CAROLLO ENGINEERS
AND
CITY OF BOYNTON BEACH

WORK ORDER NO.U-2C-05
ASSISTANCE WITH CMMS IMPLEMENTATION

SCOPE OF SERVICES
March 31, 2017

PROJECT BACKGROUND

Boynton Beach Utilities (CLIENT) is implementing a Computerized Maintenance Management System (CMMS) using Transcendent software by Mintek, Inc. This software will help the CLIENT manage work orders, including maintenance procedures and schedules, as well as track information on key assets such as asset type, age, and condition. It is envisioned by the CLIENT that this software will initially be used to track above ground assets (such as at their water treatment plants) but may also be used for below ground assets at a later time. Currently, the CLIENT uses iWater by infraMAP Software to track below ground assets.

The CLIENT has asked Carollo Engineers, Inc. (ENGINEER) to assist in the implementation of their CMMS. Implementation, for this project, will generally consist of assisting the CLIENT with the initial configuration of the Transcendent software, initial population of the asset registry, as well as other miscellaneous task related to the CMMS. ***The intended outcome of this Work Order is to provide an initial architecture of the CMMS so that the CLIENT can start using the CMMS to begin managing assets and work orders at the East and West WTP's.***

TASK 1 – ASSISTANCE WITH CONFIGURATION OF CMMS

This task consists of working with the CLIENT and Mintek to initially configure the Transcendent software for use as a utility CMMS. Transcendent has limited application as a utility CMMS, but Mintek is beginning to move into this arena. It is assumed that Mintek will provide example configurations from other utilities (e.g.

Palm County, FL) as an initial basis for defining input screens and reports.

ENGINEER will assist the CLIENT and Mintek to define data input screens and the fields needed to track assets, produce work orders, and develop reports. Mintek has a separate scope to develop screens and reports, so ENGINEER will primarily provide assistance to help CLIENT develop input fields to capture information needed to initially setup the CMMS.

For this task's fee, approximately 80 hours have been designated for the ENGINEER to assist Mintek and CLIENT design and configure screens and reports.

Deliverables

1. None.

Assumptions

1. Mintek to provide example Transcendent configurations from other utilities (e.g. Palm County, FL) as an initial basis for defining input screens and reports and will develop and configure CLIENT's specific input screens and reports.

TASK 2 – DATA INTEGRATION OF ASSET REGISTRY

This task consists of entering necessary information into the CMMS. The CLIENT has developed an asset identification system to provide a unique ID for each asset to be tracked. It is assumed that CLIENT has the asset tree labeled with unique asset IDs.

The ENGINEER has previously identified the condition of certain assets at the East and West WTP's as well as at the SCRWWTP. This information was entered into a database (WAM) and a spreadsheet is available that contains each assessed asset and relevant data on each asset. This database will be reconfigured to align with the fields developed in Task 1 so the data can be imported into the Transcendent database. The ENGINEER will align the asset ID's with each asset that was inspected since the asset ID system was developed after the above condition assessments.

Much of the East WTP has just been through a major upgrade project. Therefore, many of the assets at this plant are new. A database (spreadsheet) of the assets at the East WTP, with asset ID's, will be given to CDM Smith who will input pertinent

data about the new assets (e.g. serial number, model number, capacity rating, capacity units, last inspection date, last inspector, etc.). ENGINEER will develop the fields that CDM Smith will need to fill out with input from CLIENT. This database will be combined with the database described previously (WAM) and imported into the Transcendent software by Mintek.

Deliverables

1. Spreadsheet of asset database.

Assumptions

1. CLIENT will have the asset tree labeled with unique asset IDs
2. CDM Smith to provide pertinent data about the new assets at the East Plant (e.g. serial number, model number, capacity rating, capacity units, last inspection date, last inspector, etc.)

TASK 3 – ADDITIONAL CMMS CONFIGURATION

This task provides additional configuration of the CMMS based on the results of Task 1. The CLIENT may require additional configuration of input screens and reports beyond what is currently included in Mintek's contract. Therefore, an additional level of effort is included in this task in case additional programming and CMMS configuration is needed.

Deliverables

1. None.

TASK 4 – ADDITIONAL DATA COLLECTION FOR CMMS

This task includes collection of additional data from the CLIENT's available resources needed for the CMMS. It is envisioned that certain data fields developed in the Transcendent database will be filled in for application of the software to work orders and other processes. These fields may include the data for the West WTP similar to what CDM Smith will complete for the East WTP (see Task 2). It may include data such as maintenance schedules & procedures.

For budgeting, it is assumed that approximately 240 hours will be allotted to the ENGINEER for this task. If additional information is needed by the CLIENT, due to

data availability issues, or significant additional data that will take beyond the designated hours to collect and input, then additional budget will need to be allocated in a future task order.

Deliverables

1. Database of collected information.

Assumptions

1. Data will be collected from existing/available data sources, such as O&M manuals.

TASK 5 – PROJECT MANAGEMENT

Project Management and Budget/Scope Review. Tracking and managing the budget variance based on actual versus budgeted, maintaining the overall schedule, and coordination of subconsultants.

Monthly Progress Reports. Monthly progress reports will be prepared that discuss the work conducted and by whom during the month, budget and schedule status, and work to be completed by the next progress report.

Communications. To include general communication among ENGINEER, subconsultants, and CLIENT staff members for overall facilitation, and to ensure that the project is completed on time and within budget while meeting Boynton's goals.

COMPENSATION

The total compensation shown in the table below is based on the hourly rates established in Exhibit A to the Agreement.

Task	Description	Budget
1	Assistance with Configuration of CMMS	$ 20,900
2	Data Integration with Asset Registry	$ 9,000
3	Additional CMMS Configuration	$12,400
4	Additional Data Collection for CMMS	$ 43,600
5	Project Management	$ 12,600
	Total	**$ 98,500**

CLIENT shall make payments to Carollo for services performed for this task order in accordance with Section 2 of the Agreement, and in accordance with the following requirements:

- Charges will be invoiced on a monthly basis as described above with a not to exceed upper limit of $98,500.
- Mileage will be charged at the IRS Reimbursement Rate of $0.58/Mile
- Charges for outside professionals (subconsultants) will be charged at 1.1 times their direct invoice to the ENGINEER.
- Rates and factors underlined in this section are subject to adjustment on an annual basis.

PROJECT SCHEDULE

The CLIENT and the ENGINEER upon agreement of the goals, objectives, and scope will develop milestones for each assignment if necessary. The overall schedule for this work order is for one (1) year after notice to proceed.

PROJECT ASSUMPTIONS

The CLIENT shall furnish the ENGINEER available studies, reports and other data pertinent to the ENGINEER's services; obtain or authorize the ENGINEER to obtain or provide additional reports and data as required; furnish to the ENGINEER services of others required for the performance of the ENGINEER's services hereunder, and the ENGINEER shall be entitled to use and rely upon all such information and services provided by the CLIENT or others in performing the ENGINEER's services under this Work Order.