11.17.14	FIELD CHANGES
REV D	05.22.14	FIELD CHANGES
REV C	03.20.14	AS-BUILT
REV B	01.15.14	REVISED
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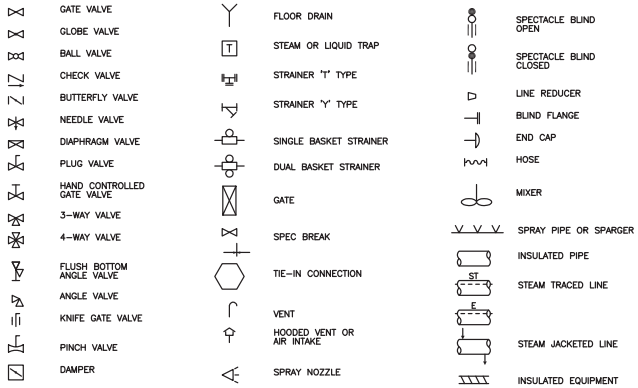
DRAWN BY:	JLJ
CHECKED BY:	KLM
SUPV. BY:	KLM

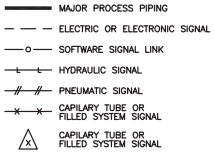
SHEET TITLE

CHEMICAL AREA PLC 2 CONTROL PANEL ELEMENTARY DIAGRAM

E-1040-E-16

SHEET 1 OF 1





Measurement	Element Type	Alarm	Alarm Low	Alarm Low–Low	Alarm Hi	Alarm Hi–Hi	User's Choice	Controller	Ratio Controller	Sensor (Prim. Element)	Ratio Calc.	Hand Switch	Hand Valve	Indication	Indicator Controller	Light	User's Choice	Orifice, Restriction	Point (Test Conn.)	Totalizer	Indicating Totalizer	Recorder	Switch Low	Switch High	Transmitter	Mitifuction	Well	Calculation
	Code	A	AL	ALL	AH	AHH	B	C	FC	E	FY	HS	HV	I	IC	L	N	O	P	Q	IQ	R	SL	SH	T	U	W	Y
Analysis	A	AA	AAL	AALL	AAH	AAHH	AB	AC	AC	AE	AFY	AHS	AHV	AI	AIC	AL	AN	AO	AP	AQ	AIQ	AR	ASL	ASH	AT	AU	AW	AY
Burner, combustion	B	BA	BAL	BALL	BAH	BAHH	BB	BC	BC	BE	BFY	BHS	BHV	BI	BIC	BL	BN	BO	BP	BQ	BIQ	BR	BSL	BSH	BT	BU	BW	BY
Conductivity or User's choice	C	CA	CAL	CALL	CAH	CAHH	CB	CC	CC	CE	CFY	CHS	CHV	CI	CIC	CL	CN	CO	CP	CQ	CIQ	CR	CSL	CSH	CT	CU	CW	CY
Density or User's choice	D	DA	DAL	DALL	DAH	DAHH	DB	DC	DC	DE	DFY	DHS	DHV	DI	DIC	DL	DN	DO	DP	DQ	DIQ	DR	DSL	DSH	DT	DU	DW	DY
Voltage	E	EA	EAL	EALL	EAH	EAHH	EB	EC	EC	EE	EFY	EHS	EHV	EI	EIC	EL	EN	EO	EP	EQ	EIQ	ER	ESL	ESH	ET	EU	EW	EY
Flow rate	F	FA	FAL	FALL	FAH	FAHH	FB	FC	FC	FE	FFY	FHS	FHV	FI	FIC	FL	FN	FO	FP	FQ	FIQ	FR	FSL	FSH	FT	FU	FW	FY
Dimension or User's choice	G	GA	GAL	GALL	GAH	GAHH	GB	GC	GC	GE	GFY	GHS	GHV	GI	GIC	GL	GN	GO	GP	GQ	GIQ	GR	GSL	GSH	GT	GU	GW	GY
Hand	H	HA	HAL	HALL	HAH	HAHH	HB	HC	HC	HE	HFY	HHS	HHV	HI	HIC	HL	HN	HO	HP	HQ	HIQ	HR	HSL	HSH	HT	HU	HW	HY
Current (electrical)	I	IA	IAL	IALL	IAH	IAHH	IB	IC	IC	IE	IFY	HIS	IHV	II	IIC	IL	IN	IO	IP	IQ	IIQ	IR	ISL	ISH	IT	IU	IW	IY
Power	J	JA	JAL	JALL	JAH	JAHH	JB	JC	JC	JE	JFY	JHS	JHV	JI	JIC	JL	JN	JO	JP	JQ	JIQ	JR	JSL	JSH	JT	JU	JW	JY
KTime, time schedule	K	KA	KAL	KALL	KAH	KAHH	KB	KC	KC	KE	KFY	KHS	KHV	KI	KIC	KL	KN	KO	KP	KQ	KIQ	KR	KSL	KSH	KT	KU	KW	KY
Level	L	LA	LAL	LALL	LAH	LAHH	LB	LC	LC	LE	LFY	LHS	LHV	LI	LIC	LL	LN	LO	LP	LQ	LIQ	LR	LSL	LSH	LT	LU	WW	LY
User's choice	M	MA	MAL	MALL	MAH	MAHH	MB	MC	MC	ME	MFY	MHS	MHV	MI	MIC	ML	MN	MO	MP	MQ	MIQ	MR	MSL	MSH	MT	MU	MW	MY
Power	N	NA	NAL	NALL	NAH	NAHH	NB	NC	NC	NE	NFY	NHS	NHV	NI	NIC	NL	NN	NO	NP	NQ	NIQ	NR	NSL	NSH	NT	NU	NW	NY
User's choice	O	OA	OAL	OALL	OAH	OAHH	OB	OC	OC	OE	OFY	OHS	OHV	OI	OIC	OL	ON	OO	OP	OQ	OIQ	OR	OSL	OSH	OT	OU	OW	OY
Pressure, vacuum	P	PA	PAL	PALL	PAH	PAHH	PB	PC	PC	PE	PFY	PHS	PHV	PI	PIC	PL	PN	PO	PP	PQ	PIQ	PR	PSL	PSH	PT	PU	PW	PY
Delta Pressure	dP	dPA	dPAL	dPall	dPAH	dPAHH	dPB	Dpc	dPC	dPE	dPFY	dPHS	dPHV	dPI	dPIC	dPL	dPN	dPO	dPP	dPQ	dPIQ	dPR	dPSL	dPSH	dPT	dPU	dPW	dPY
Quantity	Q	QA	QAL	QALL	QAH	QAHH	QB	QC	QC	QE	QFY	QHS	QHV	QI	QIC	QL	QN	QO	QP	QQ	QIQ	QR	QSL	QSH	QT	QU	QW	QY
Radiation	R	RA	RAL	RALL	RAH	RAHH	RB	RC	RC	RE	RFY	RHS	RHV	RI	RIC	RL	RN	RO	RP	RQ	RIQ	RR	RSL	RSH	RT	RU	RW	RY
Speed, frequency	S	SA	SAL	SALL	SAH	SAHH	SB	SC	SC	SE	SFY	SHS	SHV	SI	SIC	SL	SN	SO	SP	SQ	SIQ	SR	SSL	SSH	ST	SU	SW	SY
Temperature	T	TA	TAL	TALL	TAH	TAHH	TB	TC	TC	TE	TFY	THS	THV	TI	TIC	TL	TN	TO	TP	TQ	TIQ	TR	TSL	TSH	TT	TU	TW	TY
Delta Temperature	dT	dTA	dTAL	dTALL	dTAH	dTAHH	dTB	dTC	dTC	dTE	dTFY	dTHS	dTHV	dTI	dTIC	dTL	dTN	dTO	dTP	dTQ	dTIQ	dTR	dTSL	dTSH	dTT	dTU	dTW	dTY
Multivariable	U	UA	UAL	UALL	UAH	UAHH	UB	UC	UC	UE	UFY	UHS	UHV	UI	UIC	UL	UN	UO	UP	UQ	UIQ	UR	USL	USH	UT	UU	UW	UY
Vibration, mechanical analyses	V	VA	VAL	VALL	VAH	VAHH	VB	VC	VC	VE	VFY	VHS	VHV	VI	VIC	VL	VN	VO	VP	VQ	VIQ	VR	VSL	VSH	VT	VU	VW	VY
Weight, force	W	WA	WAL	WALL	WAH	WAHH	WB	WC	WC	WE	WFY	WHS	WHV	WI	WIC	WL	WN	WO	WP	WQ	WIQ	WR	WSL	WSH	WT	WU	WW	WY
Unclassified	X	XA	XAL	XALL	XAH	XAHH	XB	XC	XC	XE	XFY	XHS	XHV	XI	XIC	XL	XN	XO	XP	XQ	XIQ	XR	XSL	XSH	XT	XU	XW	XY
Event, state or presence	Y	YA	YAL	YALL	YAH	YAHH	YB	YC	YC	YE	YFY	YHS	YHV	YI	YIC	YL	YN	YO	YP	YQ	YIQ	YR	YSL	YSH	YT	YU	YW	YY
Position, dimension	Z	ZA	ZAL	ZALL	ZAH	ZAHH	ZB	ZC	ZC	ZE	ZFY	ZHS	ZHV	ZI	ZIC	ZL	ZN	ZO	ZP	ZQ	ZIQ	ZR	ZSL	ZSH	ZT	ZU	ZW	ZY

	*** Primary Location Normally Accessible to Operator	Field Mounted	*** Auxiliary Location Normally Accessible to Operator
Discrete Instruments	* IP1**		
Shared Display, Shared Control			
Computer Function			
Programmable Logic Control			

* Symbol size may vary according to the user's needs and the type of document. A suggested square and circle size for large diagrams is shown above. Consistency is recommended.

** Abbreviations of the user's choice such as IP1 (Instrument Panel #1), IC2 (Instrument Console #2), CC3 (Computer Console #3), etc., may be used when it is necessary to specify instrument or function location.

*** Normal inaccessible or behind–the–panel devices for functions may be depicted by using the same symbol but with dashed horizontal bars, i.e.

Control interlock fuction, Software or Hardware.

Modifier
- D – Differential
- F – Ration (fraction)
- J – Scan
- K – Time rate of change
- M – Momentary
- Q – Integrate, totalizer
- S – Safety
- X – X–axis
- Y – Y–axis
- Z – Z–axis

Output Function
- B – User's choice
- C – Control
- K – Control Station
- N– User's choice
- S – Switch
- T – Transmit
- U – Multifunction
- V – Valve, damper, louver
- X – Unclassified
- Y – Relay, compute, convert

Modifier Function
- B – User's choice
- H – High
- L – Low
- M – Middle, intermediate
- N– User's choice
- U – Multifunction
- X – Unclassified

REV.	DRAWING HISTORY	BY	DATE
A	FOR APPROVAL	JLJ	–
–	–	–	–
–	–	–	–

ENGINEER	K. MATHES	–
DESIGNED BY	K. MATHES	–
DRAWN BY	J. JERNIGAN	–
DRFTG. SUPVR.	–	–

PROJ. NO.	PORJECT
CAD FILE	C01
SCALE	NONE

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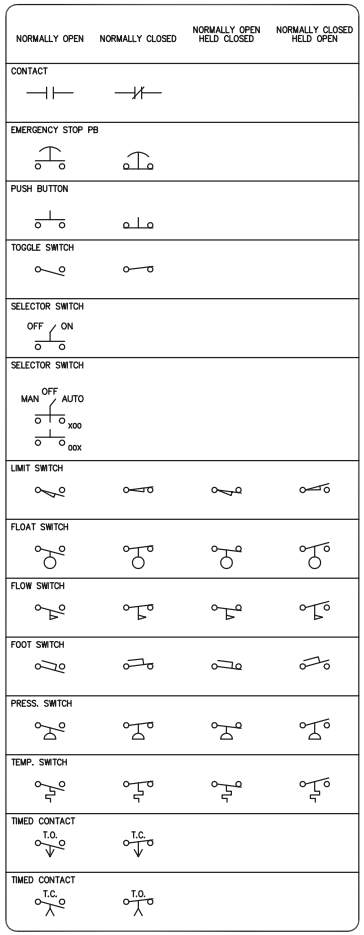
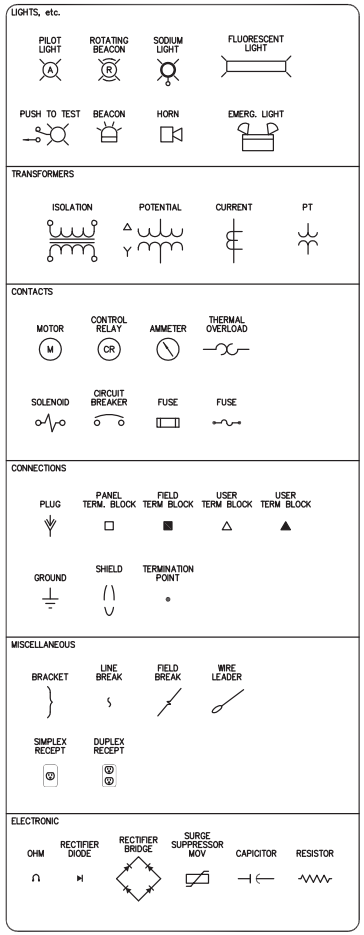
DWG. NO.	C01 REV A





1. All work shall be performed in accordance with the National Electrical and local codes.
2. The panel shall be constructed to allow for easy and organized expansion.
3. All substitutions in regards to model and manufacturer of parts listed in the bill of materials in these drawings are prohibited without written request and approval.
4. 240 Volts and above shall be clearly identified with commercially available stickers.
5. Power, control, and instrument conductors, in control cabinets and in the field, shall be as follows:
   a. All conductors in panel shall be permanently identified with machine printed wrap around wire markers. Part# Kroy 97-VRAP-0276W or equal.
   b. Conductors shall be sized in accordance with the NEC regarding ampacity and voltage drop considerations. Minimum conductor sizes are below.
   c. Conductor wire colors shall be as follows:

i.	Power	Black	(#12 AWG Min)
ii.	AC Controls	Red	(#14 AWG Min)
iii.	Reduced AC Current	Red/w Gray Stripe	(#14 AWG Min)
iv.	AC Neutral	White	(#14 AWG Min)
v.	DC Controls	Dark Blue	(#16 AWG Min)
vi.	DC Grounded	Dark Blue/w White Strip	(#16 AWG Min)
vii.	Inst Loops	BK/WH Shld Pairs	(#16 AWG Min)(BK +)
		RD/BK Shld Pairs	(#16 AWG Min)(RD +)
vii.	Grounds	Green or Identified	(#14 AWG Minimum)

   d. Each phase conductor, neutral conductor, grounding conductor, and high legs shall be clearly identified with its proper color code.
6. Each terminal and fuse block section shall be identified by its terminal block ID and individual terminal block numbers. Individual terminal blocks that allow identification on both the top (left) and the bottom (right) shall be identified as such.
7. All control and interposing relays shall be rated at 10 amps. A spare relay of each voltage shall be provided with each control panel.
8. All rail mounted fuse holders shall be supplied with blown fuse indicators. Two spare fuses of each size shall be supplied.
9. All control cabinets, equipment, and components shall be identified with machine set pheonalic tags as follows:
   a. Pheonalic tags shall be white with black lettering.
   b. Text shall be clearly readable. Minimum text height shall be three-sixteenth inch tall.
   c. Each tag shall clearly identify each panel and each of its main components including:
      i. Control Cabinet name and description.
      ii. Terminal Block IDs.
      iii. Circuit Breaker IDs and process description.
      iv. Instrument indicator/controller ID and process description.
      v. Each control relay (at its base on the back panel) with its unique ID.
      vi. Remote RTU site ID and configuration address.
      vii. All operator controls and indications shall be clearly identified.
      viii. Any special instructions or safety hazards shall be clearly identified.

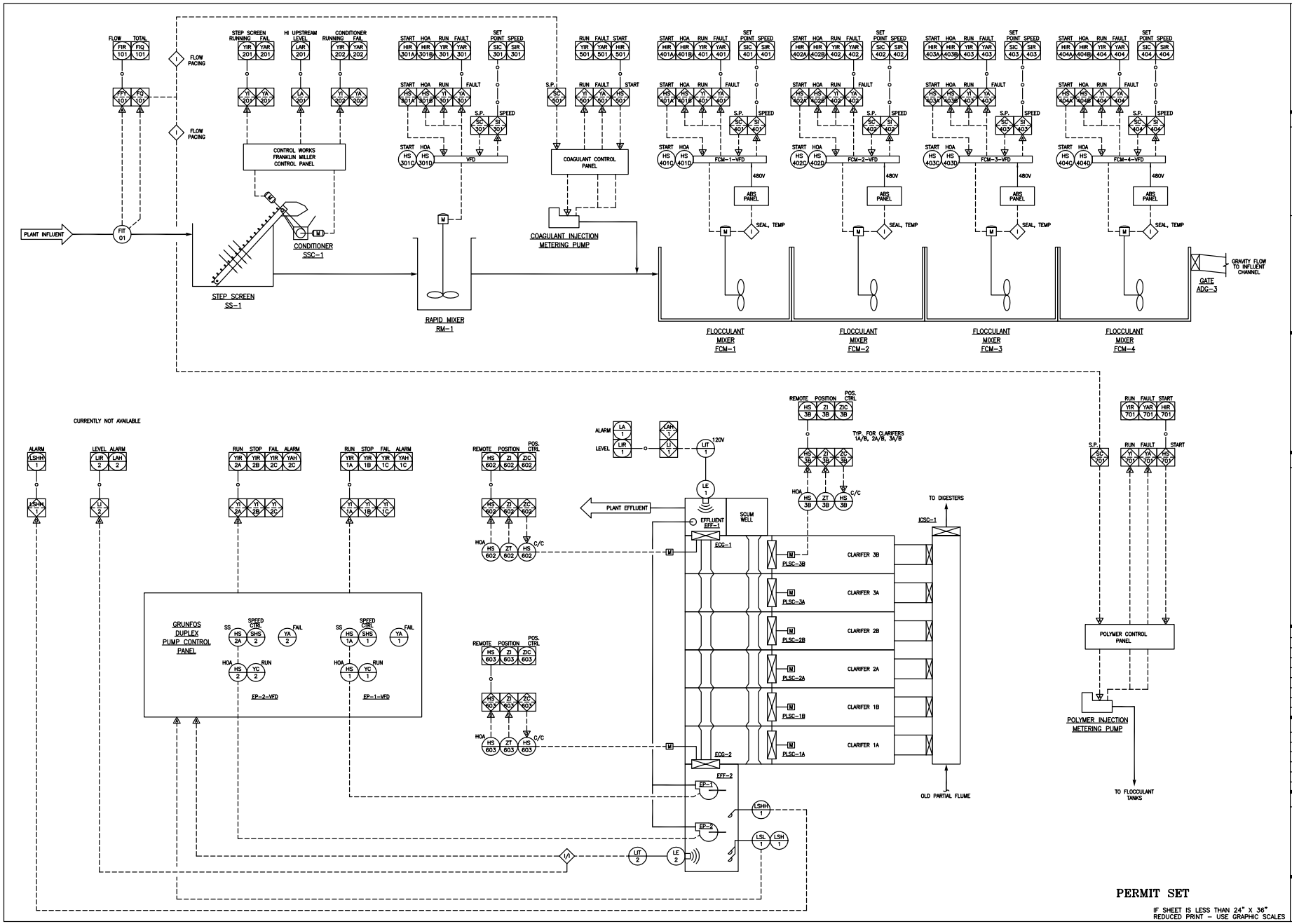
11. All materials shall be un-used and have the manufacturers/distributors full warranty at the time of delivery.
12. All instrument and control enclosures must be delivered and installed scratch and dent free. Failure to do so may result in un-acceptance. It is the installation contractors responsibility to assure the protection of this equipment.
13. All control and instrument enclosures shall be securely grounded to the existing grounding system. The RTU and cabinet back panels are to be bonded to the cabinet with a #8AWG minimum grounding conductor.
14. Instrument and control cabinet floors and bottoms of panels are reserved for conduit entries.
15. Penetrations through exterior walls shall be permanently sealed.

REV.	DRAWING HISTORY	BY	DATE				
A	FOR APPROVAL	KLM	–	ENGINEER	K. MATHES	–	PROJ. NO. PORJECT
–	–	–	–	DESIGNED BY	K. MATHES	–	CAD FILE C01
–	–	–	–	DRAWN BY	J. JERNIGAN	–	SCALE NONE
				DRFTG. SUPVR.	–	–	

ScadaOne, LLC
2500 Drane Field Rd, Ste. 104
Lakeland, Florida 33811
Toll Free 1-888-4-SCADA1 www.scadaone.com

– – – –

DWG. NO. – REV A



CORE TECH INTERNATIONAL
(DBA SUN WOO CORPORATION)
195 TUN JOSE SALAS STREET
TAMUNING , GUAM 96931
TEL: (671) 647-9120
FAX: (671) 647-9125
WEB SITE: coretechintl.com
E-MAIL: mail@coretechintl.com

CONSULTANTS

Ausenco
1320 Willow Pass Road, Suite 300
Concord, Ca 94520
U.S.A.
T +1 925-939-4420
F +1 925-937-8675
W www.ausenco.com

ScadaOne, LLC
2500 Drane Field Rd, Ste. 104
Lakeland, Florida 33811
Toll Free: 1-888-4-SCADA1 www.scadaone.com

PROJECT TITLE

GUAM WATERWORKS AUTHORITY

HAGATNA SEWAGE TREATMENT PLANT REFURBISHMENT DESIGN-BUILD PROJECT

CONTRACTOR:
GCIFI IN ASSOCIATION WITH CORE TECH INTERNATIONAL & DCK

MARK	DATE	DESCRIPTION
REV 2	06.05.13	90% DESIGN SUBMITTAL

PROJECT NO:	CTI-2011-GWAM-CSA-112
CAD DWG FILE:	
ISSUE DATE :	07/26/13
DRAWN BY:	JLJ
CHECKED BY:	KLM
SUPV. BY:	KLM

SHEET TITLE

SHEET OF .

2024 Govt Fee template HWWTP SCADA rev1.xlsx — Fee Estimate

	Task Description	Principal	Principal Structural	Project Manager	Assistant Project Manager	Professional Structural Engineer	Professional Civil Engineer - Special Projects	Professional Civil Engineer	Project Engineer	Civil Engineer	Structural Engineer	Staff Engineer/Designer	Specification Writer	Quantity Estimator	Engineering Technician	CAD technician	Professional Surveyor	Assistant Surveyor	Senior Party Chief	Party Chief (Instrument Man/Junior Party Chief	Computer	Survey Field Technician	Cartographer	Researcher	Survey Drafter / CAD Operator	Survey Aide	2-Man Crew	3-Man Crew	4-Man Crew	Chief of Environmental Services	Environmental Scientist	GIS Manager	GIS Tech	Senior Environmental PM	Construction Manager	Project Construction Manager	Construction Inspector	Aerial Drone Operator	ROV (Marine) Operator	Safety Officer	Structural Engineer	Staff Engineer	CAD Technician	Survey Technician	2-Man Crew	3-Man Crew		Total
	Direct Labor Rates >>>>>	No. of Days	$ 229	$ 215	$ 190	$ 108	$ 215	$ 188	$ 188	$ 174	$ 180	$ 185	$ 116	$ 185	$ 170	$ 79	$ 80	$ 135	$ 122	$ 100	$ 80	$ 71	$ 90	$ 60	$ 81	$ 86	$ 70	$ 55	$ 154	$ 214	$ 269	$ 126	$ 84	$ 102	$ 90	$ 103	$ 154	$ 156	$ 96	$ 69	$ 69	$ 88	$ 101	$ 78	$ 54	$ 39	$ 84	$ 106		
	Total Sheet Count and Effort >>>>>	20	0	0	28	0	12	208	0	0	0	48	302	24	36	0	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ 120,676.00
A.		20	0	0	28	0	12	208	0	0	0	48	302	24	36	0	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ 120,676.00
1	**PM**	8			16																																											$ 3,040.00
2	Project Kick off				12			12					12				12																															$ 6,888.00
3	**Interim Communication**																																															$ -
4	Coordination							12					4																																			$ 2,720.00
5	Site Visit							4					16																																			$ 2,608.00
6	Commissioning support							8					16																																			$ 3,360.00
7																																															$ -
8	**Mechanical Equipment Assessment**																																														$ -
9	Data review							4					24																																			$ 3,536.00
10	Site visists							16					40																																			$ 7,648.00
11	Analysis							8					24																																			$ 4,288.00
12	Coordination							16					8																																			$ 3,936.00
13	Draft Report							24					12				60																															$ 10,704.00
14	Performance specifications							2						24																																		$ 4,816.00
15	Bid Documents							16					16																																			$ 4,864.00
16	Final Procurement report							12					12				24																															$ 5,568.00
17	Cost Estimate							2							36																																	$ 6,496.00
18	Plan Sets	6						12					36				72																															$ 12,192.00
19																																																$ -
20																																																$ -
21																																																$ -
22	**SCADA Design**																																															$ -
23	Coordination							4					12																																			$ 2,144.00
24	Site visits							8					16																																			$ 3,360.00
25	Design review							12					4																																			$ 2,720.00
26	Cover pages							4					2																																			$ 984.00
27	Arch/Struc	6					12					48					72																															$ 17,220.00
28	Bid documents							8					8																																			$ 2,432.00
29																																																$ -
30	Bid Support							24					40																																			$ 9,152.00
31																																																$ -
32																																																$ -
33																																																$ -
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#####																																																$ -
B.	**Survey Works**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -
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C	**Post Design Support**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -
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10																																																$ -
11																																																$ -
12																																																$ -
13																																																$ -
14																																															Direct Labor		$ 120,676.00

	Subconsultants	DL	Fee
5.1	EMCE Elec		$ 99,800.00
5.2	Jacobs		$ 412,199.54
5.3	MCS		$ 80,062.00
5.4	Expediting Fee		$ 7,000.00
5.5			$ -
5.6			
5.7			
	Subtotal - Subconsultants	$ -	$ 599,061.54
	GRT & Handling @	7%	$ 41,934.31
	Subtotal - Subconsultants + DCA Handling		$ 640,995.85

	DCA Expenses	Unit	Quan	Rate	Cost
1	Air Fare	2	0	$ -	$ -
2	Hotel	2	0	$ -	$ -
3	Per Dium	2	0	$ -	$ -
4		1	0	$ -	$ -
5	Plan Sets and Shipping	1	0		$ -
6		1	5	$ -	$ -
7		1	1		$ -
8		1	0		$ -
9		1	0		$ -
10					
	Subtotal - Expenses				$ -

COST SUMMARY

1	LABOR			$ 120,676.00
2	OVERHEAD @	Included		
3	SUBCONSULTANTS		Subtotal, Subconsultants+DCA Handling	$ 640,995.85
4	Subtotal		Row 1 + Row 3	$ 761,671.85
5	PROFIT	Included		
6	EXPENSES		Expenses X 15%	$ -
7	Subtotal		Row 4 + Row 6	$ 761,671.85
8	GRT	@ 5.25%	Included	
			Total	$ 761,671.85
			Say	$ 761,672

Duenas, Camacho and Assoc. — 1 of 1 — 7/17/24

EMCE • Consulting Engineers

BUILDING 133
ANTONIA COURT, TAMUNING
P.O. BOX 9940 TAMUNING, GUAM 96931
TEL: (671) 649-0166/7
FAX: (671) 646-EMCE (3623)

FEE PROPOSAL

TO: Ken Rekdahl	DATE: March 20, 2024
COMPANY: DCA	Via email
FROM: Abner Mariano	PROPOSAL NO: 7-
SUBJECT: GWA HWWTP SCADA and Equipment Assessment and Design	

We are pleased to provide you with our Fee Proposal for Electrical Engineering services for the above project.

A. SCOPE OF SERVICES
- 1.0 Conduct Equipment Assessment
  - 1.1 Electrical Systems
    - 1.1.1 Main Service Equipment
    - 1.1.2 Electrical distribution equipment (switchboards, panelboards, etc. rated 480/277V and 208/120V.)
    - 1.1.3 Back-up Generator System
    - 1.1.4 Surge Protection
  - 1.2 Deliverables (Draft and Final Reports)
    - 1.2.1 Narrative and photos of existing conditions
    - 1.2.2 Requirements/recommendations for existing equipment upgrades.
    - 1.2.3 Specifications and other cut sheets needed for reorder and/or repair.
  - 1.3 Cost Estimate – Prepared by Others. EMCE to provide support information on costs for systems under EMCE's scope.
  - 1.4 The following items are excluded:
    - 1.4.1 Low voltage systems
    - 1.4.2 SCADA and related controls
    - 1.4.3 Process Equipment and related controls
    - 1.4.4 Equipment control panels, instrumentation, and communication
    - 1.4.5 Equipment starters (VFDs, soft starters, etc.)
    - 1.4.6 Communication systems
    - 1.4.7 Building electrical (lighting, receptacles, etc.)
    - 1.4.8 Design services other than conduit and power required to support the SCADA design performed by Jacobs.
- 2.0 Limited Services During Construction – Not in Contract

B. COMPENSATION:

1.0	Electrical Assessment & Report	$ 71,911
2.0	Power and conduit in support of SCADA system	$ 27,889

GRAND TOTAL $99,800

If you have any questions regarding this proposal, please call us.

Sincerely,
EMCE Consulting Engineers
Abner Mariano, P.E.
Principal

HAGATNA WWTP I&C/ELECTRICAL CONDITION ASSESSMENT AND DESIGN UPGRADES
JACOBS DESIGN FEE
Proposal - 6/16/2024

TO Subtask	Activity	Scott Champlin P.E. Project Manager	Jonathan James P.E. Electrical Engineer	Devin Lott I&C Engineer	Dennis Thomas P.E. I&C Engineer	Ed Meyer Cost Estimating	Skylor Flaska Lead Tech / I&C Tech	Leslie O'Connor Clerical/Word Processor	Mike Sinon Health and Safety	Labor Hours	Labor Costs	Expenses	Subtotals	Total
Billing Rate		$300.81	$235.65	$172.41	$248.94	$286.98	$134.82	$147.57	$248.07					
WORK TASK 1	Task 1 - CONDITION ASSESSMENT / SITE VISIT / TM (2 months)													
	Background Study (Record Drawings, Submittals, Memos, Corrective Action Completed, etc.)	4	4	16						24	$4,904.40		$ 4,904.40	
	Kickoff Meeting w/ DCA	2	2	2						6	$1,417.74			
	Site Visit	40		40					8	88	$20,913.36	$13,000.00	$ 33,913.36	
	Final Assessment Report (Draft and Final)	8	4	54	8			8		82	$15,831.30			
	Cost Estimate	4	4	8		24				40	$10,412.64		$ 10,412.64	
	Subtotal Labor Hours	**58**	**14**	**120**	**8**	**24**	**0**	**8**	**8**	**240**				
	Subtotal Labor Revenue	**$17,446.98**	**$3,299.10**	**$20,689.20**	**$1,991.52**	**$6,887.52**	**$0.00**	**$1,180.56**	**$1,984.56**	**$53,479.44**	**$53,479.44**	**$13,000.00**	**$ 66,479.44**	**$66,479.44**

Task 1 Subtotal Labor	$53,479.44
Task 1 Subtotal Expenses	$13,000.00
Work Task 1 TOTAL	$66,479.44

DESIGN	Task 2 - Detailed Design (Drawings, Specifications, Cost Estimate) 8 months													
DESIGN	Concept Design (2 months)													
	Team Meetings	8	4	8	4		8			32	$6,802.68		$ 6,802.68	
	Design Drawings / Specifications	24	16	108			136	12		296	$49,716.48		$ 49,716.48	
	Quality Control Review	12	24	12	24					72	$17,308.80		$ 17,308.80	
	Design Review Meetng	12	4	12						28	$6,621.24		$ 6,621.24	
	Travel and Expenses									0	$0.00	$2,500.00	$ 2,500.00	
	Subtotal Labor Hours	**56**	**48**	**140**	**28**	**0**	**144**	**12**	**0**	**428**				
	Subtotal Labor Revenue	**$16,845.36**	**$11,311.20**	**$24,137.40**	**$6,970.32**	**$0.00**	**$19,414.08**	**$1,770.84**	**$0.00**	**$80,449.20**	**$80,449.20**	**$2,500.00**	**$ 82,949.20**	**$82,949.20**
DESIGN	Pre-Final Submittal (4 months)													
	Team Meetings	12	4	12	4		8			40	$8,695.56		$ 8,695.56	
	Design Drawings / Specifications	32	40	160			196	48		476	$80,145.60		$ 80,145.60	
	Cost Estimating	8	2	12		40				62	$16,425.90		$ 16,425.90	
	Quality Control Review	8	24	8	40					80	$19,398.96		$ 19,398.96	
	Design Review Meetng	48	4	48						100	$23,657.16		$ 23,657.16	
	Travel and Expenses									0	$0.00	$15,500.00	$ 15,500.00	
	Subtotal Labor Hours	**108**	**74**	**240**	**44**	**40**	**204**	**48**	**0**	**758**				
	Subtotal Labor Revenue	**$32,487.48**	**$17,438.10**	**$41,378.40**	**$10,953.36**	**$11,479.20**	**$27,503.28**	**$7,083.36**	**$0.00**	**$148,323.18**	**$148,323.18**	**$15,500.00**	**$ 163,823.18**	**$163,823.18**
DESIGN	Final Design / Bid Set Documents (2 months)													
	Team Meetings	8	4	8	4		4			28	$6,263.40		$ 6,263.40	
	Design Drawings / Specifications	24	16	124			160	24		348	$57,481.56		$ 57,481.56	
	Cost Estimating	8	2	8		24				42	$11,144.58		$ 11,144.58	
	Quality Control Review	8	30	8	24					70	$16,829.82		$ 16,829.82	
	Design Review Meetng	8	4	8						20	$4,728.36		$ 4,728.36	
	Travel and Expenses									0	$0.00	$2,500.00	$ 2,500.00	
	Subtotal Labor Hours	**56**	**56**	**156**	**28**	**24**	**164**	**24**	**0**	**508**				
	Subtotal Labor Revenue	**$16,845.36**	**$13,196.40**	**$26,895.96**	**$6,970.32**	**$6,887.52**	**$22,110.48**	**$3,541.68**	**$0.00**	**$96,447.72**	**$96,447.72**	**$2,500.00**	**$ 98,947.72**	**$98,947.72**

Task 2 - Design Subtotal Labor	$325,220.10
Task 2 - Design Subtotal Expenses	$20,500.00
Task 2 TOTAL	$345,720.10

TOTAL DESIGN LABOR	$378,699.54
TOTAL DESIGN EXPENSES	$33,500.00
TOTAL FEE	$412,199.54

MCS Contractors Inc
125 Tun Jesus Crisostomo St, Suite 301
Tamuning, GU 96913

Instrumentation and Controls

671-648-4262
sales@guamtech.com

Ozone and Chem AutoDailer Alarm Panels
Agana Wastewater Treatment Plant

Quotation AAD1
Revision 1
Date: 05 Jul 2024

Introduction

MCS Contractors Inc (MCS or MCSC) is pleased to provide this proposal for the supply and installation work for the AutoDialer panels at the Agana Wastewater Treatment Plant. The scope includes the manufacture, installation, and programming of the panels. GWA will provide the SIM cards.

Documentation and References used to prepare this estimate:
CHEM PANEL – Drawing provided by GWA
OZONE PANEL – Drawing provided by GWA

MCS Contractors Inc
125 Tun Jesus Crisostomo St, Suite 301
Tamuning, GU 96913

Instrumentation and Controls

671-648-4262
sales@guamtech.com

Table of Contents

MCS Contractors Inc
125 Tun Jesus Crisostomo St, Suite 301
Tamuning, GU 96913

Instrumentation and Controls

671-648-4262
sales@guamtech.com

Materials Provided:

Material	Location	Type	Price
Ozone Panel	Ozone Elec Room	As Detailed in GWA Drawings	$37,975.00
Chem Panel	Control Room	As Detailed in GWA Drawings	$42,087.00
Total			**$80,062.00**

Inclusive of all shipping cost to project site.

Services Provided:

Service	Description	Price
Programming	Programming of Micro870 PLC and PanelView 800 HMI	Included
Installation	Mounting, Wireways, and Terminations	Included
Testing & Startup	Testing and Startup of completed system	Included
Documentation	Shop Drawings, Manuals, and AS-BUILTS	Included
Training	Training GWA Personnel	Included

MCS Contractors Inc
125 Tun Jesus Crisostomo St, Suite 301
Tamuning, GU 96913

Instrumentation and Controls

671-648-4262
sales@guamtech.com

Major Elements

Control Panels

Each of the control panels will be manufactured and delivered fully labeled and wired. We will attempt to follow the GWA supplied drawings as closely as possible.

Programming

Micro870 PLC

The PLC will be programmed to monitor and alarm as configured for all monitored points. Alarms can have variable timing parameters via setpoints.

Micro800 HMI Panel

The HMI Panel will display both the current status and alarm status of each monitored point. Analog values will have a trend view available. Alarm History Screen will show a record of past alarms. The PLC will also be configured to interface with the AutoDialer over Modbus.

SCADADroid AutoDialer

The AutoDialer will be configured to poll the Micro870 via Modbus TCP and respond to alarms by sending an SMS or email depending on program settings.

Installation

Physical Mounting

AutoDialer panels will be securely anchored in a clear section of wall next to the plant PLC they will be monitoring.

Conduits and Wiring

Flexible Conduit will be used to connect the AutoDialer Panels to the panel they will be monitoring. Interconnecting wires shall be provided. Conduits will be sized to comply with NEC 40% fill requirements. AutoDialer panel power will be provided from a breaker on the Control Panel that is being monitored. If a spare breaker is not available, a DIN style circuit breaker will be installed.

Wire Termination and Labeling:

MCSC will be responsible for labeling requirements, and termination of wires at instrumentation locations and at control panels. Wires will all be ferruled and labelled with descriptive heat shrink.

MCS Contractors Inc
125 Tun Jesus Crisostomo St, Suite 301
Tamuning, GU 96913

Instrumentation and Controls

671-648-4262
sales@guamtech.com

Testing and Startup

Functional Acceptance Test: MCSC will simulate each alarm point, confirm display on HMI, recording of alarm in the alarm status and history screens. Additionally, alarms configured for dial out should be detected by the auto dialer and acted upon by sending out an alert.

Documentation and Administration

- Panel Shop Drawings
- Cut Sheets and Product Manuals
- HMI, PLC, Switch, and AutoDialer configuration files
- Training Materials
- Test Plans and Test Reports

MCSC will attend all required progress and coordination meetings.

Training

MCSC will provide the Training to GWA operators and equipment maintainers.

Warranty

All materials and workmanship will be warrantied for one year from date of substantial completion.

MCS Contractors Inc
125 Tun Jesus Crisostomo St, Suite 301
Tamuning, GU 96913

Instrumentation and Controls

671-648-4262
sales@guamtech.com

Payment Terms (Negotiable)

25% Downpayment to begin work and prepare submittals.

25% on Approval of shop drawings

25% to ship panels

15% After Completed Installation

10% on Acceptance

Exclusions

- All Field Testing, and Commissioning of Equipment, Controls and Software Provided by Others, except where indicated in Scope of Services and to integrate existing equipment.
- All Instruments and Instrument Panels Not Listed under Scope of Supply.
- All LCP's, Termination JB's, and Other Control Panels Not Listed under Scope of Supply.
- All Mast or Towers.
- All Testing Other Than Stated Under Scope of Services.
- All Hardware, Software and Components Not Listed Under Scope of Supply.
- Damages or loss from any theft, vandalism, or negligence by others after delivery to project site.
- Storage of large materials. We will coordinate with the General Contractor on delivery dates of major items. If job site is not ready to receive them, we shall turn items over to General Contractor for storage and safekeeping.

MCS Contractors Inc
125 Tun Jesus Crisostomo St, Suite 301
Tamuning, GU 96913

Instrumentation and Controls

671-648-4262
sales@guamtech.com

General Terms & Conditions

1. Applicability

These Terms and Conditions constitute a binding agreement between MCS Contractor Inc. and Contractor and are referred to herein as either Terms and Conditions or this Agreement. Contractor accepts these Terms and Conditions by making a purchase from or placing an order with MCS Contractor Inc. or otherwise requesting products (the Products) or engaging MCS Contractor Inc. to perform or procure any services (the Services).

Contractor may issue a purchase order for administrative purposes only. Additional or different terms and conditions contained in any such purchase order will be null and void.

No course of prior dealings between the parties and no usage of trade will be relevant to determine the meaning of these Terms and Conditions or any purchase order or invoice, or any document in electronic or written form that is signed and delivered by each of the parties for the performance of Services (each, a Scope of Work).

This Agreement contains the entire understanding of the parties with respect to the matters contained herein and supersedes and replaces in its entirety any and all prior communications and contemporaneous agreements and understandings, whether oral, written, electronic or implied, if any, between the parties with respect to the subject matter hereof.

Where Services are ordered in a Scope of Work, each Scope of Work hereby incorporates these Terms and Conditions and constitutes a separate agreement with respect to the Services performed. In the event of an addition to or a conflict between any term or condition of the Scope of Work and these Terms and Conditions, the terms and conditions of this Agreement will control, except as expressly amended in the applicable Scope of Work by specific reference to this Agreement. Each such amendment will be applicable only with respect to such Scope of Work and not any other Scope of Work.

Changes to the scope of the Services will be made only in a writing executed by authorized representatives of both parties. MCS Contractor Inc. will have no obligation to commence work in connection with any such change, unless and until the change is agreed upon in that writing executed by both parties.

All such changes to the scope of the Services will be governed by these Terms and Conditions and the applicable Statement of Work.

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2. Warranties

Contractor understands that MCS Contractor Inc. is not the manufacturer of the Products purchased by Contractor hereunder and the only warranties offered are those of the manufacturer, not of MCS Contractor Inc., its suppliers or subcontractors. MCS will administer any warranty claim outside of manufactures warranty required by terms of contract specifications.

Contractor expressly waives any claim that it may have against MCS Contractor Inc., its suppliers or subcontractors based on any product liability or infringement or alleged infringement of any patent, copyright, trade secret or other intellectual property rights (each a Claim) with respect to any Product and also waives any right to indemnification from MCS Contractor Inc., its suppliers or subcontractors against any such Claim made against Contractor by a third party. Contractor acknowledges that no employee MCS Contractor Inc., its suppliers or subcontractors is authorized to make any representation or warranty on behalf MCS Contractor Inc., its suppliers or subcontractors that is not in this Agreement.

MCS Contractor Inc. warrants that the Services will be performed in a good and workmanlike manner. Contractor's sole and exclusive remedy and MCS Contractor Inc.'s entire liability with respect to this warranty will be, at the sole option of MCS Contractor Inc., to either:

a. Use its reasonable commercial efforts to reperform or cause to be reperformed any Services not in substantial compliance with this warranty or
b. Refund amounts paid by Contractor related to the portion of the Services not in substantial compliance; provided, in each case, Contractor notifies MCS Contractor Inc. in writing within five (5) business days after performance of the applicable Services.

Except as set forth herein or in any Statement of Work that expressly amends MCS Contractor Inc.' warranty, and subject to applicable law, MCS Contractor Inc. makes no other, and expressly disclaims all other, representations, warranties, conditions or covenants, either express or implied (including without limitation, any express or implied warranties or conditions of fitness for a particular purpose, merchantability, durability, title, accuracy or non- infringement) arising out of or related to the performance or non-performance of the Services, including but not limited to any warranty relating to third party services, any warranty with respect to the performance of any hardware or software used in performing services and any warranty concerning the results to be obtained from the Services.

This disclaimer and exclusion shall apply even if the express warranty and limited remedy set forth herein fails of its essential purpose.

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Contractor acknowledges that no representative of MCS Contractor Inc. or of its affiliates is authorized to make any representation or warranty on behalf of MCS Contractor Inc. or any of its affiliates that is not in this Agreement or in a Statement of Work expressly amending MCS Contractor Inc.' warranty.

Contractor shall be solely responsible for daily back-up and other protection of submitted data and software against loss, damage or corruption. Contractor shall be solely responsible for reconstructing data (including but not limited to data located on disk files and memories) and software that may be lost, damaged or corrupted during the performance of Services. MCS Contractor Inc., its affiliates, and its and their distributors, subcontractors and agents are hereby released and shall continue to be released from all liability in connection with the loss, damage or corruption of data and software, and customer assumes all risk of loss, damage or corruption of data and software in any way related to or resulting from the Services.

Neither Party will not be responsible for and no liability shall result to either or any of its affiliates for any delays in delivery or in performance (other than payment defaults) which result from any circumstances beyond such Party's reasonable control, including, but not limited to, Product unavailability, carrier delays, delays due to fire, severe weather conditions, failure of power, labor problems, acts of war, terrorism, embargo, pandemics, acts of God or acts or laws of any government or agency. [Any shipping dates or completion dates provided by MCS Contractor Inc. or any purported deadlines contained in a Statement of Work or any other document are estimates only.]

Timely performance by MCS Contractor Inc. is contingent upon Contractor's supplying to MCS Contractor Inc., when needed, all required technical information and data, including drawing approvals, and all required commercial documentation. If MCS Contractor Inc. suffers delay in performance due to any cause beyond its reasonable control, the time of performance shall be extended a period of time equal to the period of the delay and its consequences. MCS Contractor Inc. will give to Contractor notice within a reasonable time after MCS Contractor Inc. becomes aware of any such delay.

3. Limitation of Liability

Under no circumstances and notwithstanding the failure of essential purpose of any remedy set forth herein, will MCS Contractor Inc., its affiliates or its or their distributors, subcontractors or agents be liable for:

a. any incidental, indirect, special, punitive or consequential damages including but not limited to, loss of profits, business, revenues or savings, even if MCS Contractor Inc. has been advised of the possibilities of such damages or if such damages are otherwise foreseeable, in each case, whether a claim for any such liability is based on breach of contract, warranty, negligence, strict liability or other theory of liability;

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b. any claims, demands or actions against Contractor by any third party;
c. any loss or claim arising out of or in connection with Contractor's implementation of any conclusions or recommendations by MCS Contractor Inc., its suppliers or subcontractors based on, resulting from, arising out of or otherwise related to the Products or Services; or

d. Any unavailability of the Product for use or any lost, damaged or corrupted data or software.

In the event of any liability incurred by MCS Contractor Inc. or any of its affiliates, the entire liability of MCS Contractor Inc. and its affiliates for damages from any cause whatsoever will not exceed five (5) percent of the amount paid by Contractor for the Product(s) giving rise to the claim or the specific Services giving rise to the claim.

4. Limited License

Contractor's sole rights to the work product, materials and other deliverables to be provided or created (individually or jointly) in connection with the Services, including but not limited to, all inventions, discoveries, methods, processes, formulae, ideas, concepts, techniques, knowhow, data, designs, models, prototypes, works of authorship, computer programs, proprietary tools, methods of analysis and other information (whether or not capable of protection by patent, copyright, trade secret, confidentiality, or other proprietary rights) or discovered in the course of performance of this Agreement that are embodied in such work or materials (the Work Product) will be, upon payment in full to MCS Contractor Inc., a non-transferable, non-exclusive, royalty-free license to use such Work Products solely for Contractor's internal use. Contractor will have no ownership or other property rights thereto and Contractor shall have no right to use any such Work Product for any other purpose whatsoever. Contractor acknowledges that MCS Contractor Inc. may incorporate intellectual property created by third parties into the Work Product (Third Party Intellectual Property). Contractor agrees that its right to use the Work Product containing Third Party Intellectual Property may be subject to the rights of third parties and limited by agreements with such third parties.

5. Payment

Contractor agrees to pay the total purchase price for the Products. Terms of payment are within MCS Contractor Inc.'s sole discretion.

In connection with Services being performed pursuant to a Statement of Work, Contractor will pay for the Services in the amounts and in accordance with any payment schedule set forth in the applicable Statement of Work. If no payment schedule is provided, Contractor will pay for the Services as invoiced by MCS Contractor Inc. Invoices are due and payable within the time period specified on the invoice. MCS Contractor Inc. may invoice Contractor separately for partial shipments, and MCS Contractor Inc. may invoice Contractor for all of the Services described in a Statement of Work or any portion thereof.

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Contractor agrees to pay interest on all past-due sums at the lower of one and one-half percent (1.5%) per month or the highest rate allowed by law.

In the event of a payment default, where MCS Contractors Inc has delivered satisfactory materials and has performed satisfactory work, Contractor will be responsible for all of MCS Contractor Inc.'s costs of collection, including, but not limited to, court costs, filing fees and attorneys' fees. In addition, if payments are not received as described above, MCS Contractor Inc. reserves the right to suspend Services until payment is received.

6. Cooperation

In addition to any specific Contractor duties set forth in any applicable Statement of Work, Contractor agrees to cooperate with MCS Contractor Inc. in connection with performance of the Services by providing

a) timely responses to MCS Contractor Inc.'s inquiries and requests for approvals and authorizations,

b) access to any information or materials reasonably requested by MCS Contractor Inc. which are necessary or useful as determined by MCS Contractor Inc. in connection with providing the Services, including, but not limited to, physical and computer access to Contractor's computer systems, and

c) All Required Consents necessary for MCS Contractor Inc. to provide the Services. Required Consents means consents or approvals required to give MCS Contractor Inc., its affiliates, and its and their subcontractors the right or license to access, use and modify all data and third-party products. Contractor acknowledges and agrees that the Services are dependent upon the completeness and accuracy of information provided by Contractor and the knowledge and cooperation of the agents, employees or subcontractors engaged or appointed by Contractor who are selected by Contractor to work with MCS Contractor Inc.

d) MCS Contractor Inc. will follow all reasonable Contractor security rules and procedures, as communicated in writing by Contractor to MCS Contractor Inc. from time to time.

7. Contract Changes.

MCS Contractor Inc. will make any and all changes in the work described in the Contract Documents and this Agreement as directed by Contractor in writing. Such change or written direction shall not invalidate this Agreement.

If necessary, the contract price and the time for MCS Contractor Inc.'s performance shall be adjusted by appropriate modifications mutually agreed upon before MCS Contractor Inc. performs the changed work. MCS Contractor Inc. shall supply Contractor with all documentation necessary to substantiate the amount of the addition to or deduction from the price or time. If Contractor and MCS Contractor Inc. cannot agree

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on the amount of the addition or deletion, MCS Contractor Inc. shall nonetheless timely perform the work as changed by Contractor's written direction.

Once Subcontractor receives Contractor's written direction, Subcontractor is solely responsible for timely performance of the work as changed by the written direction. MCS will file for any adjustments in accordance Section 12.

8. Access

MCS Contractor Inc. may perform the Services at Contractor's construction site, at MCS Contractor Inc.'s own facilities or such other locations as MCS Contractor Inc. and Contractor deem appropriate. When the Services are performed at Contractor's construction site, MCS Contractor Inc. will attempt to perform such Services within Contractor's normal business hours unless otherwise jointly agreed to by the parties. Contractor will also provide MCS Contractor Inc. access to Contractor's staff and any other Contractor resources (and when the Services are provided at another location designated by Customer, the staff and resources at such location) that MCS Contractor Inc. determines are useful or necessary for MCS Contractor Inc. to provide the Services.

9. Retention of Ownership

Without prejudice to the provisions in Clause entitled "Risk of Damage or Loss" of these Terms and Conditions regarding the risk and the transfer thereof, all the Products supplied by or on behalf of MCS Contractor Inc. remain the property of MCS Contractor Inc. until the moment that all debts owed by Contractor to MCS Contractor Inc. have been settled in full.

10. Risk of Damage or Loss

The risk of damage to or loss of any Product sold and/or delivered by or in the name of MCS Contractor Inc. to Contractor is transferred to Contractor when such Product is first loaded for transportation to Contractor or to a place indicated by Customer, except when and for so far as it might be otherwise agreed in writing.

11. Mediation and Arbitration

If a dispute arises from or relates to this contract or the breach thereof, and if the dispute cannot be settled through direct discussions, the parties agree to endeavor first to settle the dispute by mediation administered by the American Arbitration Association under its Construction Industry Mediation Procedures before resorting to arbitration. The parties further agree that any unresolved controversy or claim arising out of or relating to this contract, or breach thereof, shall be settled by arbitration administered by the American Arbitration Association in accordance with its Construction Industry

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Arbitration Rules and judgment on the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof.

11. Termination

Either party may terminate performance of a Service or a Statement of Work for cause if the other party fails to cure a material default in the time period specified herein. Any material default must be specifically identified in a written notice of termination. After written notice, the notified party will, subject to the provision of warranties herein, have thirty (30) days to remedy its performance except that it will only have ten (10) days to remedy any monetary default. Failure to remedy any material default within the applicable time period provided for herein will give cause for immediate termination, unless such default is incapable of being cured within the time period in which case the defaulting party will not be in breach (except for Contractor's payment obligations) if it used its reasonable efforts to cure the default.

In the event of any termination of the Services or a Statement of Work, Contractor will pay MCS Contractor Inc. for all Services performed and expenses incurred up to and including the date of termination plus any termination fee if one is set forth in the applicable Statement of Work. In such event Contractor will also pay MCS Contractor Inc. for any out-of-pocket demobilization or other direct costs resulting from termination.

Upon termination, all rights and obligations of the parties under this Agreement will automatically terminate except for any right of action occurring prior to termination, payment obligations and obligations that expressly or by implication are intended to survive termination (including, but not limited to, limitation of liability, indemnity, confidentiality, or licensing of Work Product and this survival provision).

13. Applicable Law

The laws of Guam shall apply.

14. Assignments

Assignment may be made only with written consent of both parties; provided, however, MCS Contractor Inc. may assign its rights and obligations hereunder to its affiliates without Contractor's consent.

15. Confidentiality

For a period of two years after the date hereof, Contractor shall hold confidential and shall not disclose to any third party any of the information and data furnished by MCS Contractor Inc. in connection with the sale of Products or provision of Services hereunder.

16. Statute of Limitations

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Except in the case of non-payment, neither party may institute any action in any form arising out of these Terms and Conditions more than one (1) year after the cause of action has arisen provided that if applicable law requires a longer period, such longer period shall apply.

17. Insurance

Casualty Insurance. MCS Contractor Inc. shall, at its expense, procure and maintain insurance on all of its operations, in companies acceptable to Contractor and as required by the prime contract, including the following coverage:

a. Workers' Compensation and Employer's Liability Insurance. Workers' Compensation insurance shall be provided as required by any applicable law or regulation. Employer's Liability insurance shall be provided in amounts not less than:
    - $1,000,000 each accident for bodily injury by accident
    - $1,000,000 policy limit for bodily injury by disease
    - $1,000,000 each employee for bodily injury by disease

b. General Liability Insurance. MCS Contractor Inc. shall carry Commercial General Liability insurance (Insurance Services Office [ISO] Form CG00 01 (12/04) or equivalent) covering all operations by or on behalf of MCS Contractor Inc. providing insurance for bodily injury liability and property damage liability for the limits of liability indicated below and including but not limited to coverage for:
    (1) premises and operations;
    (2) products and completed operations;
    (3) contractual liability ensuring the obligations assumed by MCS Contractor Inc. in this Agreement;
    (4) broad form property damage (including completed operations);
    (5) explosion, collapse and underground hazards (including subsidence and any other earth movement)
    (6) personal injury liability;
    (7) Independent contractors.

The limits of liability shall be not less than the amounts required of MCS Contractor Inc. under the Contract Documents, but in no event less than:

(1) $1,000,000 each occurrence (combined single limit for bodily injury and property damage)
(2) $1,000,000 for personal injury liability
(3) $2,000,000 aggregate for products-completed operations
(4) $2,000,000 general aggregate

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18. Miscellaneous

(a) Subject to the restrictions in assignment contained herein, these Terms and Conditions will be binding on and inure to the benefit of the parties hereto and their successors and assigns.

(b) No provision of this Agreement or any Statement of Work will be deemed waived, amended or modified by either party unless such waiver, amendment or modification is in writing and signed by both parties.

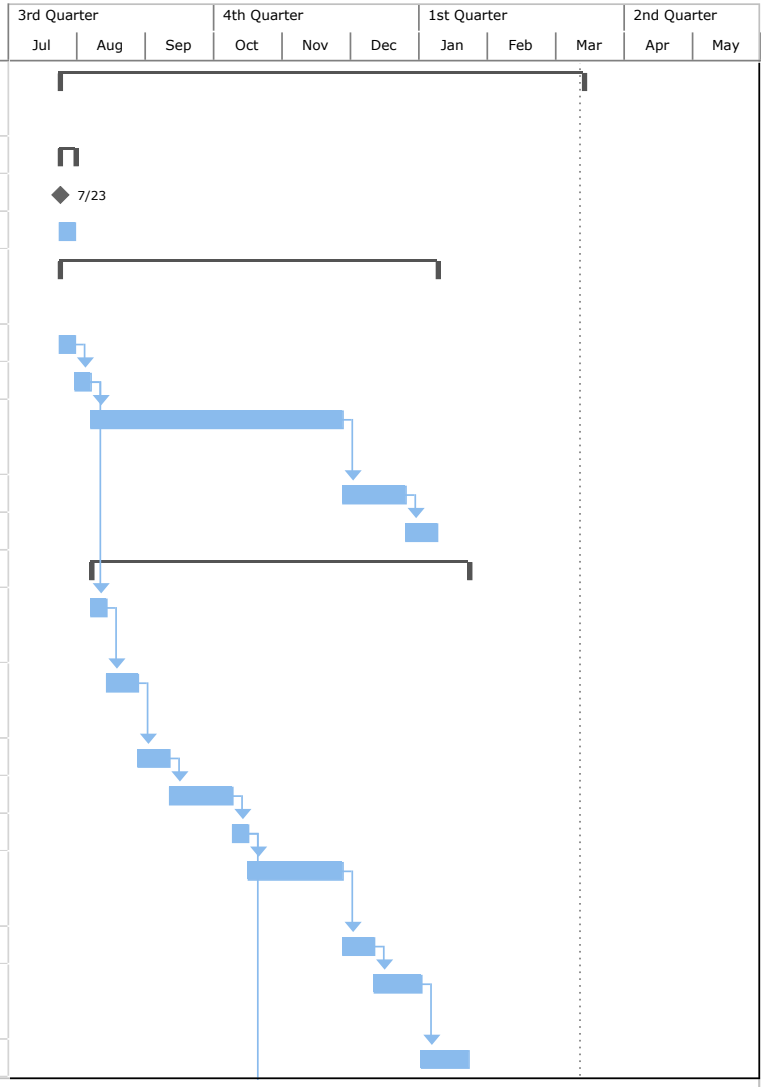
(c) The relationship between MCS Contractor Inc. and Contractor is that of independent contractors and not that of employer/employee, partnership or joint venture.

(d) If any term or condition of this Agreement or a Statement of Work is found to be invalid, illegal or otherwise unenforceable, the same shall not affect the other terms or conditions hereof or thereof or the whole of this Agreement or the applicable Statement of Work.

(e) Notices provided under this Agreement will be given in writing and deemed received upon the earlier of actual receipt or three (3) days after mailing if mailed postage prepaid by regular mail or airmail or one (1) day after such notice is sent by courier or facsimile transmission.

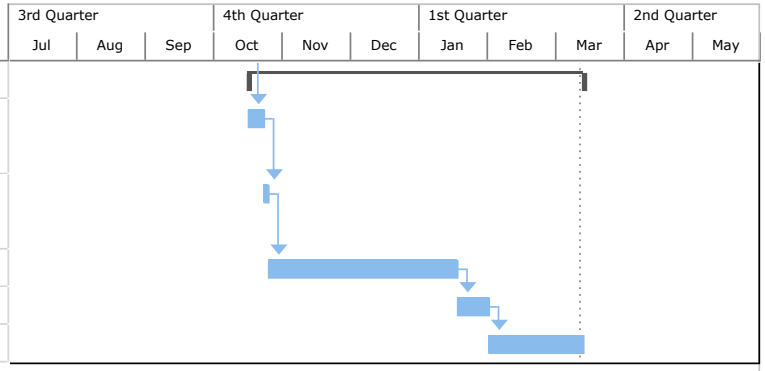
(f) Any delay or failure by either party to exercise any right or remedy will not constitute a waiver of that party to thereafter enforce such rights.

	Task Name	Duration	Start	Finish
1	**HWWTP SCADA AND CONTROL UPGRADES**	**167 days**	**Tue 7/23/24 8:00 AM**	**Wed 3/12/25 5:00 PM**
2	**Project PM and Kick Off**	**5 days**	**Tue 7/23/24 8:00 AM**	**Mon 7/29/24 5:00 P**
3	NTP	0 days	Tue 7/23/24 8:00 AM	Tue 7/23/24 8:00 AM
4	Kick off meeting	5 days	Tue 7/23/24 8:00 AM	Mon 7/29/24 5:00 PM
5	**Task 1 Interim Communication**	**120 days**	**Tue 7/23/24 8:00 AM**	**Mon 1/6/25 5:00 PM**
6	Submittal Prep	5 days	Tue 7/23/24 8:00 AM	Mon 7/29/24 5:00 PM
7	GWA Review	5 days	Tue 7/30/24 8:00 AM	Mon 8/5/24 5:00 PM
8	Equipment Order and shipping	80 days	Tue 8/6/24 8:00 AM	Mon 11/25/24 5:00 PM
9	Installation	20 days	Tue 11/26/24 8:00 AM	Mon 12/23/24 5:00 PM
10	Commissioning and Testin	10 days	Tue 12/24/24 8:00 AM	Mon 1/6/25 5:00 PM
11	**Task 2 Assessment**	**120 days**	**Tue 8/6/24 8:00 AM**	**Mon 1/20/25 5:00 P**
12	As-built and Documentation review	5 days	Tue 8/6/24 8:00 AM	Mon 8/12/24 5:00 PM
13	Preliminary report/ work plan	10 days	Tue 8/13/24 8:00 AM	Mon 8/26/24 5:00 PM
14	Site visits	10 days	Tue 8/27/24 8:00 AM	Mon 9/9/24 5:00 PM
15	Data review and Analysis	20 days	Tue 9/10/24 8:00 AM	Mon 10/7/24 5:00 PM
16	Coordination	5 days	Tue 10/8/24 8:00 AM	Mon 10/14/24 5:00 PM
17	Draft specification and Report	30 days	Tue 10/15/24 8:00 AM	Mon 11/25/24 5:00 PM
18	GWA Review	10 days	Tue 11/26/24 8:00 AM	Mon 12/9/24 5:00 PM
19	Procurement report/ cost estimates	15 days	Tue 12/10/24 8:00 AM	Mon 12/30/24 5:00 PM
20	Final Report	15 days	Tue 12/31/24 8:00 AM	Mon 1/20/25 5:00 PM

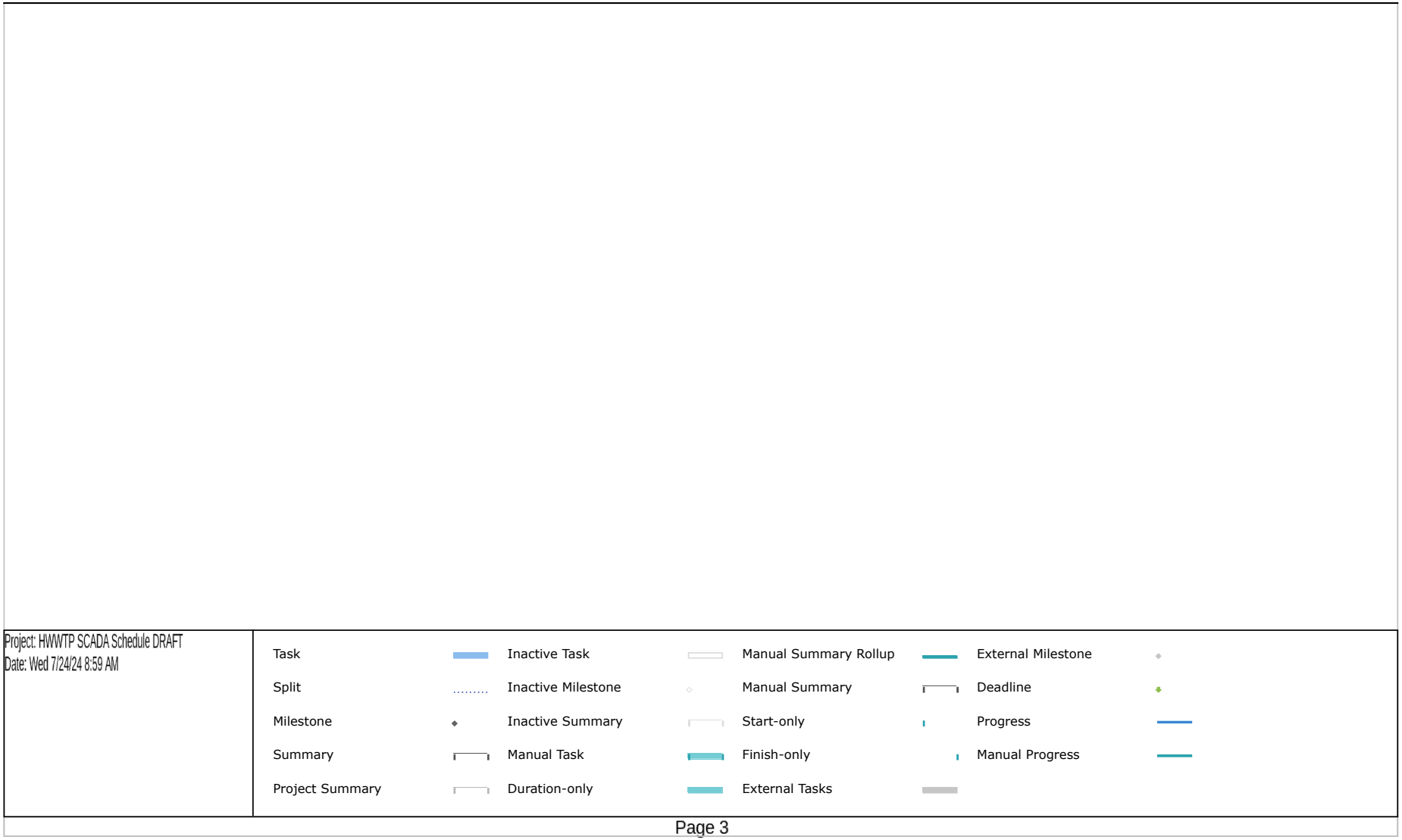


Page 1

		Task Name	Duration	Start	Finish
21		**SCADA Design**	**107 days**	**Tue 10/15/24 8:00 AM**	**Wed 3/12/25 5:00 PM**
22		Follow up local team site visit	5 days	Tue 10/15/24 8:00 AM	Mon 10/21/24 5:00 PM
23		Coordination meeting with GWA	2 days	Tue 10/22/24 8:00 AM	Wed 10/23/24 5:00 PM
24		Draft Design	60 days	Thu 10/24/24 8:00 AM	Wed 1/15/25 5:00 PM
25		GWA review	10 days	Thu 1/16/25 8:00 AM	Wed 1/29/25 5:00 PM
26		Final Design	30 days	Thu 1/30/25 8:00 AM	Wed 3/12/25 5:00 PM



Page 2


Project: HWWTP SCADA Schedule DRAFT
Date: Wed 7/24/24 8:59 AM
Task
Inactive Task
Manual Summary Rollup
External Milestone
Split
Inactive Milestone
Manual Summary
Deadline
Milestone
Inactive Summary
Start-only
Progress
Summary
Manual Task
Finish-only
Manual Progress
Project Summary
Duration-only
External Tasks

Page 3

Exhibit D

August 14, 2024

Scope of work for Causeway, headworks, clarifier works

1. GWA HWWTP Causeway Temporary Forcemain Design

Provide design for an inter-connection of a temporary forcemain along the existing access causeway. The upstream and downstream size, flow and working pressure will be provided by GWA. DCA will provide the construction plans and appropriate specifications for GWA to incorporate into the new Forcemain bid package (provided by others)

DCA will coordinate this forcemain interconnection with the ongoing culvert repairs (by DCA) and new/temporary forcemain (Others)

The design will include:

- Draft and final sealed plans and specifications
- A basis of design
- Cost estimate (Class 3 at BOD, Class 1 at 90%)
- Survey of causeway (as necessary) for additional related road work
- Coordination of any additional permitting for causeway work, as necessary

2. Conduct mechanical equipment assessment and design for head-works and chain and flight replacement

DCA will provide the design plans to replace the existing step screen, bin and cover with a new (single) drum screen similar to existing drum screens within GWA WWTPs. The intent will be to replace at the existing location of the step screen. This will provide for continuity in operation and equipment for the screening system.

DCA will provide design for a permanent air mixing system to replace the temporary air system before the screening, and remove the nonfunctional mixing system equipment as necessary.

DCA will provide design for the rehabilitation or replacement of the Parshall Flume in the bypass channel, to include measuring instrumentation and replacement of electrical parts as necessary.

DCA will coordinate with GWA and provide the product specification and plan sheets needed to replace the existing chain and flights in all three clarifiers. This will include repair details and estimated quantities to address existing concrete spalling. It will also include recoating of the clarifier interior. Included as part of this effort will be to repair an identified leak along the influent channel that is leaking into the pump gallery.

The design will include:

- Draft and final sealed plans and specifications
- A basis of design
- Cost estimates (Class 3 at BOD, Class 1 at 90%)

3. Dewatering System Study

DCA will prepare a technical report to present alternatives for the existing dewatering system. This report will include options for a new dewatering building, schematic layout, interconnection and a review of available dewatering equipment, as well as options for upgrade/rehabilitation of current building. This report will also include comparison cost estimates and recommendations for dewatering system upgrade/replacement. A draft and final copy of this report will be provided to GWA

	Task Description	Principal	Principal Structural	Project Manager	Assistant Project Manager	Professional Structural Engineer	Professional Civil Engineer - Special Projects	Professional Civil Engineer	Project Engineer	Civil Engineer	Structural Engineer	Staff Engineer/Designer	Specification Writer	Quantity Estimator	Engineering Technician	CAD technician	Professional Surveyor	Assistant Surveyor	Senior Party Chief	Party Chief (Instrument Man/Junior Party Chief	Computer	Survey Field Technician	Cartographer	Researcher	Survey Drafter / CAD Operator	Survey Aide	2-Man Crew	3-Man Crew	4-Man Crew	Chief of Environmental Services	Environmental Scientist	GIS Manager	GIS Tech	Senior Environmental PM	Construction Manager	Project Construction Manager	Construction Inspector	Aerial Drone Operator	ROV (Marine) Operator	Safety Officer	Structural Engineer	Staff Engineer	CAD Technician	Survey Technician	2-Man Crew	3-Man Crew		Total
	Direct Labor Rates >>>>>	No. of Days $ 229	$ 215	$ 190	$ 108	$ 215	$ 188	$ 188	$ 174	$ 180	$ 185	$ 116	$ 185	$ 170	$ 79	$ 80	$ 135	$ 122	$ 100	$ 80	$ 71	$ 90	$ 60	$ 81	$ 86	$ 70	$ 55	$ 154	$ 214	$ 269	$ 126	$ 84	$ 102	$ 90	$ 103	$ 154	$ 156	$ 96	$ 69	$ 69	$ 88	$ 101	$ 78	$ 54	$ 39	$ 84	$ 106		
	Total Sheet Count and Effort >>>>>	8	0	0	0	0	2	74	0	0	54	0	316	18	0	0	0	4	4	0	0	0	0	0	0	0	32	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ 74,164.00
A.		8	0	0	0	0	2	74	0	0	54	0	316	18	0	0	0	4	4	0	0	0	0	0	0	0	32	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ 74,164.00
1	**Temp Forcemain**																																															$ -
2	Plan review						4					12																																				$ 2,144.00
3	Coordination with others					2	8					8																																				$ 2,862.00
4	site visit						2					4																																				$ 840.00
5	Survey works						2										4	4								32			32																			$ 10,492.00
6	Analysis									12																																						$ 2,160.00
7	Basis of design						2			6		12																																				$ 2,848.00
8	Cost Estimate									4																																						$ 720.00
9	Plans	3						6		12		48																																				$ 8,856.00
10	Specs												6																																				$ 1,110.00
11	**Mechancial Assessment**																																															$ -
12	Site visits							8				12																																				$ 2,896.00
13	Coordination							4				8																																				$ 1,680.00
14	Analysis							4				8																																				$ 1,680.00
15	Manf coordination							2				12																																				$ 1,768.00
16	Plans	5						10		20		80																																				$ 14,760.00
17	Specs												12																																				$ 2,220.00
18	Draft report						4					40																																				$ 5,392.00
19	Final Report							4				24																																				$ 3,536.00
20	**Dewatering Study**																																															$ -
21	Site visit							4				4																																				$ 1,216.00
22	**Option review**							2				12																																				$ 1,768.00
23	Draft report						4					24																																				$ 3,536.00
24	Final Report							4				8																																				$ 1,680.00
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B.	**Survey Works**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -
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C	**Post Design Support**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$ -
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11																																																$ -
12																																																$ -
13																																																$ -
14																																															Direct Labor		$ 74,164.00

	Subconsultants	DL	Fee
5.1	Cost Estimator		$ 40,000.00
5.2			$ -
5.3			$ -
5.4			$ -
5.5			$ -
5.6			
5.7			
	Subtotal - Subconsultants	$ -	$ 40,000.00
	GRT & Handling @	7%	$ 2,800.00
	Subtotal - Subconsultants + DCA Handling		$ 42,800.00

	DCA Expenses	Unit	Quan	Rate	Cost
1	Air Fare	2	0	$ -	$ -
2	Hotel	2	0	$ -	$ -
3	Per Diem	2	0	$ -	$ -
4		1	0	$ -	$ -
5	Plan Sets and Shipping	1	0		$ -
6		1	5	$ -	$ -
7		1	1		$ -
8		1	0		$ -
9		1	0		$ -
10					
	Subtotal - Expenses				$ -

COST SUMMARY

1	LABOR			$ 74,164.00
2	OVERHEAD @	Included		
3	SUBCONSULTANTS		Subtotal, Subconsultants+DCA Handling	$ 42,800.00
4	Subtotal		Row 1 + Row 3	$ 116,964.00
5	PROFIT	Included		
6	EXPENSES		Expenses X 15%	$ -
7	Subtotal		Row 4 + Row 6	$ 116,964.00
8	GRT	@ 5.25%	Included	
			Total	$ 116,964.00
			Say	$ 116,964

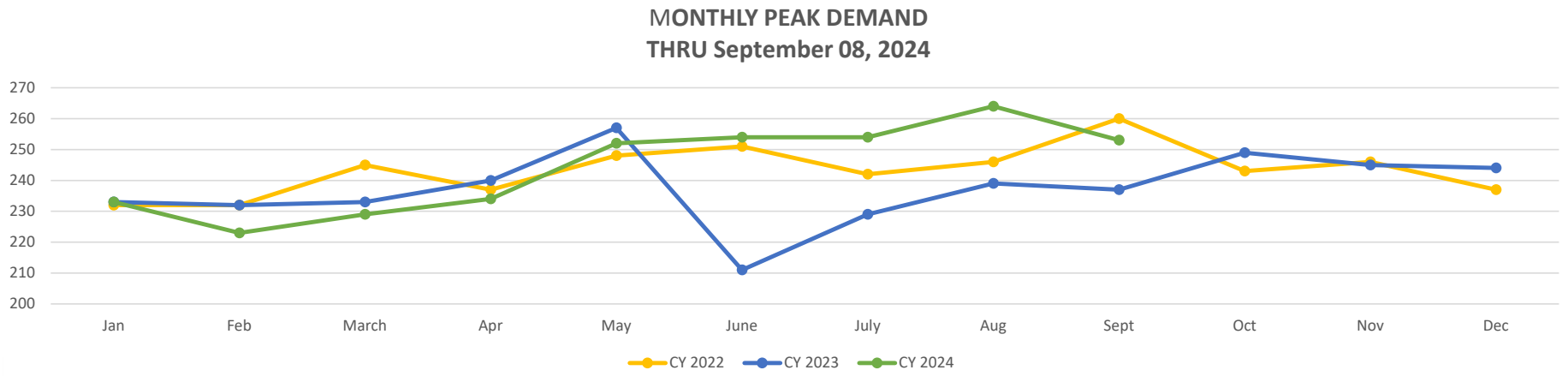
GM REPORT

General Manager's Report

Reserve Margin Forecast for October 2024:

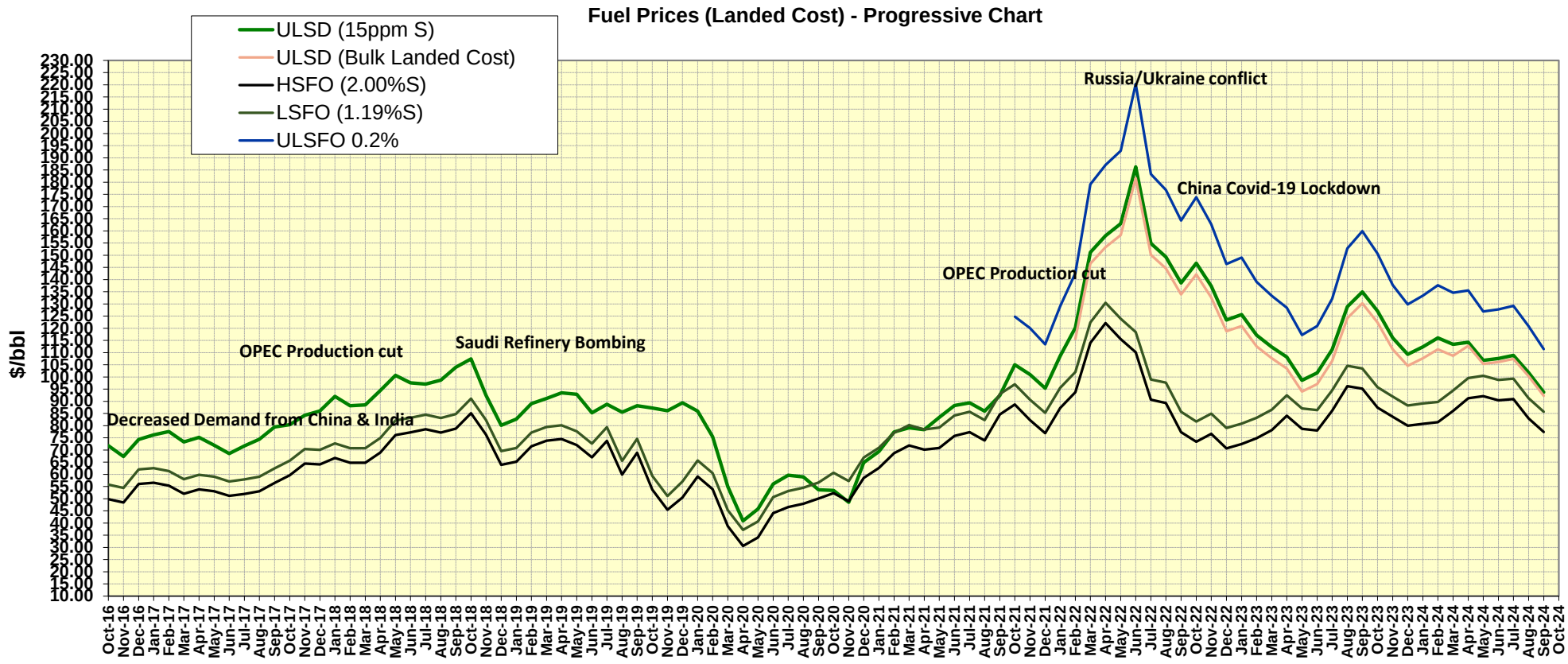
Targeted Available Capacity:	297 MW (All Baseloads Available)
Projected Demand:	267 MW
Anticipated Reserve Margin:	30 MW
Interruptible Load Availability:	16 MW
Navy Assistance (Orote)	12 MW
Total Reserves:	58 MW

System Peak Demand:



General Manager's Report

GPA Fuel Landed Cost (Per Barrel as of September 17, 2024) **ULSRFO 0.2%** $ 111.45 **ULSD Bulk** $ 92.28



General Manager's Report

PUC Update:

- **Dockets heard and passed in the month of August**:
  - Docket No. 24-21: Petition to Approve the Contract with TEMES, Inc. to Overhaul Piti 7.
- **Dockets to be heard for the month of September**:
  - Docket No. 24-22: Petition to Approve the Construction of the New Transmission & Distribution Facility;
  - Docket No. 24-23: Petition to Approve the Bond Financing Savings Utilization;
  - Docket No. 24-24: Petition to Approve the Purchase of Water System Diesel (WSD) Generators; and
  - Docket No. 24-25: Petition to Approve Phase IV Renewable Energy Acquisition Award to KEPCO-EWP-Samsung C&T Consortium and Core Tech Solar Energy, LLC for up to 192 MW of Renewable Energy Capacity.
- **Notices**:
  - Notice to the PUC Relative to the Approval of the Repair and Overhaul of the Navy-owned Orote Power Plant (filed with the PUC on 09/09/2024).
- **Pending Dockets**:
  - Docket No. 24-03: Petition to Review 12 GCA § 8502(c)(2)(B) Relative to Net Metering - this docket will not be heard until further notice.

General Manager's Report

Customer Assistance

Prugråman Ayuda Para I Taotao-Ta Energy Credit

- Public Law 37-104, formerly known as Bill No. 277-37, was signed into law on June 5, 2024. This marks the 5th extension to the Energy Credit Program.
- Bill No. 277-37 initially requested for a three-month extension (April, May, June) but was later amended to a six-month extension (to include July, August, and September) totaling $600 in energy credits for GPA customers.
- To date, GPA has received (and applied to all active accounts) five out of the six allotments for the energy credit program and have been applied to all active accounts:
  - First $100 energy credit (April 2024) received and applied on Thursday, June 13, 2024.
  - Second $100 energy credit (May 2024) received and applied on Friday, June 21, 2024.
  - Third $100 energy credit (June 2024) received and applied on Thursday, June 27, 2024
  - Fourth $100 energy credit (July 2024) received and applied on Saturday, July 27, 2024.
  - Fifth $100 energy credit (August 2024) received and applied on Tuesday, August 20, 2024.

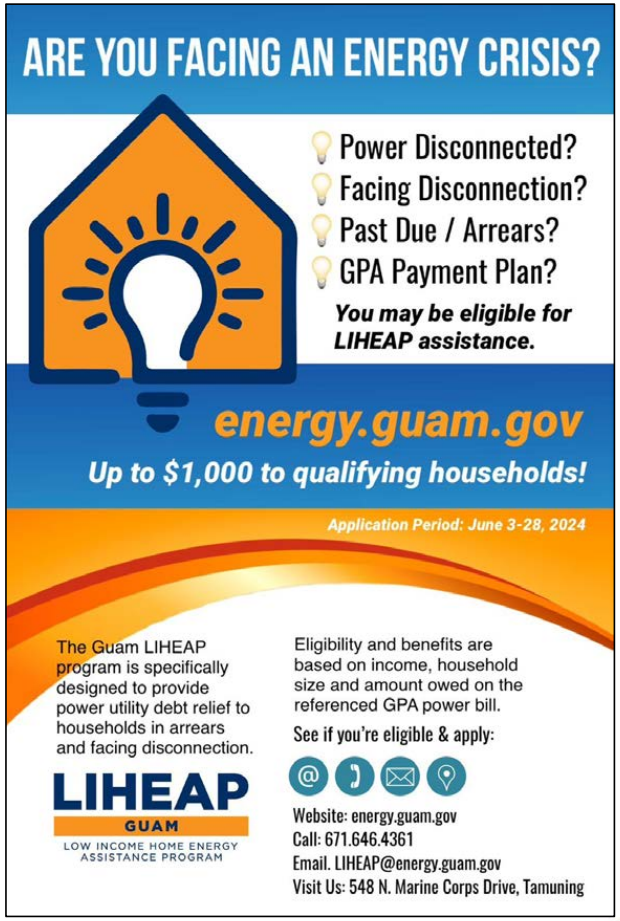
No.	Bill No.	Public Law No.	Date Signed	Amount	Start	End
1	325-36	36-106	07/27/2022	$500	JUL 2022	NOV 2022
2	357-36	36-123	12/17/2022	$500	DEC 2022	APR 2023
3	83-37	37-16	05/22/2023	$500	MAY 2023	SEP 2023
4	173-37	37-49	11/10/2023	$300	OCT 2023	DEC 2023
5	208-37	37-66	02/26/2024	$300	JAN 2024	MAR 2024
6	277-37	37-104	06/05/2024	$600	APR 2024	SEP 2024
				$2,700		

General Manager's Report

Customer Assistance *(continued)*

Low Income Home Energy Assistance Program (LIHEAP)

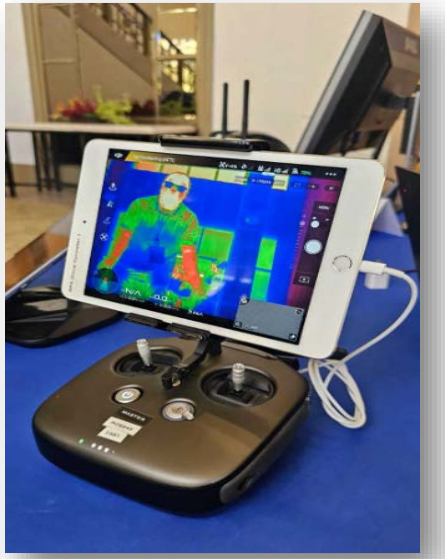
- The Guam LIHEAP program is specifically designed to provide power utility debt relief to households in arrears and facing disconnection.
- LIHEAP provides a one-time payment of up to $1,000 to qualifying households facing energy crisis.
- Cycle 3 application period, which ran from August 5, 2024 to September 13, 2024, produced 573 applications [Batch 9 – 13] with $290,342.73 applied to qualified ratepayer accounts.
- Total amount applied since inception of program is $697,611.93 covering 1,117 ratepayer accounts.



General Manager's Report

Customer Engagement & Community Outreach – 9th Assembly of Planners symposium – Thursday, August 8, 2024

- A team lead by Antonio Gumataotao Jr., was present at the symposium to discuss Geographic Information System (GIS) technology that GPA currently uses.
- Drone equipment was on display for symposium attendees.
- Communications office presented and discussed GPA's online tools such as Energy Sense Online Rebates, My Energy Guam, and My Energy Xpert.



General Manager's Report

Workforce Succession & Planning Updates

APPRENTICE

6th Cycle – Completion Oct 2024

7th Cycle – Onboard April 2024

INTERNSHIP

Extended Terms and Internship Areas

-Cybersecurity
-Human Resources
-Finance
-Engineering
-Administrative

Summer Interns: June – September 2024

IN-HOUSE TRAINING

1st cycle – Trainees complete in year 2; Estimated Completion by Mar 2025

General Manager's Report

DSM Online Report – August 2024

OVERALL COUNTS

Month	ALL			COMMERCIAL			RESIDENTIAL		
	Applications	Equipment	Rebates	Applications	Equipment	Rebates	Applications	Equipment	Rebates
FY-2022*	696	981	$ 196,075	7	12	$ 1,950	689	969	$ 194,125
FY-2023	5,721	7,992	$ 1,621,850	67	101	$ 19,350	5,654	7,891	$ 1,602,500
Oct-23	416	569	$ 115,250	7	12	$ 1,800	409	557	$ 113,450
Nov-23	450	654	$ 128,500	4	5	$ 700	446	649	$ 127,800
Dec-23	389	558	$ 111,650	7	10	$ 1,950	382	548	$ 109,700
Jan-24	442	607	$ 125,800	3	3	$ 2,550	439	604	$ 123,250
Feb-24	321	460	$ 103,475	6	7	$ 7,100	315	453	$ 96,375
Mar-24	391	589	$ 118,650	5	5	$ 2,450	386	584	$ 116,200
Apr-24	433	564	$ 113,350	6	6	$ 800	427	558	$ 112,550
May-24	443	642	$ 126,350	4	4	$ 600	439	638	$ 125,750
Jun-24	456	673	$ 134,100	7	8	$ 3,850	449	665	$ 130,250
Jul-24	570	781	$ 161,875	14	16	$ 3,500	556	765	$ 158,375
Aug-24	570	779	$ 157,700	10	16	$ 6,450	560	763	$ 151,250
Sep-24									
TOTAL	11,298	15,849	$ 3,214,625	147	205	$ 53,050	11,151	15,644	$ 3,161,575

AVERAGES

As of Aug-24	ALL		COMMERCIAL		RESIDENTIAL	
	Applications	Equipment	Applications	Equipment	Applications	Equipment
Rebates	$ 285	$ 203	$ 361	$ 259	$ 284	$ 202
Applications	452	7,925	6	8	446	626

** DSM Online went live on 8/17/22. FY2022 Figures are from 8/17/2022 to 9/30/2022 only.*
Large Commercial, Government, Prepaid, and Inactive accounts are still tracked and processed manually.
Paper applications are NOT INCLUDED with these counts. Includes denied and pending applications.

General Manager's Report

Ukudu Power Plant Construction Status

Plant construction progresses steadily. Major work includes: Hydrostatic testing of HRSG 2, ULSD pipeline, and NG pipeline.

Actual accumulated progress including Engineering, Procurement and Construction:
90.54%
(as of August 31, 2024)

General Manager's Report

Ukudu Power Plant Update:

GPA Activities

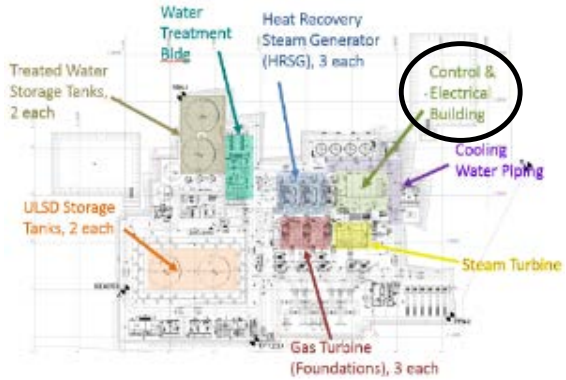
1. Preparing dispatching forecast for GUP.
2. Currently assisting with construction activities at the NDWWTP (Transformer installation, etc.)
3. GPA & GWA assessing turnover of Re-use water facility.
4. Coordinating with contractor to prepare Piti Tank Farm for transportation of ULSD Pump Skid.

GUP Activities

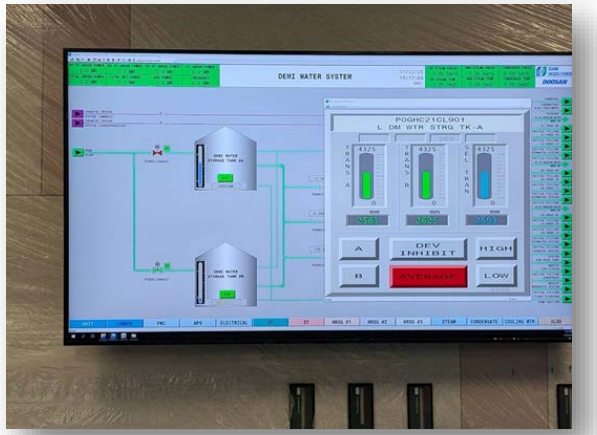
1. Engineering Progress: 89.97%
2. Procurement Progress: 99.94%
3. Construction Progress: 91.43%
   A. ULSD & NG Pipeline pressure testing is completed
   B. Road restoration of Route 16 is underway
   C. ULSD Pipeline pigging is ongoing.
   D. Re-Use Water Facility construction is ongoing.

General Manager's Report

Ukudu Power Plant Construction Status



Control Room



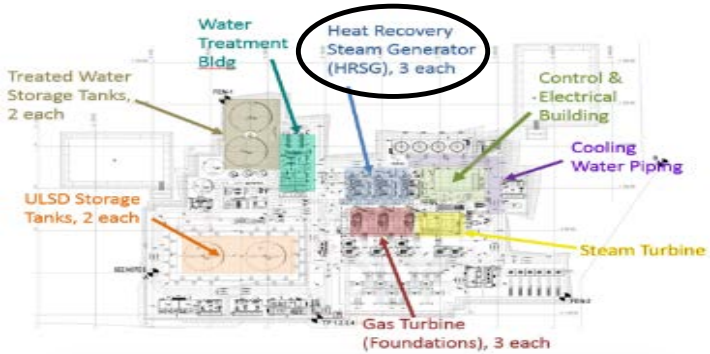
Control & Electrical Building: Cable tray and support installation is in progress

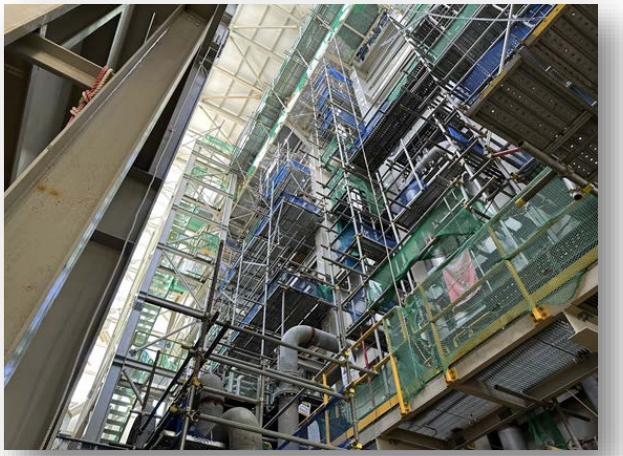
General Manager's Report

Ukudu Power Plant Construction Status

HRSG 1-3: Hydro testing of inlet duct insulation is ongoing.

Heat Recovery Steam Generator (HRSG)

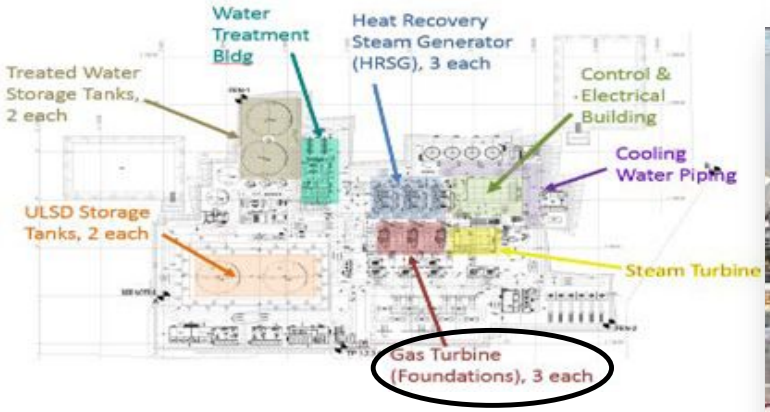




General Manager's Report

Ukudu Power Plant Construction Status

Gas Turbines & Generators

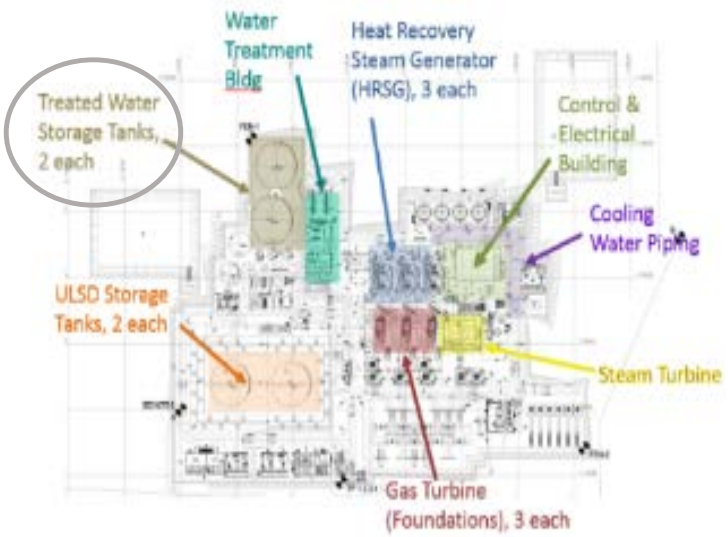


Combustion Turbine 2

GTG Building – NSPB (Non-segregated Phase Bus) duct installation is ongoing.

General Manager's Report

Ukudu Power Plant Construction Status

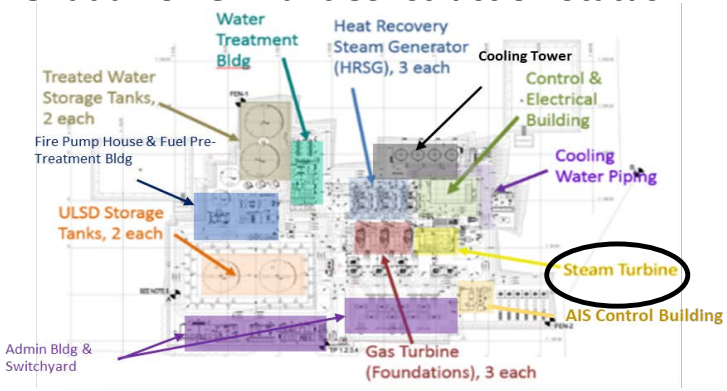


Treated Water Storage Tanks:

Exterior painting is ongoing. Roof installation has been completed.

General Manager's Report

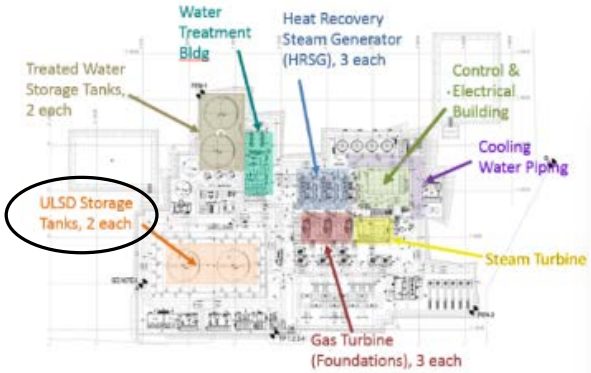
Ukudu Power Plant Construction Status



Steam Turbine & Generator Building: Cable tray installation and cable pulling is ongoing.

General Manager's Report

Ukudu Power Plant Construction Status

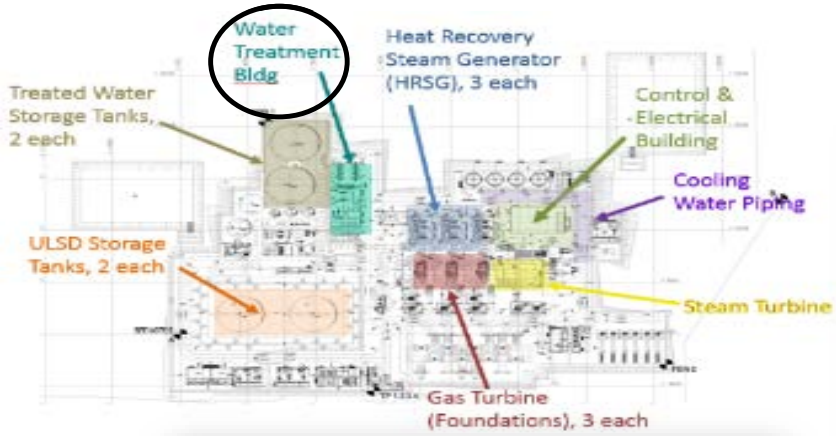


ULSD Storage Tanks –

Exterior painting on ULSD Tank B is ongoing. Dike wall installation is in progress.

General Manager's Report

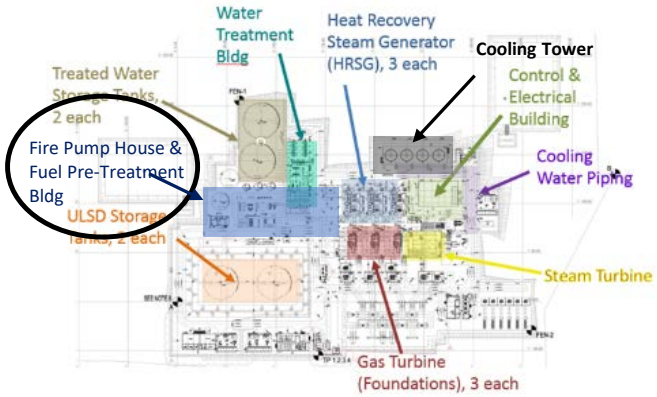
Ukudu Power Plant Construction Status



Water Treatment Building –
Painting and Steel Structure installation is ongoing.

General Manager's Report

Ukudu Power Plant Construction Status

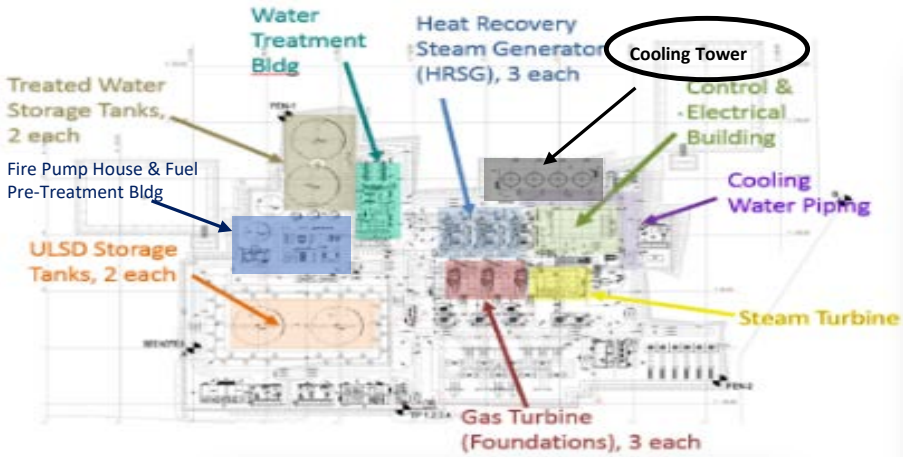


Fire Fighting Tank: Fire tank has been completed and filled with water.

Water Pre-Treatment Building: Pipe fitting is ongoing

General Manager's Report

Ukudu Power Plant Construction Status



Cooling Tower & Basin – Cable tray installation is ongoing.

General Manager's Report

Ukudu Power Plant Construction Status

Re-Use Water Facility (at GWA's Northern District Waste Water Treatment Facility)

Electrical conduit installation is ongoing

Pipe trench is partially backfilled

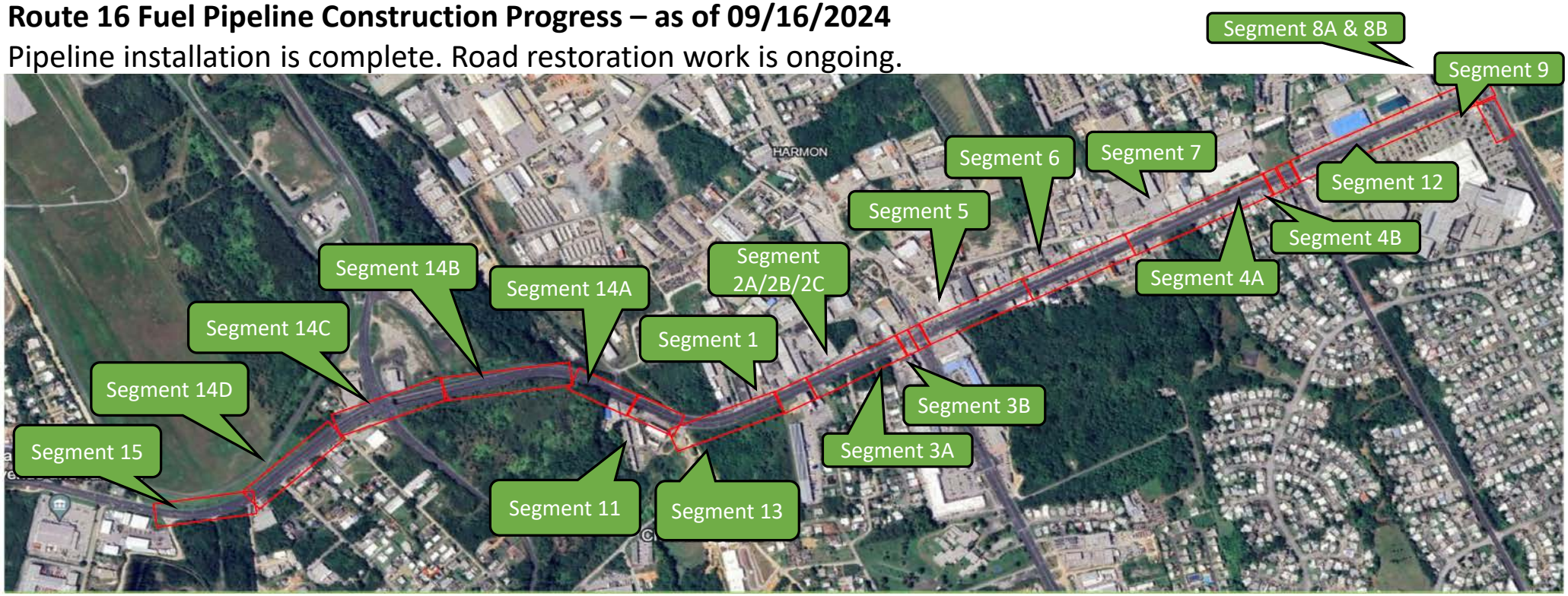
Sump pit installation is ongoing

Conduit is being installed towards emergency generator

General Manager's Report

Route 16 Fuel Pipeline Construction Progress – as of 09/16/2024

Pipeline installation is complete. Road restoration work is ongoing.



= Pending
= Ongoing
= Completed

ROUTE 16 TO ROUTE 1
STA. 19+873 TO STA.23+230
LENGTH = 3357 METERS

General Manager's Report

Fuel Pipeline Construction Status

General Manager's Report

Fuel Pipeline Construction Status

1. Sinajana/Chaot area

Pressure test of pipeline segment from Chaot area to Barrigada Post Office was completed.

2. Barrigada (Post Office)

GPA is reviewing DUP's proposed plan to remove existing pipeline

General Manager's Report

Fuel Pipeline Construction Status

3. Nimitz Hill

This segment of the pipeline has been successfully pressure tested.

4. Route 16

Pipeline installation and Pressure Testing has been completed. Road restoration is ongoing.

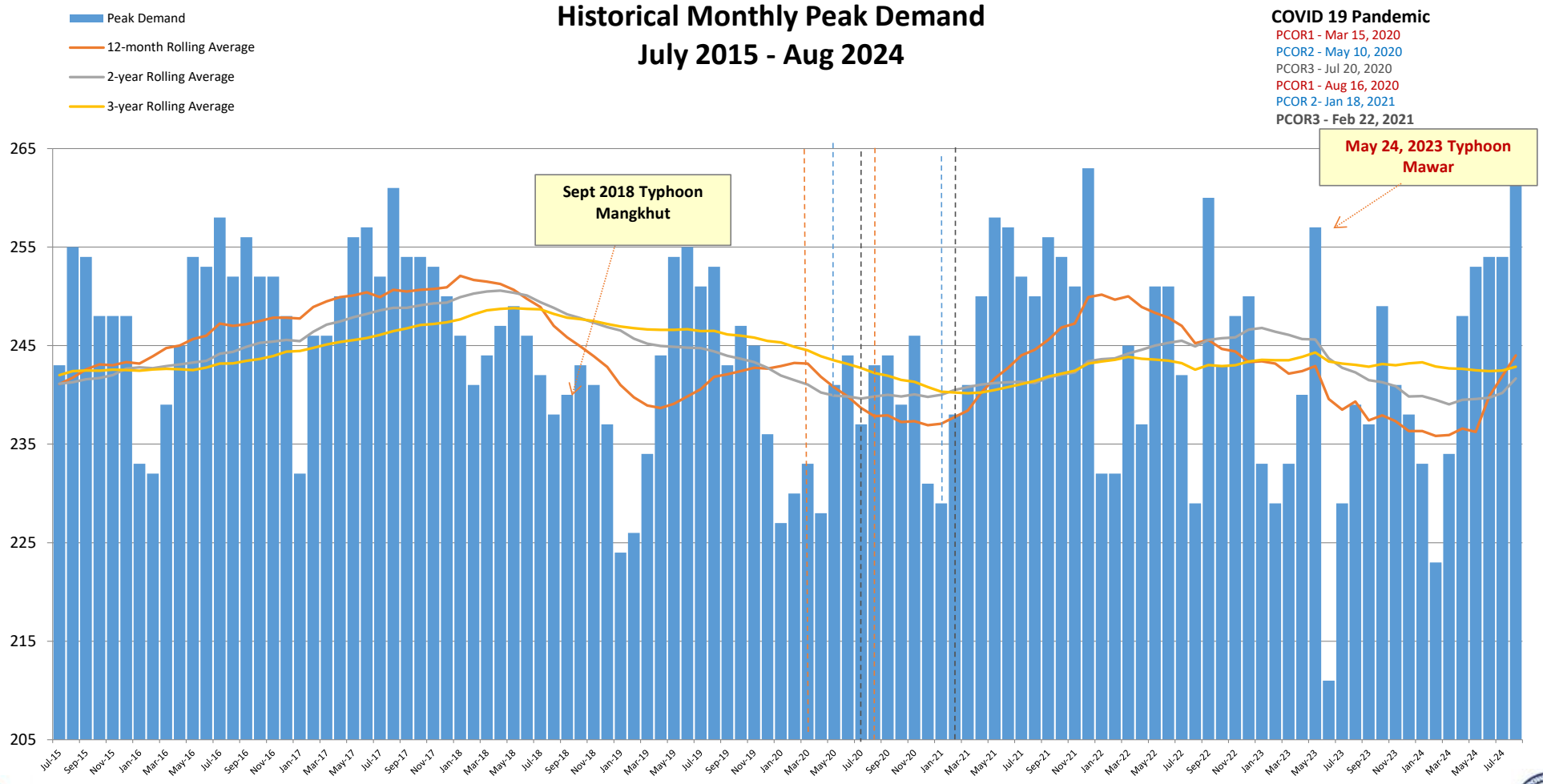
General Manager's Report

Fuel Pipeline Construction Status

5. Route 1 - Piti Tank Farm

Pipeline pigging was completed. Contractor is preparing site for arrival of pump skid.

Generation KPIs
August 2024


Historical Monthly Peak Demand
July 2015 - Aug 2024
Peak Demand
12-month Rolling Average
2-year Rolling Average
3-year Rolling Average
COVID 19 Pandemic
PCOR1 - Mar 15, 2020
PCOR2 - May 10, 2020
PCOR3 - Jul 20, 2020
PCOR1 - Aug 16, 2020
PCOR 2- Jan 18, 2021
PCOR3 - Feb 22, 2021
Sept 2018 Typhoon Mangkhut
May 24, 2023 Typhoon Mawar
265
255
245
235
225
215
205
Jul-15
Sep-15
Nov-15
Jan-16
Mar-16
May-16
Jul-16
Sep-16
Nov-16
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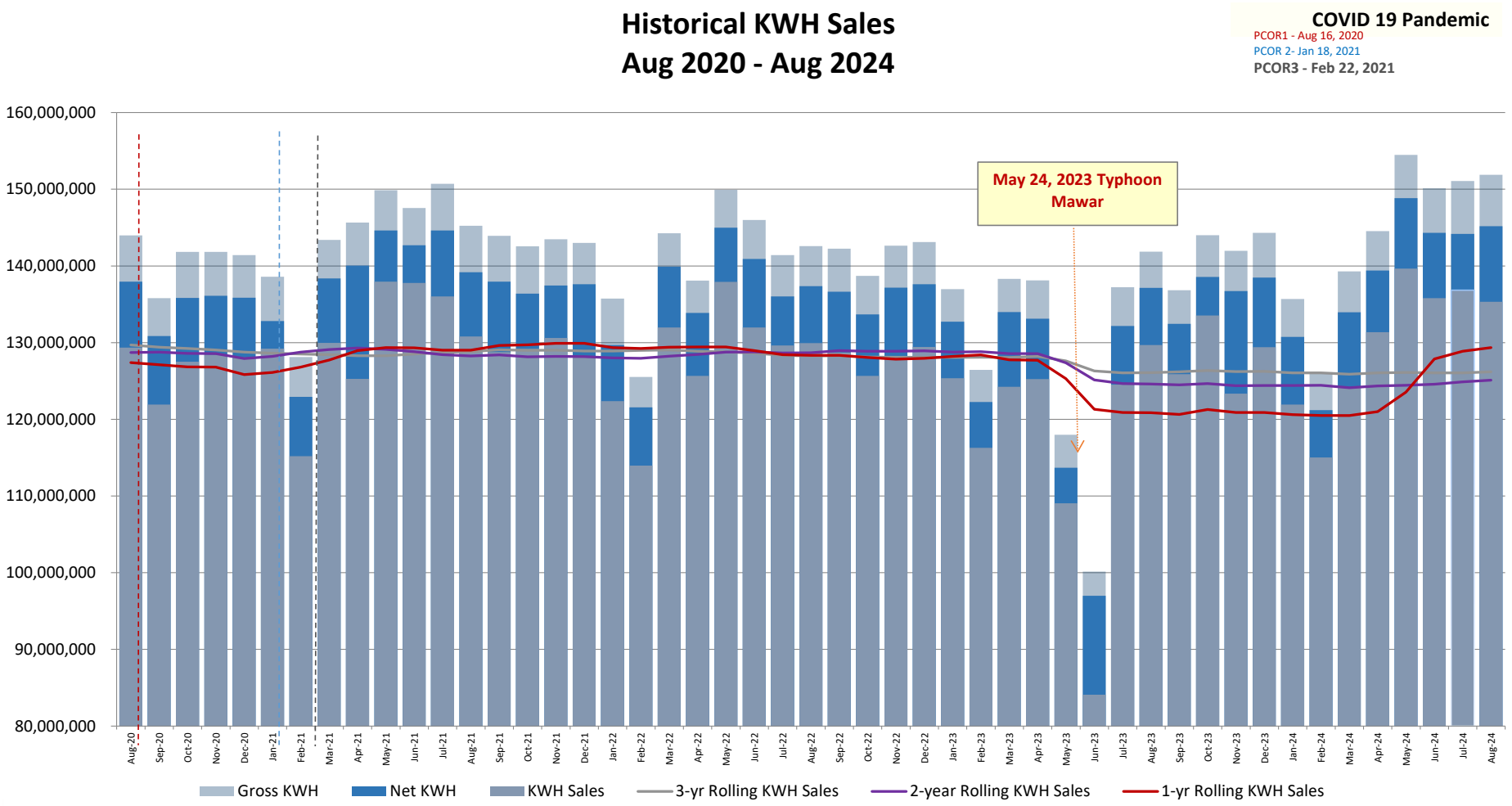
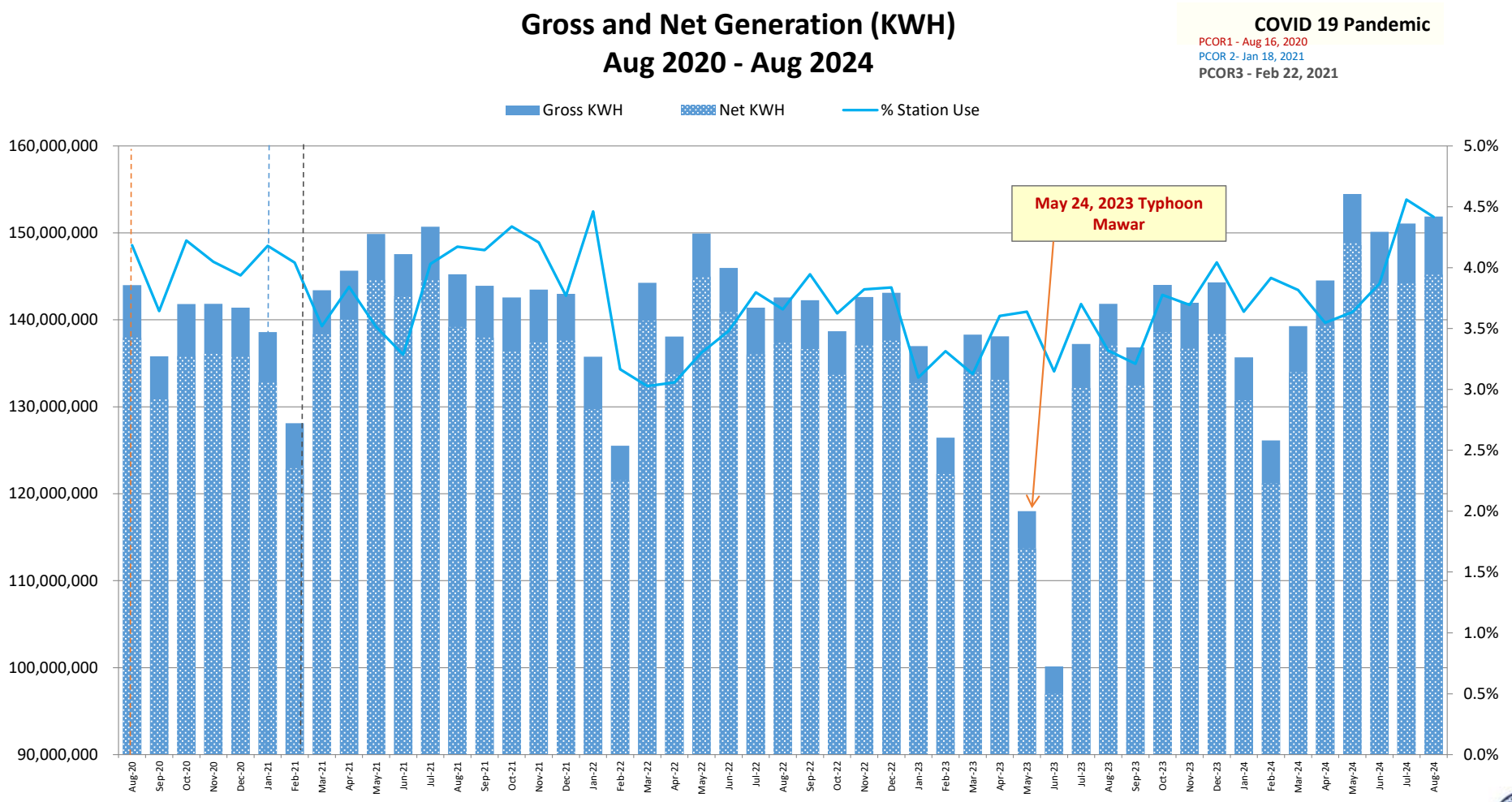

Historical KWH Sales
Aug 2020 - Aug 2024
COVID 19 Pandemic
PCOR1 - Aug 16, 2020
PCOR 2- Jan 18, 2021
PCOR3 - Feb 22, 2021
May 24, 2023 Typhoon Mawar
160,000,000
150,000,000
140,000,000
130,000,000
120,000,000
110,000,000
100,000,000
90,000,000
80,000,000
Aug-20 Sep-20 Oct-20 Nov-20 Dec-20 Jan-21 Feb-21 Mar-21 Apr-21 May-21 Jun-21 Jul-21 Aug-21 Sep-21 Oct-21 Nov-21 Dec-21 Jan-22 Feb-22 Mar-22 Apr-22 May-22 Jun-22 Jul-22 Aug-22 Sep-22 Oct-22 Nov-22 Dec-22 Jan-23 Feb-23 Mar-23 Apr-23 May-23 Jun-23 Jul-23 Aug-23 Sep-23 Oct-23 Nov-23 Dec-23 Jan-24 Feb-24 Mar-24 Apr-24 May-24 Jun-24 Jul-24 Aug-24
Gross KWH
Net KWH
KWH Sales
3-yr Rolling KWH Sales
2-year Rolling KWH Sales
1-yr Rolling KWH Sales


Gross and Net Generation (KWH)
Aug 2020 - Aug 2024
COVID 19 Pandemic
PCOR1 - Aug 16, 2020
PCOR 2- Jan 18, 2021
PCOR3 - Feb 22, 2021
Gross KWH
Net KWH
% Station Use
May 24, 2023 Typhoon Mawar
160,000,000
150,000,000
140,000,000
130,000,000
120,000,000
110,000,000
100,000,000
90,000,000
5.0%
4.5%
4.0%
3.5%
3.0%
2.5%
2.0%
1.5%
1.0%
0.5%
0.0%
Aug-20
Sep-20
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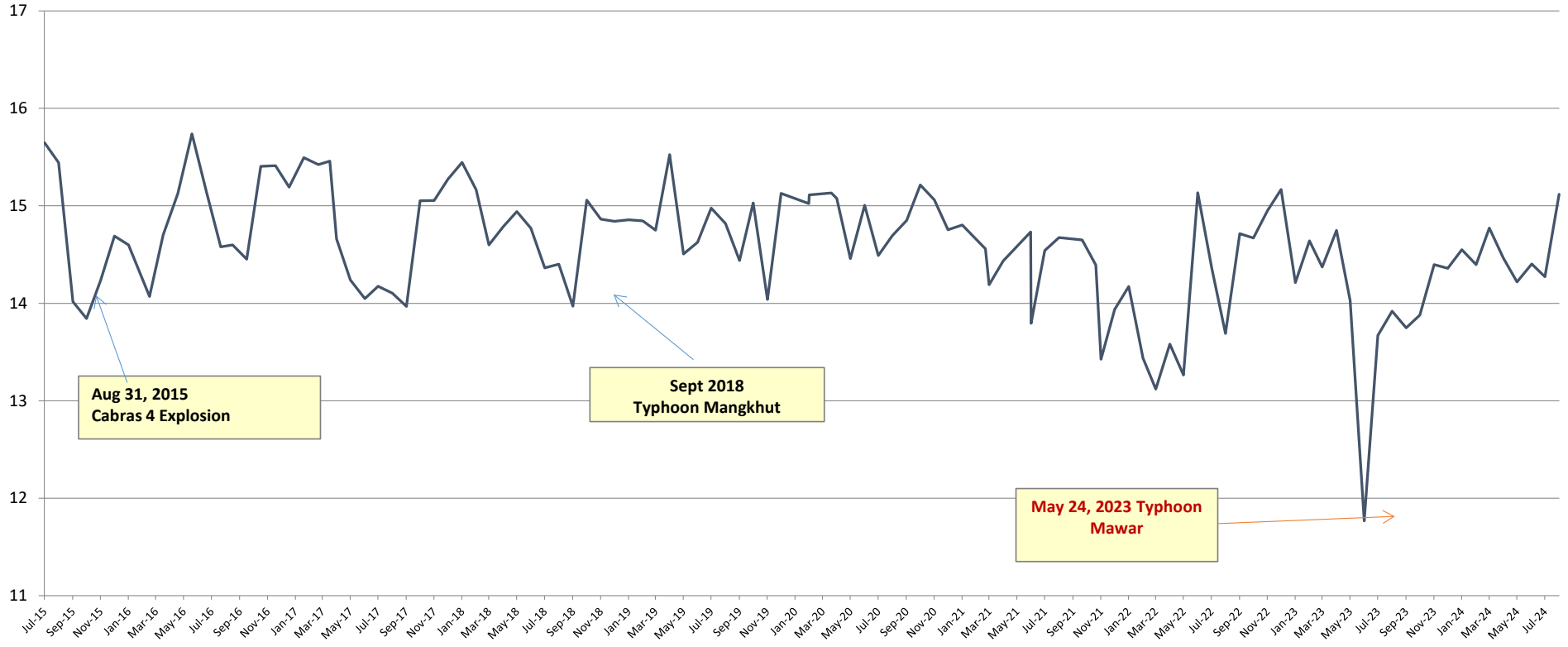
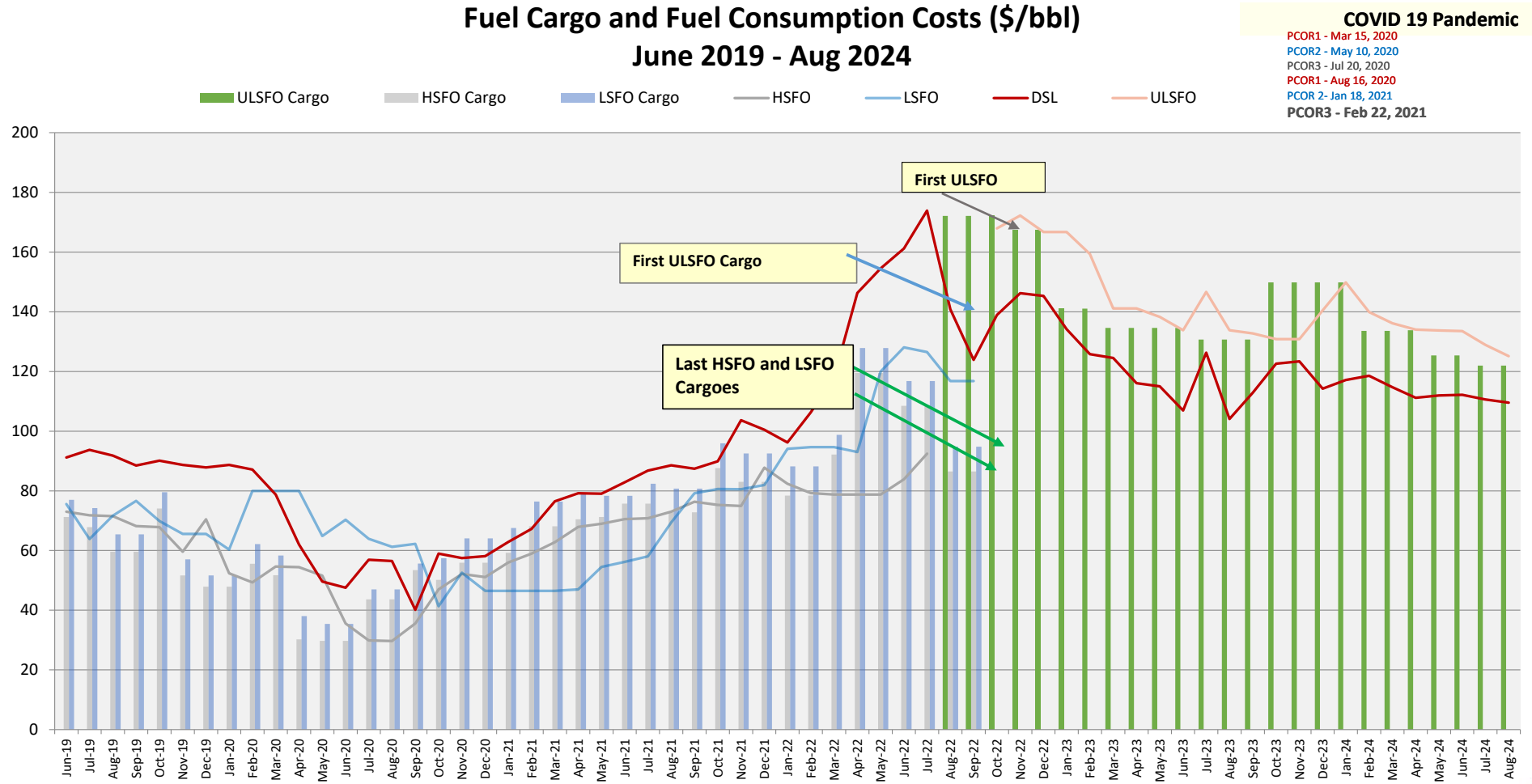
Jul-24
Aug-24

SYSTEM GROSS HEAT RATE
(KWH/Gal)
July 2015 - Aug 2024




Fuel Cargo and Fuel Consumption Costs ($/bbl)
June 2019 - Aug 2024
COVID 19 Pandemic
PCOR1 - Mar 15, 2020
PCOR2 - May 10, 2020
PCOR3 - Jul 20, 2020
PCOR1 - Aug 16, 2020
PCOR 2- Jan 18, 2021
PCOR3 - Feb 22, 2021
ULSFO Cargo
HSFO Cargo
LSFO Cargo
HSFO
LSFO
DSL
ULSFO
First ULSFO
First ULSFO Cargo
Last HSFO and LSFO Cargoes
200
180
160
140
120
100
80
60
40
20
0
Jun-19
Jul-19
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GUAM POWER AUTHORITY
GOVERNMENT ACCOUNTS RECEIVABLE
Billing up to AUGUST 31, 2024 and payments as of 09/17/2024

Current (08/31/2024 Billing due 09/30/2024)
31 days Arrears 07/31/2024 due 08/31/2024)
61 days and over Arrears (06/30/24 billing due 07/30/2024)

CC&B New Acct Numer		DEPARTMENT	BALANCE 07/31/2024	CANCEL/REBILL 09/17/2024	BILLING 08/31/2024	PAYMENT UP TO 09/17/2024	BALANCE 08/31/2024	CC&B BALANCE 09/17/2024	AGING 0-30 Days	31-60 Days	61-90 Days	91-120 Days	>120 Days	Total
		Line Agencies												
3404311949	LINE AGENCIES	Guam Environmental Protect	10,053.78	-	9,931.70	(10,053.78)	9,931.70	**9,931.70**	9,931.70	-	-	-	-	**9,931.70**
4554808900	LINE AGENCIES	Nieves Flores Library	29,336.70	-	13,939.82	(29,336.70)	28,812.45	**13,939.82**	13,939.82	-	-	-	-	**13,939.82**
6069461950	LINE AGENCIES	Dept of Youth Affairs (Federal)	1,617.50	-	1,163.32	(1,617.50)	2,150.13	**1,163.32**	1,163.32	-	-	-	-	**1,163.32**
6293410000	LINE AGENCIES	Office of the Governor	77,197.75	-	52,562.47	(62,966.89)	99,263.87	**66,793.33**	52,562.47	14,230.86	-	-	-	**66,793.33**
6841080463	LINE AGENCIES	Guam Behavioral Health & Wellness	6,186.02	-	6,284.72	(6,186.02)	12,470.74	**6,284.72**	6,284.72	-	-	-	-	**6,284.72**
7928924534	LINE AGENCIES	Guam Visitors Bureau	12,683.96	-	7,701.33	(12,556.28)	7,829.01	**7,829.01**	7,701.33	127.68	-	-	-	**7,829.01**
3227759982	LINE AGENCIES	Mental Health/Subst.	72,824.41	-	72,350.86	-	145,175.27	**145,175.27**	72,350.86	72,824.41	-	-	-	**145,175.27**
7813165805	LINE AGENCIES	Pacific Energy Resource Center	2,042.22	-	1,018.05	(2,042.22)	2,067.06	**1,018.05**	1,018.05	-	-	-	-	**1,018.05**
2913461537	LINE AGENCIES	Dept. of Youth Affair* (Local)	45,928.26	-	22,872.31	(45,928.26)	45,931.88	**22,872.31**	22,872.31	-	-	-	-	**22,872.31**
1073430238	LINE AGENCIES	Dept. of Corrections	375,186.93	-	98,820.32	(194,325.53)	329,183.25	**279,681.72**	98,820.32	98,465.80	82,395.60	-	-	**279,681.72**
3558733700	LINE AGENCIES	Dept of Chamorro Affairs/Chamorro Village (NET METER)	4,162.40	-	1,741.00	(4,162.40)	3,827.97	**1,741.00**	1,741.00	-	-	-	-	**1,741.00**
1099514147	LINE AGENCIES	Dept of Chamorro Affairs/Repository	967.13	-	528.21	(474.83)	1,495.34	**1,020.51**	528.21	474.83	17.47	-	-	**1,020.51**
9541109130	LINE AGENCIES	General Services Agency	927.18	-	315.01	(303.28)	1,242.19	**938.91**	315.01	303.28	299.38	21.24	-	**938.91**
7663706771	LINE AGENCIES	Yona Senior Citizen Center	4,113.72	-	1,316.94	(4,113.72)	2,539.93	**1,316.94**	1,316.94	-	-	-	-	**1,316.94**
8564647941	LINE AGENCIES	DOA Supply Mgmt (NET METERED)	2,347.79	(0.22)	2,248.64	(2,347.57)	4,596.21	**2,248.64**	2,248.42	0.22	-	-	-	**2,248.64**
0070861777	LINE AGENCIES	Veteran Affairs	15,935.58	-	3,329.97	-	19,265.55	**19,265.55**	3,329.97	3,392.51	3,399.06	3,407.94	5,736.07	**19,265.55**
5247210000	LINE AGENCIES	Mayors Council	29,220.26	-	3,675.65	(15,214.02)	21,395.13	**17,681.89**	3,675.65	3,713.24	3,882.39	3,971.89	2,438.72	**17,681.89**
4129948191	LINE AGENCIES	Dept of Chamorro Affairs/Chamorro Village	4,142.75	-	4,106.22	(4,142.75)	8,248.97	**4,106.22**	4,106.22	-	-	-	-	**4,106.22**
4211873236	LINE AGENCIES	Dept. of Administration	73,226.52	-	18,827.85	(44,235.98)	81,145.17	**47,818.39**	18,827.85	19,065.19	9,925.35	-	-	**47,818.39**
1621790133	LINE AGENCIES	DOA-Data Processing	29,784.29	-	15,212.53	(15,412.65)	44,996.82	**29,584.17**	15,212.53	14,371.64	-	-	-	**29,584.17**
1595188609	LINE AGENCIES	Dept. of Agriculture	26,065.14	-	18,366.10	-	44,431.24	**44,431.24**	18,366.10	18,928.57	7,136.57	-	-	**44,431.24**
8300435373	LINE AGENCIES	Civil Defense (Military Affairs)	58,096.40	-	14,265.98	-	72,362.38	**72,362.38**	14,265.98	14,946.82	14,448.77	14,779.88	13,920.93	**72,362.38**
0453170939	LINE AGENCIES	Guam Fire Department	68,595.55	-	24,695.74	(49,079.78)	68,977.46	**44,211.51**	24,695.74	19,515.77	-	-	-	**44,211.51**
8555858369	LINE AGENCIES	Dept of Chamorro Affairs (Guam Museum)	94,225.12	-	32,870.65	(62,590.86)	97,269.41	**64,504.91**	32,870.65	31,634.26	-	-	-	**64,504.91**
1896187753	LINE AGENCIES	Dept. of PH&SS	157,131.57	-	49,822.52	(147,234.72)	201,115.22	**59,719.37**	49,822.52	9,896.85	-	-	-	**59,719.37**
0040515913	LINE AGENCIES	Dept. of Parks & Rec.	91,415.73	-	23,662.55	-	115,078.28	**115,078.28**	23,662.55	23,559.58	24,525.08	24,084.80	19,246.27	**115,078.28**
2535590089	LINE AGENCIES	DPW-FAC Adm Account	52,315.55	-	17,827.77	(28,538.30)	68,791.56	**41,605.02**	17,827.77	17,676.34	6,100.91	-	-	**41,605.02**
6504086567	LINE AGENCIES	DPW-FAC Adm Account (NET METERED)	48,114.39	-	18,874.64	(29,207.67)	65,381.81	**37,781.36**	18,874.64	15,720.08	3,186.64	-	-	**37,781.36**
7252821074	LINE AGENCIES	Dept. of Education	3,818,513.12	-	1,358,996.44	(3,832,698.78)	2,563,914.46	**1,344,810.78**	1,344,810.78	-	-	-	-	**1,344,810.78**
0266069082	LINE AGENCIES	Guam Police Department	57,237.68	-	62,226.46	(57,237.68)	119,464.14	**62,226.46**	62,226.46	-	-	-	-	**62,226.46**
		Sub-total	**5,269,595.40**	**(0.22)**	**1,959,555.77**	**(4,662,008.17)**	**4,288,354.60**	**2,567,142.78**	**1,945,369.89**	**378,847.93**	**155,317.22**	**46,265.75**	**41,341.99**	**2,567,142.78**
		Mayors												
6393530237	MAYORS	Hagatna Mayor	3,340.99	-	947.52	(3,340.99)	2,080.09	**947.52**	947.52	-	-	-	-	**947.52**
4469579998	MAYORS	Merizo Mayor	5,324.60	50.00	2,221.99	(5,374.60)	3,884.96	**2,221.99**	2,221.99	-	-	-	-	**2,221.99**
1880297633	MAYORS	Talofofo Mayor	9,952.98	-	2,076.90	(9,952.98)	4,208.99	**2,076.90**	2,076.90	-	-	-	-	**2,076.90**
0492244686	MAYORS	Asan/Maina/Adelup Mayor	8,647.17	-	2,925.57	(8,647.17)	6,085.49	**2,925.57**	2,925.57	-	-	-	-	**2,925.57**
3293808984	MAYORS	Piti Mayor	5,442.77	-	1,196.28	(4,513.63)	3,310.85	**2,125.42**	1,196.28	929.14	-	-	-	**2,125.42**
7202265287	MAYORS	Umatac Mayor	5,220.12	458.77	1,243.64	(5,678.89)	2,630.54	**1,243.64**	1,243.64	-	-	-	-	**1,243.64**
1837525565	MAYORS	Yona Mayor	12,564.92	-	2,792.85	(12,564.92)	6,123.93	**2,792.85**	2,792.85	-	-	-	-	**2,792.85**
5763167341	MAYORS	Barrigada Mayors Office	4,169.70	(3,017.98)	3,404.04	(7,826.89)	3,404.04	**(3,271.13)**	(3,271.13)	-	-	-	-	**(3,271.13)**
8715052935	MAYORS	Mongmong/Toto/Maite Mayor	8,054.57	-	1,788.98	(8,054.57)	3,718.72	**1,788.98**	1,788.98	-	-	-	-	**1,788.98**
7037924246	MAYORS	Yigo Mayor	16,291.57	-	4,116.40	(16,291.57)	8,250.77	**4,116.40**	4,116.40	-	-	-	-	**4,116.40**
8433959204	MAYORS	Sinajana Mayor	29,311.84	-	7,198.83	(29,311.84)	15,229.97	**7,198.83**	7,198.83	-	-	-	-	**7,198.83**
8472200165	MAYORS	Agana Hts. Mayor	22,487.91	-	6,459.97	(22,582.73)	13,358.36	**6,365.15**	6,365.15	-	-	-	-	**6,365.15**
3832327736	MAYORS	Santa Rita Mayor	22,713.93	-	5,742.49	(22,713.93)	11,558.22	**5,742.49**	5,742.49	-	-	-	-	**5,742.49**
3631627996	MAYORS	Mangilao Mayor	12,885.47	-	3,085.23	(12,885.47)	6,299.52	**3,085.23**	3,085.23	-	-	-	-	**3,085.23**
8041715847	MAYORS	Dededo Mayor	23,458.71	-	7,681.14	(23,553.53)	15,268.05	**7,586.32**	7,586.32	-	-	-	-	**7,586.32**
6957205325	MAYORS	Tamuning Mayor	27,852.19	-	6,783.92	(27,852.19)	13,430.86	**6,783.92**	6,783.92	-	-	-	-	**6,783.92**
6078244037	MAYORS	Inarajan Mayor	37,788.87	(6,622.55)	6,662.46	(16,936.12)	33,227.31	**20,892.66**	6,662.46	6,424.27	6,318.85	1,487.08	-	**20,892.66**
7247791682	MAYORS	Agat Mayor	14,761.05	-	4,744.16	(15,592.09)	9,105.99	**3,913.12**	3,913.12	-	-	-	-	**3,913.12**
9351070242	MAYORS	Ordot/Chalan Pago Mayor	8,724.14	-	2,503.25	(8,130.33)	5,818.57	**3,097.06**	2,503.25	593.81	-	-	-	**3,097.06**
		Sub-total	**278,993.50**	**(9,131.76)**	**73,575.62**	**(261,804.44)**	**166,995.23**	**81,632.92**	**65,879.77**	**7,947.22**	**6,318.85**	**1,487.08**	**-**	**81,632.92**
		DPW Accounts												
0832698062	DPW ACCOUNTS	DPW-Signal Lights	25,309.31	-	8,928.45	(26,643.50)	25,390.09	**7,594.26**	7,594.26	-	-	-	-	**7,594.26**
0930959866	DPW ACCOUNTS	DPW- Primary St. Lights	592,893.55	(33,922.76)	80,486.12	-	673,379.67	**639,456.91**	80,936.12	78,049.13	77,224.14	79,561.73	323,685.79	**639,456.91**
3045433600	DPW ACCOUNTS	DPW-Village St. Lights	1,246,680.69	(114,998.03)	382,272.28	-	1,628,952.97	**1,513,954.94**	382,372.28	373,361.12	387,158.38	371,063.16	-	**1,513,954.94**
3088040552	DPW ACCOUNTS	DPW-Sec/Coll St. Lights	86,353.19	(6,775.06)	21,516.08	-	107,869.27	**101,094.21**	22,266.08	20,900.47	20,689.11	21,310.03	15,928.52	**101,094.21**
		Sub-total	**1,951,236.74**	**(155,695.85)**	**493,202.93**	**(26,643.50)**	**2,435,592.00**	**2,262,100.32**	**493,168.74**	**472,310.72**	**485,071.63**	**471,934.92**	**339,614.31**	**2,262,100.32**
		Autonomous/Public Corp												
0838495949	AUTONOMOUS/P	Guam Waterworks Authority	3,755,460.94	621.70	1,992,783.94	(3,755,687.34)	3,905,621.87	**1,993,179.24**	1,993,179.24	-	-	-	-	**1,993,179.24**
1540692986	AUTONOMOUS/P	Retirement Fund	8,339.19	-	8,495.06	(8,339.19)	8,495.06	**8,495.06**	8,495.06	-	-	-	-	**8,495.06**
4075914809	AUTONOMOUS/P	GPA	-	(125,901.66)	125,901.66	-	-	-	-	-	-	-	-	-
5357510000	AUTONOMOUS/P	University of Guam (NET METERED)	141,515.00	-	141,415.78	(141,515.00)	141,415.78	**141,415.78**	141,415.78	-	-	-	-	**141,415.78**
6518220019	AUTONOMOUS/P	Guam Community College	34,522.20	-	33,563.56	(34,522.20)	33,563.56	**33,563.56**	33,563.56	-	-	-	-	**33,563.56**
7736362694	AUTONOMOUS/P	Guam Airport Authority	668,307.45	(18,512.27)	678,538.40	(668,307.45)	660,026.13	**660,026.13**	660,026.13	-	-	-	-	**660,026.13**
8302337726	AUTONOMOUS/P	Guam Memorial Hospital	611,814.64	50.00	45,217.78	(114,042.73)	542,989.69	**543,039.69**	45,217.78	43,293.06	43,857.59	44,697.24	365,974.02	**543,039.69**
8426836906	AUTONOMOUS/P	Guam Memorial Hospital (NET METERED)	1,778,630.10	-	241,635.69	(643,117.31)	1,377,148.48	**1,377,148.48**	241,635.69	245,815.60	239,521.12	240,533.12	409,642.95	**1,377,148.48**
9157510000	AUTONOMOUS/P	Guam Community College (NET METERED)	60,253.75	-	65,547.44	(60,253.75)	65,547.44	**65,547.44**	65,547.44	-	-	-	-	**65,547.44**
0563872892	AUTONOMOUS/P	Guam Housing Corp Rental Division	1,075.01	25.00	1,191.16	(1,075.01)	1,191.16	**1,216.16**	1,191.16	25.00	-	-	-	**1,216.16**
9173210000	AUTONOMOUS/P	Guam Solid Waste Authority	17,264.92	-	8,874.58	-	26,139.50	**26,139.50**	8,874.58	8,690.43	8,574.49	-	-	**26,139.50**
5434075703	AUTONOMOUS/P	University of Guam	214,204.07	-	208,351.02	(214,204.07)	208,351.02	**208,351.02**	208,351.02	-	-	-	-	**208,351.02**
1699407298	AUTONOMOUS/P	G H U R A	78,338.35	525.00	40,261.08	(78,289.48)	78,721.86	**40,834.95**	40,786.08	48.87	-	-	-	**40,834.95**
4474308144	AUTONOMOUS/P	Port Authority of Guam	139,503.25	-	125,120.36	(139,503.25)	264,623.61	**125,120.36**	125,120.36	-	-	-	-	**125,120.36**
		Sub-total	**7,509,228.87**	**(143,192.23)**	**3,716,897.51**	**(5,858,856.78)**	**7,313,835.16**	**5,224,077.37**	**3,573,403.88**	**297,872.96**	**291,953.20**	**285,230.36**	**775,616.97**	**5,224,077.37**