TASK ORDER NO. 02
Jacobs Engineering Group Inc.
Professional Services for Maintenance and Reliability and
Lift Stations Condition Assessment

THIS TASK ORDER is made and entered into by and between the City of Hollywood, Florida, hereinafter referred to as "City" and, Jacobs Engineering Group Inc., hereinafter referred to as "Consultant", consistent with the terms of the Master Agreement for Continuing Engineering Consultant Services, dated _____, 2024, between the County and City;

WHEREAS, the Master Agreement between the City and Consultant provides that requirements for professional services are to be set forth in tasks orders;

IT IS AGREED as follows:

SECTION A. BACKGROUND AND INTENT

The City requested that Jacobs, from its General Consulting Services Pool (GCSP), provide professional engineering services related to the development of a strategy to improve overall Maintenance and Reliability (M&R) performance. As such, Jacobs is proposing a combination of program assessment, staff training, and condition assessment services that will serve to develop both a near term and longer term set of activities that will work to move the overall maintenance and reliability and asset management program.

The specific scope of work is detailed in Section C of this task order.

SECTION B. PROJECT REPRESENTATIVES

For City of Hollywood:

- Ameer Khan – Asset Manager

For Consultant:

- Raul Alfaro – Project Manager
- Jim Oldach, – Lead M&R Assessor
- Alex English – Lead, CMMS (Cityworks) Assessor
- Matt Crowley – Lead, Lift Station Condition Assessor

SECTION C. SCOPE OF WORK

Task 1 - Maintenance and Reliability Principles Workshop

Task 1.1 M&R Principles Workshop

Consultant's senior maintenance and reliability expert will conduct a 4 hour workshop which will include training, discussion, and activities related to modern day maintenance and reliability principles for an unlimited number of attendees. Jacobs recommends this workshop as the first phase of any M&R improvement initiative as it works to establish a foundation for standard M&R practices. Specifically for the City of Hollywood, it will provide the assessment participants an opportunity to meet the assessor and develop a relationship that will lead to honest and open dialogue during the interviews, and most of all, allow them to understand what the "to be" state for the client's M&R program should look like.

The workshop will include the following topics:

a) Reliability Principles / Nature of failures
b) Asset ranking terms of criticality and risk
c) Putting CMMS work history to work
d) Overview of reliability analysis (RCM, FMEA, or PMO)
e) Work Management / Planning and Scheduling
f) Root Cause Analysis
g) Preventive Maintenance Optimization (PMO)
h) Overview of condition-based maintenance
i) Operator Driven Reliability (ODR)

Task 1 Deliverables

- 4 Hour M&R Best Practices workshop to include:
  - Interactive training session
  - Classroom materials
  - Post training quiz

Task 2 - Maintenance and Reliability Program Assessment

Task 2.1 Site Visit and Interviews

Up to two Consultant staff will spend 4 days onsite conducting a comprehensive M&R program assessment that employs the Jacobs CAMRA+ assessment methodology. The CAMRA+ M&R Assessment has been used by multiple industry leading water and wastewater organizations over the last several years with measurable positive results, and in some cases, awards for reliability program improvements. The CAMRA+ assessment covers approximately 113 elements across the following nine M&R categories:

- Organizational Readiness
- Database Management (Cityworks)
- Work Management
- Planning and Scheduling
- Maintenance and Reliability
- Operator Driven Reliability
- Inventory Management
- Metrics and Performance
- Asset Management

The CAMRA+ assessment tool includes both an Asset Management assessment that evaluates asset management performance against the ISO55001 standards and the Maintenance & Reliability program assessment which evaluates the M&R program at a much more detailed level. CAMRA+ uses a slightly modified version of the ISO55001 assessment maturity scale as documented in the IAM Self-Assessment Methodology Plus (2015). The key difference is that the CAMRA+ maturity scale runs from 1-5 rather than 0 to "Beyond". The "Competence" level on the CAMRA+ scale is Level 4.

As part of this task, consultant will also submit an information request list that will consist of documents, data, and background information for Consultant to review prior to the onsite visit.

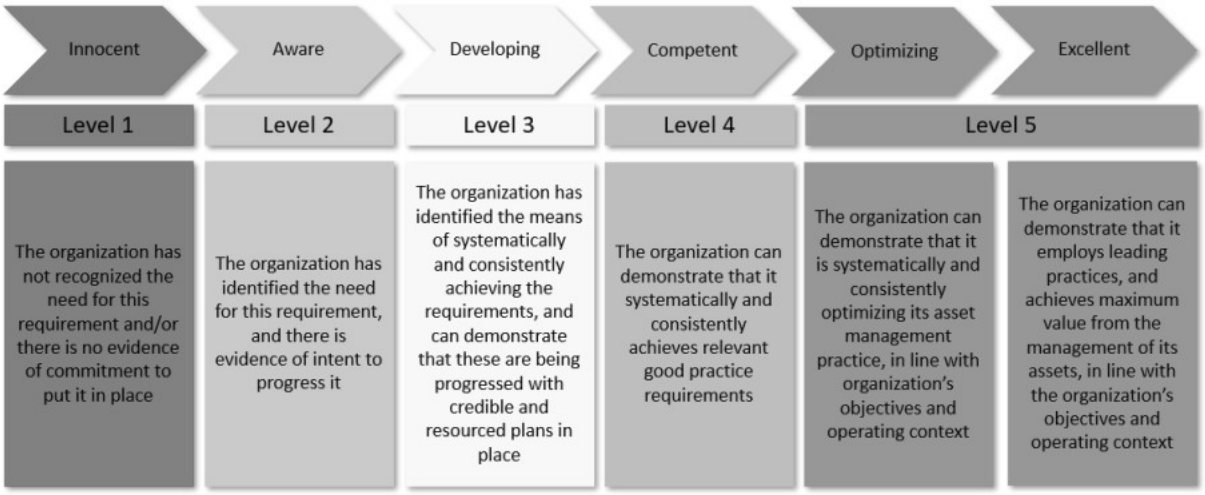

Figure 1. CAMRA+ Maturity Scale

The City of Hollywood needs to develop functional teams that will be responsible for providing information and discussing issues across the nine (9) M&R categories. It is recommended that the teams include a minimum of five (5) and a maximum of ten (10) members and are comprised of individuals who will feel free to state opinions among the rest of the team. Once the functional teams are selected, the City is to provide Consultant with the team information, list of member names and roles, and the team's session schedule, preferably at least 1 week ahead of the site visit.

Consultant will spend four (4) days onsite facilitating multiple interview sessions per day with the pre- selected functional teams. The sessions will be a combination of interviews, discussions, and document review.

Task 2.2 M&R Assessment Report Development

Consultant will work off-site developing a detailed M&R findings and recommendations draft technical memorandum to include a multi-year improvement plan/roadmap, similar to the example as shown in Figure 2 below. Each block in the improvement plan will have a detailed set of findings and specific recommendations for implementing the task.

During this time, Consultant may request supporting information City staff for supporting information or clarification on an issue. Consultant will deliver the draft assessment report within 2 weeks of the onsite visit for City review and comment.

Consultant will facilitate a Microsoft Teams meeting with selected City staff to review the report review and document and feedback / comments. Jacobs will document meeting minutes and then make any necessary changes to the draft report and issue the final report within 1 week of the review meeting.

Following the report review, Consultant will update the draft report to final that will include converting the M&R Improvement Plan (Figure 2) into a more detailed project plan using MS Project. This preliminary project plan will include basic project prioritization and scheduling information. It is expected that once this preliminary project plan is delivered, the City will assume ownership and management of the project plan.

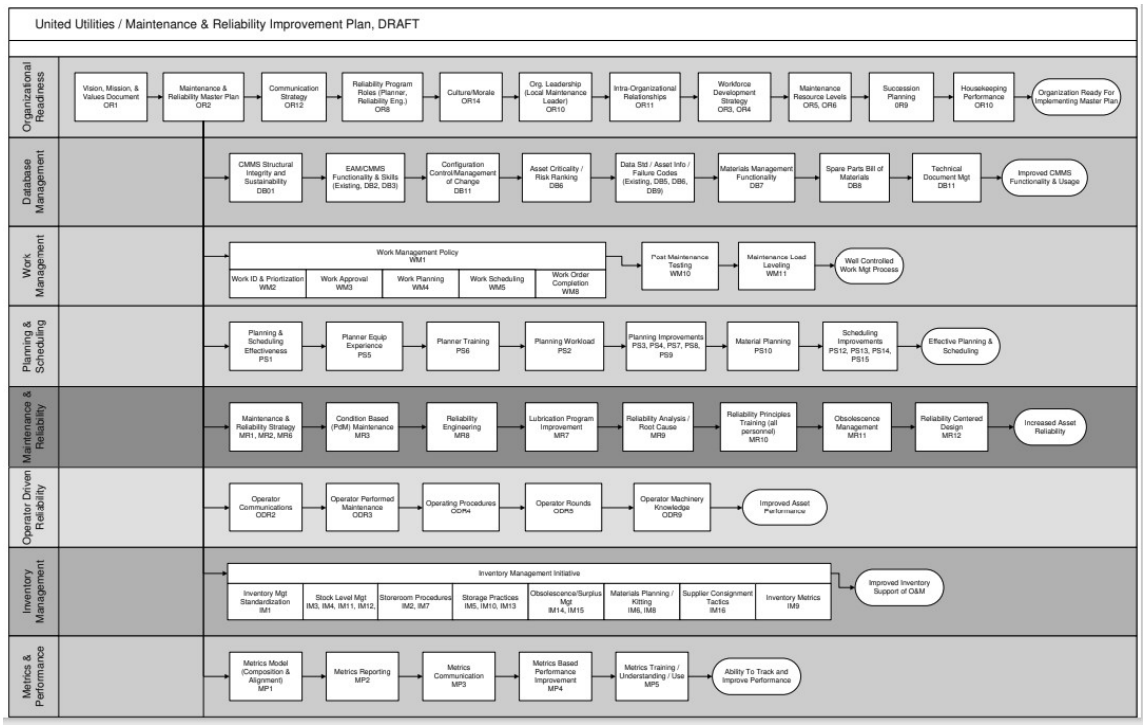

Figure 2. Example M&R Improvement Plan

Task 2 Deliverables

- Technical Memorandum to include:
  - WWTP M&R Assessment findings and recommendations
  - WWTP Multi-year M&R program improvement plan

Task 3 – Condition Assessment of Lift Stations

Consultant shall provide the following services to the City, as described herein, in the form of condition assessment and facility evaluation *for forty four* (44) of the City's wastewater lift stations (stations).

Task 3.1 – Lift Stations Assessment Planning

The purpose of this task is to plan and solicit concurrence for the condition assessment work of Tasks 2 and 3.

- A review of the information furnished by City for Consultant's development of Lift Stations and Asset Registry.
- Planning Workshop No. 1. Consultant shall facilitate a workshop (via in Person and MS Teams) with City to discuss Consultant's review of City data, draft asset inventory, condition rating scale, proposed asset types to be assessed, asset-groupings, assessment criteria, assessment field logistics and schedule. If required a follow up meeting will be scheduled to finalize any action items from Workshop No. 1.
- Consultant will use its Asset Condition Evaluation System (ACES) database for the condition assessment. ACES is a data management tool for centralized storage of condition assessment data including asset list, condition information, asset attributes, photos and reports. Using the results of Planning Workshop 1, Consultant will populate

the ACES database with available lift station location and asset information. Asset registry gaps will be reconciled, based on definition of asst types for assessment in Planning Workshop 1, during the onsite condition assessments.

- Consultant will describe required operating conditions per asset and City WTP staffing support needs during field assessment work of Task 2.
- A Field Work and Safety Plan will be created describing the details and logistics of the assessment. This document will be made available to the City if desired.

Task 3.2 – Lift Station On-Site Condition Assessment

Consultant shall implement the Field Assessment Plan developed as part of Task 3.1 with three experienced Consultant condition assessment professionals. The level of effort budget for the Jacobs field assessment team is based on a team of three assessing a minimum of 4 stations per day during normal working hours for the City in accordance with the following:

- Assessment to include lift station mechanical, electrical, instrumentation, structural and site assets related to the operation of the lift station.
- Electrical components such as transformer, automatic and manual transfer switches, electrical switchgear and VFDs are expected to be included in the assessment.
- HVAC systems where relevant
- Exposed structural components.
- Visual evaluation of coatings.
- Observation of noise, odors, and vibration.
- Observation of equipment operation flow, pressure using existing instruments
- Field electrical measurements including voltage and amperage measurements under load where possible, and insulation resistance of electrical equipment. This service is limited to working live 480V Category 2 Arc Flash.
- Consultant shall provide the requisite tools and instruments required for the condition assessment data collection.
- Consultant shall not plan to enter permit required confined spaces as part of this scope. Wet wells will be inspected from the deck without breaking the plant of the hatch cover.
- Consultant shall have no authority to exercise control over, nor shall they bear any responsibility for, the health and safety of parties other than Consultant's field assessment team.
- No heavy cleaning or asset maintenance by Consultant are included in this scope of work.

Task 3.3 – Lift Station Condition Assessment Report

Consultant shall prepare a Lift Station Condition Assessment report that summarizes the results of the Task 1 planning and Task 2 field work as well as presenting the following key elements. Additionally, recommendations and estimated costs for repair, rehabilitation, and/or replacement of assets shall be presented. In summary, the report shall include the following key elements related to the assets assessed:

- Lift Station asset registry.
- Asset condition scoring.
- Asset remaining useful life.
- Photographs of each asset and noted deficiencies (as applicable).
- Identification of deficiencies per asset for each lift station.
- Recommended repair, rehab, replacement strategies and associated costs for each deficiency.

- Prioritization of repair, rehab, replacements and assignment to three basic time horizons (e.g. 0-2 years; 2-5 years; 6-10 years).
- Recommendations for additional, targeted assessment, or other strategies to enhance maintenance efforts at the Lift Stations, if applicable.

Consultant shall prepare a draft of the Lift Station Condition Assessment report and submit it to City for review and comment. Consultant shall facilitate a teleconference via MS Teams to review City comments. Consultant shall finalize the report based on City review comments.

Task 3 Deliverables

- Workshop agenda and minutes
- Finalized list of lift stations and asset types for condition assessment
- Finalized assessment criteria by asset type
- Final Lift Station Condition Assessment report

SECTION D. CITY'S RESPONSIBILITY

Task 1 – M&R Best Practices Training

- Provide a room large enough to accommodate the number of attendees equipped with presentation equipment to project MS Powerpoint presentation.

Task 2 - M&R Program Assessment

- City to provide available formal policies and procedures associated with M&R program management.
- City to provide work history data from CMMS as available
- City to attend and coordinate pre-scheduled interview sessions with appropriate City staff.
- City to identify a City project manager who will be Consultant's main point of contact during the project.
- City to provide site and operational data and other information requested by consultant as available.

Task 3 – Lift Station Condition Assessment

- City shall provide staff with Lift Station experience to escort Consultant to all lift stations.
- Assets are expected to be operating under normal operating conditions and loading at the time of the assessment. Assets which cannot be observed operating under close-to-normal operating conditions and loading shall only be visually observed.

SECTION E. SCHEDULE

Deliverables shall be provided per the following schedule:

Task	Description	Calendar Days from NTP
1	Maintenance and Reliability Principles Workshop	45
2	Maintenance and Reliability Program Assessment	90
3	Lift Station Condition Assessment	120

SECTION F. BASIS OF COMPENSATION

The Consultant proposes to perform the work described in Section C is on a time and materials basis. The total engineering fee including labor and expenses is $ 161,953 as shown in the table below and Exhibit A.

Task	Description	Fee
1	Maintenance and Reliability Principles Workshop	$12,010
2	Maintenance and Reliability Program Assessment	$45,430
3	Condition Assessment of Lift Stations	$93,640
	Reimbursable Expenses	$10,873
	Total	**$161,953**

SECTION J. ACCEPTANCE

IN WITNESS WHEREOF, the parties hereto have executed this Amendment on the dates indicated below.

For: City OF HOLLYWOOD, FLORIDA

ATTEST: As approved by the board on

Date: _____

_____ By: _____

For: Jacobs Engineering Group Inc.

WITNESS:

_____ By: _____

Raul Alfaro, PE David Ashman, Vice President

EXHIBIT A
Fee Schedule

Jacobs Engineering Group Inc.								
	Technologist/Engineer 8	**Technologist/Engineer 7**	**Project Manager /Engineer 6**	**Technician 6**	**Planner/Engineer 4**	**Engineer 3**	**Technician 2**	**Total Fee**
Hourly Rate	$310	$275	$230	$190	$175	$150	$110	
Task 1. Maintenance and Reliability Principles Workshop	24		4		14	8		$12,010
Task 2. Maintenance and Reliability Program Assessment	80		4		58	52	16	$45,430
Task 3. Lift Station Condition Assessment	12		244	100		84	20	$93,640
Reimbursable Expenses								$10,873
Totals								**$161,953**

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