

Source Water Protection Plan
for
Village of Arrowsmith Water
IL 1130100
Arrowsmith Illinois 61722

Vision Statement

The Village of Arrowsmith is committed to providing the necessary resources for protecting our source water. The water supply is viewed as a crucial element to the survival of the community and as such steps have been taken to ensure redundancy and security. Currently two certified operators are employed at the village providing redundancy of staffing. A camera on the community center allows for visual coverage of our two wells providing a layer of security. Financially our water department is established as a separate village fund with revenues and expenditures budgeted separately from other village operations to ensure clear accounting and planning for present and future needs. Over the last fifteen years a large number of upgrades have been undertaken including a new water plant and installation of backup power for two wells. One well pump has been replaced and the water tower has been repainted. There are currently plans in the works to replace the other well pump and undertake a number of other projects. While these specific examples of system investment will become dated they are evidence of the community commitment to providing a reliable and ever improving service and will be replaced by newly completed projects.

In agreement with drinking water industry standards a multi-barrier approach to Arrowsmith source water protection is used. A minimum setback zone of 200 feet from the village wells is enforced. Both wells are constructed with sound integrity and proper site conditions located in a confined aquifer of sand and gravel overlain by relatively impermeable glacial till that protects from contamination. The water produced from these wells has been tested for numerous contaminants including but not limited to IOCs, VOCs, and SOCs to ensure they are a high-quality source with ongoing testing to ensure they are continuing to provide safe water for the community. Finally, these wells are evaluated and inspected by the Village on a regular basis to ensure that any necessary maintenance and repairs can be completed proactively to protect the integrity and reliability of the supply.

This vision statement was developed by Corey Edgington the responsible operator in charge and Chad Walden village of Arrowsmith president with input and feedback from the village board and community stakeholders that are encouraged to attend regularly scheduled meetings.

Source Water Assessment

Our source water is critical to the survival of the community providing drinking water, sanitary supply, and fire protection. Currently the Village of Arrowsmith water does not provide water to any other water suppliers or have any interconnections, but does allow Fertilizer Services located within village limits to sell bulk water.

Well #1 has a Well ID number of 47604. This is an active well that is 228 feet deep with a 200-foot setback zone and produces roughly 150 gallons per minute. Well #2 has a Well ID number of 01367. It is also active with a depth of 228 feet and a 200-foot setback zone while

producing around 160 gallons per minute. Both of these wells are located within and utilize a sand and gravel aquifer overlain by relatively impermeable glacial till.

Sampling results for our source and finished water supplies are available through two sources. The first source is copies of Consumer Confidence Reports which can be obtained by contacting the Village of Arrowsmith and requesting the annual reports for your review. The second source of information is available through the IEPA Drinking Water Watch webpage. Both of these sources contain information on when and where the samples were taken and the results as reported by certified laboratories.

The results of sampling over the last ten years have proven our source water to be of very good quality. While these results are promising it is even more assuring to know that our source water results have remained very consistent with little change in the overall mineral and chemical detections. This shows a trend for stability.

The stability of our source water has provided a similar trend of consistency in our finished water. In a time of ever-increasing regulation requiring more frequent and extensive testing (e.g. PFAS, UCMR, lead and copper) our finished water has continued to meet or exceed the regulatory requirements for health and safety.

There are three potential sources of contamination within the 1000-foot setback radius of Arrowsmith's two wellheads. All distances listed will be in relation to Well #1 (47604) since it is located closest to the possible sources of contamination. The nearest risk is at Ridgeview Community School District #19 bus barn. It is a below ground storage tank located 600 feet North of our well head. Next at 101 S. Main, roughly 770 feet away is another below ground storage tank at the former site of the Arrowsmith Township facility. A final potential source of contamination is 950 feet away and is also a below ground storage tank located at the FS gas station.

Due to both wells being of sound construction in an aquifer with a hydrogeologic barrier of relatively impermeable glacial till there is little risk of pathogen movement. Sanitary defects have been mitigated and monitoring data does not indicate a history of disease outbreak. Further sampling has also indicated there is no IOC, SOC, or VOC contamination. This information along with the consistently stable well data and results indicates a low probability of contamination to the source water.

The Village of Arrowsmith has taken numerous steps to protect the sources of water. A backup power supply has been installed to operate the wells and treatment plant in the event of power outage. Video surveillance has been installed providing a measure of security for the water plant and wells. Building structures, well equipment, and plant operating equipment have all been upgraded over time to improve operations and sanitary conditions. An active cross connection control program helps to prevent contamination from end users in the system. Collaboration with the health department to monitor and report any malfunctioning septic systems works to address and correct any possible contamination events from area

homeowners. In addition, the Village completes ongoing sampling, testing, and employs two certified operators. These measures show a history and desire of the system to protect the source water while ensuring a reliable community supply of high-quality water.

Source Water Protection Plan Objectives

There are a number of objectives the Village of Arrowsmith strives to achieve. The first of which is meeting the requirements set forth by the U.S. and Illinois Environmental Protection Agency. Second, the community wants to remain forward thinking in order to plan for the future. Finally, the Village of Arrowsmith is committed to actively addressing issues that are presented to the water system.

Action Plan

Our first objective of meeting the requirements set forth by the U.S. and Illinois Environmental Protection Agency is an ever changing, ongoing, daily operation. This requires collaboration between the water operator staff and the Village President/Board. The Village completes annual Consumer Confidence Reports, has an active Cross Connection Control Program, completes regular sampling, Lead and Copper Audits, Source Water Protection Plans, Service Line Inventories, and Monthly Operational Reports. Continued oversight of the Village Board and collaboration with the water operators will allow the Village to address the ongoing and any new or future requirements of the previously mentioned administrative agencies as they arise.

The second objective of remaining forward thinking is accomplished through several means. The future needs of the system are considered regularly using logic, general observation and inspection of infrastructure, and information of possible future regulatory requirements. These considerations are used to guide expense and rate planning during the annual review of the water budget. This is evident through the many infrastructure upgrades in just the last decade. The water plant building has been rebuilt, a backup generator added, variable frequency drives have been installed, security cameras monitor the pump house, one well pump has been replaced and another is planned for replacement in the next year. These investments help to secure and protect our source water. The list is too extensive to include everything. These improvements and acceptance of new technology in our operations is ongoing and continuous. This showcases a commitment to being forward thinking in operation and protection of our supply.

Actively addressing issues presented to the water system is ongoing and occurs on a daily basis. This objective is achieved regularly by correcting any potential problems as they are identified. Well pumps are replaced using a proactive approach when observations hint at possible issues with flow or operation. Regular sampling results are reviewed to look for changes in water quality that may require action. When power issues were observed with the wells variable frequency drives were installed to improve operation and better protect our

equipment. Continuing to actively address issues is achieved by having staff and elected village officials in daily contact with the water system.

Outside of agency acceptance of this document there are currently no potential problems or obstacles to implementing the plan.