

1 **WHEREAS**, Request for Proposal (RFP) packages were downloaded by multiple
2 interested parties, from which GWA received proposal submittals from six (6) engineering firms
3 before the RFP submittal deadline; and
4

5 **WHEREAS**, the GWA A-E Selection Committee reviewed and evaluated the six (6)
6 proposals (see Exhibit A - Evaluation Score) and made a recommendation to award a contract to
7 the firm TG Engineers, PC ("TGE") and any successor at interest thereto (see Exhibit B - GM
8 Determination); and
9

10 **WHEREAS**, TGE and GWA negotiated the scope and fee for the Engineering services to
11 be provided in the fixed fee amount of Two Hundred Sixty Five Thousand Five Hundred Ninety
12 Four Dollars (\$265,594.00) with design service options related to Cleaning, Bypass pumping,
13 CCTV, Geotechnical and Archaeological Services in the amount of Two Hundred Ninety Five
14 Thousand Five Hundred Thirty Two Dollars (\$295,532.00) and Construction Procurement and
15 Engineering Services during construction in the amount of Seventy Four Thousand Eight
16 Hundred Thirteen Dollars (\$74,813.00) should this service option be needed on a time and
17 materials basis (see Exhibit C – Fee Proposal); and
18

19 **WHEREAS**, the design service options noted above are viewed by GWA Engineering as
20 potentially necessary based on several factors: 1) the condition of the existing sewer pipe; 2) the
21 discovery of archaeological and cultural resources along the sewer line route; and 3) the need for
22 engineering services during construction; and
23

24 **WHEREAS**, these options for design services are based on negotiated Time and
25 Materials rates for service; and
26

27 **WHEREAS**, GWA Management seeks approval of the fee proposal amount of Six
28 Hundred Thirty Five Thousand Nine Hundred Thirty Nine Dollars (\$635,939.00), plus a ten
29 percent (10%) contingency of Sixty Three Thousand Five Hundred Ninety Three Dollars and
30 Ninety Cents (\$63,593.90), for a total amount of Six Hundred Ninety Nine Thousand Five
31 Hundred Thirty Two Dollars and Ninety Cents (\$699,532.90); and
32

1 **WHEREAS**, funding for this project will be from USEPA Grant Funds and, if necessary,
2 GWA Bond Funds under CIP WW 09-06 Wastewater Collection System
3 Replacement/Rehabilitation; and,
4

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

- 7 1. The recitals set forth above hereby constitute the findings of the CCU.
- 8 2. The CCU finds that the terms of the fee proposal submitted by TGE are fair and
9 reasonable.
- 10 3. The CCU finds that the terms and conditions set by GWA relative to
11 commencement of work activities are fair and reasonable and serve as a measure
12 of Quality Assurance/Quality Control (QA/QC).
- 13 4. The CCU hereby authorizes the management of GWA to enter into a contract
14 with TGE in the amount of Six Hundred Thirty Five Thousand Nine Hundred
15 Thirty Nine Dollars (\$635,939.00) from which Three Hundred Seventy Thousand
16 Three Hundred Forty Five Dollars (\$370,345.00) will be on a Time and Materials
17 basis.
- 18 5. The CCU hereby further approves the total funding amount for this project of Six
19 Hundred Thirty Five Thousand Nine Hundred Thirty Nine Dollars (\$635,939.00),
20 plus a ten percent (10%) contingency of Sixty Three Thousand Five Hundred
21 Ninety Three Dollars and Ninety Cents (\$63,593.90), to bring the total authorized
22 funding amount to a maximum of Six Hundred Ninety Nine Thousand Five
23 Hundred Thirty Two Dollars and Ninety Cents (\$699,532.90).
- 24 6. The CCU further approves the funding for this project will be from USEPA Grant
25 Funds and, if necessary, GWA Bond Funds under CIP WW 09-06 Wastewater
26 Collection System Replacement/Rehabilitation

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

29 //

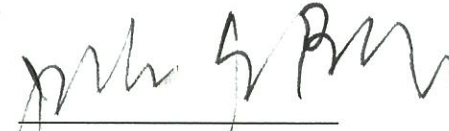
31 //

1 **DULY AND REGULARLY ADOPTED**, this 23rd day of August 2016,

2
3 Certified by:

Attested by:

4
5
6 
7 **JOSEPH T. DUENAS**
8 Chairperson

9
10 
11 **J. GEORGE BAMBA**
12 Secretary

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

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

19 AYES: 4
20 NAYS: 0
21 ABSTENTIONS: 0
22 ABSENT: 1



23 ///

24 ///

25 ///

26 ///

27 ///

Exhibit A (1 of 1)




GUAM WATERWORKS AUTHORITY

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

May 11, 2016

To: Barbara C. Cruz, P.E., Acting Chief Engineer

From: 
Gloria P. Bensen
Chairperson, Consultant Selection Board

Subject: RFP-06-ENG-2016
Design Services for Tamuning Hot Spots Sewer Line Rehabilitation and Replacement
GWA Project No. S15-003-EPA

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

EVALUATION COMMITTEE MEMBERS	
Name	Title
John Davis, P.E.	Engineer Supervisor
Clinton Huntington	Senior Engineer
Rylma Carino	Junior Engineer
Dave Fletcher	Operations and Maintenance Manager

Consultant	Evaluation Score				DBE	Total	Rank
1. EMPSCO Engineering Consultants	76	40	85	96	5	302	5
2. AECOM	81	77	85	98	5	346	3
3. E.M. Chen & Associates	81	45	85	90	0	301	6
4. Duenas, Camacho & Associates	81	50	89	97	0	317	4
5. GHD	80	75	89	98	5	347	2
6. TG Engineers, PC	84	95	88	95	5	367	1

Scores were evaluated based on sum of the individual scores plus additional five points for firms meeting DBE qualifications. The recommendation of the evaluation committee is shown in the ranking above.

Please review and approve at your earliest convenience so that we may proceed with the notification letters.



GUAM WATERWORKS AUTHORITY

"Better Water. Better Lives."

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

MEMORANDUM

To: Paul J. Kemp, Acting General Manager

From: Barbara C. Cruz, P.E., Acting Chief Engineer *Barbara Cruz*

Subject: Evaluation Summary for RFP-06-ENG-2016
Design Services for Tamuning Hot Spots Sewer Line Rehabilitation and Replacement
GWA Project No. S15-003-EPA

Date: May 11, 2016

The Selection 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 and shortlisted firms were interviewed. The evaluation summary sheet is attached for your information.

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

1. TG Engineers, PC
2. GHD
3. AECOM

Concurred:

[Signature]

 Vincent E. Guerrero
 Supply Management Administrator

5/12/14

 Date

GENERAL MANAGER'S DETERMINATION

Consultant Firm Selected:

T. G. Engineers, PC

Remarks:

[Signature]

 PAUL J. KEMP
 Acting General Manager

5/13/14

 Date

PJK/gb *[Initials]*

TG ENGINEERS, PC Exhibit C (1 of 23)

August 12, 2016

Mr. Miguel Bordallo, PE
General Manager
Guam Waterworks Authority
Gloria B. Nelson Public Services Building
688 Route 15
Mangilao, Guam 96913

Attn: Mr. George Watson, Project Manager

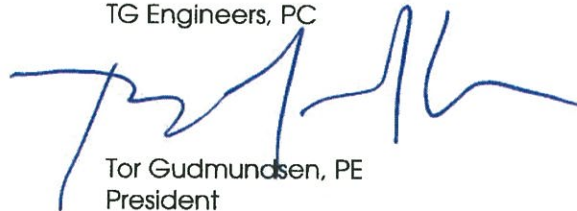
Re: TAMUNING HOT SPOTS SEWER LINE REHABILITATION AND REPLACEMENT PROJECT
S16-003-EPA - FEE PROPOSAL

Buenas yan Hafa adai George,

TG Engineers, PC (TGE) is pleased to submit our updated Scope of Services and Fee Proposal for the referenced project. Thank you for the time and effort that has been spent by your office to participate in meetings and discussions regarding the project scope.

We look forward to meeting and reaching agreement on the scope and fee and beginning the work. Please call Teena Barnes or myself at 647-0808 with any questions.

Si Yu'os Ma'ase,
TG Engineers, PC



Tor Gudmundsen, PE
President

Attachments:

- Scope of Work, dated 8/12/16, 9-pages
- Maps 1 - 3
- TGE Fee Spreadsheet, dated 8/12/16, 8-pages
- Stanley Consultants Fee Spreadsheet, dated 7/05/16, 1-page
- Detry Fee Proposal, dated 8/12/16, 1-page

125 Tun Jesus Crisostomo St.
Sunny Plaza, Suite 206
Tamuning, GU 96913-3551

Phone: (671)647-0808
Fax: (671)647-0886
Email: torg@tg-engr.com

Exhibit C (2 of 23)

GWA TAMUNING HOT SPOTS SEWER LINE | TG Engineers, PC

GUAM WATERWORKS AUTHORITY
S16-003-EPA - TAMUNING HOT SPOTS SEWER LINE REHABILITATION
AND REPLACEMENT PROJECT
SCOPE OF WORK

The work performed under this scope shall consist of cleaning sewer pipelines, identifying deficiencies, evaluating alternative solutions, developing engineering design documents, and providing bidding and construction support services for a sewer pipeline rehabilitation or replacement effort along Pancoso Palting St., Pas St., Tun Jesus Crisostomo St., and Segundo Leon Guerrero St. in Tamuning, in compliance with the conditions set by the United States Environmental Protection Agency (USEPA) State Revolving Fund (SRF) Grant No. SRF 96902611-0.

The Design Consultant must comply with the standards of the Guam Board of Registration for Professional Engineers, Architects and Land Surveyors ("PEALS") and applicable engineering practice laws. Guam Waterworks Authority (GWA) reserves the right to review and approve the Design Consultant and Sub-Consultants.

BACKGROUND

Portions of the gravity wastewater collection system along Pancoso Palting St., Pas St., Tun Jesus Crisostomo St., and Segundo Leon Guerrero St. in Tamuning need frequent pumping and line cleaning, and often experience sanitary sewer overflows (SSOs) during high rainfall periods. In particular, the gravity sewer lines around Winner Apartments and Guam Premium Outlets (GPO) have a high frequency of surcharging. GWA field operators have to visit these locations multiple times a month to flush the lines and prevent surcharging. Reference documents show the sewer lines that require frequent pumping and cleaning. A list of reference documents is provided at the end of this document. The lines indicated in the maps are suspected to have sags or other defects, which could contribute to frequent surcharging. Additionally, Fats, Oils and Grease (FOG) buildup reduces available flow area, and is a common problem that appears to exacerbate surcharging in these lines.

Due to surcharging in the hot spot areas indicated on the attached maps, the Closed-Circuit Television (CCTV) footage is limited. The existing pipe diameter is 8 inches for all known hot spot locations. Any temporary halt in service for these lines will require bypass measures to be in place. The Design Consultant is to evaluate approximately 3,000 linear feet of pipe along Pancoso Palting St., Pas St., Tun Jesus Crisostomo St., and Segundo Leon Guerrero St. for repair or replacement to improve wastewater service and reliability.

The sewer lines to be evaluated are listed by Map No. in Table 1 below and are reduced to only include the areas shown as HIGH-PRIORITY AREAS on the attached maps. The system map and as-built drawings for the subject area as well as appropriate project-related NEPA documents are provided in the Reference Documents.

Exhibit C (3 of 23)

GWA TAMUNING HOT SPOTS SEWER LINE | TG Engineers, PC

Affected Segments	Approximate Vicinity	Length (ft)
Map 1		1,140lf
MH 630 to MH 629	Al Dungca St., Map 1 per Exhibit E of RFP	
MH 620 to MH 618	Winner Aprt., Map 1 per Exhibit E of RFP	
MH 618 to MH 619	Winner Aprt., Map 1 per Exhibit E of RFP	
MH 619 to MH 614	Conga St., Map 1 per Exhibit E of RFP	
MH 625 to MH 626	Pancoso Palting St., Map 1 per Exhibit E of RFP	
Map 2		300lf
MH 562 to MH 1067	Guam Premium Outlets, Map 2 per Exhibit E of RFP	
MH 10679 to MH 563	Pas St., Map 2 per Exhibit E of RFP	
MH 563 to MH 564	Tun Jesus Crisostomo, Map 2 per Exhibit E of RFP	
MH 564 to MH 565	Tun Jesus Crisostomo, Map 2 per Exhibit E of RFP	
Map 3		1,560lf
MH 1072 to MH 1073	Jalaguac Rd., Map 3 per Exhibit E of RFP	
MH 1073 to MH 1074	Segundo Leon Guerrero, Map 3 per Exhibit E of RFP	
MH 1074 to MH 1075	Segundo Leon Guerrero, Map 3 per Exhibit E of RFP	
MH 1075 to MH 1076	Segundo Leon Guerrero, Map 3 per Exhibit E of RFP	
MH 1076 to MH 1066	Segundo Leon Guerrero, Map 3 per Exhibit E of RFP	
MH 1066 to MH 1067	Segundo Leon Guerrero, Map 3 per Exhibit E of RFP	
MH 1067 to MH 1068	Segundo Leon Guerrero, Map 3 per Exhibit E of RFP	
MH 1069 to MH 1068	Tamuning Plaza Hotel, Map 3 per Exhibit E of RFP	
MH 1068 to MH 7919	Tamuning Plaza Hotel, Map 3 per Exhibit E of RFP	
MH 7919 to MH 1061	Marine Corps Dr., Map 3 per Exhibit E of RFP	
MH 1061 to MH 1062	Alupang Beach Tower, Map 3 per Exhibit E of RFP	
	TOTAL	3,000lf

Table 1. Project Extent

PROPOSED SCOPE OF CONSULTANT SERVICES

The scope of services for this assignment includes general civil engineering for wastewater collection system investigations, evaluation, analysis and design. The scope of the Design Consultant's services will consist of the following:

Task 1 - Project Management

The Design Consultant shall provide the following:

- a. Project Management Plan including:
 - Project Description
 - Scope of Work (from contract)
 - Work Plan
 - Listing of Sub-consultants and Organizational Chart

- b. **Project Schedule:** Submit schedule for approval. Update schedule at all phases of the project, including monthly meetings, dates for completion of engineering design studies, milestone tasks, and dates for review periods. The schedule will include permit approvals. The schedule will be based on the design target completion date of May 2017. Throughout the project, the Consultant shall routinely evaluate if the target dates will be accomplished and notify GWA immediately if any delay in schedule is likely.
- c. **Progress Reports:** Submit monthly progress/status reports together with an Earned Value Chart to support monthly billings.
- d. **Meetings and Coordination:** Attend regularly-scheduled meetings and coordinate with entities within and, as appropriate, outside the Tamuning Hot Spots Sewer Line Rehabilitation and Replacement team. It is anticipated that coordination meetings will be held bi-weekly. The Design Consultant shall identify and facilitate milestone meetings.

The Task 1 effort is expected to span through the design phase (Task 6).

Task 2 - Data Research

The Design Consultant shall perform research of available data concerning the pipelines, and any other related facilities which includes, but is not limited to the following:

- a. Record drawings
- b. Planning and evaluation studies
- c. Maintenance and repair history
- d. Pipeline/manhole inspection data
- e. Interviews with GWA Staff
- f. Fats, Oils, and Grease (FOG) buildup and cleaning records
- g. Location of grease traps and records of grease trap inspections
- h. Existing CCTV Data

The purpose of this task is to learn all available information about the system and identify the areas where information is inadequate to determine pipe repair or replacement requirements. Based on the information obtained, a pipe cleaning options review and Summary Report, with field investigation recommendations, will be prepared for GWA's review and approval prior to proceeding with the work as described in Task 3.

Task 3 - Field Investigations

Based on the approved field investigation recommendations from Task 2, the Design Consultant shall conduct field investigations to cover the data gaps identified that may prevent a clear understanding of the existing sewer system.

- a. The Design Consultant shall perform field investigations to determine existing conditions and identify defects in the sewer pipelines and manholes within the project limits.
- b. Prior to investigations, the Consultant will obtain necessary permits such as a DPW

Exhibit C (5 of 23)

GWA TAMUNING HOT SPOTS SEWER LINE | TG Engineers, PC

Encroachment Permit. Traffic Control Plans will be prepared to ensure safety during the inspections.

- c. An Emergency Response Plan will be prepared to summarize the field investigation operations and outline an Emergency Response Plan to manage any unexpected scenarios during the operations. The plan will be submitted in draft and final form to incorporate input from all stakeholders.
- d. Right-of-Way and Topographic Surveys will be completed within the project area limits.
- e. Pipeline Cleaning with Standby Flow Bypass Operations
 - Pipeline Cleaning will be performed in accordance with the approved Pipe Cleaning Options Review and Report from Task 2.
 - Based on discussions with GWA, it was noted that GWA operations personnel perform regularly scheduled cleaning on several pipe segments within the project limits. For those sections, the Design Consultant will attempt to coordinate the inspections with GWA's cleaning schedule.
 - Whether the cleaning is done by GWA or the Design Consultant, the target is to open the pipeline for CCTV inspections and ensure that the pipe condition can be properly evaluated.

Based on discussions between TGE and GWA, it is expected that most segments in the project can be cleaned with the use of a Vactor truck and a bypass system will not be needed. However, we propose to provide a standby bypass system to supplement the cleaning operation if necessary. The bypass system may consist of 3,000-5,000gpm, trailer mounted pumps and piping to bypass pipe segments for the cleaning and CCTV work.

Part of the reason for including the flow bypass system is to ensure that work is completed despite unexpected rain events.

- f. Protruding Laterals – The team is concerned about protruding laterals which may be found extending into the pipe and could complicate the cleaning work progress. The team assumes that protruding laterals, if found, may be steered around with the equipment. Protruding laterals that cannot be steered around will be left in place and evaluated with the overall pipe condition.
- g. Pipeline closed-circuit television (CCTV) inspection will consist of the following tasks:
 - Mobilize to the project location.
 - CCTV vehicle and equipment for CCTV inspections
 - Traffic control using cones and signs as indicated in Traffic Control Plans
 - National Association of Sewer Service Companies (NASSCO) certified supervisor to perform CCTV inspections
 - CCTV inspection covering the segments listed in Table 1 above.

Exhibit C (6 of 23)

GWA TAMUNING HOT SPOTS SEWER LINE | TG Engineers, PC

- Documentation of inspections in a searchable MPEG-2 format with each location of interest logged electronically by footage and video frame location
 - Documentation of inspections on NASSCO-compliant computer-generated inspection forms with graphical representation of pipeline and defects at footage marks.
- h. Manhole Inspection will consist of the following tasks:
- Mobilization to the project location
 - Vehicle, equipment and staff for manhole inspections
 - Traffic control using cones and signs as indicated in Traffic Control Plans
 - NASSCO-certified Crew Leader responsible for all activities
 - Manhole Assessment Certification Program (MACP) Level 2 inspection for 26 manholes
 - GPS information for each manhole located
 - Digital photographs including area, upstream, downstream, the top and bottom of the manhole cover, downward view, the ring, rungs, and any visible defects from the surface
 - Documentation of all inspections on computer-generated forms in MACP format
- i. Flow monitoring - DELETED
- j. The Design Consultant shall submit to GWA digital copies of field data collected which will include:
- One (1) video/data file of each CCTV inspection conforming to NASSCO standards
 - One (1) PDF file of each computer-generated NASSCO report and the Top View report
 - One (1) summary spreadsheet, in Microsoft Excel[®] format, of the CCTV inspection
 - One (1) PDF of each computer-generated manhole inspection report with embedded photographs
 - One (1) summary spreadsheet, in Microsoft Excel[®] format of the manhole inspections
- k. Note that, due to uncertain existing pipe conditions, the work included in Task 3e and 3g will be charged to the project budget on a Time & Materials basis to compensate fairly for the actual work completed.

Task 4 - Hydraulic Analysis - DELETED.

Task 5 - Design Alternatives Report ("DAR")

At the completion of Tasks 2 and 3, the Design Consultant shall develop a DAR that includes the following information:

- a. A list of all data gathered and analyzed from Task 2
- b. A summary of findings and conclusions from Task 3
- c. Based on Task 3, the Design Consultant shall provide repair and/or rehabilitation alternatives for the project. A comparison of feasible design alternatives for rehabilitation, repair, or replacement of the identified hot spots in the gravity sewer pipeline along Pancoso Palting St., Pas St., Tun Jesus Crisostomo St., and Segundo Leon Guerrero St. in Tamuning.
- d. The alternatives analysis shall include the following comparison items:
 - geotechnical investigation requirements

Exhibit C (7 of 23)

GWA TAMUNING HOT SPOTS SEWER LINE | TG Engineers, PC

- cultural resource and historical survey requirements
- construction cost estimates
- construction schedules
- construction implementation (equipment staging, traffic control, sewer bypass requirements, etc.)
- permitting requirements
- e. Final alternative recommendation

The DAR shall be reviewed by GWA for three (3) weeks and is subject to the approval of the GWA Chief Engineer. After written approval of the final DAR is issued, the scope of services may continue into Task 6. As part of the SRF Grant conditions, the DAR will be forwarded to the USEPA for their concurrence.

Task 6 - Design Documents

The Design Consultant shall:

- a. Coordinate with and incorporate information from Program Manager.
- b. Comply with National Environmental Policy Act ("NEPA") in accordance with grant conditions.
- c. Complete final boundary and topographic surveys within the project limits.
- d. A "minimum" of 8-borings may or may not be required depending on what is discovered during the field investigations. Borings will be completed in the areas where excavation for pipe replacement is likely to determine the soils in the area.
- e. If pipe replacement is determined to be recommended course of action, conduct archival research and preparation of an Archaeological Monitoring and Data Recovery Plan (AMDRP). The Guam SHPO requires preparation of an AMDRP prior to any ground disturbance, including borings. The fee proposal currently assumes pipe rehabilitation in the form of cured-in-place pipe (CIPP) which will not require ground disturbance.
- f. Prepare progress (30%) plans, specifications, Class 2 construction cost estimate per the Association for the Advancement of Cost Engineering International (AACE), and contract documents conforming to the GWA and Program Management Design Guidelines as to what should be included in this submittal. Additionally, include profiles, by-pass pumping, construction phasing, construction staging, and traffic control.
- g. Allow three (3) weeks for GWA to review 30% design. Incorporate adjudicated comments into the design and submit a formal response to each comment.
- h. Prepare progress (90%) plans, specifications, Class 1 (AACE) construction cost estimate, and contract documents, conforming to the GWA Design Guidelines.
- h. Allow three (3) weeks for GWA and USEPA to review 90% design. Incorporate adjudicated comments into the design and submit a formal response to each comment.

Exhibit C (8 of 23)

GWA TAMUNING HOT SPOTS SEWER LINE | TG Engineers, PC

- i. Prepare final (100%) "Issued for Bid" documents which includes general terms and conditions, plans, and specifications which also utilize the most recent versions of GWA's procurement templates. Any information or sections contained in the GWA templates shall not be duplicated in the technical sections of the bid documents, including subject matter. Brand name specifications will not be used other than in a manner approved in advance by the GWA General Manager and the GWA legal counsel. This submittal will be also submitted to the USEPA for their review and concurrence.
- j. Prepare permit applications for all local authorities, highway departments, and other utilities. Assist in obtaining the permits.
- k. Provide digital copies of the final design documents
- l. Cost estimates shall conform to the guidelines of AACE. During the design process, the Design Consultant shall immediately notify the GWA when any design decision causes a significant cost increase to the project.
- m. Provide deliverables in accordance with GWA Guidelines. Five (5) sets of submittals shall be submitted for the deliverables.
- n. Note due to uncertain existing pipe conditions, the work included in Task 6.d. and 6.e. will be charged to the project budget on a task Time & Materials basis to compensate fairly for the actual work completed.

It is anticipated that GWA will use a design-bid-build procurement method. Construction documents must be finalized prior to commencement of the formal bidding process, which has a target start date no later than June 2017.

Task 7 -Bidding Process

The Design Consultant shall provide the following services:

- a. Pre-bid meeting
 - Prepare meeting agenda and sign-in sheets
 - Coordinate and facilitate the meeting with GWA
 - Record meeting minutes
- b. Compile requests for clarification and prepare addenda as needed
- c. Attend bid evaluation conference
- d. Review, evaluate, and certify bid tabulations
- e. Make recommendation for construction contract award
- f. Note the Services under this task will be billed on a Time & Materials basis.

Task 8 - Services During Construction

Note: Construction Management ("CM") services are expected to be provided by a third party.

The Design Consultant shall:

- a. Prepare final (100%) "Issued for Construction" conformed plans and specifications incorporating addenda, change orders and changes during the bid phase.
- b. When required by the CM, attend construction progress meetings.
- c. Perform field observations as required by the CM and submit field reports documenting any findings

Exhibit C (9 of 23)

GWA TAMUNING HOT SPOTS SEWER LINE | TG Engineers, PC

- d. Review contractor submittals, RFI's, Change Orders and contractor's schedule and provide responses/comments as requested by the CM.
- e. Perform final inspections and submit punch list as requested by the CM.
- f. Provide Final Record Drawings based on marked-up construction drawings.
- g. Note the Construction Support Services will be billed on a Time & Materials basis.

GOVERNMENT REVIEW

The Guam Waterworks Authority will work closely with the Design Consultant to expedite design reviews. The Design Consultant will schedule and hold progress meetings bi-weekly or as required. The Design Consultant will submit progress meeting minutes within three (3) work days to GWA.

GWA has retained a Program Manager, Brown and Caldwell, to assist with the management of this project in accordance with the SRF Grant. The Design Consultant will work under the direction of the GWA General Manager, the GWA Chief Engineer and the Program Manager.

RELATIONS WITH OTHER GOVERNMENT AGENCIES

Directions within the scope of this contract will be issued by the General Manager of the Guam Waterworks Authority and the Design Consultant shall not accept such direction from others. Information provided by other agencies which seemingly conflicts with information provided by the General Manager will be discussed immediately. This policy is not intended to prevent the Design Consultant from obtaining necessary design information from other agencies.

RESPONSIBILITY OF THE DESIGN CONSULTANT

- a. The Design Consultant shall be responsible for the professional and technical accuracy and the coordination of all designs, drawings, specifications, cost estimates, and other work of materials furnished by him under this contract. The Design Consultant shall, without additional cost to the GWA, correct and revise all errors or deficiencies in his work.
- b. Neither the GWA's review, approval, or acceptance of non-payment for any of the service required under this contract shall be construed to operate as a waiver of any rights under this contract or of any cause of action arising out of his performance of this contract, and the Design Consultant shall be and remain liable to GWA for all costs of any kind which were incurred by GWA as a result of their negligent performance of any of the services furnished under this contract.

Exhibit C (10 of 23)

GWA TAMUNING HOT SPOTS SEWER LINE | TG Engineers, PC

SCHEDULE AND SUBMITTALS

GWA plans to complete the construction of this rehabilitation or replacement project by mid-2018. To meet this deadline, the Design Consultant must complete the design by May 16, 2017, and submit the completed design package to the USEPA and GWA for approval by June 13, 2017. The design will not be considered complete until draft submittal comments have been addressed and it has been submitted to GWA and USEPA for final approval. The following tentative schedule shall be finalized after award of this design services contract.

<u>Action Item</u>	<u>Date</u>
Execution of Contract, NTP	10/2016
Complete design	05/2017
USEPA approval	06/2017
GWA issue IFB and advertise for construction	06/2017
Open bids, evaluate and select bidder	07/2017
USEPA approval of contractor	07/2017
Award contract,	09/2017
Notice-to-Proceed to Contractor	09/2017
Anticipated Project Completion	05/2018

GWA RESPONSIBILITIES

The Guam Waterworks Authority responsibilities include:

- a. Furnish the Design Consultant with record drawings, reports, flow meter data, and other information of existing facilities covered by the Request For Proposal (RFP) that are available in GWA files.
- b. Provide, if requested, assistance necessary for the Design Consultant and its agents during the initial entry into GWA properties. GWA operations staff may or may not be available to provide limited traffic control, manual operation of pumps, opening of manholes and vaults, and site access to GWA facilities as requested. Requests for such assistance shall be made in writing at least 72 hours in advance of such need to the GWA General Manager.

LIST OF REFERENCE DOCUMENTS AS PROVIDED IN THE RFP

Exhibit A – EPA SRF Grant Conditions

Exhibit B – Disadvantaged Business Enterprise (DBE) Certification

Exhibit C – Form 6100-2

Exhibit D – Form 6100-3

Exhibit E – Tamuning Hotspots System Map, Categorical Exclusion Documents, and As-built Drawings

Exhibit C (11 of 23)



Tamuning Hot Spots
Map 1



Brown and Caldwell

Area requires frequent pumping to prevent surcharging and SSOs. Pumping from MH 618. Possible issue in pipeline between MH 614 and MH 619.

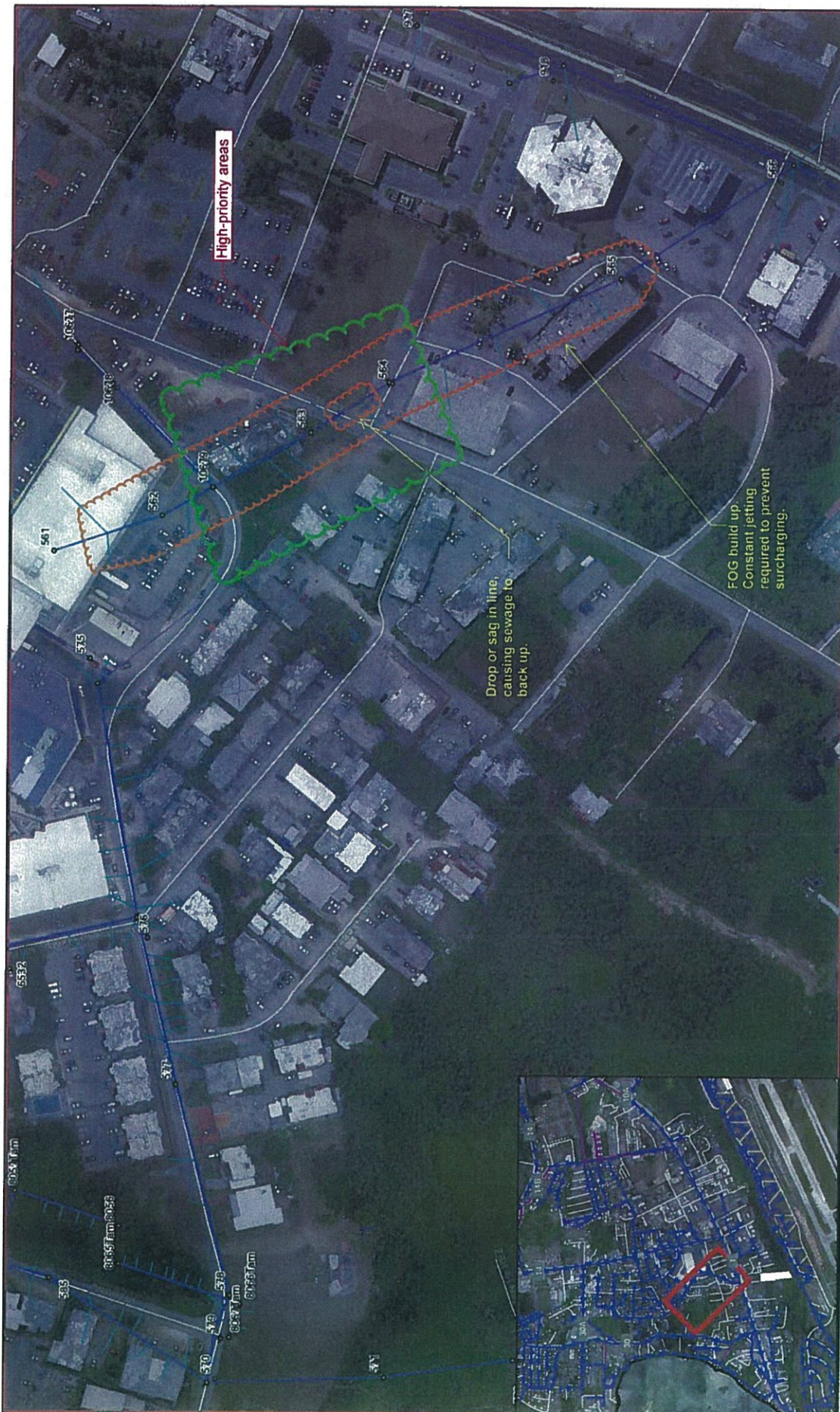
Two (2) additional manholes

Hot spot area, requires monthly cleaning

High-priority areas

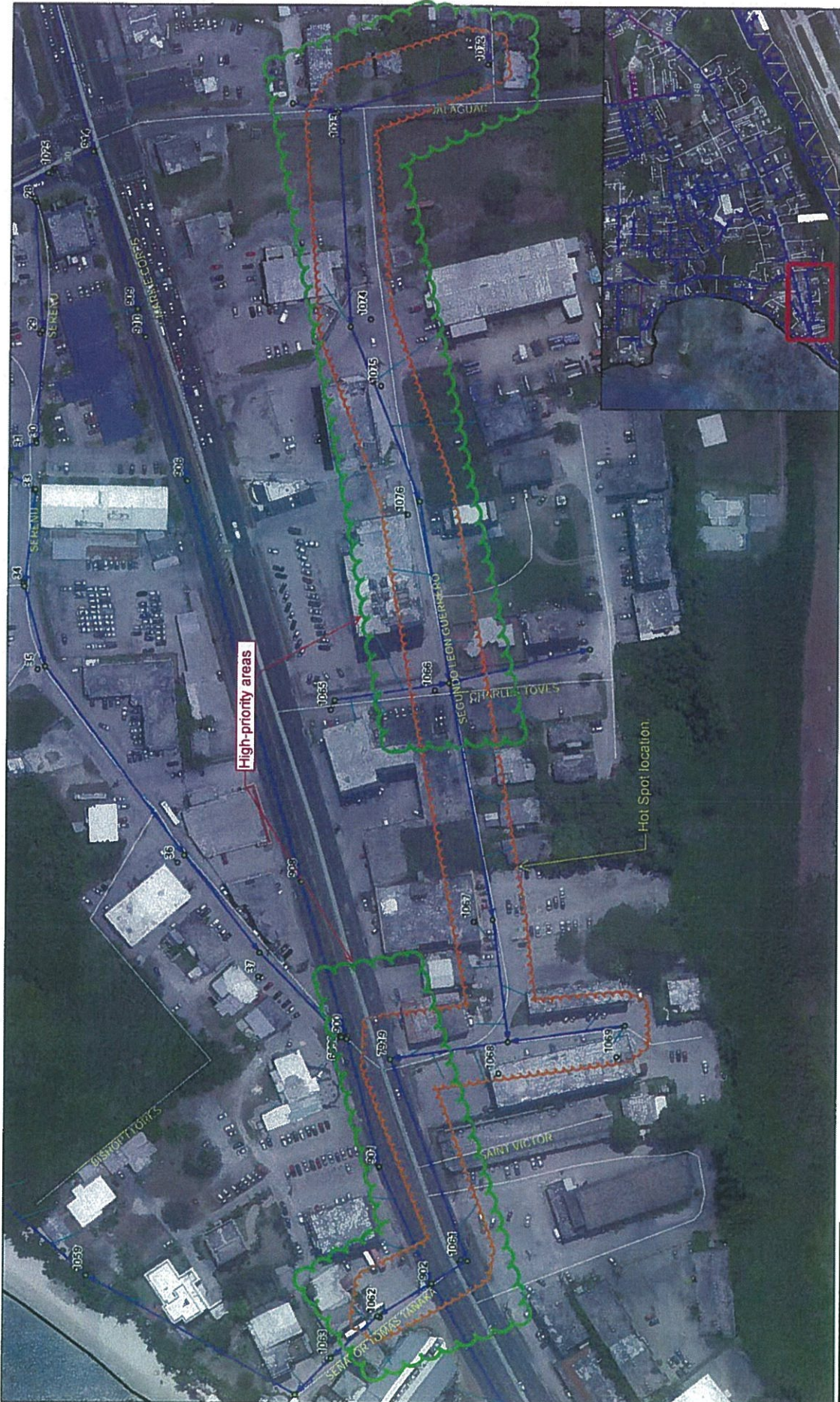
2:05101WA.Water 199 GIS Tamuning.mxd December 16, 2014

Exhibit C (12 of 23)



Tamuning Hot Spots
Map 2

2:05150(MA) Water MW OIS Tamuning.mxd December 16 2014



Brown and Caldwell

0 75 150 225 300 Feet



Tanning Hot Spots
Map 3

Leaflet | Map data © OpenStreetMap contributors, Imagery © Mapbox, © Brown and Caldwell 2015

GWA TAMUNING HOT SPOTS SEWER LINE REHABILITATION AND REPLACEMENT - GWA PROJECT NO. S16-003-EPA

TASK	Principal	Project Mgr	Staff Exp	Jr Exp	CAD	Checker	PLS	Survey	Tot. Hours	Tot. Cost
1.0 TASK 1 - PROJECT MANAGEMENT										
A	KO Meeting - Documents	2	5	5	5					
B	PM Plan		10	15		2				
C	Project Schedule (7-mo update)		10	25						
D	Progress Reports (7x)		40	20		20				
E	Meetings and Coordination (7mo x 2mtg)		120	60		60				
	Subtotal Hours	2	185	0	125	82	0	0	0	399
	Hourly Rate	80	65	35	23	32	15	45	27	65
	Subtotal Direct Labor	160	12,025	-	2,875	160	1,230	-	-	16,450
TOTAL HOURS TASKS A-E										
	TOTAL DIRECT LABOR									399
	OVERHEAD AT 145%									\$ 16,450
	PROFIT AT 10%									\$ 23,853
	GUAM GRT AT 4.17%									\$ 4,030
	SUBTOTAL									\$ 46,182

1.1. SUBCONSULTANTS										
A	Stanley Consultants									\$ 4,447
B	Detry									\$ 5,000
C	TGE Sub Admin Fee (10%)									\$ 945
	SUBTOTAL									\$ 10,392
	GUAM GRT AT 4.17%									\$ 433
	SUBTOTAL - SUBCONSULTANTS									\$ 10,825

1.2. DIRECT EXPENSES										
A	Reproduction	Pages	Sets	Unit Cost	Subtotal	10%	Total			
	Documents (Letter Size - 8.5x11)	400	5	\$ 0.15	\$ 300	\$ 30	\$ 330			
	Schedule - Report Updates (8-mos)	20	50	\$ 0.15	\$ 150	\$ 15	\$ 165			
	Drawings (Tabloid Size - 11x17)	200	5	\$ 0.50	\$ 500	\$ 50	\$ 550			
	Drawings (Full Size - 24x36)	0	0	\$ 1.00	\$ -	\$ -	\$ -			
	CD	0	0	\$ 1.00	\$ -	\$ -	\$ -			
	SUBTOTAL						\$ 1,045			
	GUAM GRT AT 4.17%						\$ 44			
	SUBTOTAL - DIRECT EXPENSES						\$ 1,089			
							SUBTOTAL TASK 1	\$ 58,096		

GWA TAMUNING HOT SPOTS SEWER LINE REHABILITATION AND REPLACEMENT - GWA PROJECT NO. S16-003-EPA

Task	Principals	Project Mgr	Sr Eng	Staff Eng	Pls	Genl	CD	Supv	Techn	Survey	Total Hours	Total Cost
2.0 TASK 2 - DATA RESEARCH												
A	Data Research with GWA - B&C		40			40	20	20				
B	Pipe Cleaning Options Review & Report	2		20		80						
	Subtotal Hours	2	40	20	0	120	20	20	0	0	0	0
	Hourly Rate	\$ 80	\$ 65	\$ 35	\$ 21	\$ 32	\$ 15	\$ 45	\$ 27	\$ 65		
	Subtotal Direct Labor	\$ 160	\$ 2,600	\$ 1,300	\$ -	\$ 2,520	\$ 640	\$ 300	\$ -	\$ -	\$ 7,520	
TOTAL HOURS TASK A												
	TOTAL DIRECT LABOR										\$ 7,520	
	OVERHEAD AT 145%					\$ 7,520	X	145%			\$ 10,904	
	PROFIT AT 10%	\$ 7,520	+	\$ 10,904	=	\$ 18,424	X	10%			\$ 1,842	
	GUAM GRT AT 4.17%	\$ 18,424	+	\$ 1,842	=	\$ 20,266	X	4.17%			\$ 845	
	SUBTOTAL	\$ 20,266	+	\$ 845	=	\$ 21,112					\$ 21,112	\$ 21,112
2.1 SUBCONSULTANTS												
A	Stanley Consultants										\$ 1,580	
B	TGF Sub Admin Fee (10%)										\$ 158	
	SUBTOTAL										\$ 1,738	
	GUAM GRT AT 4.17%										\$ 72	
	SUBTOTAL - SUBCONSULTANTS										\$ 1,810	\$ 1,810
2.2 DIRECT EXPENSES												
A	Reproduction											
	Documents (Letter Size - 8.5x11)	350			3	\$ 0.15	\$ 158	\$ 16			\$ 173	
	Drawings (Tabloid Size - 11x17)	200			3	\$ 0.50	\$ 300	\$ 30			\$ 330	
	Drawings (Full Size - 24x36)	25			1	\$ 1	\$ 25	\$ 3			\$ 28	
	CD	1			1	\$ 1	\$ 1	\$ 0			\$ 1	
	SUBTOTAL										\$ 532	\$ 532
	GUAM GRT AT 4.17%										\$ 22	
	SUBTOTAL - DIRECT EXPENSES										\$ 554	\$ 554
SUBTOTAL - TASK 2											\$ 23,475	

GWA TAMUNING HOT SPOTS SEWER LINE REHABILITATION AND REPLACEMENT - GWA PROJECT NO. S16-003-EPA

Task	Project No.	Project Mgr.	Sr. Engr.	Staff Coord.	Jr. Engr.	QAD	Checked	PLS	Survey Fee	Survey Cost	Total Hours	Total Cost
3.0 TASK 3 - FIELD INVESTIGATION												
A			30									
B				6							5	
C				3	15	30					80	72
D				6	30	60						
E				6		6						
F				55	160	160						
G				30								
			0	106	205	256	0	0			5	80
			80	65	35	21	32	15	45	27	65	754
				1,950	6,890	7,175			225	2,160	4,680	28,456
TOTAL HOURS TASKS A-G												
											754	
TOTAL DIRECT LABOR												
												28,456
												41,261
												6,972
												3,198
												79,887

3.1 SUBCONSULTANTS												
A	Stanley Consultants											4,564
B	Detry Corporation (Project Scope)											133,200
C	Detry Corporation (Project Scope Extension)											
D	Flow Bypass Contractor											50,000
G	TGE Sub Admin Fee (10%)											18,776
												206,540
												8,613
												215,153
												215,153

3.2 DIRECT EXPENSES												
A	Reproduction	Pages	Sets	Unit Cost	Subtotal	10%	Total					
	Documents (Letter Size - 8.5x11)	400	6	\$ 0.15	\$ 360	\$ 36	\$ 396					
	Drawings (Tabloid Size - 11x17)	100	6	\$ 0.50	\$ 300	\$ 30	\$ 330					
	Drawings (Full Size - 24x36)	0	0	\$ 1	\$ -	\$ -	\$ -					
	CD	0	0	\$ 1	\$ -	\$ -	\$ -					
	TGE Vehicle Use for Field Investigations	1	2	\$ 600	\$ 1,200	\$ 120	\$ 1,320					
	SUBTOTAL						\$ 2,046					
	GUAM GRT AT 4.17%						\$ 85					
	SUBTOTAL - DIRECT EXPENSES						\$ 2,131					
							SUBTOTAL - TASK 3					
							\$ 297,171					

GWA TAMUNING HOT SPOTS SEWER LINE REHABILITATION AND REPLACEMENT - GWA PROJECT NO. S16-003-EPA

Task	Principal	Project Mgr	Sr Eng	Staff Eng	Jr Eng	CAD	Coordinator	Survey	Total Hours	Total Cost
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4.0 TASK 4 - HYDRAULIC ANALYSIS (DELETED)

Task	Principal	Project Mgr	Sr Eng	Staff Eng	Jr Eng	CAD	Coordinator	Survey	Total Hours	Total Cost
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5.0 TASK 5 - DESIGN ALTERNATIVES REPORT

A	Task 2 Data List		5						20						
B	Task 3 - Summary/Concl from Field Investigation		5						20						
C	Task 4 - DELETED														
D	Develop Design Alternatives		10						80						
E	Construction Cost Estimates		15						80						
F	Draft Report		10						40						
G	Final Report		10						20						
	Subtotal Hours		55	0	130	30	10	0	0	389					
	Hourly Rate	\$	80	\$	65	\$	35	\$	21	\$	45	\$	27	\$	65
	Subtotal Direct Labor	\$	320	\$	3,575	\$	4,550	\$	3,360	\$	960	\$	150	\$	12,915
TOTAL HOURS TASKS A-G											389				
TOTAL DIRECT LABOR											\$	12,915			
OVERHEAD AT 145%											\$	18,727			
PROFIT AT 10%											\$	3,164			
GUAM GRT AT 4.17%											\$	34,806			
SUBTOTAL											\$	36,257			

5.1 SUBCONSULTANTS

A	Stanley Consultants												\$	2,459
B	SEARCH (Archaeological)												\$	7,000
C	Geo-Engineering & Testing (Geotechnical)												\$	7,000
D	PCR Environmental (Environmental)												\$	5,000
E	TGE Sub Admin Fee (10%)												\$	2,146
SUBTOTAL											\$	23,605		
GUAM GRT AT 4.17%											\$	984		
SUBTOTAL - SUBCONSULTANTS											\$	24,589		

5.2 DIRECT EXPENSES

A	Reproduction													
	Documents (Letter Size - 8.5x11)	350		6									\$	347
	Drawings (Tabloid Size - 11x17)	50		6									\$	165
	Drawings (Full Size - 24x36)	0		0									\$	-
	CD	1		1									\$	1
SUBTOTAL											\$	513		
GUAM GRT AT 4.17%											\$	21		
SUBTOTAL - DIRECT EXPENSES											\$	534		
SUBTOTAL TASKS											\$	61,381		

GWA TAMUNING HOT SPOTS SEWER LINE REHABILITATION AND REPLACEMENT - GWA PROJECT NO. S16-003-EPA

TASK	Principal	Project Mgr	Sr Engr	Staff Engr	Jr Engr	CAD	Clerical	Survey Crew	Total Hours	Total Cost	
6.0 TASK 6 - DESIGN DOCUMENTS											
A	30% Design & Documents (8-dwgs)	4	10		40	80	100				
B	90% Design & Documents (12-dwgs)	4	10		40	80	100				
C	100% Design & Documents (12-dwgs)	4	10		40	60					
	Subtotal Hours	12	30	0	120	260	0	0	642		
	Hourly Rate	\$ 80	\$ 65	\$ 65	\$ 35	\$ 21	\$ 32	\$ 15	\$ 45	\$ 27	\$ 65
	Subtotal Direct Labor	\$ 960	\$ 1,950	\$ -	\$ 4,200	\$ 4,620	\$ 8,320	\$ -	\$ -	\$ -	\$ 20,050
TOTAL HOURS TASKS A-C											
	TOTAL DIRECT LABOR								642		\$ 20,050
	OVERHEAD AT 145%						X				\$ 29,073
	PROFIT AT 10%	\$ 20,050	+	\$ 29,073	=						\$ 4,912
	GUAM GRT AT 4.17%	\$ 49,123	+	\$ 4,912	=		X				\$ 2,253
	SUBTOTAL	\$ 54,035	+	\$ 2,253	=						\$ 56,288

6.1 SUBCONSULTANTS											
A	Stanley Consultants										\$ 5,573
B	SEARCH (Archaeological)										\$ 15,000
C	Geo-Engineering & Testing (Geotechnical)										\$ 24,000
D	Rider Levett Bucknall (Cost Estimating)										\$ 10,000
E	TGE Sub Admin Fee (10%)										\$ 5,457
	SUBTOTAL										\$ 60,030
	GUAM GRT AT 4.17%										\$ 2,503
	SUBTOTAL - SUBCONSULTANTS										\$ 62,533

6.2 DIRECT EXPENSES											
A	Reproduction										
	Documents (Letter Size - 8.5x11)	400									\$ 1,320
	Drawings (Tabloid Size - 11x17)	64									\$ 704
	Drawings (Full Size - 24x36)	64									\$ 70
	CD	1									\$ 1
	SUBTOTAL										\$ 2,095
	GUAM GRT AT 4.17%										\$ 87
	SUBTOTAL - DIRECT EXPENSES										\$ 2,182

SUBTOTAL - TASK 6										\$ 121,003
GRAND TOTAL TASKS 1 - 6										\$ 561,126
TOTAL LUMP SUM TASKS 1 - 6										\$ 265,594
TOTAL T&M TASKS 1 - 6										\$ 295,532

GWA TAMUNING HOT SPOTS SEWER LINE REHABILITATION AND REPLACEMENT - GWA PROJECT NO. S16-003-EPA

TASK	Principal	Project Mgr	Sr Engr	Staff Engr	Jr Engr	CAD	Clerical	Survey Crew	Total Hours	Total Cost
8.0 TASK 8 - CONSTRUCTION PHASE SERVICES										
A	JFC Documents - Issue	10			20	40	20			
B	Field Assistance & Progress Meetings (8-mos)	20			80	40	20			
C	Review Submittals, RFIs, Schedule, CO's, etc.	20		60		40				
D	Final Inspection & Punch-list	10			20					
E	Final Record Drawings	10			20	20				
	Subtotal Hours	0	70	0	80	220	120	0	0	510
	Hourly Rate	\$80	\$65	\$65	\$35	\$21	\$32	\$45	\$27	\$65
	Subtotal Direct Labor	\$0	\$4,550	\$0	\$2,800	\$4,620	\$3,840	\$0	\$0	\$16,110
TOTAL HOURS TASKS A-E										
	TOTAL DIRECT LABOR									\$ 16,110
	OVERHEAD AT 145%					\$ 16,110	X			\$ 23,360
	PROFIT AT 10%	\$ 16,110	+	\$ 23,360	=	\$ 39,470	X			\$ 3,947
	GUAM GRT AT 4.17%	\$ 39,470	+	\$ 3,947	=	\$ 43,417	X			\$ 1,810
	SUBTOTAL	\$ 43,417	+	\$ 1,810	=	\$ 45,227				\$ 45,227
8.1 SUBCONSULTANTS										
A	Stanley Consultants									\$ 10,000
B	TGE Sub Admin Fee (10%)									\$ 1,000
	SUBTOTAL									\$ 11,000
	GUAM GRT AT 4.17%									\$ 459
	SUBTOTAL - SUBCONSULTANTS									\$ 11,459
8.2 DIRECT EXPENSES										
A	Reproduction									
	Documents (Letter Size - 8.5x11)	200								\$660
	Drawings (Tabloid Size - 11x17)	12								\$132
	Drawings (Full Size - 24x36)	12								\$13
	CD	1								\$1
	SUBTOTAL									\$806
	GUAM GRT AT 4.17%									\$ 34
	SUBTOTAL - DIRECT EXPENSES									\$ 840
SUBTOTAL - TASK 8										\$ 57,526
GRAND TOTAL TASKS 7 - 8										\$ 74,813
TOTAL LUMP SUM TASKS 7 & 8										\$ -
TOTAL T&M TASKS 7 & 8										\$ 74,813

GWA TAMUNING HOT SPOTS SEWER LINE REHABILITATION AND REPLACEMENT - GWA PROJECT NO. S16-003-EPA

FEE SUMMARY	
TASK 1 - PROJECT MANAGEMENT	\$ 58,096
TASK 2 - DATA RESEARCH	\$ 23,475
TASK 3 - FIELD INVESTIGATION	\$ 297,171
TASK 4 - HYDRAULIC ANALYSIS (DELETED)	\$ -
TASK 5 - DESIGN ALTERNATIVES REPORT	\$ 61,381
TASK 6 - DESIGN DOCUMENTS	\$ 121,003
TOTAL - TASKS 1-6	\$ 561,126
TASK 7 - BID PHASE SERVICES	\$ 17,287
TASK 8 - CONSTRUCTION SUPPORT SERVICES	\$ 57,526
TOTAL - TASKS 7-8	\$ 74,813
GRAND TOTAL - PROJECT	\$ 635,939

LS	T&M
\$ 52,367	\$ 5,729
\$ 23,475	\$ -
\$ 52,057	\$ 245,114
\$ -	\$ -
\$ 61,381	\$ -
\$ 76,314	\$ 44,689
\$ 265,594	\$ 295,532
	\$ 17,287
	\$ 57,526
\$ -	\$ 74,813
\$ 265,594	\$ 370,345

- Note 1 - Additional Services will be billed for hours worked with a 10% markup and GR Tax on the total.
- Note 2 - The line cleaning / CCTV Contractor budget will be billed on a daily T&M basis to cover actual costs with 10% markup and GR Tax.
- Note 3 - The Site Observation budget will be billed on a daily T&M basis to cover actual costs with 10% markup and GR Tax.
- Note 4 - The Flow Bypass Contractor budget will be billed on a daily T&M basis to cover actual costs with 10% markup and GR Tax.
- Note 5 - The Archaeological and Geotechnical Services budget for Task 5 will be billed on a Lump Sum Basis, while it will be billed on a Task T&M basis for Task 6. The budget covers actual costs with 10% markup and GR Tax.
- Note 6 - The Construction Support Services budget will be billed on a Task T&M basis to cover actual costs with 10% markup and GR Tax.

Exhibit C (23 of 23)

DETRY CORPORATION

August 12, 2016

TG Engineers, PC
125 TJ Crisostomo Street
Sunny Plaza, Suite 206
Tamuning, Guam
O 671-647-0808

Attn: Mr. Tor Gudmundsen, President

**Re: TAMUNING HOTSPOTS SEWERLINE REHABILITATION AND REPLACEMENT PROJECT
S16-003-EPA - FEE PROPOSAL**

Proposal for Line Cleaning, CCTV Pipe Inspections, Level 2 Manhole Inspections and Reporting Services.

Item	Quantity	Unit Cost	Total
Line Cleaning and CCTV Inspections (Project Scope)	3,000 LF	\$865.00 Per Hour	\$103,800
Manhole Inspections (Level 2)	28 manholes	\$300.00 Each	\$5,400.00
Traffic Control (Project Scope)	24 days	\$1,000.00 Per Day	\$24,000.00

Preliminary Assumptions:

- 1) Surcharged MHs will be inspected "as is" as recommended by NASSCO
- 2) Detry will not provide or conduct any GPA Data Collection
- 3) GWA or TGE will assign a fire hydrant that is close by to refill the combo. Truck's hi-velocity reservoir
- 4) All cleaning will be considered and billed for as heavy cleaning
- 5) When needed, a bypass system will be implemented and in place prior to the start of heavy cleaning and CCTV work