

March 15, 2024

Roger Bezerra, P.E.  
**CITY OF HOLLYWOOD**  
Department of Public Utilities  
Engineering and Construction Services Division  
Post Office Box 229045  
Hollywood, Florida 33022

Hollywood Southern Regional WWTP  
IW-2 Repair SDC and O&M Update  
City Project No. 23-9727

Dear Mr. Bezerra:

As requested, Hazen and Sawyer, (CONSULTANT) is pleased to offer engineering services during the repair of IW-2 and to facilitate Operation and Maintenance (O&M) Manual updates for the Hollywood Southern Regional Wastewater Treatment Plant (SRWWTP) deep injection wells IW-1 and IW-2.

**BACKGROUND**

An expansion of the effluent disposal system at the Hollywood Southern Regional Wastewater Treatment Plant (SRWWTP) included the construction of two deep injection wells (IW-1 & IW-2), which were placed into service in 2003. The injection wells were most recently tested for mechanical integrity (MI) in 2022, in accordance with Chapter 62-528 of the Florida Administrative Code (F.A.C) under Florida Department of Environmental Protection (FDEP) Underground Injection Control (UIC) operation permit 156419-006-007-UO/1M.

The IW-1 and IW-2 Mechanical Integrity Testing (MIT) report, submitted to FDEP on January 26, 2023, documented satisfactory demonstration of mechanical integrity for IW-1; however, IW-2 failed one component of the testing, therefore, IW-2 remains out of service.

Per FDEP UIC operation permit 156419-011-012-UO/1M, issued July 12, 2023, the Department will authorize IW-2 returning to service following repair and testing. FDEP approved the repair and testing plan on July 18, 2023, which authorized the removal and replacement of the uppermost casing joint and testing to demonstrate mechanical integrity.

The FDEP UIC permit also required an updated operation and maintenance (O&M) manual for injection wells IW-1 and IW-2. An updated O&M manual was required to be submitted to FDEP within 60 days of permit issuance; however, the City has requested two six-month extensions to submit the updated O&M in recognition of the repair and testing of IW-2. The O&M manual is currently required to be submitted by September 4, 2024.

Note that the new injection wells IW-3 and IW-4, which are currently under operational testing and authorized under a separate FDEP UIC permit, are not affected by this work.

## **SCOPE OF SERVICES**

### **Task 1 – IW-2 Repair Oversight**

CONSULTANT shall coordinate implementation of the FDEP-approved plan and provide general oversight services. The CONSULTANT will conduct a preconstruction meeting and review project schedules, pay requests, and other contractor submittals. Services to be provided during repair and testing include preparation of daily inspection reports, coordination with Contractor, witnessing testing, and observing work for conformance with the contract and permit. Construction progress meetings are not included in this scope of work. Witnessing testing includes video surveys and casing pressure tests.

### **Task 2 –Reporting and Regulatory Communication**

For the duration of the Contractor's work, the CONSULTANT will be in communication with FDEP and will coordinate FDEP witnessed testing activities. Upon completion of the casing repair, scale and debris removal, and MIT, CONSULTANT will prepare a report that summarizes the results of the casing repair and MIT. The report will provide the results and interpretation of the testing requested by FDEP for completion of said work. The CONSULTANT will submit a draft report to the City for review. A final report will be prepared and submitted to the City and to FDEP following City review.

### **Task 3 – Update Operation and Maintenance Manual**

The CONSULTANT will update the Operational and Maintenance (O&M) manual, as it pertains to the IW-1 and IW-2 injection well system operation, monitoring well sampling protocol, injection well as-built drawings, if necessary, mechanical integrity testing statement, well system maintenance, emergency procedures, and plugging and abandonment plan. The CONSULTANT will submit a draft O&M manual to the City for review. A final O&M manual will be prepared and submitted to the City and to FDEP following City review.

### **Task 4 – City Directed Services**

This task is intended to provide for additional services, not currently defined, that may be requested and authorized by the City during the course of the project. Use of the associated budget is subject to specific authorization by the City.

## **KEY ASSUMPTIONS**

- The cleaning activities are intended only for Injection Well IW-2. Although cleaning of IW-1 is recommended prior to the next 5-year MIT, such work is not included in the Contractor's current scope of work.
- Should an internal demonstration of IW-2 mechanical integrity be unsuccessful after scale removal and replacement of the upper casing, the well will continue to remain out of service. The City may then proceed with the installation of a smaller diameter liner, thereby restoring mechanical integrity at the expense of a loss of well capacity. The associated liner plan, design, and bidding will be performed under a separate task. A plugging and abandonment plan, oversight, and permitting are not included in this scope.
- CONSULTANT field oversight for the duration of 150 days to Contractor's Substantial Completion. Oversight will include spot checking during non-critical construction activities such as mobilization, demobilization, demolition, cutting and removal of casing, and repair of well pad. This scope does not include full time inspection while the Contractor is onsite.

- Casing welding and pressure testing will be inspected by the CONSULTANT.
- CONSULTANT field oversight does not include elements of work that are not included in the current repair contract, but which could be required in a future contract in the event the wellhead repair fails to fully address the mechanical integrity issue.
- CONSULTANT will be present for the Substantial Completion walk-through to prepare the punch list and the final site walk through with the Contractor and City prior to Contractor's Final Completion.
- An FDEP UIC permit modification is not anticipated and not included in this scope.
- O&M Manual submittal date to FDEP is September 4, 2024. Should an extension be required, the CONSULTANT will request an extension on behalf of the City.
- This scope of work does not include the preparation of or update to the O&M manual for the new injection wells IW-3 and IW-4.

## **COMPENSATION**

The engineering services for this project will be performed on a Not-to-Exceed basis in the amount of \$83,149. A fee breakdown is attached.

## **SCHEDULE**

CONSULTANT is prepared to proceed with these services immediately. The field oversight activities will be dependent on the Contractor's schedule.

A draft repair report will be submitted to the City within 60 days of the repair work. The final report will be submitted to FDEP 90 days following completion of the repair work.

We anticipate completion and submittal of the O&M manual within 60 days after the Contractor's completion of repair work. Final submittal to FDEP will be 2 weeks after receipt of written comments from the City.

Engineering services for the project will be performed as part of the Professional Services Agreement for General Engineering Hazen Services (Agreement) dated October 2023. Services provided by Hazen and Sawyer, D.P.C. shall be limited to those services specifically identified in this work order.

We look forward to your reply. In the meantime, should you have any questions, please contact us.



Very truly yours,

**Hazen and Sawyer, D.P.C.**

A handwritten signature in blue ink, appearing to read "J. Philip Cooke".

J. Philip Cooke, P.E.  
Senior Associate

c: *File No. 4321-099*  
*G. Bulman*  
*A. Giuliano*

*Attachment*

CITY OF HOLLYWOOD  
SOUTHERN REGIONAL WASTEWATER TREATMENT PLANT  
Injection Well No. 2 Repairs SDC and O&M Update  
Fee Breakdown

<u>Tasks</u>	<u>Associate Vice President</u>	<u>Senior Associate</u>	<u>Geologist/ Hydrogeologist</u>	<u>Assistant Engineer</u>	<u>Principal Designer</u>	<u>Scientist</u>	<u>Administrator</u>	<u>Subtotal</u>	<u>Cost</u>
LABOR									
Task 1 - IW-2 Repair Oversight	16	32	28	120	0	120	0	316	\$ 47,256
Task 2 - Reporting and Regulatory Communication	0	16	40	12	4	12	2	86	\$ 15,786
Task 3 - Update Operation and Maintenance Manual	8	12	8	24	8	24	2	86	\$ 15,007
Task 4 - City Directed Services	0	0	0	0	0	0	0	0	\$ 5,000
Subtotal	24	60	76	156	12	156	4	488	<b>\$ 83,049</b>
DIRECT EXPENSES									
Out-of-pocket									\$ 100
Subtotal									<b>\$ 100</b>
<b>Total (Not-to-Exceed)</b>									<b>\$ 83,149</b>
Maximum Hourly Raw Labor Rate*	\$108.15	\$107.12	\$55.62	\$38.11	\$59.74	\$32.96	\$30.90		
* Overall multiplier = 3.1									