

1580 Sawgrass Corporate Parkway  
Suite 400  
Sunrise, Florida 33323  
Tel: 954-200-7233  
www.browncaldwell.com

October 24, 2022



Mr. Feng Jiang, P.E.  
Assistant Director ECSD  
City of Hollywood Department of Public Utilities  
P.O. Box 229045 Hollywood, FL 33022-9045

Subject: Headworks Engineering Support Services

Dear Mr. Jiang:

As requested, Brown and Caldwell is pleased to prepare this professional engineering and administrative services work order to the City of Hollywood (CITY) Department of Public Utilities (DPU) to provide structural and as-needed engineering support in planned modifications to the existing headworks screens process area at the CITY's Southern Region Wastewater Treatment Plant (SRWWTP).

#### **BACKGROUND**

Over the past two years, the headworks screening system at the CITY's SRWWTP experienced two failures that resulted in significant wastewater overflows impacting the community. Upon reviewing options for improving the reliability of the screening operation, the City has elected to undertake the following initial steps:

1. Repair and reinstall the damaged screens
2. Install a hydraulic lift that will allow the screens to be partially removed from the channels during peak flow conditions or impending failure
3. Replace the existing fixed skylight with a removable skylight that would allow for removal of the screens
4. Evaluate a portable gantry crane type system that can be a backup to the hydraulic lift and will allow the screens to be partially removed from the channels during peak flow conditions or impending failure.

The CITY is retaining the services of the screen vendor and a contractor to implement the above noted initial steps and has requested a proposal from Brown and Caldwell to provide engineering support of the planned steps 2, 3 and 4.

## **ENGINEERING SUPPORT SERVICES**

Brown and Caldwell will provide engineering support for the planned steps 2, 3 and 4 for the headworks screening system at the SRWWTP. Anticipated activities are as summarized below:

### **Task 1 – Review Background Information and Project Administration**

Consultant will review the following background information

1. Record drawings of the existing structure.
2. Manufacturer data sheets and shop drawings for the proposed hydraulic lift system to establish loads and installation/support requirements.
3. Vendor furnished materials about proposed hydraulic lift to confirm space, fit and compatibility with operating environment.
4. Manufacturer data sheets and shop drawings for the proposed skylight replacement to establish loads and installation/support requirements.
5. Vendor furnished materials about proposed skylights to confirm space, fit and compatibility with operating environment.
6. Review and approve contractor's structural shop drawings.
7. Project Administration– participate in project kickoff and administrative support

### **Task 2 – Conduct Analysis/Calculations**

Consultant will conduct an engineering analysis and supporting calculations in support of the following:

1. Hydraulic lift for screening system (structural, mechanical and electrical)
2. Replacement of existing skylight with a removable skylight system of same size (structural)
3. Requirements for manual portable gantry type crane/hoist (not to be attached to the building) (structural, mechanical and electrical)

### **Task 3 – Preparation of Design Deliverables**

Consultant will prepare deliverables, conduct quality control and participate in meetings as follows:

1. Design elements to be prepared as Bluebeam (PDF) markups and sketches on existing record drawings
  - a. General Notes
  - b. Demolition Plan
  - c. Floor Plan
  - d. Roof Plan
  - e. Section and Modification Details

2. Specifications
  - a. Concrete
  - b. Anchors
  - c. Portable crane
  - d. Skylights
3. Review/coordination meetings/teleconference – includes internal coordination, meeting with Contractor (1) and meetings with City (2)

#### **Task 4 – Services During Construction**

This task assumes construction activity will be limited to installation of the hydraulic lift and skylight replacement. Other work element including procurement and installation of a portable crane will be implemented under a separate contract and are excluded herein. Consequently, Brown and Caldwell will provide the following services during construction/ installation of the hydraulic lift and skylight replacement.

1. Review contractor submittals – lifts, skylights and installation requirements
2. Site visit – conduct one site visit to document the installed lifts and skylights
3. Participate in two progress meetings with City and Contractor
4. Respond to one request for information

#### **ASSUMPTIONS**

1. Drawings will be prepared as markups of existing record drawing sheets in PDF format with addition of supplemental details as required. Recreation of existing drawings in AutoCAD format is not included.
2. CITY will be responsible for providing FDEP with written notification of planned work. As this is a maintenance/replacement type work, Brown and Caldwell does not anticipate any permits required but would expect the CITY to provide a written notification to the FDEP
3. Existing Contractor will perform all work –bid phase services are not included. Brown and Caldwell will work directly with the CITY and Contractor.
4. The portable crane recommendations will be for future implementation by CITY via a separate procurement mechanism.
5. For the skylight replacement, Brown and Caldwell's effort will be limited to development of structural requirements. Accessibility and associated architectural discipline not included (i.e. no work on parapet, ladders, handrails or guardrail requirements). Should accessibility requirements become necessary, separate authorization will be required.
6. The estimated effort is predicated on the assumptions and activities defined for each task.

## SCHEDULE

It is assumed the project will be completed within 270 days from authorization to proceed.

## COMPENSATION

Brown and Caldwell will perform the aforementioned services for a fee not to exceed \$46,345 to be billed on an hourly rate basis. A breakdown of the estimated fee by task is provided in the table below.

The terms of compensation shall be in conformance with our Professional Services Agreement for General Engineering Consultant Services dated October 25<sup>th</sup>, 2017 between the City of Hollywood and Brown and Caldwell.

Task	Description	Fee Estimate
1	Review Background Information and Project Administration	\$13,857.54
2	Conduct Analysis/Calculations	\$16,437.68
3	Preparation of Design Deliverables	\$5,184.64
4	Services During Construction	\$10,866.54
	<b>Total</b>	<b>\$46,345.40</b>

We appreciate the opportunity to serve the City. Please let us know if you require additional information. We look forward to continuing to work for the City of Hollywood. Please contact us with any questions.

Very truly yours,

**Brown and Caldwell**



Celia D. A. Earle, Ph.D., BCEEM  
Vice President

## EXHIBIT B-1

### Summary of Engineering Fees - City of Hollywood - Headworks Engineering Support Services

Description	Amount
Direct Labor Costs	\$ 46,345
Subcontracts and Other Direct Costs	\$ -
<b>Total Fee</b>	<b>\$ 46,345</b>

**EXHIBIT B-2  
LABOR COST ESTIMATE  
CITY OF HOLLYWOOD  
HEADWORKS ENGINEERING SUPPORT SERVICES**

	<b>CSM/PDO</b> Vice President 43.86 <b>\$292.10</b>	<b>PM/Sr. Eng</b> Design PM 41.90 <b>\$251.84</b>	<b>Support</b> Engineer III <b>\$156.05</b>	<b>Anand</b> Design Eng <b>\$209.52</b>	<b>Electrical</b> Discipline Engineer <b>\$209.52</b>	<b>Structural/Sr. Civil</b> Discipline Engineer <b>\$209.52</b>	Project Analyst <b>\$113.70</b>		
Raw Rate \$/hr Billing Labor Rate									
<b>TASKS</b>									
<b>TASKS NOS. 1 to 4</b>									
1 Review Background Information and Project Administration	1	2		6	10	42	8		<b>13,857.54</b>
2 Conduct Analysis/Calculations		6	20		4	48	8		<b>16,436.68</b>
3 Preparation of Design Deliverables		2		8	2	8	8		<b>5,184.64</b>
4 Services during Construction	1	4	4	12	4	18	16		<b>10,866.54</b>
Hour Subtotal	2	14	24	26	20	116	40	<b>242</b>	
<b>Labor Cost Subtotal</b>	\$584	\$3,526	\$3,745	\$5,448	\$4,190	\$24,304	\$4,548		<b>46,345.40</b>
<b>TOTALS</b>									
<b>Total Labor Hours</b>	2	14	24	26	20	116	40	<b>242</b>	
<b>Total Labor Cost</b>	\$584	\$3,526	\$3,745	\$5,448	\$4,190	\$24,304	\$4,548	<b>\$46,345</b>	<b>\$46,345</b>
<b>TOTAL</b>									<b>\$46,345</b>

EXHIBIT B-3

OTHER DIRECT COSTS SUMMARY

HEADWORKS ENGINEERING SUPPORT SERVICES

	UNIT	NO. OF UNITS	UNIT COST	TOTAL COST
1.0	COPYING AND PRINTING			
2.0	TRAVEL			
			<b>SUBTOTAL OTHER DIRECT COSTS</b>	<b>\$0</b>
3.0	SUBCONTRACTS			
			<b>SUBCONTRACTS SUBTOTAL</b>	<b>\$0</b>
			<b>TOTAL ODCS</b>	<b>\$0</b>