





March 26, 2020

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Mr. Jackie Loper  
Public Services Director  
City of Imperial  
420 S. Imperial Avenue  
Imperial, CA 92251

RE: Proposal for Engineering Services for Various Water Projects

Dear Jackie,

Pursuant to your request Albert A. Webb Associates (Webb) has prepared the following proposal to provide engineering services for the subject projects. Webb's tasks will be to prepare final engineering plans and specifications ready for bidding and construction. The plans will include all necessary civil, structural, electrical and controls engineering design information and will be signed by a registered engineer in the state of California. Webb will also prepare the necessary paperwork required by CEQA, it is assumed that these projects will qualify for Categorical Exemptions and no further environmental documentation or special studies will be required.

Based upon our understanding of the projects, Webb's scope of work will include the following tasks for each project:

### **SCOPE OF SERVICES**

#### ***Airport Pipeline Loop***

Based on recent experience and hydraulic modeling, the existing waterlines and developments in the southeast portion of the City experience low water pressure during high demand periods. Hydraulic modeling results indicate that the installation of a pipeline around the airport perimeter from as shown in **Attachment A** will improve water pressures and fire flow capability in the existing waterlines east and south of the County airport. The project will include the installation of approximately 2,500 LF of 12-inch diameter waterline. Webb will provide the necessary coordination with the County/Airport/IID regarding property ownership and utility crossings. Engineering services proposed for this project are as follows:

1. Field topo including key shots of valve cans, manholes, telephone poles, curbs, ROW, property lines, easements, etc.
2. Geotechnical report and one (1) piezometer, by Landmark Geotechnical, to monitor groundwater levels at the intersection of the Dandelion Canal and Newside Canal.
3. Prepare plans, specifications and bid documents for construction. Drawings will be prepared on 24" x 36" sheets for pipelines at 1"=40' horizontal scale and 1"=4' vertical scale showing all appropriate connection details and construction notes per City requirements and applicable jurisdiction requirements.
4. Provide construction management services including:
  - a. Responding to contractor RFIs
  - b. Submittal review
  - c. Field inspection
  - d. Engineering services during construction

#### ***Schedule and Compensation***

It is anticipated that the design will be completed within 20 weeks after the execution of contracts, notice to proceed, and easement acquisition. These services will be performed on a lump sum basis not to exceed \$114,270. A breakdown of the fee is included in the attached spreadsheet. Estimated Construction Cost is \$500,000.



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### ***GAC Expansion***

The existing GAC Treatment System was installed at the WTP in 2019 to remove TTHMs and HAA5s as well as reduce the organics in the treated water. The current GAC treatment system treats approximately 1,200 gpm (1.7 mgd), which is roughly 50% of the peak summer flows and up to 100% of the winter low flows. The GAC system was designed to treat a portion of the total WTP flow and blend with non-GAC treated water prior to entering into the finished water storage reservoir. Since the GAC treatment system was put into operation, the City's TTHM/HAA5s levels have dropped and the City is in compliance with the State's TTHM levels. In anticipation of increasing water demands as the City grows and pending regulations regarding perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) removal, it is proposed that the existing GAC treatment system be expanded to treat an additional 1,200 gpm. GAC treatment is proving to be one of the best available technologies for treating PFOA/PFOS, which is being monitored in the parts per trillion range. The proposed expansion would be placed to the south of the existing GAC treatment system, as originally designed. See **Attachment B**. Design and construction management services assumed for this project are as follows:

1. Webb to perform a site visit to verify the location and operation of the proposed GAC treatment system.
2. Prepare plans, specifications and bid documents for construction. Drawings will be prepared on 24" x 36" sheets for the civil, mechanical, structural, and electrical drawings. The controls will also be incorporated into the SCADA system by SKM to ensure they work with the existing WTP and existing GAC controls.
3. Provide construction management services including:
  - a. Responding to contractor RFIs
  - b. Submittal review
  - c. Field inspection
  - d. Field visits during construction
  - e. Start-up
  - f. SCADA Programming
  - g. Update the WTP Operations Plan

### ***Schedule and Compensation***

It is anticipated that the design will be completed within 12 weeks after the execution of contracts and notice to proceed. These services will be performed on a lump sum basis not to exceed \$130,195. A breakdown of the fee is included in the attached spreadsheet. Estimated Construction Cost is \$1,000,000.

### ***WTP Clearwell Pump Station Replacement***

The existing concrete clearwell and clearwell pump station are located in the existing Administration Building at the Water Treatment Plant (WTP) and were constructed as part of the original WTP. The clearwell is approximately 20' x 30' x 7' in size and has a volume of approximately 25,000 gallons at the 5' water level. The clearwell pump station consists of three (3) variable speed vertical turbine pumping units, each rated at 2,500 gpm at 35' of head. Both the clearwell and clearwell pump station are in need of replacement due to age. The clearwell leaks near the top, which creates a very limited operating window and the pump capacity is not sufficient to support the expansion of the GAC system. It is proposed that a new clearwell/clearwell pump station be constructed at the WTP while the existing system remains in service. The new clearwell/clearwell pump station will include a new wet well, 3-4 new pumping units, with a new metal building and air-conditioned electrical room for the variable frequency drives. See **Attachment B**. Design and construction management services assumed for this project are as follows:

1. Field topo including key shots of valve cans, manholes, buildings and aboveground facilities. Webb would also perform a site visit to locate the proposed clearwell and pump station.
2. Geotechnical report, by Landmark Geotechnical.

3. Prepare plans, specifications and bid documents for construction. Drawings will be prepared on 24" x 36" sheets for the civil, mechanical, structural, and electrical drawings. The controls will also be incorporated into the SCADA system by SKM to ensure they work with the existing WTP and GAC controls.
4. Provide construction management services including:
  - a. Responding to contractor RFIs
  - b. Submittal review
  - c. Field inspection
  - d. Field visits during construction
  - e. SCADA Programming

#### *Schedule and Compensation*

It is anticipated that the design will be completed within 24 weeks after the execution of contracts and notice to proceed. These services will be performed on a lump sum basis not to exceed \$217,658. A breakdown of the fee is included in the attached spreadsheet. Estimated Construction Cost is \$600,000.

#### **Annual Water Pipeline Replacement**

As part of the annual waterline replacement program, aged 8-inch and 12-inch pipe will be replaced. The City will determine the pipelines to be replaced, comprising approximately 1,000 to 1,500 linear feet a year. See **Attachment C**. Engineering services proposed for this project are as follows:

1. Field topo including key shots of valve cans, manholes, telephone poles, curbs, ROW, property lines, easements, etc.
2. Prepare plans, specifications and bid documents for construction. Drawings will be prepared on 24" x 36" sheets for pipelines at 1"=40' horizontal scale and 1"=4' vertical scale showing all appropriate connection details and construction notes per City requirements and applicable jurisdiction requirements.
3. Provide construction management services including:
  - a. Responding to contractor RFIs
  - b. Submittal review
  - c. Field inspection
  - d. Field visits during construction

#### *Schedule and Compensation*

It is anticipated that the design will be completed within 16 weeks after the execution of contracts, notice to proceed, and easement acquisition. The services will be performed on a lump sum basis not to exceed \$98,923. A breakdown of the fee is included in the attached spreadsheet. Estimated Construction Cost is \$400,000.

#### **WTP Lining Raw Water Storage Pond #4**

The WTP consists of three (3) storage ponds where the raw water for the treatment process is stored. Storage Ponds #1 thru #3 are concrete lined. Storage Pond #4 is an earthen pond and is used to hold backwash water from the filters and sedimentation basins. This water can be returned to the front of the plant and used as raw water but contains a heavy organic load. It is recommended by IID to have 7 days of raw water storage to allow uninterrupted service during canal outages. The City's current raw water storage represents approximately 2-3 days of storage during summer months. To increase raw water storage and improve water quality entering the WTP, it is proposed that Storage Pond #4 be lined similar to the other ponds at the WTP. See **Attachment D**. The assumed scope of work for this project is as follows:

1. Field topo to determine elevations around the ponds and key shots of valve cans, manholes, buildings and aboveground facilities.
2. Prepare plans, specifications and bid documents for construction. Drawings will be prepared on 24" x 36" sheets for the civil and mechanical drawings.

3. Provide construction management services including:
  - a. Responding to contractor RFIs
  - b. Submittal review
  - c. Field inspection
  - d. Field visits during construction

#### *Schedule and Compensation*

It is anticipated that the design will be completed within 16 weeks after the execution of contracts and notice to proceed. These services will be performed on a lump sum basis not to exceed \$72,585. A breakdown of the fee is included in the attached spreadsheet. Estimated Construction Cost is \$1,000,000.

#### **CONSTRUCTION SERVICES**

Unless indicated elsewhere, the scope of construction services that Webb Associates will be providing for these projects are as follows:

1. Prepare bid addenda as necessary (assume 1 addendum)
2. Review contractor bids and provide recommendations for award
3. Respond to RFI's during bid period
4. Review contractor submittals
5. Attend a jobsite pre-construction meeting
6. Full time field inspection on pipeline projects
7. Perform three field visits during construction and one field visit to verify project performance and compliance with construction documents.
8. Provide telephone/email coordination during construction
9. Prepare record documents based upon contractor's redline markups

#### **PROJECT TEAM**

The primary personnel assigned to these projects will be as follows:

- Mr. Shane Bloomfield, PE (Senior Engineer) will serve as project manager and responsible engineer over all the projects.
- Mr. Brian Knoll, PE (Senior Vice President) will serve as Principal-in-charge and will oversee the projects through completion.
- Mr. Kris Danielson, PE (Associate Engineer) will be the project engineer on these projects and will be responsible for overseeing the development of the design documents and project specifications.
- Mr. Mark Jeppsen, PE (SKM Engineers) will be the project engineer for the electrical design and SCADA implementation.
- The Holt Group will provide survey and possibly inspection services for projects.

#### **EXCLUSIONS**

The following items have been specifically excluded from Webb's scope of work for these projects.

1. City will be responsible to post and file the Notice of Exemption with the appropriate authority
2. Preparation of permit applications and paying for permits unless specifically indicated in the proposed scope of work
3. Construction staking and surveying during construction
4. Property acquisition
5. Material testing
6. Traffic control plans

- 7. Utility relocation plans
- 8. Preparation of easement documents

As detailed above, based upon each project's Scope of Work, our engineering services budget for these projects is as follows:

<u>Project Name</u>	<u>Budget</u>
Airport Pipeline Loop	\$114,270
GAC Expansion	\$130,195
WTP Clearwell Pump Station Replacement	\$217,658
Annual Pipeline Replacement	\$ 98,923
WTP Lining Raw Water Storage Pond #4	\$ 72,585
<b>TOTAL DESIGN/CONSTRUCTION MANAGEMENT COSTS</b>	<b>\$633,630</b>

We thank you for the opportunity to continue working with the City of Imperial on these critical projects. Should you have any questions, please contact me at (951) 686-1070.

Sincerely,  
ALBERT A. WEBB ASSOCIATES



Shane Bloomfield, P.E.  
Senior Engineer

Cc: Brian Knoll, WEBB  
Kris Danielson, WEBB

MANPOWER AND FEE ESTIMATE  
CITY OF IMPERIAL

Proposal for Design Engineering Services for:  
For Various Water Projects

Task	Personnel Hours				Total Hours	Budget <sup>(1)</sup>
	Principal Engineer	Senior Engineer	Associate Engineer	Project Coordinator		
<b>Task 1 - Airport Pipeline Loop</b>						<b>\$ 114,270</b>
1.1 - Design (Utility Research)		2	6	12	20	\$ 2,490
Design (60% Plans)	8	18	60	4	90	\$ 16,620
Design (90% Plans & Spec.)	4	12	40	2	58	\$ 10,690
Design (100% Plans & Spec.)	2	10	20	2	34	\$ 6,270
1.2 - Coordination with County/Airport/IID	12	16		2	30	\$ 6,530
1.3 - Process Required Permits	2	4		2	8	\$ 1,510
1.4 - Bid Support	2	8	4	4	18	\$ 3,220
1.5 - Construction Management	18	24	60	16	118	\$ 21,400
1.A - Subcontractor - Survey						\$ 9,775
1.B - Subcontractor - Geotechnical						\$ 9,775
1.C - Subcontractor - Inspection						\$ 25,990
<b>Task 2 - GAC Expansion</b>						<b>\$ 130,195</b>
2.1 - Design (90% Plans & Spec.)	12	36	60	8	116	\$ 21,740
Design (100% Plans & Spec.)	4	20	35	6	65	\$ 11,835
2.2 - Bid Support	2	10	4	4	20	\$ 3,640
2.3 - Construction Management	12	40	60	12	124	\$ 22,920
2.4 - Start-up	6	24			30	\$ 6,540
2.5 - Update of WTP Operations Plan	4	6	10	2	22	\$ 4,180
2.A - Subcontractor - Electrical/Controls						\$ 36,800
2.B - Subcontractor - Inspection						\$ 22,540
<b>Task 3 - WTP Clearwell Pump Station Replacement</b>						<b>\$ 217,658</b>
3.1 - Preliminary Design	12	12	18	6	48	\$ 9,180
Design (60% Plans)	8	36	60	4	108	\$ 20,400
Design (90% Plans & Spec.)	6	24	40	4	74	\$ 13,880
Design (100% Plans & Spec.)	4	18	20	2	44	\$ 8,450
3.2 - Bid Support	2	8	4	4	18	\$ 3,220
3.3 - Construction Management	18	40	60	20	138	\$ 24,600
3.4 - Start-up	6	24			30	\$ 6,540
3.A - Subcontractor - Survey						\$ 7,763
3.B - Subcontractor - Geotechnical						\$ 6,325
3.C - Subcontractor - Structural						\$ 8,625
3.D - Subcontractor - Electrical/Controls						\$ 63,250
3.E - Subcontractor - Inspection						\$ 45,425
<b>Task 4 - Annual Water Pipeline Replacement</b>						<b>\$ 98,923</b>
4.1 - Design (Utility Research)		2	6	12	20	\$ 2,490
Design (60% Plans)	6	18	60	4	88	\$ 16,120
Design (90% Plans & Spec.)	4	12	40	2	58	\$ 10,690
Design (100% Plans & Spec.)	2	10	20	2	34	\$ 6,270
4.2 - Process Required Permits	2	6		4	12	\$ 2,100
4.3 - Bid Support	2	8	4	4	18	\$ 3,220
4.4 - Construction Management	12	36	45	16	109	\$ 19,795
4.A - Subcontractor - Survey						\$ 8,625
4.B - Subcontractor - Geotechnical						\$ 8,338
4.C - Subcontractor - Inspection						\$ 21,275
<b>Task 5 - WTP Lining Raw Water Storage Pond #4</b>						<b>\$ 72,585</b>
5.1 - Review Record Drawings - Site Evaluation	10	16	4	1	31	\$ 6,645
5.2 - Design (90% Plans & Spec.)	6	24	40	2	72	\$ 13,710
Design (100% Plans & Spec.)	4	16	25	2	47	\$ 8,905
5.3 - Bid Support	2	8	4	4	18	\$ 3,220
5.4 - Construction Management	4	24	12	4	44	\$ 8,480
5.A - Subcontractor - Survey						\$ 8,625
5.B - Subcontractor - Inspection						\$ 23,000
<b>TOTAL BUDGET</b>	<b>196</b>	<b>572</b>	<b>821</b>	<b>173</b>	<b>1762</b>	<b>\$ 633,630</b>

<sup>(1)</sup>The amounts indicated for each individual project task are estimated budget amounts and accordingly the actual amounts may be more or less than shown. However, the total budget will not be exceeded without written authorization from the City.

# Attachment A - Airport Waterline Loop



- Approximately 2,500LF of new pipeline
- Complete the pipeline loop that was not previously finished
- Improve flow and water pressure

## Attachment B - GAC Expansion and Clearwell Pump Station



- Increase capacity of the GAC system to 3.5 MGD
- Improve TTHM removal
- Treatment for PFOS & PFAS
- Replace Clearwell Pump Station
- Improve operations and system control



## Attachment D - WTP Lining Raw Water Basin #4



- Expand raw water storage improves reliability
- Concrete lining
- Improve water quality and reduce organics (Lower TTHMs)