The Stoneridge/Sedgefield/Creek Wood water committee recently conducted a survey of the community to identify their concerns with the Aqua NC owned and operated community water system. The committee now seeks to document factual information which focuses on addressing the top community concerns with the Aqua NC water system: Water Quality, System resiliency (emergency power outages and day to day system failures), and water pressure issues to include the lack of functionality of the fire hydrant system. To this end, we have drafted a list of questions focusing on water quality, system resiliency, and water pressure issues which we would like to pose to Aqua in the setting of an onsite tour and examination of the existing infrastructure.

Water Quality Questions:

1. What is the regular schedule of water testing by Aqua on our water system and where are samples drawn? When is additional testing done?
2. Who collects the samples and what company does the testing?
3. Are results posted regularly and where can they be viewed?
4. What are the current standards for water systems regarding primary and secondary contaminants? Where can those standards be viewed?
5. Are there concerns about any levels of contaminants found in our water system?
6. Is there a regular schedule of waterline flushing to remove contaminants? How often?
7. Identify common water characteristics/chemistry to each of the well sites.
8. Identify differences in the water chemistry at each of the well sites
9. Identify water distribution patterns from each of the wells
10. Is there a risk to public health posed by actively leaking water mains?

Filtration and Distribution Questions

1. Identify the specific water treatment processes carried out on our water at each of the 5 well sites and how and why they may differ from one another.
2. What is the water quality from each of the five Stoneridge/Sedgefield/Creek Wood wells that led to three different treatment configurations?
3. Are the three kinds of distributions systems connected (A-B-C) or separate (A,B,C), i.e., can water from any well arrive at any house, depending on which pumps are operating?
4. Only Sedgefield has Mn (manganese) sequestration. Is Sedgefield well water high in Mn?
5. Disinfection with HOCL(bleach) oxidizes Fe and Mn, which then form precipitates(black sediments). These particles are partially removed in process A and B but not in process C which has no sand filter on Mn sequestration. Why?

6. Have Fe and Mn analyses been done on water from all five wells, and on water after each step of the processes A,B,and C? As noted above, it would be also useful to have the Aqua's 7 day test for precipitation used as this last approach is clearly aimed at the Mn precipitation process which seems always to be slow relative to the corresponding Fe oxidation and precipitation.
7. Two of the wells (Stoneridge #1 and #4) have sand filters. These filters need to be periodically back-flushed to remove the accumulated impurities. Where does the waste water from this back-flushing go as there is no sewer or recorded septic field at either location? Is back-flushing responsible for the repeated large pools of water around Stoneridge well #4 or was it something else?

Water system resiliency questions:

1. What is the age of our water pipes? What materials are the water piping system and mains made of?
2. Identify reasons why the pipes break. What is the most common site of pipe failure, i.e. pipe joints or under heavily traveled road beds?
3. What is the useful life of the water main pipes and the other infrastructure components of our water system, including: wells, pumps, storage tanks, treatment equipment such as chlorinator pumps, filters, etc.?
4. Have there been significant infrastructure replacements made during Aqua's ownership of the system?
5. What are the existing policies regarding water outages during repairs or system failure due to breaks? Are there storage tanks that can be utilized to provide temporary service?
6. Identify existing emergency procedures to restore water when the power goes out. Does Aqua have portable generators and if so, how many, and where would they be positioned in the event of a major power outage? Is there a priority system for their deployment to specific water systems owned by Aqua NC? How long does the power have to be out before Aqua will initiate emergency procedures to restore water?
7. Identify Aqua's policy on keeping residents informed when a there is an outage or other problem, regardless of cause, and a repair order is placed by a customer.

Water pressure issues:

1. What is the maximum water output possible in terms of gallons per minute from the existing system? Can you provide a breakdown by current pumping capacity (GPM per well) for our five wells?
2. Does the system currently provide adequate volume of water to fulfill the needs of the existing customer base?

3. Residents report frequent problems with water pressure. Does the water system provide adequate water pressure to meet the needs of the residents?
4. What improvements could be made to ensure that residents' water needs are met? Can new wells be drilled or additional storage tanks be added?
5. Identify why the fire hydrants are not functional for fighting fires. Is the problem with water pressure or flow volume or both?

In summary, it is our goal that our committee work with Aqua NC and Essential Utilities, Inc. to obtain factual answers and information related to these questions, so that an action plan can be formulated to improve the quality and reliability of our water system.

United Nations Human Right to Water Policy: The human right to water is indispensable for leading a life in human dignity..." See: https://esg.essential.co/content#commitment-to-human-rights