

Attachment A: Tasks

The Consultant shall provide the services and deliverables set forth in this **Attachment A**. The Consultant shall provide all services and deliverables required by this **Attachment A** to the satisfaction of the City's contract manager.

General Description of Project for which Consultant will Provide Services:

Replace five existing ammonia chemical dosing pumps with new pumps selected and sized to provide optimized dose control over the anticipated flow and dose range. Provide preliminary and final design services, engineering support to the bid phase, engineering services during construction, and engineering support of construction management.

Task No. 1: Preliminary Design

- A. Services:** Consultant shall develop a preliminary design for replacement of the ammonia feed pumps. The existing pumps are oversized and cannot turn down to the typical dose range while providing accurate flow control. An upcoming change to the discharge permit requires tighter control over effluent ammonia concentration and thus ammonia dose. The new replacement pumps shall be better suited to provide accurate chemical flow control across the anticipated dose setpoint range and contact basin flow range, allowing for future increases to flow to be established during preliminary design.

The preliminary design will be presented in a technical memorandum and will include the following elements:

- Recommended chemical pump design flow and dose range. The scope assumes the City will generally specify the required design flow and dose range based on prior master planning efforts and current process operating strategies, accounting for growth and planned process modifications. The scope includes limited budget for HydroScience to review existing master planning documents and calculations, discuss potential sizing criteria with the City, identify compatible metering pump sizes, and present recommended pump design capacities to the City for review and concurrence.
- Evaluation of pump make, model, and configuration alternatives (up to three alternatives) and recommendation of a preferred pump specification that can be met by at least two recognized suppliers. The merits of adding a pump stroke control option and its impacts to control I/O and programming will be evaluated.
- Preliminary construction phasing plan.
- Preliminary Engineer's Opinion of Probable Construction Cost (EOPCC).
- Preliminary construction schedule including seasonal considerations for dry weather construction.
- Preliminary mechanical plan.
- Preliminary pump controls drawing.
- Preliminary Piping and Instrumentation Diagrams (P&ID).

The following coordination shall be performed as part of completing the preliminary design:

- Kickoff conference/screenshare call
- One field visit
- One coordination call during preliminary design development
- One review call to discuss the draft technical memorandum

The City will provide the following items for use by the consultant in performing this work:

- Data on existing pumps including cutsheets, comments on reliability and maintenance issues, and other O&M information as requested and available
- Data on existing ammonia flowmeters and preferred replacement model if any preference
- Data on other types of chemical metering pumps successfully use and/or preferred by the City
- Historical (last 3 years) operational data in Excel format for:
 - Contact basin (effluent) flow
 - Ammonia dose setpoint, pump run status, pump speed, chemical utilization
 - Sodium hypochlorite dose setpoint, pump run status, pump speed, chemical utilization
- Anticipated future peak effluent flow that the new metering pumps should be designed to handle (based on master planning documents)
- Target ammonia dose range (min-max)
- Existing pump control panel drawings
- Existing DCS local panel drawings
- Existing power panel drawings
- Any applicable design and construction standards to be used

B. Deliverable:

- Preliminary design technical memorandum, draft and final (PDF)

C. Completion Time: The Consultant shall complete the services and deliverables for this task in accordance with whichever one of the following time is marked:

- On or before the following date: _____.
- On or before 60 Business Days from Notice to Proceed.

Task No. 2: Final Design

A. Services: Consultant shall develop bid documents for replacement of the ammonia feed pumps. The design will be based on the approved preliminary design from Task 1. The design will be submitted at the 75%, 100%, and final submittal milestones and shall include the following elements:

- Mechanical plans, sections, and details
- Electrical low voltage power distribution
- Control system drawings
- P&IDs
- City boilerplate Div 0 and 1 specifications customized to the needs of the project
- HydroScience technical specifications
- Construction sequencing and constraints requirements
- Updated Engineer's Opinion of Probable Construction Cost (EOPCC)
- Updated estimated construction schedule

The following coordination shall be performed on as needed basis and/or as requested by City's project manager as part of completing the final design:

- Four coordination calls during final design development
- One trip to the site
- Design review calls at 75% and 100% milestones

The design scope is based on the following assumptions:

- New pumps to be installed on existing pedestals
- Structural design is limited to pipe support modifications and new equipment anchors
- Existing tanks and containment facility will not be modified
- Drawing backgrounds will consist primarily of existing as-builts and photographs
- A survey is not required
- Permit fees by others

B. Deliverable:

- 75% plans, specifications, and estimate (PDF)
- 100% plans, specifications, and estimate (PDF)
- Final plans, specifications, and estimate (CAD dwg files, Word documents for specs, and PDF)

C. Completion Time: The Consultant and/or the subconsultant(s) must complete the services and deliverables for this task in accordance with whichever one of the following time is marked:

- On or before the following date: _____.
- On or before 90 Business Days from Notice to Proceed.

Task No. 3: Bid and Construction Phase Support

A. Services: Consultant shall provide engineering services during construction of the project to verify that the construction conforms to the contract documents. These services will include attendance at construction meetings or field visits, review of contractor submittals and resubmittals, support by phone and email to informal inquiries, review of requests for information, and/or contract change orders.

Consultant will prepare as-built record drawings of the project at the completion of the project, utilizing markups and records provided by the Contractor and the City, along with submittal and RFI responses affecting the Drawings.

Assumptions:

- City will field and route all documentation to/from the contractor.
- Up to two site visits will be made.
- Up to 10 submittals and resubmittals will be reviewed.
- Up to 10 RFIs will be reviewed and responded to.
- Up to three contract change orders will be reviewed.

B. Deliverables: All deliverables provided in electronic PDF format.

- RFI and submittal responses
- As-built drawings based on contractor markups (also provided in DWG format which include one set of seamless CADD, one set of CADD sheets, and one set of plot ready PDF sheets).
- Input to punch list from final walkthrough
- Other documentation prepared during the course of this task

C. Completion Time: The Consultant and/or the subconsultant(s) must complete the services and deliverables for this task in accordance with whichever one of the following time is marked:

- On or before the following date: _____.
- On or before 100 Business Days from Notice to Proceed.

Attachment B: Terms and Conditions

1. **City's Contract Manager:** The City's contract manager for this Approved Service Order is:

Name: Jessica Zadeh	Phone No.: (408) 635-2037
Department: Environmental Services	E-mail: Jessica.Zadeh@sanjoseca.gov
Address: 700 Los Esteros Rd., San Jose, CA 95134	

2. **Consultant's Contract Manager and Other Staffing:** Identified below are the following: (a) the Consultant's contract manager for this Approved Service Order, and (b) the Consultant(s) and/or employee(s) of the Consultant who will be principally responsible for providing the services and deliverables. ***If an individual identified below does not have a current Form 700 on file with the City Clerk for a separate agreement with the City, and is required to file a Form 700, the Consultant must comply with the requirements of Subsection 17.2 of the Master Agreement, entitled "Filing Form 700."***

		<u>Required to File Form 700?</u>		
		Yes Already Filed (Date Filed)	Yes Need to File	No
<u>Consultant's Contract Manager</u>				
Name: Bill Slenter	Phone No.: 916-605-6633	5/29/2020		
Address: 10569 Old Placerville Rd, Sacramento, CA 95827	E-mail: bslenter@hydroscience.com			
<u>Other Staffing</u>				
<u>Name:</u>	<u>Assignment:</u>			
1.				
2.				
3.				

3. Subconsultants: Whichever of the following is marked applies to this Approved Service Order:

- The Consultant can **not** use any subconsultants.
- The Consultant can use the following subconsultants to assist in providing the required services and deliverables:

<u>Subconsultant's Name</u>	<u>Area of Work</u>

4. Reimbursable Expenses: If the Compensation Table set forth in **Attachment C** of this Approved Service Order states that the City will reimburse the Consultant for expenses, then only the expenses identified in Subsection 10.5.3 of the Master Agreement are Reimbursable Expenses unless the following box is marked and additional reimbursable expenses are set forth:

- In addition to the expenses identified in Subsection 10.5.3 of the Master Agreement, the following expenses are Reimbursable Expenses:

<u>Additional Reimbursable Expense(s)</u>	<u>Mark-up</u>
1. _____	_____
2. _____	_____
3. _____	_____

Notwithstanding the foregoing, any additional reimbursable expense(s) set forth in the above table will be disregarded if the Compensation Table states that the City will *not* reimburse the Consultant for any expenses.

Attachment C: Compensation Table

The City will compensate the Consultant for providing the services and deliverables set forth in **Attachment A** in accordance this Compensation Table. This Compensation Table is subject to the terms and conditions set forth in the Master Agreement, including without limitation Section 10 of the Master Agreement.

Part 1 – Compensation for Services and Deliverables			
Column 1	Column 2	Column 3	Column 4
Task Nos. from Attachment A	Basis of Compensation	Invoice Period	Compensation
1	<input checked="" type="checkbox"/> Time & Materials <input type="checkbox"/> Fixed Fee	<input checked="" type="checkbox"/> Monthly <input type="checkbox"/> Completion of Task(s) <input type="checkbox"/> Completion of Work	\$27,095
2	<input checked="" type="checkbox"/> Time & Materials <input type="checkbox"/> Fixed Fee	<input checked="" type="checkbox"/> Monthly <input type="checkbox"/> Completion of Task(s) <input type="checkbox"/> Completion of Work	\$58,355
3	<input checked="" type="checkbox"/> Time & Materials <input type="checkbox"/> Fixed Fee	<input checked="" type="checkbox"/> Monthly <input type="checkbox"/> Completion of Task(s) <input type="checkbox"/> Completion of Work	\$30,345
Part 2 – Reimbursable Expenses			
<input checked="" type="checkbox"/> No expenses are separately reimbursable. The amount(s) in Column 4 of Part 1 include(s) payment for all expenses.		<input type="checkbox"/> Expenses are separately reimbursable in the maximum amount of:	\$
Part 3 – Subconsultant Costs			
<input checked="" type="checkbox"/> Subconsultant costs are not separately compensable. The amount(s) in Column 4 of Part 1 include(s) subconsultant costs.		<input type="checkbox"/> Subconsultant costs are separately compensable in the maximum amount of:	\$
Maximum Service Order Compensation (sum of Parts 1 through 3):			\$115,795