

1 **GUAM CONSOLIDATED COMMISSION ON UTILITIES**

2 **RESOLUTION NO. 16-FY2017**

3 **RELATIVE TO APPROVAL OF CONTRACT AMENDMENT TO THE**  
4 **CONSTRUCTION MANAGEMENT SERVICES FOR THE PW 12-04 CHAOT AND**  
5 **AGANA HEIGHTS DESIGN/BUILD RESERVOIR REPLACEMENT PROJECT;**  
6 **COURT ORDER PARAGRAPH 28(C)**

7 **WHEREAS**, under 12 G.C.A. § 14105, the Consolidated Commission on Utilities  
8 (“CCU”) has plenary authority over financial, contractual, and policy matters relative to the  
9 Guam Waterworks Authority (“GWA”); and  
10

11 **WHEREAS**, the Guam Waterworks Authority (“GWA”) is a Guam Public Corporation  
12 established and existing under the laws of Guam; and  
13

14 **WHEREAS**, GWA currently has a number of critical Court Order (“CO”) projects  
15 including the Chaot and Agana Heights Design/Build Reservoir Replacement Project which is  
16 Item 28 (c) of the amended stipulated order; and  
17

18 **WHEREAS**, GWA contracted AMOrient Engineering to provide design review and  
19 construction management services for the Chaot and Agana Heights Design/Build Reservoir  
20 Replacement project in the amount of \$639,316.90; and  
21

22 **WHEREAS**, Resolution No. 22-FY2013 (Exhibit A) and No. 28-FY2015 (Exhibit B)  
23 authorized total funding of \$1,281,980.28 for the initial design review and construction  
24 management services, and extension of the construction management services due to the  
25 contractor’s delays; and  
26

27 **WHEREAS**, GWA issued Change Order No. 1, 2, 3, and 4 to AMOrient Engineering to  
28 extend the construction management services to November 2015 due to delays by the  
29 construction Contractor; and  
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1           **WHEREAS**, the revised project’s construction substantial completion date subsequently  
2 moved to December 2016 due to continued delays by the construction Contractor, but which also  
3 required continued construction management services from AMOrient Engineering; and

4  
5           **WHEREAS**, GWA Management has ended on-site construction management services  
6 with AMOrient Engineering on December 31, 2016, given that the remaining work to be done by  
7 the contractor was minimal and manageable by GWA engineering staff; and

8  
9           **WHEREAS**, the cost for construction management services for the period of December  
10 2015 to the end of December 2016, was assessed to be Three Hundred Forty-Six Thousand Five  
11 Hundred Forty One Dollars (\$346,541.00) above approved funding levels (Exhibit C); and

12  
13           **WHEREAS**, the means of addressing payment for the additional services covered by  
14 AMOrient Engineering is intended be through the provisions of the construction contract  
15 contained in Section 4: Liquidated Damages, which allows for GWA to assess liquidated  
16 damages to the construction Contractor up to the amount of Two Thousand Nine Hundred  
17 Dollars (\$2,900.00) per day (excluding Sundays and legal holidays) for breach of the Contract;  
18 and

19  
20           **WHEREAS**, GWA has been assessing liquidated damages to the construction Contractor  
21 for each unexcused working day starting October 18, 2014 until Final Completion for incurred  
22 costs related to construction management services which were due to the construction Contractor  
23 delays; and

24  
25           **WHEREAS**, GWA Management is requesting authorization to modify the construction  
26 management contract to cover the period of December 2015 to the end of December 2016 and to  
27 increase the funding amount to the contract by Three Hundred Forty-Six Thousand Five Hundred  
28 Forty-One Dollars (\$346,541.00) to fund the construction management cost; and

29  
30           **WHEREAS**, the approval of the increase in funding amount would bring the total cost of  
31 construction management services from AMOrient Engineering to One Million Six Hundred  
32

1 Twenty-Eight Thousand Five Hundred Twenty-One Dollars and Twenty Eight Cents  
2 (\$1,628,521.28); and  
3

4 **WHEREAS**, the assessed liquidated damages will be applied to fund the additional  
5 construction management work upon the closeout of the project and the construction contract;  
6 and  
7

8 **WHEREAS**, in order to minimize any further unnecessary expenses, the finalization and  
9 closeout of the construction management contract will occur prior to the completion of the  
10 construction contract, and therefore GWA is intending to meet the financial obligation to the CM  
11 by funding payment of their remaining invoice through Internally Funded CIP, along with PW  
12 12-04 and PW 05-05 as alternate sources until such time "re-imburement" from funds held from  
13 the contractor as part of liquidated damages is made; and  
14

15 **NOW BE IT THEREFORE RESOLVED**, the Consolidated Commission on Utilities  
16 does hereby approve the following:

- 17 1. The recitals set forth above hereby constitute the findings of the CCU; and
- 18 2. The CCU hereby authorizes GWA management to amend the construction  
19 management contract to cover the period of December 2015 to the end of  
20 December 2016 and to increase the amount of Three Hundred Forty Six  
21 Thousand Five Hundred Forty-One Dollars (\$346,541.00) to fund the  
22 additional construction management cost (Exhibit C); and
- 23 3. The CCU hereby approves the funding total for the construction management  
24 services to be One Million Six Hundred Twenty Eight Thousand Five  
25 Hundred Twenty-One Dollars and Twenty Eight Cents (\$1,628,521.28); and
- 26 4. The CCU further approves funding the construction management invoice  
27 through Internal Funded CIP, along with PW 12-04 and PW 05-05 as alternate  
28 source until such time "re-imburement" from funds held from the contractor  
29 as part of liquidated damages is made; and
- 30 5. The CCU approves that money received from the construction liquidated  
31 damages will be applied to funding sources used for the additional  
32 construction management work.



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**GUAM CONSOLIDATED COMMISSION ON UTILITIES**

**RESOLUTION NO. 22-FY2013**

**RELATIVE TO APPROVING THE CONSTRUCTION MANAGEMENT  
CONSULTANT FOR THE PW 12-04 CHAOT AND AGANA HEIGHTS DESIGN/BUILD  
RESERVOIR REPLACEMENT PROJECT; COURT ORDER PARAGRAPH 28(C)**

**WHEREAS**, under 12 G.C.A. § 14105, the Consolidated Commission on Utilities (“CCU”) has plenary authority over financial, contractual and policy matters relative to the Guam Waterworks Authority (“GWA”); and

**WHEREAS**, the Guam Waterworks Authority (“GWA”) is a Guam Public Corporation established and existing under the laws of Guam; and

**WHEREAS**, GWA currently has a number of critical Court Order (“CO”) projects including the Chaot and Agana Heights Design/Build Reservoir Replacement Project which is Item 28(c) of the amended stipulated order and which must be completed by January 21, 2014; and

**WHEREAS**, the Chaot and Agana Heights Design/Build Reservoir Replacement Project includes the construction of a booster pump station, 500,000 gallon pre-stressed concrete reservoir in Chaot and 500,000 gallon pre-stressed concrete reservoir in Agana Heights and requires specialized inspection and testing services to ensure the construction of the project is completed on schedule, within budget, constructed properly and meets the project design standards with particular attention being paid to the longevity and quality of the crucial public utility structure; and

**WHEREAS**, GWA has advertised the Request For Proposals (RFP-01-ENG-2013) soliciting statement of qualifications from experienced and qualified engineering firms to assist GWA during the design phase and manage the construction activities for the Chaot and Agana Heights Design Build Reservoirs Replacement Project; and

1           **WHEREAS**, RFP packages were picked up by sixteen (16) engineering firms, from  
2 which GWA received proposal submittals from ten (10) of the sixteen (16) firms before the RFP  
3 submittal deadline; and

4  
5           **WHEREAS**, the GWA A-E Selection Committee reviewed and evaluated all ten  
6 proposals (see EXHIBIT A- Evaluation Score) and generated a short list of the top three (3)  
7 firms with a recommendation to award a contract to the firm AmOrient Engineering (AmOrient  
8 and any successor at interest thereto) (see EXHIBIT B – Evaluation Summary and GM  
9 Determination); and

10  
11           **WHEREAS**, AmOrient and GWA negotiated the price for the services to be provided in  
12 the total amount of Six Hundred Thirty Nine Thousand Three Hundred Sixteen Dollars and  
13 Ninety Cents (\$639,316.90) attached hereto as (EXHIBIT C – Fee Proposal); and

14  
15           **WHEREAS**, GWA management seeks CCU approval of the fee proposal amount of Six  
16 Hundred Thirty Nine Thousand Three Hundred Sixteen Dollars and Ninety Cents (\$639,316.90)  
17 along with a twenty percent (20%) contingency to bring the total authorized funding amount to a  
18 maximum of Seven Hundred Sixty Seven Thousand One Hundred Eighty Dollars and Twenty  
19 Eight Cents (\$767,180.28); and

20  
21           **WHEREAS**, the source of funding for the construction management services will be  
22 from the 2005 Bond under the line item “A Series Well Transmission Line”; and

23  
24           **WHEREAS**, GWA management recommends that a contract be entered into with  
25 AmOrient in the aforementioned amount.

26  
27           **NOW BE IT THEREFORE RESOLVED**, the Consolidated Commission on Utilities  
28 does hereby approve the following:

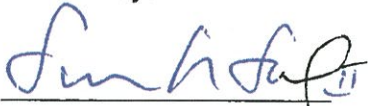
- 29  
30           1. The recitals set forth above hereby constitute the findings of the CCU.  
31           2. The CCU finds that the terms of the fee proposal submitted by “AmOrient”  
32           are fair and reasonable.


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- 3. The CCU finds that the terms of the conditions set by GWA relative to commencement of work activities are fair and reasonable and serve as a measure of Quality Assurance/Quality Control (QA/QC).
- 4. The CCU hereby authorizes the management of GWA to accept the fee proposal (EXHIBIT C) from "AmOrient" which is also incorporated into this Resolution in its entirety.
- 5. The CCU hereby further authorizes the management to enter into a contract with "AmOrient", in the amount of Six Hundred Thirty Nine Thousand Three Hundred Sixteen Dollars and Ninety Cents (\$639,316.90).
- 6. The CCU hereby further approves funding the total of Six Hundred Thirty Nine Thousand Three Hundred Sixteen and Ninety Cents (\$639,316.90) plus a twenty percent (20%) contingency to bring the total authorized funding amount to a maximum of Seven Hundred Sixty Seven Thousand One Hundred Eighty Dollars and Twenty Eight Cents (\$767,180.28).

**RESOLVED**, that the Chairman certified and the Board Secretary attests to the adoption of this Resolution.

**DULY AND REGULARLY ADOPTED**, this 23<sup>rd</sup> day of April 2013.

Certified by:  
  
**SIMON A. SANCHEZ, II**  
Chairperson

Attested by:  
  
**JOSEPH T. DUENAS**  
Secretary

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**GUAM WATERWORKS AUTHORITY**

DNA Building, Suite 502 • 238 Archbishop Flores Street • Hagatna, Guam 96910

February 12, 2013

**To:** Thomas F. Cruz, P.E, Chief Engineer

**From:** Chairperson, Consultant Selection Board

**Subject:** PW 12-04 Construction Management Services for Chaot & Agana Heights  
Design/Build Reservoir Replacement  
GWA Project no. W12-005-BND

This following information is intended to document the evaluation process undertaken for the referenced solicitation.

EVALUATION COMMITTEE MEMBERS	
Name	Title
Menglou Wang, P.E.	Assistant Chief Engineer
Brett Railey, P.E.	Engineer Supervisor
Julio Morais	Engineer Supevisor
Clinton Huntington, II	Senior Engineer
Garrett Yeoh	Senior Engineer

Consultant	Evaluation Score					Total	Rank
	87	74	78	69	80		
1. SSFM International	87	74	78	69	80	388	4
2. EMPSCO Engineering Consultants	93	83	70	63	70	379	7
3. E.M. Chen & Associates, Inc.	84	69	83.5	73	75	384.5	6
4. N.C. Macario & Associates, Inc.	83	67	83	75	78	386	5
5. LYON Associates	88	86	73	89	92	428	2
6. Oyo Corporation Pacific	87	82	81.5	70	83	403.5	3
7. Masoud & Company	77	74	76	57	69	353	9
8. Juan C. Tenorio, P.E. Consulting Engineer	78	60	60.5	50	67	315.5	10
9. AmOrient Engineering	94	88	84	76	90	432	1
10. GMP International, LLC	86	69	82.5	47	75	359.5	8

Scores were evaluated based on straight average of the individual scores as well as an average of the scores after eliminating the high and low scores. The results were the same for both and therefore the recommendation of the evaluation committee is shown in the ranking above.



GLORIA P. BENSAN



**GUAM WATERWORKS AUTHORITY**

DNA Building, Suite 502, 238 Archbishop Flores St., Hagatna, Guam 96910 • Tel. (647) 646-7810

**MEMORANDUM**

February 12, 2013

To: Martin L. Roush, P.E.  
General Manager

From: Thomas F. Cruz, P.E.  
Chief Engineer

Subject: RFP-01-ENG-2013 Evaluation Summary  
PW 12-04 Construction Management Services for Chaot & Agana Heights Design/Build Reservoir Replacement

The Evaluation Committee has completed all necessary actions for selecting the most qualified consultant for the referenced solicitation. All proposals were reviewed and scored according to the conditions established in the solicitation.

The committee recommends the following top three (3) firms in order of preference:

1. AmOrient Engineering
2. LYON Associates
3. Oyo Corporation Pacific

The evaluation summary sheet is attached for your information.

**GENERAL MANAGER'S DETERMINATION**

Consultant Firm Selected:

AmOrient Engineering 2/20/13

Remarks:

\_\_\_\_\_  
\_\_\_\_\_

MARTIN L. ROUSH, P.E.  
General Manager

10 April 2013

**Mr. Thomas F. Cruz, PE**  
Chief Engineer  
Guam Waterworks Authority  
DNA Building, Suite 502  
238 Archbishop Flores Street  
Hagatna, Guam 96910

Attention: **Ms. Gloria P. Bensen**  
Engineer III

Subject: **Construction Management Services for the Chaot and Agana Heights  
Design/Build Reservoir Replacement**

Dear Mr. Cruz:

We are submitting herewith our revised fee proposal for the provision of Construction Management Services for the Chaot and Agana Heights Design/Build Reservoir Replacement based on the revised scope of work provided on 28 March 2013 and discussions on 5 and 9 April 2013 .

Based on the revised SOW, please find below our assumptions for the construction management services:

1. The CM services shall be provided during the 12 month construction duration, 3 months of which will be for design and permit acquisition and 9 months for construction and closeout
2. The Sr. Inspector will provide engineering services during the pre-construction phase, assumed 3 months and Project Manager shall provide oversight during such period
3. Full time inspection shall be provided at 2 sites for 9 months during construction period.
4. \$25,000 allowance will be provided for GWA Testing and \$10,000 for Construction Survey Services.
5. Review of submittals/shop drawings.
6. Review of DB Contractor's design documents at 60%, 90% and 100% design stages.
7. The Contractor shall provide for field office complete with furnishings, telephones, copying machine, fax machine and internet connectivity/service at no cost to AmOrient.
8. Detail of the assumptions is provided in the attached.


**The proposed Firm Fixed Fee Amount is** **\$639,316.90**  
**(Six hundred thirty-nine thousand, Three hundred sixteen and 90/100 dollars)**

Please find attached, as required, excel file of our fee proposal.

We thank you for considering our firm for these services. Should you have any question, please give us a call. We look forward in working with you on this project.

Senseramente

AmOrient Engineering



John M Robertson PE  
President & Principal Engineer

Attachment: AmOrient Fee Proposal

# Exhibit C (2 of 16)

GWA PROJECT NO. 01-ENG-2013  
AMORIENT FEE PROPOSAL

Construction Management Services for the Chaot & Agana Heights Design/Build Reservoir Replacement  
10-Apr-13

Phase Letter Task Number	TASK DESCRIPTION	Principal Engine	Proj Mgr/ Resident Engineer	Specialty Inspector - SE	Scheduler/Sr. Project Engineer	Sr. Inspector	Inspector	Admin	AMOUNT	REMARKS
<b>HOURLY LABOR RATES</b>		\$ 220.00	\$ 196.00	\$ 164.00	\$ 144.00	\$ 144.00	\$ 100.00	\$ 60.00		
1.1	<b>PRE-CONSTRUCTION PHASE</b>									
1.1.1	CM QUALITY ASSURANCE		8			40			\$ 7,328.00	1/4 time during 3 months for Sr Inspector
1.1.2	CONSTRUCTION MANAGEMENT PLAN		8			40			\$ 7,328.00	
1.1.3	REVIEW D-B CONTRACTOR'S DESIGN			56					\$ 9,184.00	Review at 60%, 90% and 100% design stages
1.1.4	DELIVERABLES							30	\$ 1,800.00	Revised hours
1.2	<b>CONSTRUCTION PHASE TASKS</b>									
1.2.1	IMPLEMENT & MAINTAIN PROJECT CONTROLS	48	20						\$ 14,480.00	9 month full time for Inspectors, 1440 hrs each
1.2.2	PROJECT CORRESPONDENCE					180			\$ 25,920.00	from July to March 2014
1.2.3	DAILY CONSTRUCTION LOGS						72		\$ 7,200.00	
1.2.4	MATERIAL TESTING FORMS						36		\$ 3,600.00	
1.2.5	PROGRESS PHOTO LOG						9		\$ 900.00	
1.2.6	SUBMITTALS & SHOP DRAWINGS		30		300				\$ 49,080.00	Review of estimated 300 submittals at 3 hrs each
1.2.7	CONTRACTOR PROJECT SCHEDULES				72				\$ 10,368.00	
1.2.8	PAYMENT REQUESTS		20			48			\$ 10,832.00	
1.2.9	PAYROLL REPORTS						18		\$ 1,800.00	
1.2.10	PROJECT MEETINGS								\$ -	
1.2.10.1	PRE-CONSTRUCTION PHASE		8			8	8		\$ 3,520.00	
1.2.10.2	PROGRESS MEETINGS		72			80	72		\$ 32,832.00	
1.2.10.3	AS-BUILT DRAWINGS REVIEWS					72			\$ 10,368.00	
1.2.10.4	OTHER MEETINGS		8			32	36		\$ 9,776.00	
1.2.11	RFI		8			8		80	\$ 7,520.00	
1.2.12	GENERAL COMPLIANCE MONITORING						40		\$ 5,760.00	
1.2.12.1	REGULATIONS & LAWS								\$ -	
1.2.12.2	LABOR LAWS		9						\$ 1,764.00	
1.2.12.3	LICENSURE					20			\$ 2,880.00	
1.2.12.4	INSURANCE		9			10			\$ 3,204.00	
1.2.13	CLAIMS & DISPUTES								\$ -	
1.2.13.1	CLAIM RECORDS		9						\$ 1,764.00	
1.2.13.2	CLAIMS REVIEWS & INTERPRETATIONS		9						\$ 1,764.00	
1.2.13.3	CHANGE ORDER REVIEW		9						\$ 1,764.00	
1.2.13.4	DESIGN CHANGES		9						\$ 1,764.00	
1.2.13.5	DESIGN CHANGE/VERIFICATION REQUEST		9						\$ 1,764.00	
1.2.13.6	CHANGE ORDER NEGOTIATION WITH CONTRACTOR		9						\$ 1,764.00	
1.2.13.7	CHANGE ORDER DOCUMENTS		9						\$ 1,764.00	
1.2.14	PROJECT RECORDS & DOCUMENT MANAGEMENT/COMMUNICATION							304	\$ 18,240.00	
1.2.15	CONSTRUCTION OBSERVATION, SPECIAL INSPECTION & QUALITY CONTROL MONITORING								\$ -	
1.2.15.1	ON-SITE OBSERVATION					878	1125		\$ 238,932.00	
1.2.15.2	SPECIAL INSPECTIONS			160					\$ 26,240.00	
1.2.16	TESTING								\$ -	
1.2.16.1	CONTRACTOR TESTING								\$ -	
1.2.16.2	CM/CQA TESTING								\$ 25,000.00	Revised allowance provided by GWA
1.2.16.3	GWA TESTING								\$ -	
1.2.16.4	ACCEPTANCE								\$ -	
1.2.17	CONSTRUCTION SURVEY SERVICES								\$ 10,000.00	Revised allowance provided by GWA
1.2.18	PROJECT CLOSEOUT								\$ -	
1.2.18.1	PUNCH LIST DEVELOPMENT					16	40		\$ 6,304.00	
1.2.18.2	PROJECT CLOSEOUT INSPECTIONS		16			24	24		\$ 8,992.00	
1.2.19	TRAINING & WARRANTY PERIODS								\$ -	
1.2.19.1	TRAINING					24			\$ 3,456.00	
1.2.19.2	WARRANTIES		8						\$ 1,568.00	
1.3	<b>POST CONSTRUCTION SERVICES</b>									
1.3.1	FINAL REPORT		8			16			\$ 3,872.00	
1.3.2	RECORD DRAWINGS					40			\$ 5,760.00	
1.3.3	DELIVERABLES							20	\$ 1,200.00	
2	<b>PROJECT MANAGEMENT</b>									
2.1	PROGRESS PAYMENT PREPARATION		42						\$ 8,232.00	
	Profit								\$ -	
	SUB-TOTAL	48	337	219	372	1578	1440	434	\$ 597,588.00	
3	<b>INDIRECT COSTS</b>								\$ 597,588.00	
3.1	Cell Phones/Office support								Units: 18, Rate: \$ 56.55, Amount: \$1,017.90	2 cell phone charges for 9 months
3.2	Vehicles/Mileage								21600, \$ 0.55, \$ 11,880.00	at 30 miles for 180 days for 2 staff for 2 ways
3.3	Paper/Reproduction								12, \$ 38.00, \$ 456.00	
3.4	Camera								2, \$ 200.00, \$ 400.00	Will be turned over to GWA upon project completion
3.5	Laptop								2, \$ 1,200.00, \$ 2,400.00	Will be turned over to GWA upon project completion
	Profit								\$ -	
	Sub-total								\$ 16,153.90	
	<b>TOTAL INDIRECT COST</b>								\$ 16,153.90	
	<b>TOTAL DIRECT &amp; INDIRECT COST</b>								\$ 613,741.90	
	GRT							4.17%	\$ 25,575.00	
	<b>TOTAL</b>								\$ 639,316.90	

## SCOPE OF WORK

### **A. CONSTRUCTION MANAGEMENT (CM) DESCRIPTION OF EFFORT:**

The proposer will provide CM Agent Services on behalf of GWA for the construction of two 0.5 million gallon water storage tanks at Chaot and Agana Heights, and a booster pump station at Agana Heights.

The existing reservoirs are constructed from welded steel and store approximately 0.5 M gallons each. The new reservoirs will be 0.5 M gallons each and essentially identical in design, constructed from prestressed concrete conforming to ANSI / AWWA D110 for Type 1 Wire- and Strand- Wound, Circular Prestressed Concrete Water Tanks.

### **B. TASK 1: PRE-CONSTRUCTION, CONSTRUCTION, AND POST-CONSTRUCTION PHASE SERVICES:**

#### **1. General CM Scope of Work.**

The Construction Manager (CM), will provide services relating to the field observation, testing, supervision, management, coordination, and compliance monitoring for the construction of the Chaot Reservoir & Agana Heights Reservoirs (0.5 Million Gallon capacity each) and the associated booster pump station construction. The project generally consists of geo-technical ground improvements, demolition of existing tank structures, construction of a 0.5 million gallon pre-stressed concrete tank conforming to ANSI / AWWA D110 for Type 1 Wire- and Strand- Wound, Circular Prestressed Concrete Water Tanks (site adapted for each location), electrical and SCADA controls, plus all associated utilities for each site.

The construction management, testing, and field observation services for this dual reservoir replacement project will require general construction management and observation as well as specialized inspection and testing.

#### **2. Specialized Scope of Work.**

In addition to general construction management duties, the specialized inspection and/or testing identified for this Scope of Work includes the following:

1. Concrete placement
2. Concrete anchors
3. Grading
4. Excavation
5. Compaction grouting
6. Compaction testing
7. Pre-stressing operations
8. Concrete cylinder testing
9. Soil analysis
10. Instrumentation and SCADA
11. Disinfection

# Exhibit C (4 of 16)

In general, the proposer will be the CM as an independent contractor Owner's Representative of GWA whose primary functions are to:

- Keep the GWA advised and informed as to progress and cost
- Manage the change process
- Disclose any information relevant to the GWA's interests
- Make proactive recommendations to the Owner for action to maintain progress and achieve the schedule and budget
- Act in the best interests of the GWA

## **C. Task 1.1. PRE-CONSTRUCTION PHASE SERVICES**

### **Task 1.1.1 CM Quality Assurance.**

The CM will review, record, and comment on submittal of Quality Control Plan submitted by the DB Construction Contractor. Upon receipt of the final construction drawings, the proposer will: develop, implement and maintain a Quality Assurance Plan for civil, structural, electrical and mechanical elements including specialized work related to the construction of concrete water reservoirs conforming to ANSI / AWWA D110 Type 1 Wire- and Strand- Wound, Circular, Prestressed Concrete Water Tank design and construction standard of similar size.

The proposer will file contractor certifications: review, file and submit inspection test results; and assess substantial completion.

Contents of the Quality Assurance Plan should include the following:

- Documentation of site conditions prior to beginning construction
- Review of approved submittals from the Contractor prior to fabrication or installation of materials and equipment
- Inspection, observation, and documentation of daily field work
- Monitoring of the Contractor's Quality Control Plan
- In-plant fabrication and/or witness testing at place of manufacture
- Reports and record keeping
- Non-conforming and deficient work resolution process
- Monitoring the Construction Contractor's implementation of their Quality Control Plan

It is important to note, the CM is responsible for monitoring the Contractor's compliance with the Contract Documents, but is not responsible for the means and methods, techniques, sequences, or procedures the Contractor may use to perform the work.

### **Task 1.1.2: Construction Management Plan.**

The proposer will develop and implement the Construction Management Plan including guidelines for project organization and coordination in the field, standard daily operations, change order procedures, safety, quality, and cost control. This Construction

# Exhibit C (5 of 16)

Management Plan (CM Plan) sets forth the procedures and approach for the construction of the project. The CM Plan will serve the proposer, the Owner's Representatives, and Contractors by defining the project, project team members and their roles, coordination among team members, procedures, and key milestones and schedule constraints. By establishing these parameters early in the project, the CM Plan will help control resources and costs, and establish communication and coordination between the proposer, the Designers and the Contractor.

## **Task 1.1.3: Review of the Design-Build Contractor's Design**

The CM shall perform reviews of the DB Contractor's design documents at the 60% and 90% design stages. The CM will provide redline mark-up of the plans and specifications and annotated comments for the contractors EOR's review and implementation at the 60% and 90% design stages.

## **Task 1.1.4: Deliverables.**

Two (2) hardcopies and electronic PDF files of the following:

- 1) Quality Assurance Plan
- 2) Construction Management Plan
- 3) 60% design review comments
- 4) 90% design review comments

## **D. Task 1.2. CONSTRUCTION PHASE TASKS:**

### **Task 1.2.1: Implement & Maintain Project Controls (PC).**

These services shall be provided to insure that the project is efficiently managed and constructed according to the terms of the Contract and the Request for Proposal. The PC function is concerned with gathering data regarding project progresses, producing progress reports; and monitoring time, cost, and quality.

The Project Controls system will include the following:

- A Cost Management Process that estimates, monitors, predicts, and reports project cost.
- A Planning and Scheduling Management Process that plans project activities, monitors completion of those activities, predicts timing of future activities, and reports schedule status.
- A Change Management Process that estimates the impact of change, enables and documents the change decision, and integrates the change into the project scope of work.

The proposer will use Primavera P6 software for Project Scheduling and Construction Cost/Resource Tracking, Document Management, and Cost Management.

# Exhibit C (6 of 16)

## **Task 1.2.2: Project Correspondence (Review & Maintenance).**

The CM shall prepare correspondence, reports, and inspection documentation as required to communicate project activities and issues with GWA and the Contractor. The CM shall develop a format for daily and weekly reports for the approval of GWA. At a minimum, the following reports and inspection documents shall be provided:

- Daily Construction Logs
- Materials Testing Forms
- Progress Photo Log
- Shop Drawing and Submittals Status
- Contractor Progress Schedule
- Request for Information Status
- Change Order Status
- Special Inspection Reports

## **Task 1.2.3: Daily Construction Logs.**

The onsite inspector(s) shall maintain a log of material deliveries, daily production, site conditions, field orders, punch lists, progress photos, material testing, documentation of delays, and other material facts and issues regarding prosecution of the work. The Daily Construction Log shall be available to GWA Project Engineer for review at any time.

## **Task 1.2.4: Material Testing Forms.**

The CM shall prepare material testing forms for the approval of GWA. The forms shall capture all material testing requirements set forth by the Design Consultant.

## **Task 1.2.5: Progress Photo Log.**

The CM shall prepare and retain a construction progress photo log in an organized album with phases of the project clearly labelled. The photo log shall capture all phases of the project pre-construction, during construction, and post-construction.

## **Task 1.2.6: Submittals & Shop Drawings.**

The CM shall review and act on (approve or reject) all submittals required by the Contract Documents. The CM shall review and provide recommendations regarding shop drawings, work drawings, traffic control, safety plan, demolition plan, and other submittals for conformance with the Contract. In the event of a Contractor request for a time extension or material or equipment substitution, the CM shall make a recommendation to GWA regarding the substitution. The GWA Chief Engineer will approve substitution. The CM shall monitor and oversee the DB contractor review process.



## **Task 1.2.7: Contractor Project Schedules.**

The CM shall review the Contractors work schedule for accuracy and for efficient sequencing of the work. The proposer will direct the Contractor to make any changes deemed necessary and coordinate approval of the revised schedule with GWA. Any delays shall be documented and notified to GWA and the Contractor when actual progress is behind schedule.

## **Task 1.2.8: Payment Requests.**

The CM shall receive and process payment requests from the Contractor. Payment requests shall be reviewed for compliance with Bid and Contract requirements and with the actual work completed. Upon completion of the review, the CM shall make any necessary adjustments, certify, and forward the request to GWA for processing of the payment. The CM shall submit their review and recommendations within 5 working days of receipt from the Contractor.

## **Task 1.2.9: Payroll Reports.**

The CM shall also review any payroll submittals required by the Contract including prevailing wage submissions. At a minimum, the Contractor and its subcontractors should be providing bi-weekly pay records for each of its employees on the project. The proposer will also conduct random employee interviews to verify the pay request information. Upon completion of the review, the CM shall require the Contractor to make any necessary adjustments, certify, and forward the Payroll report along with the pay request to GWA for processing.

## **Task 1.2.10: Project Meetings.**

The CM shall schedule, arrange, and conduct conferences and meetings as required for clear communication of contract requirements and adherence to schedules.

The CM shall schedule, arrange, and conduct monthly project schedule meetings as required in the contract requirements. The CM shall prepare meeting minutes for all project schedule meetings with contractors, sub-contractors, and GWA.

### **Task 1.2.10.1: Pre-Construction Conference.**

The CM shall prepare for, chair, and provide meeting minutes for the pre-construction conference. The pre-construction conference shall be arranged to discuss mobilization, prosecution of work, safety, environmental protection, historic preservation, processing payments, material submittals, testing procedure, project schedules, inspections, and all other contract issues as necessary.

### **Task 1.2.10.2: Progress Meetings.**

The CM shall arrange for a weekly progress meeting with the Contractor and GWA to discuss progress of work, contract requirements, and other issues related to the administration and prosecution of the work. The CM shall prepare meeting minutes for all progress meetings with contractors, sub-contractors, and GWA. The meeting minutes shall include action items from week to week until it has been completed.

**Task 1.2.10.3: As-Built Drawing Reviews.**

After each weekly meeting, the CM shall review the Contractor's record drawings to ensure that they are current and capture any deviations from the original plan set.

**Task 1.2.10.4: Other Meetings.**

Arrange meeting between the Contractor and GWA, and other parties such as GEPA and DPW as necessary to address project issues that require decisions that cannot be made by the CM or to resolve regulatory concerns.

**Task 1.2.11: Request for Information.**

Track all Requests for Information (RFI) and maintain an RFI log. Coordinate receipt of answers from other sources. Assist GWA with the development of a response to RFIs regarding any aspect of the contract documents.

**Task 1.2.12: General Compliance Monitoring.**

The CM shall evaluate and ensure Contractor compliance with all local and federal labor laws applicable to the Project. Any violations shall be immediately reported to GWA. Compliance monitoring shall include but not be limited to the following:

**Task 1.2.12.1: Regulations and laws.**

Monitor compliance with Territorial and/or Federal laws, regulations and rules.

**Task 1.2.12.2: Labor Laws.**

Monitor contractor and subcontractor procedures to verify legal status of employees on site. Verify bi-weekly compliance with labor requirements for federally funded projects including posting of wage rate schedules at the job site and safety requirements.

**Task 1.2.12.3: Licensure.**

Confirm that the Contractor and its subcontractor and their workers have all required licenses and ensure that said licenses are valid throughout the term of the Contract.

**Task 1.2.12.4: Permit Compliance.**

# Exhibit C (9 of 16)

Monitor and track Contractor's compliance in obtaining required permit and approvals.

## **Task 1.2.12.5: Insurance.**

Review Contractor's insurance documents submitted to GWA for compliance with Contract requirements. Track insurance documents, ensure insurance is valid throughout the term of Contract and maintain insurance certificate log.

## **Task 1.2.13: Claims and Disputes.**

The CM shall promptly notify the GWA regarding any issues that arise during construction of the project that could result in claims and/or disputes. The CM shall provide the following services to assist GWA with the resolution of claims and disputes:

### **Task 1.2.13.1: Claim Records.**

Maintain copies of all verbal and written communications, submittals, testimony, photos, and meetings regarding a potential dispute and promptly submit all originals to the Chief Engineer and Attorney for GWA.

### **Task 1.2.13.2: Claims Reviews & Interpretations.**

Review claims submitted by the Contractor, provide GWA with interpretation of contract drawings and specifications and provide written recommendations to GWA regarding the solution of the dispute. At the outset of the Contract, the CM shall work with the Contractor to provide pricing for equipment, material, personnel and other relevant considerations as specified in the bid. Prices agreed upon shall be used in any subsequent Change Order. No amounts shall be paid except for actual losses incurred by the Contractor through no fault of their own or for risks not allocated to the Contractor under the bid.

### **Task 1.2.13.3: Change Order Review.**

Track all Change Orders (original to be provided to GWA) and maintain a Change Order Log. Provide change order evaluations, negotiations, and recommendations for approval by GWA. Change orders shall not be made when the Contractor has assumed such risk in the bid. Change Orders may include requests for additional payments for differing site conditions and the CM shall utilize the bid documents to determine if a Change Order is warranted. CM shall submit change order requests and supporting documentation to GWA for approval within 5 working days of receipt from the Contractor wherever practical.

### **Task 1.2.13.4: Design Changes.**

# Exhibit C (10 of 16)

As directed by GWA, prepare changes to the Contract technical documents (drawings and specifications) required to address a change order. GWA will direct the CM to make design changes only when changes are deemed by the GWA Chief Engineer to have no material effect on the original intent of the design. All other design changes shall be forwarded to the Engineer of Record for processing.

## **Task 1.2.13.5: Design Change/Verification Request (DCVR).**

If the request for a change will materially change the original design, the CM shall coordinate with the design Engineer of Record to accomplish the necessary design changes. The CM shall prepare a DCVR for submission to and for the approval of the design engineer. If the required changes to the design are not covered within the original design scope of service, the CM will prepare a design scope amendment; solicit a fee proposal for the amendment on behalf of GWA, and assist with the negotiations with the Design Consultant.

## **Task 1.2.13.6: Change Order Negotiation with Contractor.**

Prepare independent cost estimates and negotiate with Contractor subject to GWA approval (final approval of negotiated change orders can only be made by the GWA General Manager).

## **Task 1.2.13.7: Change Order Documents.**

The CM shall maintain copies for all approved change orders (originals to be provided to GWA) and insure that subsequent pay requests accurately represent these change orders. Approved change orders shall be administrated by the CM along with other work elements according to the provisions of this scope of work.

## **Task 1.2.14: Project Records & Document Management/Communication.**

The CM shall maintain a project record in a clearly labelled/ tabbed set of 3-ring binders and electronic copies. The project records shall include all project correspondences, photos, daily logs, weekly reports, and other items required to document the construction process. Communicate and coordinate with all stakeholders during the construction phase. Notify GWA of any problems with the work or the Contractors.

## **Task 1.2.15: Construction Observation, Special Inspection and Quality Control Monitoring.**

The CM shall provide full time observation and special inspection services as needed of construction to ensure that the work is accomplished in accordance with the Contract documents. A full time Resident Engineer shall be assigned to manage both sites and will be at one of the sites during normal working hours unless attending project related meetings or during holidays, vacation or sick days. [This would apply if both project sites

# Exhibit C (11 of 16)

are active at the same time. If the projects are sequential, this requirement may be modified.]

## **Task 1.2.15.1: Onsite Observation.**

The CM shall provide competent on-site field staff to observe the construction. The onsite field staff shall have demonstrable experience (satisfactory to GWA) relative to the discipline and type of work being performed. Project field staff shall review project documents, conduct daily observations, special inspections (where applicable), prepare and submit Daily Observation and Special Inspection Reports; communicate deficiency issues and resolve with Contractor; and update Non-Compliance Log. The Resident Engineer will determine which field staff will be onsite, at which times and for how long and will be supported by additional Special Inspectors as described below.

## **Task 1.2.15.2: Special Inspections.**

In addition to general compliance inspections, the CM shall provide Special Inspection services in accordance with IBC 2009, Chapter 17 by a person with demonstrable experience (satisfactory to GWA) related to concrete placement, structural welding, concrete anchoring, reinforcing steel placement, pre-stressing operations, grading, excavation, backfilling, foundation probing and injection, and other operations that require special inspections.

## **Task 1.2.16: Testing.**

### **Task 1.2.16.1: Contractor Testing.**

Schedule, observe, approve or reject, and document testing required to be performed by the Contractor.

### **Task 1.2.16.2: CM/CQA Testing.**

The CM shall provide the following CQA testing to monitor the Contractor's or Owner's independent testing firm:

<b>SPECIAL TESTING</b>	<b>STD.</b>	<b>FREQUENCY</b>
Concrete Compression Tests It is assumed there will be approximately 20 concrete placement days and 1,200 cubic yards placed for 7 discreet locations: Pipe Encasements, Floor, Walls, Columns Footings, Columns, Roof, and Shotcrete placement	ASTM C-39	14 test cylinders, 2 each for 1 day of each of the 7 distinct locations (approx. 10% of Contractor's, assuming contractor will take 1 slump test per 40 cubic yards or 150 test cylinders tests.
Compaction grouting	ASTM C-1019	10% of Contractor's
Compaction testing	ASTM D-698, D-6938	10% of Contractor's
Soil & Aggregate Analysis	ASTM C-136, C-117, C-40, D-1140, D-1883, D-4318	10% of Contractor's

# Exhibit C (12 of 16)

All other required testing for contract conformance		
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## **Task 1.2.16.3: GWA Testing.**

Coordinate and monitor testing required to be performed by GWA.

## **Task 1.2.16.4: Acceptance.**

The CM shall promptly reject, orally, or in writing, any construction work that does not fully comply with Contract documents. Within 24 hours of notification to the Contractor that work elements have been rejected, the CM shall provide a written description of the deficiency to the GWA Chief Engineer for his/her concurrence. When concurrence has been obtained, the Contractor shall be directed to correct the work.

The CM shall promptly advise the GWA Project Manager or the GWA Chief Engineer if the Contractor fails to correct or remove the defective work.

The CM shall issue written stop work orders to the Contractor and immediately provide GWA with a copy for a portion of or the entire project for Contract non-compliance issues as follows:

(1) If condition of work or Contractor actions threaten the health and safety of Contractor's personnel, GWA representatives, or the public in such cases, stop work orders may be oral depending on the circumstances (with written stop work order to follow).

(2) With prior notification and approval of the GWA Chief Engineer or Project Manager in all other cases.

## **Task 1.2.17. Construction Survey Services.**

The CM shall conduct survey and field measurements as necessary to verify that the work is located according to the plans and specifications. Changes to the horizontal and vertical alignments and elevations shall be made only with the approval of the GWA Chief Engineer.

a. Pipeline Alignments and Location of Structures: Spot check Contractor's construction staking to verify the pipeline alignments and structure locations are as called for on the plan and specifications and in order to insure that the work and its location within lawful and approved Rights-of-Way and easements.

b. Elevations: Spot check with Contractor's elevations for foundations, pads, pipeline inverts, backfill thickness, manholes, and other structures for which vertical elevation is a critical design element.

## **Task 1.2.18: Project Closeout.**

### **Task 1.2.18.1 Punch List Development.**

Throughout the construction of the project, prepare and maintain a list of defects and deficiencies in the work which must be corrected by the Contractor prior to final acceptance of the work. The list shall be provided to all members of the pre-final and final inspection team. The list shall be revised after inspections to reflect additional items identified during the inspection. Coordinate with the Contractor to ensure that all punch list items have been corrected. When all items have been completed, inform GWA in writing recommending that the work be accepted.

### **Task 1.2.18.2: Project Closeout Inspections**

Schedule, arrange, and conduct interim, pre-final, and final inspections of work with Contractor, GWA, GEPA, DPW, and other stakeholders in this project.

- (1) Preliminary Inspection: Preliminary inspections shall be arranged as necessary for specific work elements that require the certification and approval of other agencies.
- (2) Pre-Final Inspection: A pre-final inspection shall be conducted after substantial completion of the work.
- (3) Final Inspection: The final inspection shall be conducted after correction of pre-final inspection punch list items.

## **Task 1.2.19: Training and Warranty Periods.**

### **Task 1.2.19.1 Training.**

The CM shall coordinate with the Contractor to schedule and conduct startup training required by the Contract.

### **Task 1.2.19.2: Warranties.**

The CM shall maintain a copy of warranties and compile associated Manufacturer and Contractor warranty documents. Warranty information shall be included in the final report. All original warranty documents shall be provided to GWA along with Lien Release Information from Contractor.

## **Task 1.2.20 Deliverables.**

As described in each task.

# Exhibit C (14 of 16)

## **E. TASK 1.3. POST CONSTRUCTION SERVICES**

### **Task 1.3.1: Final Report.**

The CM shall prepare a final report after written acceptance of the work by GWA. The final report shall include a narrative documentation of all significant design and construction events and issues and shall become a historical record for the project. The following items shall be included in the appendix to the final report: Project Records: The project record described above shall become a part of and submitted along with the final report.

### **Task 1.3.2: Record Drawings.**

After the conclusion of the project, the CM shall review and approve the official record drawings prepared by the contractor. It is anticipated that Record drawings shall be generated from the original digital design documents by incorporating all mark-ups on the Contractor's as-built drawings. Record drawings shall be marked and sealed by a professional engineer licensed on Guam in accordance with PEALS Regulations.

### **Task 1.3.3 Deliverables.**

Two (2) hardcopies and electronic PDF files of the following:

- (1) CM Final Report
- (2) As-built Record Drawings (1 original and 1 copy for the hard copies);

## **F. CLARIFICATIONS.**

1. Stop Work Orders: It is understood that the CM may issue written stop work orders to the Contractor in accordance with GWA policies for a portion of or the entire project for Contract non-compliance issues as follows:
  - a) If condition of work or Contractor actions threaten the health and safety of Contractor's personnel, GWA representatives, or the public in such cases, stop work orders may be oral depending on the circumstances (with written stop work order to follow).
  - b) With prior notification and approval of the GWA Chief Engineer or Project Manager in all other cases.
2. No formal Partnering Program will be provided, but the CM will incorporate partnering to the extent required to ensure a safe jobsite; ensure that environmental commitments are met; complete the project on time by resolving disputes quickly; finish within budget by proactively monitoring costs and facilitating creative



## Exhibit C (15 of 16)

solutions when faced with potential cost increases; ensure that quality is met by adequate oversight by the Contractor.

3. An allowance of \$10,000 has been provided for the field survey verification.
4. An allowance of \$25,000 has been provided for CQA testing.
5. CQA testing allowance may be used for field survey verification if the field survey verification allowance is expended. Field survey allowance may be used for CQA testing if the CQA testing allowance is expended.
6. No project specific permitting services are included but the CM will assist the GWA, designer, and the Contractor as needed to help facilitate procurement of permits as expeditiously as possible.
7. No Archeological survey, Section 106 Historic Preservation, biological resource monitoring, Section 7 Endangered Species Act or related work is included. Archeological survey and monitoring shall be provided by GWA through a third party. The CM shall assist with coordination of onsite activities.
8. Any and all permit fees are excluded.
9. The proposer will not be required to staff the project during adverse weather delays and can adjust staffing during the course of the project to properly manage the budget.
10. The Construction contract will include requirements that the Construction Contractor pay for overtime inspection outside of the normal 40 hour work week and this requirement will be strictly enforced and supported by GWA with payment coming out of the Contractor's Pay Request and then distributed to the proposer by GWA or by other acceptable terms to the proposer and GWA.
11. The CM services shall be provided for the duration of the project. It is assumed that 3 months will be for the pre-construction phase and 9 months for construction phase.
  - a) Design Phase: Work will commence with the Notice to Proceed for DB Contractor and shall correspond with the review periods specified in the contract requirements. It is anticipated that that the pre-construction (design phase) will be 3 months.
  - b) Construction Phase: Work will commence on the Notification of Construction Start date and continue throughout the performance period specified in the contract. It is assumed that the project will have a 9 month construction schedule. Full time inspection shall be provided at 2 sites for the duration of the construction period. The intent is for AM Orient to provide the equivalent of 9 months of full time inspection at both sites.

## Exhibit C (16 of 16)

- c) Post Construction Phase: The final report and in other post construction activities specified herein shall be completed within thirty (30) calendar after the project has been accepted by GWA in writing.
12. The Sr. Inspector will provide engineering services during the pre-construction phase, assume 3 months and Project Manager shall provide oversight during such period.
  13. Resident engineer/project manager shall manage and oversee project equivalent to quarter of time during the construction period.
  14. The contractor shall provide for field office complete furnishings, telephone, copying, and fax machine at no cost to the CM.
  15. GWA's PMO shall attend and manage the Pre-design Conference, Interim DB review meeting (60%), Pre-final DB review meeting, and Final DB review meeting as well as coordinate between the Design Build Contractor Team, Construction Management Team, and GWA.
  16. Laptop (2 each) and camera (2 each) will be turned over to GWA upon project completion. Laptop and camera shall be in good condition.

*These specifications were approved by Martin Roush, P.E., GWA General Manager.*

**GUAM CONSOLIDATED COMMISSION ON UTILITIES**

**RESOLUTION NO. 28 – FY2015**

**RELATIVE TO MODIFICATION OF THE CONSTRUCTION MANAGEMENT SERVICES CONTRACT WITH AMORIENT FOR THE CHAOT AND AGANA HEIGHTS DESIGN/BUILD RESERVOIR REPLACEMENT PROJECT RELATIVE TO PARAGRAPH 28(C) OF THE NOVEMBER 2011 COURT ORDER**

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**WHEREAS**, under 12 G.C.A. § 14105, the Consolidated Commission on Utilities (“CCU”) has plenary authority over financial, contractual, and policy matters relative to the Guam Waterworks Authority (“GWA”); and

**WHEREAS**, the Guam Waterworks Authority (“GWA”) is a Guam Public Corporation established and existing under the laws of Guam; and

**WHEREAS**, GWA currently has a number of critical Court Order (“CO”) projects including the Chaot and Agana Heights Design/Build Reservoir Replacement Project which is Item 28 (c) of the amended stipulated order; and

**WHEREAS**, Resolution No. 22 – FY2013 authorized total funding of Six Hundred Thirty Nine Thousand Three Hundred Sixteen Dollars and Ninety Cents (\$639,316.90) along with a twenty percent (20%) contingency to bring the total authorized funding amount to a maximum of Seven Hundred Sixty Seven Thousand One Hundred Eighty Dollars and Twenty Eight Cents (\$767,180.28) for the design review and construction management services; and

**WHEREAS**, GWA following CCU approval in Resolution 22 – FY2013, GWA contracted with AMOrient Engineering to provide design review and construction management services for the Chaot and Agana Heights Design/Build Reservoir Replacement project in the amount of Six Hundred Thirty Nine Thousand Three Hundred Sixteen Dollars and Ninety Cents (\$639,316.90); and

1           **WHEREAS**, the funding source will be Internal Funded CIP with PW 12-04 and PW 05-  
2 05 as alternate sources; and

3  
4           **WHEREAS**, money received from the liquidated damages will be applied to funding  
5 sources used for the additional construction management work; and

6  
7           **NOW BE IT THEREFORE RESOLVED**, the Consolidated Commission on Utilities  
8 does hereby approve the following:

- 9           1. The recitals set forth above hereby constitute the findings of the CCU; and  
10           2. The CCU hereby authorizes the additional base contract amount of Four  
11           Hundred Sixty Eight Thousand Dollars (\$468,000.00) with an additional ten  
12           percent (10%) contingency of Forty Six Thousand Eight Hundred Dollars  
13           (\$46,800.00) for a total amount of Five Hundred Fourteen Thousand Eight  
14           Hundred Dollars (\$514,800.00) to fund the additional construction  
15           management cost for the project; and  
16           3. The CCU hereby approves the total funding of One Million Two Hundred  
17           Eighty One Thousand Nine Hundred Eighty Dollars and Twenty Eight Cents  
18           (\$1,281,980.28) for Construction Management Services relative to the  
19           Contract between AMOrient and GWA; and  
20           4. Funding source will be Internal Funded CIP with PW 12-04 and PW 05-05 as  
21           alternate sources; and  
22           5. Money received from the liquidated damages will be applied to funding  
23           sources used for the additional construction management work.

24  
25           **RESOLVED**, that the Chairman certified and the Board Secretary attests to the adoption  
26 of this Resolution.

27           /

29           /

31           /

32

1           **WHEREAS**, GWA issued Change Order No. 1 to AMOrient Engineering for additional  
2 pre-construction management services that were required due to the general construction  
3 Contractor delay in starting construction. The total value of the Contract was increased to Seven  
4 Hundred Sixty Seven Thousand One Hundred Eighty Dollars and Twenty Eight Cents  
5 (\$767,180.28) and extended the services to October 17, 2014; and

6  
7           **WHEREAS**, due to continued delay by the construction Contractor, the revised project  
8 construction completion date is projected to be August 31, 2015 (Exhibit A – Contractor’s  
9 Schedule); and

10  
11           **WHEREAS**, Section 4: Liquidated Damages of the Contract with the Contractor  
12 building the Chaot and Agana Heights water tanks allows for GWA to assess liquidated damages  
13 to the Contractor in the amount of Two Thousand Nine Hundred Dollars (\$2,900.00) per day  
14 (excluding Sundays and legal holidays) for breach of the Contract. GWA intends to assess  
15 liquidated damages to the construction Contractor in the amount of One Thousand Eight  
16 Hundred Dollars (\$1,800.00) for each unexcused working day starting October 18, 2014 until  
17 Final Completion to cover the additional cost related to construction management services due to  
18 the construction Contractor delays in completing the project on time; and

19  
20           **WHEREAS**, in order to retain the construction management services to cover October  
21 18, 2014 to August 31, 2015 which involves an additional 260 working days; not including 11  
22 Government of Guam holidays and 46 Sundays that are not included in the Contract, an  
23 additional Four Hundred Sixty Eight Thousand Dollars (\$468,000.00) is needed to ensure that  
24 Construction Management Services are continuously provided for the project; and

25  
26           **WHEREAS**, GWA Management is requesting authorization to increase the funding  
27 amount by Four Hundred Sixty Eight Thousand Dollars (\$468,000.00) with an additional ten  
28 percent (10%) contingency of Forty Six Thousand Eight Hundred Dollars (\$46,800.00) for a  
29 total contract amount of Five Hundred Fourteen Thousand Eight Hundred Dollars (\$514,800.00)  
30 to fund the additional construction management cost; and

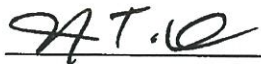
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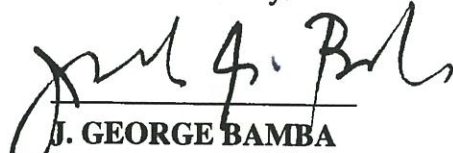
**DULY AND REGULARLY ADOPTED**, this 26th day of May 2015.

Certified by:

Attested by:



**JOSEPH T. DUENAS**  
Chairperson

  
**J. GEORGE BAMBA**  
Secretary

I, J. George Bamba, Board Secretary of the Consolidated Commission on Utilities as evidenced by my signature above do hereby certify as follows:

The foregoing is a full, true and accurate copy of the resolution duly adopted at a regular meeting by the members of the Guam Consolidated Commission on Utilities, duly and legally held at a place properly noticed and advertised at which meeting a quorum was present and the members who were present voted as follows:

AYES:	<u>4</u>
NAYS:	<u>0</u>
ABSTENTIONS:	<u>0</u>
ABSENT:	<u>1</u>





## GUAM WATERWORKS AUTHORITY

"Better Water, Better Lives."

Gloria B. Nelson Public Service Building | 688 Route 15 | Mangilao, Guam 96913

Tel: (671) 300-6846

### Issues for Decision

#### **Resolution 28-FY2015**

#### **Relative to Modification of the Construction Management Services for the PW 12-04 Chaot and Agana Heights Design/Build Reservoir Replacement Project; Court Order Paragraph 28(C)**

##### **What is the project's objective? Is it necessary and urgent?**

The objective of this modification is to increase the funding authorization for the project Construction Manager to cover CM services for the period of October 18, 2014 to August 31, 2015 (260 working days; not including 11 Government of Guam holidays and 46 Sundays). CM services are necessary as the CM oversees the construction activities on behalf of GWA thus to continue the concrete tank construction project requires a CM on board. The need for additional services is due to delays by the construction contractor.

##### **Where is the location?**

The Construction Management services are for the construction activities related to the Chaot 0.5 MG tank located in the village of Chalan Pago and the Agana Heights 0.5MG tank located in Agana Heights.

##### **How much will it cost?**

The modification to the CM services contract will increase the funding amount by Four Hundred Sixty Eight Thousand Dollars (\$468,000.00). With an additional ten percent (10%) contingency of Forty Six Thousand Eight Hundred Dollars (\$46,800.00), the total funding amount will be Five Hundred Fourteen Thousand Eight Hundred Dollars (\$514,800.00).

##### **When will it be completed?**

The CM service is anticipated to be completed at the same time all construction activities are completed or by August 31, 2015. See Exhibit A as part of the resolution.

##### **What is its funding source?**

The funding source will be Internal Funded CIP with PW 12-04 and PW 05-05 as alternate sources. It should be noted that GWA intends to assess Liquidated Damages to the construction contractor from which funds related to the LD will reimburse the funding source uses.

Activity ID	Activity Name	Original Duration	Remaining Duration	Schedule % Complete	Start	Finish	Total Float	02-Apr-15	03-May-15	04-Jun-15	05-Jul-15	06-Aug-15
<b>Chao &amp; Agana Hts Reservoir Replacement Uj</b>												
<b>Preconstruction Activities</b>												
G0238.1	Initial Construction Schedule Submittal	223	0	100%	04-Apr-14	11-Apr-14	0					
G0237	Design Quality Control Plan Submittal	193	0	100%	19-Apr-13A	04-Feb-14A	0					
G0237.1	Gov't Review - Design Quality Control Plan Subm	466	0	100%	29-Mar-13A	13-Mar-15A	0					
G0238	Lead Abatement Submittal	24	0	100%	16-Apr-13A	20-May-13A	0					
G0238.1	Gov't Review - Lead Abatement Submittal	24	0	100%	16-Apr-13A	20-May-13A	0					
G0240	Environmental Protection Plan Submittal	14	0	100%	04-May-13A	31-May-13A	0					
G0240.1	Gov't Review - Environmental Protection Plan Sub	14	0	100%	31-May-13A	16-Jul-13A	0					
G0241	Activity Hazard Analysis Submittal	32	0	100%	21-May-13A	21-May-13A	0					
G0241.1	Gov't Review - Activity Hazard Analysis Submittal	14	0	100%	22-May-13A	06-Jun-13A	0					
G0245	Tank Accessories Submittals	7	0	100%	02-Apr-14A	06-Apr-14A	0					
G0245.1	Gov't Review - Tank Accessories Submittal	28	0	100%	05-Apr-14A	16-Apr-14A	0					
G0247	Under tank Pipe/Fittings Submittal	8	0	100%	07-Jun-13A	19-Dec-13A	0					
G0247.1	Gov't Review - Under Tank Pipe/Fittings Submitt	14	0	100%	19-Dec-13A	24-Dec-13A	0					
G0248	Valves and Flow Meters Submittal	8	0	100%	07-Jun-13A	05-Mar-14A	0					
G0248.1	Gov't Review - Valves and Flow Meters Submittal	14	0	100%	11-Mar-14A	18-Mar-14A	0					
G0250	Booster Pumps Submittal	8	0	100%	28-Mar-13A	10-Jun-14A	0					
G0250.1	Gov't Review - Booster Pumps Submittal	14	0	100%	11-Jun-14A	07-Oct-14A	0					
G0254	Generator Sets Submittal	15	0	100%	07-Jun-13A	04-Mar-15A	0					
G0254.1	Gov't Review - Generator Sets Submittal	14	0	100%	06-Mar-15A	13-Mar-15A	0					
G0256	Bearing Pads Submittal	15	0	100%	07-Jun-13A	18-Mar-14A	0					
G0256.1	Gov't Review - Bearing Pads Submittal	14	0	100%	19-Mar-14A	16-Apr-14A	0					
<b>Procurement Activities</b>												
M0325	Tank Accessories	438	62	0%	25-Oct-13A	22-Jul-15	28					
M0331	Under tank Pipe/Fittings	50	0	100%	21-Apr-14A	31-Jul-14A	0					
M0338	Valves and Flow Meters	40	0	100%	25-Oct-13A	27-Dec-13A	0					
M0341	Booster Pumps	80	0	100%	27-Feb-14A	06-Jun-14A	0					
M0351	Generator Sets	84	0	100%	08-Oct-14A	07-Jan-15A	0					
M0481	Bearing Pads	130	114	23.85%	13-Mar-15A	22-Jul-15	28					
<b>Construction Activities</b>												
CH1000	CH Mobilization	564	103	51.24%	19-Aug-13A	20-Aug-15	7					
CH1010	CH Clearing	509	48	82.07%	19-Aug-13A	04-Jun-15	62					
CH1020	CH Backfill with Pt Run	3	0	100%	19-Aug-13A	23-Jan-14A	0					
CH1030	CH Grading and Compaction	3	0	100%	25-Aug-13A	27-Aug-13A	0					
CH1040	CH Lead Abatement	5	0	100%	19-Aug-13A	12-Sep-13A	0					
CH1050	CH Demolish Existing Tank	5	0	100%	19-Aug-13A	24-Aug-13A	0					
CH1060	CH Demolish Existing Foundation	4	0	100%	05-Sep-13A	30-Sep-13A	0					
CH1070	CH Demolish Existing Pipes and Valves	4	0	100%	26-Nov-13A	27-Nov-13A	0					
<b>Site Works</b>												
CH1070	CH Demolish Existing Pipes and Valves	93	0	100%	05-Sep-13A	21-Feb-14A	0					

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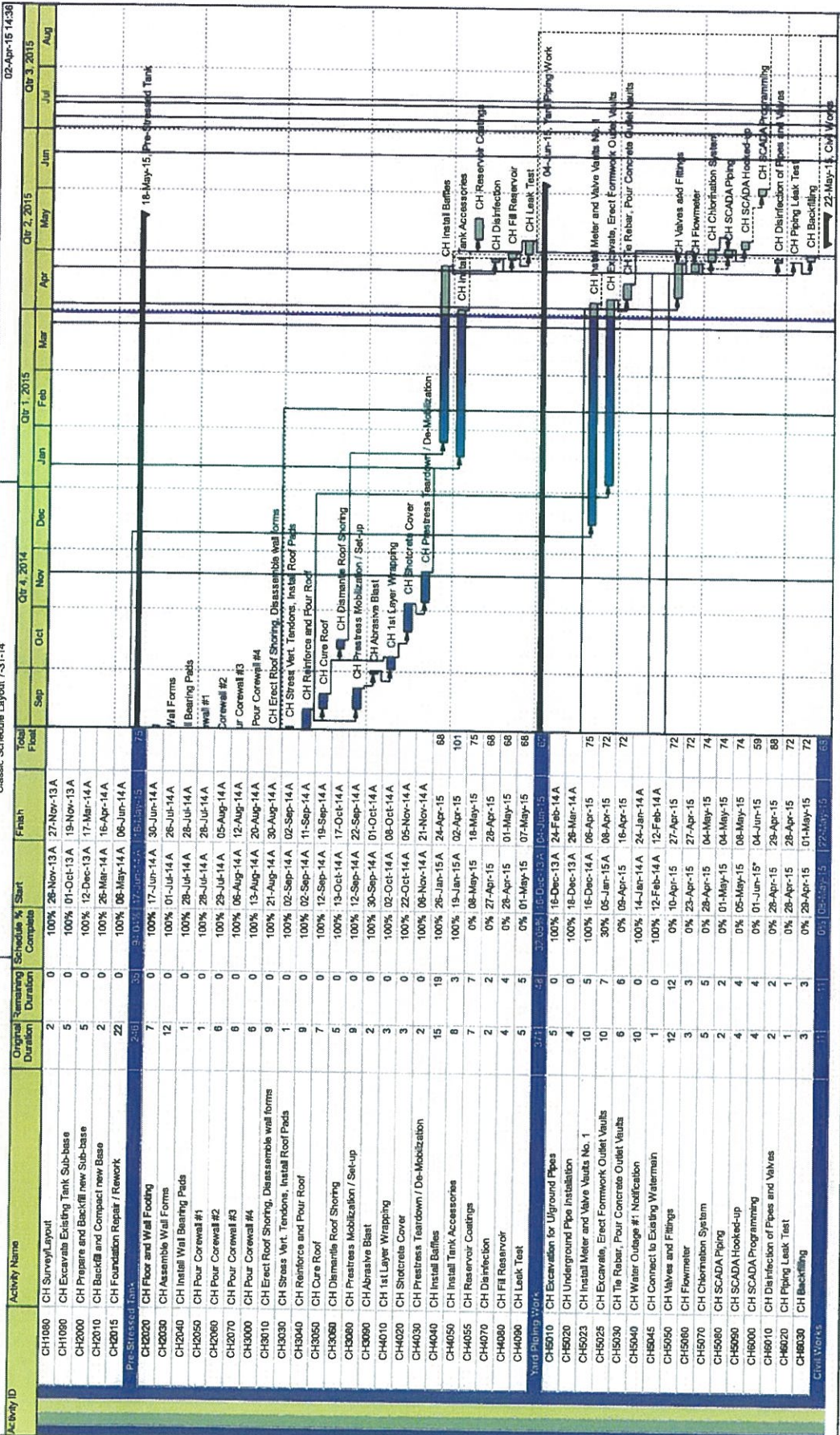
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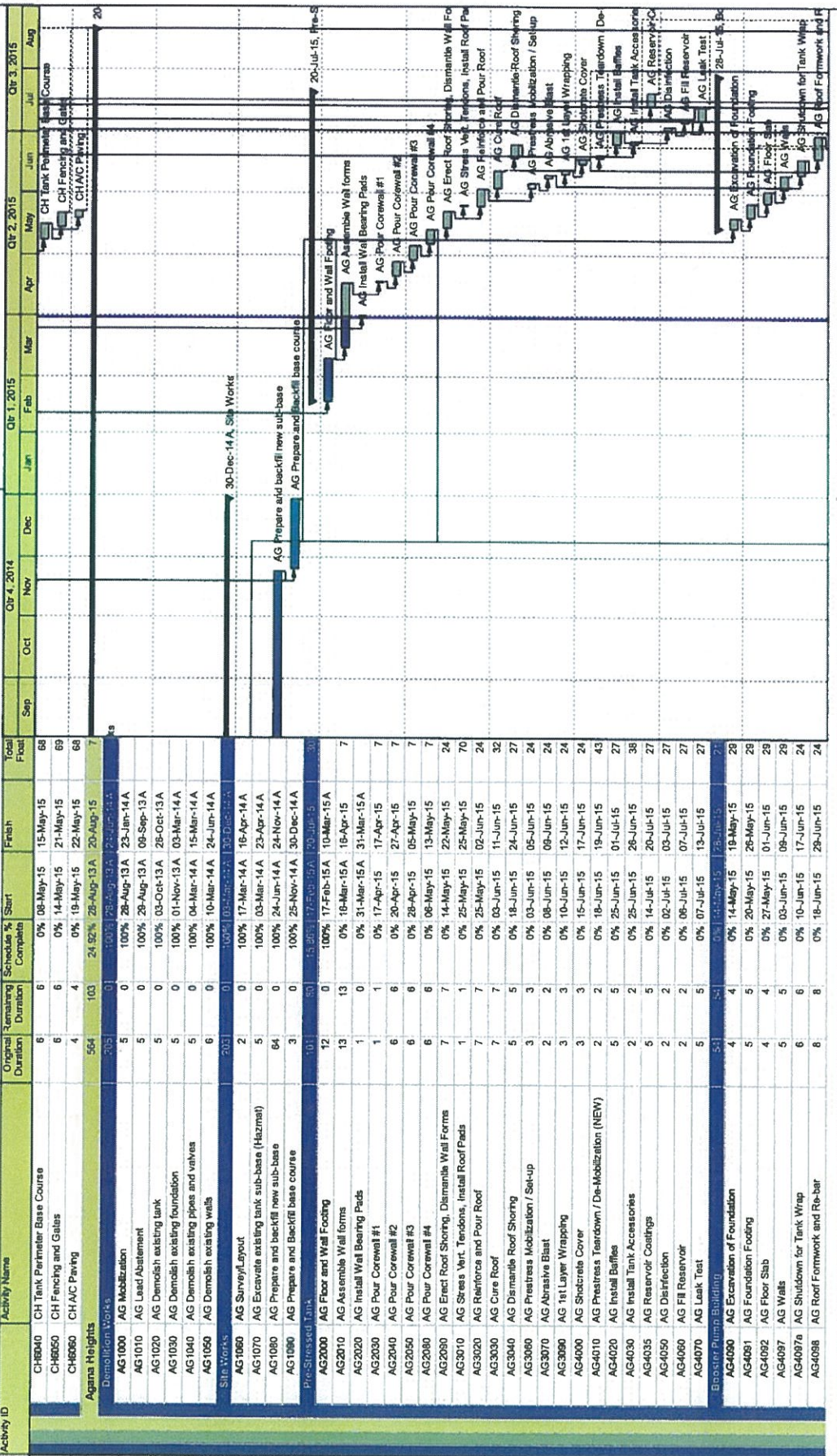




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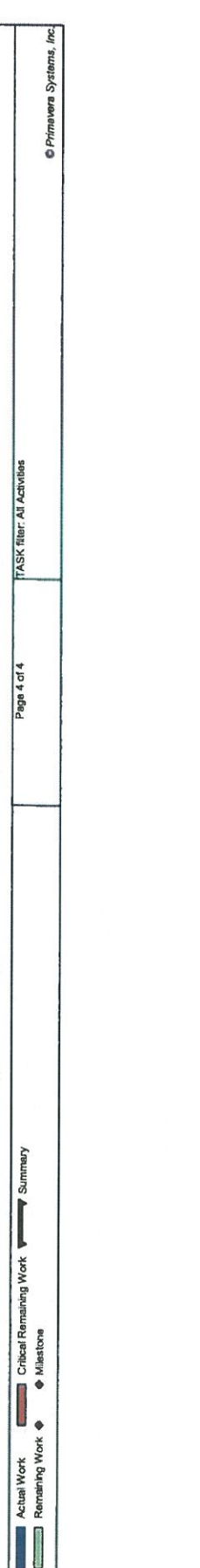
TASK filter: All Activities

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Activity ID	Activity Name	Original Duration	Remaining Duration	Schedule % Complete	Start	Finish	Total Float
CH8040	CH Tank Perimeter Base Course	6	6	0%	08-May-15	15-May-15	68
CH8050	CH Fencing and Gates	6	6	0%	14-May-15	21-May-15	69
CH8060	CH/AC Paving	4	4	0%	19-May-15	22-May-15	68
Agana Heights		554	103	24.92%	28-Aug-13A	20-Aug-15	7
<b>Demolition Works</b>							
AG1000	AG Mobilization	5	0	100%	17-Aug-13A	23-Jun-15	0
AG1010	AG Lead Abatement	5	0	100%	26-Aug-13A	23-Jan-14A	0
AG1020	AG Demolish existing tank	5	0	100%	29-Aug-13A	09-Sep-13A	0
AG1030	AG Demolish existing foundation	5	0	100%	03-Oct-13A	28-Oct-13A	0
AG1040	AG Demolish existing pipes and valves	5	0	100%	01-Nov-13A	03-Mar-14A	0
AG1050	AG Demolish existing walls	6	0	100%	04-Mar-14A	15-Mar-14A	0
<b>Site Works</b>							
AG1060	AG Survey/Layout	2	0	100%	02-Jan-14A	30-Dec-14A	0
AG1070	AG Excavate existing tank sub-base (Hazmat)	5	0	100%	17-Mar-14A	18-Apr-14A	0
AG1080	AG Prepare and backfill new sub-base	64	0	100%	03-Mar-14A	23-Apr-14A	0
AG1090	AG Prepare and Backfill base course	3	0	100%	24-Jun-14A	24-Nov-14A	0
<b>Pre-Stressed Tank</b>							
AG2000	AG Floor and Wall Footing	12	0	100%	17-Feb-15A	20-Jun-15	0
AG2010	AG Assemble Wall forms	13	13	0%	16-Mar-15A	18-Apr-15	7
AG2020	AG Install Wall Bearing Pads	1	0	0%	31-Mar-15A	31-Mar-15A	0
AG2030	AG Pour Corewall #1	1	1	0%	17-Apr-15	17-Apr-15	7
AG2040	AG Pour Corewall #2	6	6	0%	20-Apr-15	27-Apr-15	7
AG2050	AG Pour Corewall #3	6	6	0%	28-Apr-15	05-May-15	7
AG2060	AG Pour Corewall #4	6	6	0%	06-May-15	13-May-15	7
AG2080	AG Erect Roof Shoring, Dismantle Wall Forms	7	7	0%	14-May-15	22-May-15	24
AG3010	AG Stress Vert. Tendons, Install Roof Pads	1	1	0%	25-May-15	25-May-15	70
AG3020	AG Reinforce and Pour Roof	7	7	0%	25-May-15	02-Jun-15	24
AG3030	AG Cure Roof	7	7	0%	03-Jun-15	11-Jun-15	32
AG3040	AG Dismantle Roof Shoring	5	5	0%	18-Jun-15	24-Jun-15	27
AG3060	AG Prestress Mobilization / Set-up	3	3	0%	03-Jun-15	05-Jun-15	24
AG3070	AG Abrasive Blast	2	2	0%	08-Jun-15	09-Jun-15	24
AG3090	AG 1st Layer Wrapping	3	3	0%	10-Jun-15	12-Jun-15	24
AG4000	AG Shotcrete Cover	3	3	0%	15-Jun-15	17-Jun-15	24
AG4010	AG Prestress Teardown / De-Mobilization (NEW)	2	2	0%	18-Jun-15	19-Jun-15	43
AG4020	AG Install Barfiles	5	5	0%	25-Jun-15	01-Jul-15	27
AG4030	AG Install Tank Accessories	2	2	0%	25-Jun-15	26-Jun-15	38
AG4035	AG Reservoir Coatings	5	5	0%	14-Jul-15	20-Jul-15	27
AG4050	AG Distraction	2	2	0%	02-Jul-15	03-Jul-15	27
AG4060	AG Fill Reservoir	2	2	0%	06-Jul-15	07-Jul-15	27
AG4070	AG Leak Test	5	5	0%	07-Jul-15	13-Jul-15	27
<b>Booster Pump Building</b>							
AG4080	AG Excavation of Foundation	4	4	0%	14-May-15	19-May-15	28
AG4081	AG Foundation Footing	5	5	0%	20-May-15	26-May-15	28
AG4092	AG Floor Slab	4	4	0%	27-May-15	01-Jun-15	29
AG4097	AG Walls	5	5	0%	03-Jun-15	09-Jun-15	29
AG4097a	AG Shutdown for Tank Wrap	6	6	0%	10-Jun-15	17-Jun-15	24
AG4098	AG Roof Formwork and Re-bar	8	8	0%	18-Jun-15	29-Jun-15	24

Activity ID	Activity Name	Original Duration	Remaining Duration	Schedule % Complete	Classic Schedule Layout 7-31-14												Total Float	
					Start	Finish	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		Jul
AG4059	AG Roof Concreting	1	1	0%	30-Jun-15	30-Jun-15												
AG5001	AG Piping	6	6	0%	01-Jul-15	08-Jul-15												
AG5002	AG SCADA Piping and Panel	6	6	0%	01-Jul-15	08-Jul-15												
AG5003	AG SCADA Wiring and Termination	5	5	0%	09-Jul-15	15-Jul-15												
AG5004	AG SCADA Programming	4	4	0%	20-Jul-15	23-Jul-15												
AG5008	AG Building Electrical	8	8	0%	01-Jul-15	10-Jul-15												
AG5050	AG Painting	3	3	0%	01-Jul-15	03-Jul-15												
AG5070	AG Booster Pump	5	5	0%	13-Jul-15	17-Jul-15												
AG5080	AG Valves and Fittings	6	6	0%	08-Jul-15	17-Jul-15												
AG6050	AG New Generator	4	4	0%	23-Jul-15	28-Jul-15												
<b>Yard Piping Work</b>																		
AG6860	AG Excavation for Underground pipes	5	0	100%	15-Jul-14	17-Jul-14												
AG6865	AG Underground Pipe Installation	4	0	100%	16-Jul-14	25-Nov-14												
AG6870	AG Excavate, Erect Formwork for Vaults	10	37	100%	15-Dec-14	03-Jul-15												
AG6875	AG Tie Rebar, Pour Concrete Vaults	10	10	0%	06-Jul-15	17-Jul-15												
AG6900	AG Water Outage #1 Notification	1	1	0%	20-Jul-15	20-Jul-15												
AG7000	AG Connect to Existing Watermain	8	8	0%	20-Jul-15	29-Jul-15												
AG7010	AG Valves and Fittings	8	8	0%	20-Jul-15	29-Jul-15												
AG7020	AG Chlorination System	8	8	0%	20-Jul-15	29-Jul-15												
AG7030	AG Flowmeters	2	2	0%	28-Jul-15	29-Jul-15												
AG7040	AG Disinfection	2	2	0%	30-Jul-15	31-Jul-15												
AG7050	AG Leak Testing	1	1	0%	03-Aug-15	03-Aug-15												
AG7060	AG Backfilling	3	3	0%	04-Aug-15	06-Aug-15												
<b>Civil Works</b>																		
AG7070	AG Detention Basin	8	0	100%	15-Dec-14	27-Mar-15												
AG7080	AG Detention Basin Headwall	9	9	0%	06-Mar-15	10-Apr-15												
AG7090	AG Fencing and Gabions	10	10	0%	07-Aug-15	20-Aug-15												
AG8000	AG Entrance Base Course/Compaction	2	2	0%	07-Aug-15	10-Aug-15												
AG8010	AG Tank Perimeter	3	3	0%	07-Aug-15	11-Aug-15												
AG8020	AG ATC Paving	1	1	0%	13-Aug-15	13-Aug-15												
<b>Start-up and Commissioning</b>																		
AG8030	AG Testing	21	21	0%	28-Jul-15	28-Jul-15												
AG8040	AG Start-up and Commissioning	1	1	0%	29-Jul-15	29-Jul-15												
<b>Close-Out Activities</b>																		
CB850	Well Instrumentation CO Execution	1	110	0%	11-Mar-15	31-Aug-15												
CB851	Gov't Review - Well Flow Meters	15	15	0%	11-Mar-15	11-Mar-15												
CB852	Gov't Review - Well Pressure Meters	15	15	0%	31-Mar-15	14-Apr-15												
CB860	Well Instrumentation Procurement	84	84	0%	15-Apr-15	07-Jul-15												
CB870	Well Instrumentation Field Installation	24	24	0%	08-Jul-15	10-Aug-15												
CB900	Well Site SCADA Programming	12	12	0%	11-Aug-15	26-Aug-15												
CB900	Pre-Final Inspection	1	1	0%	27-Aug-15	27-Aug-15												
CB910	Punchlist Correction	1	1	0%	28-Aug-15	28-Aug-15												
CB920	Final Inspection	1	1	0%	31-Aug-15	31-Aug-15												
CB930	Project Completion	0	0	0%														
CB940	Overall Project Completion Date	0	0	0%														



# Exhibit C

**From:** Garrett Yeoh  
**To:** "Brett Bailey"; thomas@guamwaterworks.org  
**Subject:** AMO CM Breakdown  
**Date:** Wednesday, January 04, 2017 12:58:02 PM  
**Attachments:** AMO Breakdown 20170103.xlsx

Current Contract	Amount	Execution Date	LD start	LD end
Contract	\$ 639,316.80	05/30/13		
Change Order No. 1	\$ 127,863.38	05/12/14		
Change Order No. 2	\$ 271,800.00	10/07/15	10/18/14	05/31/15
Change Order No. 3	\$ 149,000.00	11/21/15	06/01/15	09/30/15
Change Order No. 4	\$ 70,200.00	02/03/16	10/01/15	11/30/15
<b>Total</b>	<b>\$ 1,258,180.28</b>			

\*Change Order No. 5 will cover 12/1/2016 to 12/31/2017

CCU Approvals	Amount	Purpose
Resolution No. 22-FY2013	\$ 767,180.28	Original contract and contingency approvals
Resolution No. 28-FY2015	\$ 514,800.00	Increased cost covered by liquidated damages
<b>Total</b>	<b>\$ 1,281,980.28</b>	

Month	AMOrient Billing
Oct-14	\$ 18,000.00
Nov-14	\$ 30,600.00
Dec-14	\$ 37,800.00
Jan-15	\$ 36,000.00
Feb-15	\$ 36,000.00
Mar-15	\$ 37,800.00
Apr-15	\$ 39,600.00
May-15	\$ 36,000.00
Jun-15	\$ 39,600.00
Jul-15	\$ 37,800.00
Aug-15	\$ 33,800.00
Sep-15	\$ 37,800.00
Oct-15	\$ 37,800.00
Nov-15	\$ 32,400.00
Portion of Dec-15	\$ 23,800.00
<b>Sub-Total</b>	<b>\$ 514,800.00</b>
Portion of Dec-15	\$ 15,800.00
Jan-16	\$ 29,196.00
Feb-16	\$ 28,377.00
Mar-16	\$ 27,081.00
Apr-16	\$ 34,677.00
May-16	\$ 22,770.00
Jun-16	\$ 26,100.00
Jul-16	\$ 33,840.00
Aug-16	\$ 31,050.00
Sep-16	\$ 33,750.00
Oct-16	\$ 30,600.00
Nov-16	\$ 17,100.00
Dec-16	\$ 16,200.00
<b>Sub-Total</b>	<b>\$ 346,541.00</b>
<b>TOTAL</b>	<b>\$ 861,341.00</b>

Resolution No. 28-FY2015

Upcoming Resolution No. -FY2017

Regards,  
 Garrett Yeoh