



## Gulf Coast Water Authority

3630 FM 1765

Texas City, Texas 77591

409.935.2438

# Request for Proposals

Sealed proposals plainly marked in lower left corner of envelope, "RFP for Sludge Management System Design", shall be submitted to the General Manager, Gulf Coast Water Authority, 3630 FM 1765, Texas City, Texas 77591 no later than June 1, 2015 at 10:00 AM.

Gulf Coast Water Authority, hereinafter described as GCWA or the Authority, intends to enter into a contract for professional engineering services for the purpose of engineering services for the construction of a sludge management facility at the Thomas S. Mackey Water Treatment Plant in Texas City, Texas.

### **BACKGROUND**

GCWA is a wholesale provider of treated water for customers located in Galveston County. GCWA owns and operates the Thomas S. Mackey Water Treatment Plant:

- 50 MGD rated capacity
- Average day is about 35 MGD
- Conventional treatment
- Powdered Activated Carbon for Taste and Odor
- Solids contact clarifiers
- Ferric sulfate and polymer for advanced settling
- One Thickener for sludge removed from clarifiers
- Sludge is currently pumped onto land registered with TCEQ for beneficial reuse
- Runoff from sludge fields is pumped into the GCWA Canal for reuse
- Annual sludge production is about 3,400 dry tons.

GCWA currently manages approximately 144 acres of land registered for beneficial reuse. In 2013 one field had exceeded theoretical Arsenic limits and 20,000 cubic yards of sludge was removed and disposed of in a landfill.

### **INSTRUCTIONS**

Respondent is to follow the instructions dedicated below. Any request for further explanation or additional details must be submitted in writing no later than May 25, 2015. Please direct any inquiries to Ivan Langford, General Manager, at [ilangford@gcwater.org](mailto:ilangford@gcwater.org) or 409.797.4907. GCWA's Engineer and lead person on this project will be James Vanderwater, P.E., District Engineer.

All statement of qualifications received will be reviewed internally by the Authority's staff and selected firms will be called for oral presentations. Once a final selection has been made, the GCWA Board Engineering Committee will review the proposal and consultant, followed by approval of the Board of Directors at a subsequent meeting.

GCWA is asking qualified firms to prepare a definitive proposal that addresses the Scope of Work attached hereto and conforms to the following instructions. The proposal shall include the following:

1. Proposal of the submitting Respondents and all sub-consultants including three (3) references for similar recent projects with current contact name and phone numbers. Please limit proposal to a maximum 9 single sided pages. Font shall be Aerial Size 11 or larger. Front and back cover do not count towards 9 page limit.
2. The Engineer shall submit a minimum of five (5) printed copies of the Proposal and one electronic file in pdf format on a USB drive.
3. By submitting a proposal, the Respondent consents to GCWA undertaking such investigation as it deems in its best interest to investigate the Respondent's qualifications.
4. The submitting Respondent assumes all responsibility for any costs it incurs in preparing a response to this Request for Proposal.

Selection will be based on Respondent's ability to address the Scope of Work, Qualifications of the firm and individuals assigned to this Project, Experience, and Reputation.

In accordance with State law, GCWA shall enter into contract negotiations with the first-ranked Respondent. If GCWA cannot reach an agreement with the first-ranked Respondent, GCWA shall proceed to the next highest ranked, etc.

### **PROJECT SUMMARY**

For the past 20+ years, GCWA has been permitted by the TCEQ for 'beneficial reuse' of the water plant sludge coming off the Thomas Mackey Water Treatment Plant (WTP). For a variety of reasons, GCWA desires to go in a different direction with its water plant sludge disposal. We have previously researched a variety of options and concluded that utilization of Sludge Lagoons and a Monofill is best suited for GCWA's WTP sludge disposal.

The South corner of the property located between the GCWA Canal, Orchid Street and the Texas City Ditch is available for the proposed the Monofill. GCWA does not own the property fronting FM 1765.

### **SCOPE OF WORK**

The Engineer will perform professional civil engineering services supporting GCWA's District Engineer in implementing capital improvements. Specific Work Authorizations will be negotiated for the task and will include a scope of work, deliverables, time and compensation. GCWA anticipates negotiating work authorizations for the following Tasks:

Task A - Project Management and Meetings

1. Engineer's project leaders will meet with GCWA staff and conduct a Project Kickoff Meeting to discuss project scope, deliverables, and schedule.
2. Engineer shall submit monthly reports to GCWA staff.
3. Engineer will present potential solutions to the GCWA Board Engineering Committee.
4. Engineer will meet with GCWA staff after the Authority's review of Draft Report

Task B –Preliminary Layout

1. Collect existing data from GCWA:
  - a. Property Surveys of WTP site and adjacent lands used beneficial reuse.
  - b. Clarifier Wasting Rates and history
  - c. Sludge pumping records
  - d. Toxicity Characteristic Leaching Procedure (TCLP)
  - e. Beneficial Land use registration
  - f. GCWA shape files
2. Preliminary sizing of facilities
  - a. Use data on GCWA sludge production to determine size of all proposed facilities
  - b. Assume a 50 year design life for the Monofill
  - c. Design multiple Sludge Lagoons for annual cleaning and disposal into Monofill
  - d. Size piping for transport of liquid waste from the existing Thickener Unit and directly from the Clarifiers, bypassing the Thickener
  - e. Size the decant structure and pumping units needed for the Sludge Lagoons
  - f. Design liquid waste pump station that will collect decant and runoff from Sludge Lagoons to discharge into Industrial Canal downstream of WTP diversion point.  
All structures, piping, etc to be located on land currently owned by GCWA and located adjacent to WTP.
3. Prepare site layout exhibits that include the following:
  - a. Existing sludge field locations
  - b. Proposed location for a Monofill
  - c. Proposed Sludge Lagoons
  - d. Piping layout
  - e. Preliminary details on the decant structures
  - f. Preliminary details on the decant pumps
  - g. Prepare preliminary cost analysis

Task C –Geotechnical

1. Perform geotechnical work needed to design the Monofill and Sludge Lagoons
2. Prepare a geotechnical report detailing the findings of the geotechnical exploration work

Task D – Permitting: Prepare Permit application and all required attachments in accordance with TCEQ Chapter 312 Sludge Use, Disposal, and Transportation, Subchapter C Surface Disposal (312.61 – 312.68)

Task E – Design

1. Site plans showing topography, property boundaries and access improvements as necessary to operate the Sludge Lagoons and Monofill in all weather conditions.
2. Develop a site remediation plan for the existing sludge fields
3. Plan and profile drawings of Monofill, Sludge Lagoons and decant facilities
4. Develop structural and mechanical details showing the decant facilities
5. Develop construction specifications
6. Calculate opinion of probable construction cost for the recommended work.

Task F – Pre-construction Services through Bid Phase

1. Constructability Review
2. Upload documents into CivCast
3. Preparation of Advertisement for bid
4. Processing of Addendums / Loading onto CivCast
5. Attend Pre-bid Conference
6. Tabulation of bids and recommendation for award
7. Draft the Notice to Proceed

Deliverables:

1. Design Kick-off meeting
  - a. Conceptual layout of Monofill and Sludge Lagoons showing alternatives
  - b. Table listing advantages of each location
2. Preliminary Layout
  - a. Summary of data collected
  - b. Calculations used for sizing of the Monofill and Sludge Lagoons
  - c. Recommendation for the use of the existing Thickner
  - d. Preliminary site layout exhibits
  - e. Cost Analysis
3. Geotechnical Report
4. Permit Application
5. Final Design
  - a. 90% Submittal, Three Hardcopies of drawings and specificaitons
  - b. Final Design Submittal, three hardcopies of and one electronic copy

Meetings:

1. Kick-off meeting
2. Preliminary Design meeting
3. Meeting with TCEQ
4. Permit submittal meeting
5. TCEQ comments to permit application review
6. Permit revision meeting if necessary
7. 90% submittal meeting
8. Pre-bid meeting

Schedule:

Kick-off meeting – June 30, 2015

Preliminary Design due – October 2015

90% submittal due – 120 days after Permit application approval by TCEQ

Final submittal due – 60 days after 90% submittal meeting