



Bay County Road Commission
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Bay County Department of Water and Sewer

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COMMISSIONERS
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February 11th, 2021

Request for Proposal for Waste Water Treatment Plant Ultraviolet Disinfection Feasibility Study

The Bay County Department of Water and Sewer (DWS) is hereby requesting Proposals for Professional Services related to evaluating the feasibility of a new ultraviolet (UV) disinfection system by retrofitting the existing chlorine contact chambers at the Waste Water Treatment Plant (WWTP). The current chlorine gas disinfection of the WWTP effluent is effective but extremely dangerous to store, install, and operate. The DWS has received preliminary information on UV systems from several manufacturers and is interested in evaluating the full feasibility of such systems due to reduction in the annual operating costs and improved health and safety procedures which will benefit the organization.

The proposal response is due on Tuesday, March 9th, 2021 before 2:00 pm local time. Proposals shall be sent via email to project@baycodws.org

General Information:

- **A mandatory Pre-Proposal Conference will be held at 10:00 A.M. local time on Thursday, February 18th, 2021 at the Bay County DWS Administration conference room 3933 Patterson Road in Bay City, MI 48706.**
- The WWTP currently utilizes chlorine contact disinfection. This process is the final treatment for the effluent leaving the Wastewater Treatment Plant.
- Average WWTP effluent characteristics are as follows from the past five-year period of data collection:

| | |
|--------------------------------------|--------|
| Flow in MGD----- | 6.34 |
| BOD in mg/l----- | 2.4 |
| Total suspended solids in mg/l----- | 3.98 |
| Total phosphorus in mg/l----- | 0.62 |
| PH standard----- | 7.2 |
| UVT averages for week of 2/1/21----- | 67.11% |

- All proposals must include a fee for professional services including a breakdown of billing rates and a not to exceed fee for the base services.
- Provide a detailed list of experience for each person that will be involved with this project from your firm. This list shall include past similar projects, size of projects, equipment, and financial outcome for client.
- Provide any and all legally documented litigation issues for prospective firms responding to the RFP.
- Provide cover letter indicating a statement of understanding, approach, and anticipated timeline to prepare the feasibility study.
- Proposal shall be limited to 25 pages or less.
- All questions regarding the proposal must be submitted electronically no later than 5:00 pm on Thursday, February 25th, 2021 to project@baycodws.org

The Project Scope is as follows:

- Prepare a feasibility study report for the Bay County DWS to better evaluate the UV disinfection process and determine whether or not to proceed with detailed design. Upon review of the report and anticipated project costs, the DWS may decide to proceed with design and seek a fee proposal for the additional services.
- The feasibility report should address the following preliminary engineering items:
 1. Decommissioning and demolition of the existing chlorine system in its entirety.
 2. Structural demolition and rework of affected concrete areas within the chlorine contact chambers including flooring and partial grading.
 3. U.V. equipment installation within the chlorine contact chambers.
 4. Electrical demolition and installation of M.C.C. cabinets, new conductors, conduits, new U.V. equipment control panel, new power feed from Aeration Building #300 to include all necessary ancillary components.
 5. Construction of a building over the existing chlorine contact chamber structure for housing the new equipment and sample area. Building will be approximately 70' X 45' with 14' ceiling height for equipment servicing.
 6. Integration of flow control with new equipment.
 7. Estimates of probable construction costs and total project costs.
 8. Economic evaluation of the UV disinfection systems compared to the existing chlorine disinfection system. The evaluation shall include capital costs and operations, maintenance, and replacement (OM&R) costs. This economic evaluation shall also include the costs for maintaining the existing PSM program for chlorine gas and the associated costs for staff training.