

From: Carol Watson, Dan Gemmecke

Date: January 7, 2018

Cc: Battle Ground Town Council and Battle Ground Conservancy District

Re: Response to "Loose ends from petition process" document

On behalf of the Conservancy Directors, we are pleased to respond to the items mentioned at the October 8 Town Council meeting. The questions may be of interest to all customers and we will provide this information on the Conservancy web site.

To be certain we have addressed your points, a response to each item is listed below.

Water tower #1 size: Specifically, is the new water tower sized correctly?

Yes.

The attached "Utility Planning Study" and "Water Model Results" discuss this topic. BF&S Engineers suggest the need for a tower in the range of 200,000 - 250,000 gallons; the Water Conservancy chose a 100,000 gallon tank.

Following the suggested range, further into the report it states that the actual capacity would be an engineering decision.

Is there an ISO (Insurance Services Office) report available which BF&S can use to properly size the new tower?

The report you refer to is a tool for insurance companies. In Indiana it is not an engineering standard for the design phase.

When tasked with making a recommendation like "tank size" for a water utility, there are multiple pieces to the puzzle that must fit together in a working system. There are resources to guide decisions for these pieces. One source is a written standard, updated periodically, that gives system operators and design engineers guidelines to consider. These guidelines are not mandated, but are recommendations set out to help reach a goal. Three guidelines that are material to the decisions for the current tank replacement project are found in the "Ten States Standard" 2012 Great Lakes edition, page 107, item 17.0.1 Tower Sizing. There may be more than one correct way to implement the standard. The considerations include daily water use of the area served and fire protection needs while avoiding a situation where excess tank capacity (total storage) contributes to poor water quality or freezing due to low turnover rate. Storage capacity recommendations are reduced for systems having backup generators for the well pumps.

The initial decision for a replacement tank capacity of 100,000 gallons takes into account all three of the considerations. Battle Ground daily water use can vary with the seasons, from 100,000 to 200,000 gallons per day. The total storage capacity of the system will be 175,000 gallons supplemented with backup generators. The sufficiency of a system is not determined solely by consulting engineers, but also includes the Indiana Department of Environmental Management which will inspect and approve system construction plans. As currently designed, the tower replacement project and concurrent system upgrades will be appropriate for Battle Ground peak demand including a fire event. If for any reason a variance is later found, IDEM will

identify the concern and the utility may create an appropriate plan for the same. Customers of the Battle Ground water utility can be assured the water system design will be inspected and tested for correct planning.

Upgrade of water mains: Currently the majority of the water mains in the Battle Ground Historic District are 4" in diameter. BF&S Engineers suggest the small size can limit water pressure and limit fire suppression capabilities. Further they suggest the mains be upgraded to at least 6".

Although not a part of the current tower replacement project, the suggestion to upgrade water mains in Battle Ground is a good one, and long range plans do include upgrades to selected areas of historic town. The older 4" mains have been supplemented with projects over the years but not totally replaced due to the cost and disruption of service it would require. The current concept for Battle Ground includes laying a new "backbone" of 8" main on Main Street, Winans and Prophets Rock Road, providing impact with least disruption. New hydrants located on the upsized main will serve side streets with greater capacity and pressure. This was slated to begin in 2020, however the delay of the tower replacement, which precedes the water main replacement, makes the likely plan horizon 2022 or later.

Well #3 NOT Operational: BF&S Engineers state that well #3 is not operational due to the high iron content in the water.

This statement has been made in error multiple times and we would like to emphasize again that all wells in Battle Ground are operational and available to be used. The water supply at Well #3 tests one-half part per million higher iron content than Wells 1 and 2, which draw from a different location on the underground supply. All wells are available at any moment in the event additional capacity is required.

Lead Connections: Approximately a third of water connections in the Historic District are made of lead.

Lead connections are a concern in many communities. The Conservancy District uses phosphate additives in the water supply for corrosion control. The chemical applies a thin coating that covers any lead exposed inside the lines, preventing leaching to the water. Testing at multiple sites on the system is reported to IDEM and has always been found to be below the action level set by IDEM as well as the Environmental Protection Agency. This information is sent to customers every year in a consumer confidence report, which includes several other tests to assure the water is safe.

When possible, connections are replaced to maintain progress toward the goal of lead-free components. Communities that actually have a problem with lead are immediately identified by IDEM and the EPA.

Water Model: Will the water model be updated for the new tower location and size?

When will the report be available?

The “water model” is a tool for system design to assess the effect of change to any part of the system. As a tool, it is unlikely to be available for general public use. It is updated to suit the needs of the design team.

Water tower #2 size: *Will the upper water tower (in the Hawk’s Nest Subdivision) need to be replaced to increase its size given the higher water usage and fire suppression needs of the upper water system?*

At this time there are no indications that Tower #2 is undersized. If opportunity arises for the utility to serve more customers, the system can respond with greater capacity. The current tower project was designed to include a booster pump, and if the request for service exceeds that capacity, a new well could be operational in most cases before any development construction would even be started. The new well could be on a much larger main, with a potential 1200 gallon per minute pumping capacity. The planning is ready, at such time the demand is communicated the Conservancy system can respond.

Total tower #1 cost: *Since the engineering cost of the new water tower #1 is paid separately from the 1.25 Million dollar lease, what will the total cost be?*

The cost estimate for water system upgrades, including a replacement tower, was set at 1.25 million as a budget target allowing contingency for unexpected cost increases in financing rate or project bids. The agreed amount is a stop-loss value for the Conservancy. The project may not need to finance the entire amount, but in worst case it is guaranteed to cost no more.

The project developer was prepared to cover all costs until the lease could be finalized and funds dispersed at a closing, much like a mortgage loan closing that some people have experienced. The agreement was that if for any reason the developer was not selected to finish the project, or did not use lease financing, the Conservancy would reimburse all expenses. When the petition on the lease caused an extension of the timeline for closing, the Directors decided to use an existing general services agreement with the engineering firm to expedite tower design. Expense for initial design was paid from funds already budgeted for capital projects. After the lease closing, the expense for the tower design will be reimbursed to the Conservancy and used for other system needs.