

GREAT LAKES WATER AUTHORITY

CONTRACT GLWA-CS-108

**PROFESSIONAL ENGINEERING SERVICES FOR
AUTOMATION NEEDS ASSESSMENT OF WATER TREATMENT PLANTS**

BULLETIN NO. 2

November 30, 2016

This Bulletin No. 2 is hereby made part of the Request for Proposals for the above-named project and shall be taken into consideration by all firms preparing a proposal on this project. All proposers must acknowledge receipt of this Bulletin No. 2.

SCOPE OF WORK

III. Scope of Work

Task 2 – Project Management

Delete the first paragraph and **replace** with the following:

The Consultant shall manage the project and provide, as a minimum, a project work plan, work breakdown structure (WBS) and schedule that shows how the Consultant will complete the work of this project and meet schedule milestones. The schedule shall show subtasks to be executed by the Consultant and shall identify the critical path for completing the entire scope of the project. The WBS and schedule shall also identify planned temporary shutdowns required for conducting the condition assessment inspections and pump characteristic curve verifications of equipment used to transmit that data.

Task 3 – Condition Assessment Report

Delete Item 3 and **replace** with the following:

3. Conduct extensive field verification of all existing conditions on automation equipment connected to or the suitability of connecting to process equipment, including the following as a minimum:

Task 4 – Existing Site Plan Documentation

Delete first paragraph and **replace** with the following:

In addition to the condition assessment scope defined under Task 3, existing site conditions at each station are to be documented by the Consultant by preparing updated as-built site plans. As-built

site plans are to show current up-to-date conditions based on available record drawings provided by GLWA, private utility providers, topographical survey work performed by the Consultant, and all other field work required by the Consultant deemed necessary to confirm/verify the accuracy of the record information provided such that accurate and scalable drawings are produced by the Consultant, excluding legal boundary surveys

RESPONSES TO QUESTIONS FROM PROPOSERS

Please note that all proposer(s) questions are responded to in BOLD and ITALICS text.

Question 1: As stated for the Scope of Work, item I. General Information, the first sentence defines the work for this project as follows: "... to conduct an automation needs assessment at the five (5) water treatment plant high lift pumping stations at the Water Treatment Plants (WTPs) listed in Table 1." During the Pre-proposal meeting and site tours the need to include all WTP facility process units and operations for automation needs and recommendations was identified. Please clarify the WTP automation needs assessment requirements. Is this project limited to the high lift pumping stations identified in Table 1 as stated in the RFP? If not, what are the facility and operating requirements for automation needs assessments and recommendations?

Response 1: The automation needs assessment is not limited to the high lift areas of the 5 plants. The assessment should include all areas of the plant deemed to be critical to the overall process. The requirements for the assessment and recommendations would come from the Water Master Plan, and would stem from answering question 2, which states: What non-automated process areas at the stations are critical to meeting demand/pressures and GLWA Service Level Agreements (SLA) with customer communities, and process area regulatory requirements? In these critical areas, what assets/systems are considered critical to integrate into the data process network?

Question 2: As stated in Task 2 - Project Management (Section III. Scope of Work), the schedule discussion identifies requirements for conducting pump condition assessment inspections and pump characteristic curve verifications. During the Pre-Proposal Meeting and Site Tours, staff comments indicated that only automation related condition information is needed. What are the requirements for pump conditions related to valves, piping, impellers, structures, mechanical, architectural, etc.? Do pump characteristic curves need to be verified?

Response 2: The assessment inspections would be limited to the equipment used to transmit data and or control, not the valves, piping, etc. themselves. The verification of the pump characteristics would be limited to assessing the most effective means for transmitting that data to the SCADA system.

Question 3: The scope for Task 3 – Condition Assessment Report, only requests information for lift stations and includes details for engineering topics that are comprehensive and not limited to automation services. Is a comprehensive engineering assessment required for the lift stations listed in Table 1? Also, does the automation assessment include more than pumping systems?

Response 3: *The other engineering topics are there to provide a guide for determining why or how critical process areas or equipment should be integrated into the SCADA network. Refer to response to question 1 of this bulletin for further clarification.*

Question 4: The scope for Task 4 – Existing Site Plan Documentation, requires the preparation of as-built site plans for each pumping station listed in Table 1, excluding the water treatment plants and legal boundary surveys. During the Pre-proposal meeting and site tours, staff comments indicated that this task should be limited to information related to automation and control for the entire facility at each of the five (5) water treatment plants. Please confirm what is required for this deliverable.

Response 4: *The condition assessment should include preparation of as-builds of the current automation network at each facility.*

Question 5: The scope for Task 5 – Needs Assessment Report, requests a needs assessment for only five (5) pump station as listed in Table 1, then includes the requirement to confirm or contradict the recommendations in the 2015 Water Master Plan Update in terms of the need and capacity of each existing and proposed pumping station, including decommissioning of certain booster stations. Because this project is limited to automation located at the water treatment plants and does not include evaluation of customer demands or booster stations, what is expected for this project as a basis to determine if the water treatment plant and booster pumps are suitable for meeting the needs and capacity requirements, including decommissioning?

Response 5: *The Water Master Plan will be used as a guide to determine the critical process areas that should be included in the SCADA network. For example, if the Master Plan has a plant or area slated for decommissioning the needs assessment should speak to this when recommending automation.*

Question 6: The RFP calls for an automation assessment for both the pumping systems and plant automation needs. Is the emphasis on one or the other or both? Are any parts of the transmission and distribution system to be evaluated as well?

Response 6: *The scope of this project is to be contained within the plant grounds.*

Question 7: What is the desired level of service which GLWA aspires to and/or is it our task to help determine the optimum level of service? Or are we evaluating the current level

of service against the industry standard of care and making recommendations for changes in GLWA's level of service?

Response 7: *There is no stated goal of percentage reduction. However, the winning consultant shall be expected to project cost savings in their basis of design report for each system.*

Question 8: Is there a target goal for a percentage reduction in operating costs and maintenance costs?

Response 8: *There is no stated goal of percentage reduction. However, the winning consultant shall be expected to project cost savings in their basis of design report for each system.*

Question 9: Are any one line network drawings available for review by the proposers?

Response 9: *Available System diagrams were provided with the attachments.*

Question 10: What systems encompass the "existing data infrastructure"?

Response 10: *This question should be answered through the condition assessment of each plant, the System Diagrams are assumed to capture the existing data infrastructure.*

Question 11: Are the existing power monitors integrated into the SCADA systems?

Response 11: *This question should be answered through the condition assessment of each plant.*

Question 12: How are pumping costs currently monitored?

Response 12: *Pumping costs are currently monitored through overall metering. However, metering design is underway at NEWTP, SPWTP, and SWWTP.*

Question 13: Will the current hydraulic model for the water distribution system be made available? Is there a need to review the system hydraulic model as part of this project's scope?

Response 13: *No, the hydraulic model will not be made available, and is not relevant to this scope.*

Question 14: How much of the regulatory reporting is automated vs manual entry? Which software applications are used to generate these reports?

Response 14: *This question should be answered through the condition assessment of each plant.*

Question 15: What percentage of the automation assets are currently in the WAM system?

Response 15: *Most automation equipment is considered a component of the parent asset in WAM. Less than 50% of automation equipment is in the WAM system as an asset.*

Question 16: Please clarify the as-built documentation requirements called for in Task 4? Specifically, what level of detail does GLWA expect to see in the as-built documentation, and what systems or areas are to be covered?

Response 16: *The as-builds should include one line diagrams of the existing SCADA equipment (PLCs, ovation controls, etc) from each facility.*

Question 17: Is there any topographical documentation required as part of the automation assessment needs?

Response 17: *The as-builds should include one line diagrams of the existing SCADA equipment (PLCs, ovation controls, etc) from each facility.*

Question 18: Is there a file size limit on MITN uploads? If the proposal exceeds the limit, can it be broken up into multiple parts?

Response 18: *The MITN website has a limitation of 32 megabytes per file. If your file exceed 32 megabytes, please submit additional files.*

Question 19: Regarding item 9 on page 8, can GLWA clarify which systems comprise the “all integrated process systems”? Is this limited to the I&C systems at each plant? Is it limited to automation hardware, or also data?

Response 19: *All integrated process areas means the areas within the plant grounds that through consideration of the Water Master plan and plant needs should be automated for control, monitoring, data collection, etc.*

Question 20: Is the project scope limited only to the High Lift Pumping Stations at the Water Treatment Plants or does it include all processes at the Water Treatment Plants? If the scope does include the larger plant please clarify which areas of the plant are to be included. Information communicated at the site visits inferred the scope of the RFP was include the entire plant, therefore definitive confirmation is required.

Response 20: *The automation needs assessment is not limited to only the high lift areas of the 5 plants. The assessment should include all areas of the plant deemed to be critical to the overall process including ancillary systems like HVAC.*

Question 21: Given response to question 2 in Bulletin 1, is Task 3-3a relevant to the proposed work? If, not we recommend removal of Task 3–3a from the RFP. If it is relevant, given the responses to Bulletin 1 please clarify what is to be delivered to satisfy Task 3-3a.

Response 21: *The assessment should include all areas of the plant deemed to be critical to the overall process. The requirements for the assessment and recommendations would come from the Water Master Plan, and would stem from answering question 2, which states: What non-automated process areas at the stations are critical to meeting demand/pressures and GLWA Service Level Agreements (SLA) with customer communities, and process area regulatory requirements? In these critical areas, what assets/systems are considered critical to integrate into the data process network? The other engineering topics are there to provide a guide for determining why or how critical process areas or equipment should be integrated into the SCADA network.*

Question 22: Task 3, Item 5 a) and 5 b): Can you please clarify the reference: “similar to # 10 above, except the whole station”.

Response 22: *The assessment inspections would be limited to the equipment used to transmit data and or control, not the valves, piping, etc. themselves.*

Question 23: Task 4 - RE: As-Built drawings. Does GLWA have AutoCAD files of the PLC panels etc. available for the proponent to update for the as-built drawings? Does GLWA expect the proponent to trace wires for the control system as-builts to simply document what can visually be confirmed? Does GLWA require the proponent to conduct I/O testing of existing PLC panels as part of the As-Built drawing scope? Are field confirmed highlift pump station P&IDs to be included in the as-built drawing set? Please confirm that AutoCAD Civil 2D is not required here given the produce as-builts are I&C scope (no civil or mechanical aspects).

Response 23: *The vendor would be required to do what is necessary to provide as builds of each plant’s existing SCADA equipment whether connected as a system or not.*

Question 24: Task 5: Does item 1 of the Task 5 work include a process/hydraulic analysis of the pump station for confirmation purposes against the 2015 updated Water Master Plan? Are the remaining items of Task 5 (items 2 through 8) limited to control and automation aspects only? If this is not correct please provide clarification

Response 24: *No, Task 5 does not include a hydraulic analysis, and the remaining items are limited to control and automation aspects.*

Question 25: What is GLWA’s budget for this project?

Response 25: *GLWA does not share this information with plan holders.*

Question 26: If the proponent is not a registered engineering firm in the State of Michigan, but has licensed State of Michigan PEs on staff and is a speciality firm in Controls & Automation, does this exclude them from submitting a proposal for this project?

Response 26: *The work must be signed by a PE licensed in the State of Michigan.*

Question 27: Given the nature of this project and that there is no materials supplied or constructed, is a statement of bonding capacity as specified under Section II, Item J required?

Response 27: *No, a statement of bonding capacity is not required.*

Question 28: Will bid proposals/responses be accepted from OEMs (automation system manufacturers)? How about from OEM led teams, or teams with an OEM as a member?

Response 28: *OEM teams or members will not be excluded from bidding.*

Question 29: Cost Proposal Submittal Requirements section I A. Level of effort states Cost must not be included. Does this statement only pertain to the Summary Table? Cost is required for Appendix G, correct?

Response 29: *Please delete cost must not be included, and change to include estimated hours and cost.*

Question 30: Task 3 – Condition Assessment Report item 2 describes summarize applicable industry and building codes. Is the intent to only review codes pertaining to safety of staff in conjunction to automated process areas?

Response 30: *Yes*

Question 31: Task 3 – Condition Assessment Report states instrumentation and control is from the field indication devices, primary element, raceways and wiring, PLC, control panel, Ovation, etc. This appears to duplicate efforts from other GLWA RFP issued this years which are conducting condition assessments of Instrumentation, control cabinets, mounting apparatus, wiring, conduit, and raceways. So is it the intent of this project to take off from that point of demarcation and assess the PLC, logic, and Ovation on the existing systems only or all elements connected to the process control system from the field equipment and instrumentation through the PLC and to the Ovation controllers?

Response 31: *The intent would be to assess all related elements connected to the process control system from the field equipment and instrumentation through the PLC and to the Ovation controllers.*

Question 32: Task 4 –Existing Site Plan Documentation describes documentation of each pumping station excluding water treatment plants. It further describes the efforts

of as-built site plan with documentation delivered to GLWA in AutoCAD Civil. Is this effort expected in the Automation Needs Assessment?

Response 32: The consultant shall provide scaled site plans. However, the consultant is not expected to create scaled as built drawings for this project.

Question 33: Under deliverables item 8) As-built conditions of each of the five (5) water treatment station sites. Provide to GLWA in AutoCAD Civil 3D v 2015 or newer format. Is the intent of this deliverable for existing provided drawings containing automation elements to be updated?

Response 33: Yes, the consultant will be responsible if items are found not on available drawings.

Question 33: RFP listed and provided attachments 3 thru 6, PLC /Data Inventory List and Reference Drawings for Lake Huron, Northeast, Springwell and Southwest WTP, respectively. Is there Similar PLC inventory List and reference documents for Water Works Park?

Response 33: Yes, the list shall be provided on MITN.

Question 34: RFP page 5, Section III, Item B.1.c – The last sentence of item C states “Provide Standard Form 330 for the firm for this project.” Does GLWA want a full company SF330, including sections E, F (projects), G, H and I? Or does GLWA want the organizational chart in SF330 format? If GLWA wants a complete SF330, do we include it in an Appendix? Please note that in Item B.1.d, GLWA requests that project information be provided in the Appendix D format not SF330 format, but in Item C.1.c (pg 6) GLWA requests resumes in SF330 format.

Response 34: Complete SF330 as an appendix to the proposal.

Question 35: For Appendix D, must we use this exact form and layout, or can we change the layout as long as it contains all required information?

Response 35: Yes, your own format can be used as long as it contains the needed information.

Question 36: The Scope of Work and Project Overview clearly describes the condition assessment and automation needs only at the (5) water treatment plant high lift pumping stations but the Request for Proposal title “Professional Engineering Services for Automation Needs Assessment of Water Treatment Plants” infers the assessment is of the Water Treatment Plants. Should the project title in fact reflect that this is for the High Lift Pumping Stations only?

Response 36: This project is for all process areas at the 5 water treatment plants.

Question 37: The automation assets for 4 of the 5 plants were supplied. Will the PLC Assets list for Water Works Part WTP be provided?

Response 37: Yes, this list shall be provided on MITN.

Question 38: Please provide the P&IDs and/or control drawings for each of the 5 sites?

Response 38: Available drawings are provided, however it is expected that the consultant will prepare complete P&IDs for each WTP as a deliverable as part of this project.

Question 39: Please provide instrument lists for all 5 sites?

Response 39: A list will be provided on MITN.

Question 40: Does the scope of this contract include lifting wires and confirmation of operations out to the field devices or does it end in the panels?

Response 40: In circumstances where this cannot be verified by other means, yes this will be applicable.