

# HEFLIN ENGINEERING

P.O. Box 47  
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May 10, 2021

East Madison Water Association, Inc.  
Attn: Leroy Lacy, President  
P.O. Box 533  
Canton, MS 39046

RE: Engineering Evaluation & Recommendations

Dear Mr. Lacy,

We have evaluated East Madison's water system and its capabilities in providing safe, reliable drinking water to the 2,800 customers who are served by the water system. We have identified several deficiencies and weaknesses which limit your ability to provide continuous, safe water service to your customers. These deficiencies are summarized below.

#### *Permenter Booster Station*

The Permenter Bocster Station site has equipment which is failing and is in disrepair. One of the two booster pumps has failed, and the second pump is showing signs of decline. Replacement equipment is obsolete, and lead times on new equipment is 8-12 weeks. Without this booster station, the water system would lose its ability to provide adequate water service to the northeast portion of the water system for an extended period of time. We recommend immediate action to rehabilitate this site by removing the booster station and replacing the well pump with a new pump capable of supplying system pressure. The total estimated cost to rehabilitate this site is **\$85,000** for engineering design and construction in accordance with the Mississippi State Department of Health (MSDH) Minimum Design Criteria.

#### *Ratliff Ferry Tank Rehabilitation*

A recent inspection was performed on the Ratliff Ferry elevated tank, which has a capacity of 100,000 gallons. The coating system on this tank is reported to be in poor condition with flaking and paint loss throughout. Without an adequate coating system, this tank will begin to deteriorate, and contaminants can be introduced into the water. We recommend that the Association begin making immediate plans to rehabilitate this tank at an estimated cost of **\$200,000**.

#### *Generators*

The Ratliff Ferry water well, Sharon water well, and Sulphur Springs SCADA sites do not have generators. Without generators at these three sites, the water system's ability to provide continuous, reliable water during power outages is extremely limited. We recommend that generators be added at these three sites at an estimated cost of **\$160,000**.

#### *SCADA Improvements*

The water system's SCADA system has not been updated in over ten years. As such, many of the components have become obsolete. Without updated equipment, the Association's ability to monitor and control its water system is limited, thereby limiting the ability to provide timely response to system failures and outages. SCADA improvements are estimated to be **\$10,000**.

#### *Lightning Protection Improvements*

Many of the well sites on the water system do not have adequate lightning protection. Without adequate protection, the system is exposed to equipment failures, which can often result in lengthy downtimes. These equipment failures

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greatly affect the water system's ability to provide continuous, safe drinking water to customers. The estimated cost for lightning protection improvements is **\$20,000**.

The total cost of the improvements herein is estimated to be **\$475,000**. With these improvements, your water system would be more resilient and provide better service to the residents, businesses, and schools on East Madison's water system.

Should you have any questions, please do not hesitate to contact us.

Sincerely,



Austin Moore, P.E.