



DATA SHEET
Agenda No. 20.B.

Meeting Date: April 6, 2017

Agenda Item:

Consider approval of Task Order No. 2 to existing contract with Alan Plummer Associates, Inc. to evaluate and recommend options for sludge removal and disposal from the solids recycle pond at the Taylor WTP.

Placement: <input type="checkbox"/> Consent <input checked="" type="checkbox"/> Individual Consideration <input type="checkbox"/> Executive Session
Vote: <input type="checkbox"/> Non-Weighted <input checked="" type="checkbox"/> Weighted Capital
Recommending Department: Engineering

Background:

The Taylor Plant has one, 7.5 acre recycle pond used to store and settle out the solids that are generated and removed during the water treatment process. The decanted water from the pond is then pumped back to the raw water line and recycled through the treatment process. This lagoon has been in continuous service since the original plant was brought on line in 1997. Now, the volume of solids in the lagoon has reached the level that requires their removal and disposal. Additionally, a side-stream ozone treatment system for the recycled flows is currently out of service and in need of upgrade and rehabilitation.

Under the proposed Task Order, Alan Plummer Associates, Inc. (APAI) will perform a survey to determine the estimated volume and characteristics of the accumulated solids in the recycle pond. Based upon the survey results and the characteristics of the sludge, APAI will evaluate various options for removal and disposal, including dredging. One option may be to construct a planned future lagoon ahead of schedule. Having extra capacity for new sludge may allow sludge in the existing lagoon to dry naturally - - then be removed in a more cost-effective manner. All options will be evaluated as to impacts on operations, recycle water quality and expected costs.

APAI will also evaluate the condition of the existing return pump station and provide any recommendations and costs for rehabilitation or upgrade. They will also evaluate the ongoing need for the ozone side-stream treatment system based on water quality impacts, and develop costs for placing it back in service.

The proposed task order includes budget amounts of \$55,020 for Basic Services, \$11,000 for Special Services (topographic survey), and \$5,000 for Additional Services. The total for the proposed task order is \$71,020.

Financial:

Funding for the project is included in the Capital Budget.

Recommendation:

Staff recommends approval of proposed Task Order No. 2.

Enclosures:

Draft Task Order No. 2.

Submitted By: 
Jody Zabolio, Acting Director of Engineering & Construction

Date: March 31, 2017

ALAN PLUMMER ASSOCIATES, INC.

ATTACHMENT A-2

Task Order No. 2

This Task Order is part of the AGREEMENT between Alan Plummer Associates, Inc., (the "ENGINEER"), and Upper Trinity Regional Water District ("the OWNER"), for a project generally described as:

OWNER'S REGIONAL TREATED WATER SYSTEM

The purpose of this Task Order is as follows:

At the Upper Trinity Regional Water District (District) Thomas E. Taylor Regional Water Treatment Plant (WTP) perform a survey of the residual solids in the existing lagoon; evaluate dredging option for sludge removal and disposal and prepare related memoranda.

OWNER wants to evaluate dredging options, cost and feasibility in the existing lagoon while it remains in service versus constructing a new lagoon.

3. The ENGINEER understands that the OWNER would like construction for this project to be complete in the next couple years.

**ARTICLE I
SCOPE OF SERVICES**

The ENGINEER agrees to furnish the OWNER the following specific services:

BASIC ENGINEERING SERVICES

- A. Consult with OWNER: (1) to review the scope of work, (2) to verify the OWNER's requirements for the project, and (3) to review available data.
- B. Advise OWNER as to the necessity of OWNER's providing or obtaining data or services from others, and assist the OWNER in connection with any such services.
- C. Understanding:
 1. The District owns and operates the Thomas E. Taylor Regional WTP. The WTP has one residual solids lagoon that is approximately 7.5 acres. The plant residual stream flows into the lagoon where decanted water is then pumped back to the raw water line upstream of flash mixing. The side-stream ozone treatment system for the recycle flow is out of service.
 2. The capacity of the lagoon has reached the level that requires the removal and disposal of the accumulated solids. The

D. Project Kick-off Meeting

1. ENGINEER will attend a project kick-off meeting with the OWNER and consultant staff to review the project goals, schedule and deliverables.
2. ENGINEER and OWNER will discuss plant operations and potential impacts from dredging the existing lagoon versus constructing a new lagoon and associated appurtenances.
3. ENGINEER will prepare meeting summary notes for the kick-off meeting, distribute draft notes and finalize the notes following receipt of the OWNER's comments.

E. Pre-Design Evaluation

1. ENGINEER will review related relevant studies, record drawings, and data provided by the OWNER and other sources as requested by the ENGINEER.
2. ENGINEER will conduct a topographical survey of the existing residual lagoon at the WTP. The lagoon survey will collect data on a 100 foot grid and produce a one foot contour surface of the current top of residuals. The survey will also collect horizontal and vertical data on any structures or above grade

appurtenances within the survey limits. The limit of the lagoon survey will be the top of bank.

3. ENGINEER will use survey data and information obtained from the OWNER and other sources to determine the existing residual solids accumulation in the lagoon.
4. ENGINEER will advise the OWNER of the need for sampling and testing of 1) the residual solids accumulated in the lagoon and 2) the recycle flow; sampling and testing will be conducted utilizing OWNER personnel and laboratory facilities as needed. Examples of such tests are as follows:
 - a. Test residuals percent solids concentration.
 - b. Test residual Toxicity Characterization Leaching Procedure (TCLP) testing of the rheological properties of the residual solids.
 - c. Test recycle flow for water quality parameters associated with the need for ozone treatment such as iron and manganese and taste and odor compounds.
5. ENGINEER will provide one field person for one day to support OWNER staff to collect sludge samples and estimate the depth of the sludge near the return pump station. OWNER will provide equipment for depth measurement and sample collection. OWNER will test sludge samples and provide data to ENGINEER.
6. ENGINEER will review plant operations with respect to water discharged and recovered to and from the lagoon and dredging operations to identify potential impacts to water quality.
7. ENGINEER will identify operational advantages and develop an opinion of probable construction cost for the construction of a new lagoon that would receive flows from the WTP while the existing lagoon is being serviced.
8. ENGINEER will evaluate the existing return pump station to determine:
 - a. the feasibility of using it in its current condition or if it needs to be updated as part of the solids removal project, or
 - b. If the existing return pump station can be modified to operate the existing lagoon as well as an additional lagoon, or
 - c. If a new pump station will be required either in addition to the existing pump station or in place of the existing pump station if the OWNER chooses to construct an additional lagoon.
9. ENGINEER will evaluate the need for ozone side-stream treatment of recycle flows, and provide the cost of rehabilitating and placing the ozone side-stream treatment unit into service.
10. ENGINEER will review the OWNER's existing WTP site masterplan regarding placement of a new lagoon.
11. ENGINEER will review the OWNER's existing Letter of Map Revision (LOMR) regarding placement of a new lagoon.
12. ENGINEER will prepare a draft memorandum summarizing the findings and recommendations. The memorandum will be transmit to the OWNER for review via email. Once comments are received from the OWNER, the ENGINEER will incorporate the comments and submit a final memorandum.

F. Design Services

1. An additional task order agreement will be developed for the design of the selected improvements.

SPECIAL SERVICES

Special Services are those services known to be required for completion of the project that the OWNER agrees are to be furnished by the ENGINEER or by a subconsultant that cannot be defined sufficiently at this time to establish the maximum compensation. The services are not included in the scope of work of Basic Services or the amount of compensation for Basic Services. The Special Services for this assignment are described as follows:

- A. Topographic: Survey the WTP lagoon to establish remaining lagoon capacity and approximate residuals accumulation.

ADDITIONAL SERVICES

Additional services to be performed by the ENGINEER, if authorized by the OWNER, which are not included in the above-described Basic Engineering Services, are described as follows:

- A. Design of other options for removal and disposal, including but not limited to a new lagoon, temporary cofferdam in existing lagoon, permanent partition in existing lagoon, a new backwash recovery basin, or temporary storage, thickening, and dewatering.
- B. Preparing applications and supporting documents for government grants, loans, or planning advances and providing data for detailed applications.
- C. Preparing Environmental Archeological Surveys (back hoe trenching or architectural historian), Impact Assessments, or Statements, Stormwater Discharge Permits, and 404 Permit Applications except as specifically included in the Basic or Special Services.
- D. Appearing before regulatory agencies or courts as an expert witness in any litigation with third parties other than condemnation proceedings arising from the development or construction of the project, including the preparation of engineering data and reports for assistance to the OWNER.
- E. Investigations involving detailed consideration of operation, maintenance and overhead expenses, and the preparation of

rate schedules, earnings and expense statements, feasibility studies, appraisals, evaluations, assessment schedules, and material audits or inventories required for certification of force account construction performed by the OWNER.

- F. Providing additional topographic surveys not included in Special Services.
- G. Assisting OWNER or Contractor in the defense or prosecution of litigation in connection with or in addition to those services contemplated by this Agreement. Such services, if any, shall be furnished by ENGINEER on a fee basis negotiated by the respective parties outside of and in addition to this Agreement.
- H. Sampling, testing or analysis beyond that specifically included in Basic Services.
- I. Preparing copies of Computer-Aided Drafting (CAD) electronic databases, drawings, or files for the OWNER's use in a future CAD system.
- J. Attending meetings and developing data and information required for zoning and/or plat approvals of construction sites except as included in Basic Services.
- K. Attending additional meetings as requested by OWNER.
- L. Provide expert witness testimony as required for condemnation hearings, including the preparation of engineering data and reports.
- M. Any additional services which may be required by the OWNER for completion of the project that are not included in the Basic or Special Services.

**ARTICLE II
COMPENSATION**

BASIC SERVICES

Compensation by the OWNER to the ENGINEER for all Basic Services enumerated in this AGREEMENT will be paid as shown below with the totals not to exceed the amounts listed below without written authorization from the OWNER.

Items A-F Basic Services

Lump Sum	
Not-to-exceed	<u>\$ 55,020</u>

The total compensation for BASIC SERVICES authorized by Task Order No. 2 :

Not-to-exceed \$ 55,020

SPECIAL SERVICES

For all Special Services enumerated in Task Order No. 2.

Item A Topographic Surveys:

A budget allowance of \$11,000 has been made for this item and will not be exceeded without prior written approval of the OWNER.

Total Budget allocation for SPECIAL SERVICES for Task Order No. 2 :

Not-to-exceed \$11,000

For Additional Services included in Task Order No. 2 :

Items A-M Additional Services

Additional Services, which may be required by the OWNER, shall be based on the actual hours and costs in accordance with Exhibit B.

A budget allowance of \$5,000 has been made for these items and will not be exceeded without prior written authorization from the OWNER. No work will be undertaken on these items without specific written authorization from the OWNER.

Total Budget allocation for ADDITIONAL SERVICES for Task Order No. 1 :

Not-to-exceed \$5,000

TOTAL COMPENSATION SUMMARY

Basic Services Items A-H

Not-to-exceed	\$55,020
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Special Services Items A

Not-to-exceed	\$11,000
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Additional Services Items A-V

Not-to-exceed	\$5,000
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Estimated Total Task Order No. <u>2</u>	<u>\$71,020</u>
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ADDITIONAL SERVICES

This Task Order No. 2 will become part of the referenced AGREEMENT when executed by both parties.

IN WITNESS WHEREOF, the parties execute below:

For the OWNER, _____ dated this ____ day of _____, 2017

By: _____

Name Title

For the ENGINEER, ALAN PLUMMER ASSOCIATES, INC dated this ____ day of _____, 2017

By: _____

Name Title

