The City of Sioux City operates the Zenith Water Treatment Plant, Southbridge Regional Water Treatment Plant, associated water storage and booster station facilities.

The Zenith Water Treatment Plant is capable of treating 30 million gallons of water per day while the Southbridge Regional Water Treatment Plant is capable of treating 10 million gallons of water per day. Peak day production has reached 28.5 million gallons per day and average day pumping is around 10 million gallons per day.

Both of these facilities use Iron and Manganese Removal as the main treatment process, below those processes are explained.

aeration-Water pumped from the City of Sioux City's wells are brought into contact with air. The water cascades through a series of trays while air is induced by fans upward to come into close contact with the water. This cascading increases surface area of water and permits the exchange of gasses.

Potassium Permanganate-potassium permanganate is added in the retention basin, potassium Permanganate has some disinfecting qualities but is mainly used for the oxidation of iron and manganese.

Filtration-After the retention basin, water flows through 1 of the 6 filters at the Water Plant. The

filters are dual media consisting of sand and anthrocite coal. This process removes any additional particulates in the water.

Disinfection-Sioux City utilizes chlorine gas to disinfect it's water supply. Chlorine gas is an effective killer of disease causing organisms which helps ensure the continued safety of our drinking water.

Contact Time-Immediately following chlorination water begins to pass through a CT Basin. In this basin water is allowed ample time to react with the chlorine to reasure disinfection is taking place.

Fluoridation-Following the CT Basin, fluoride is added to the drinking water. Fluoride is added to increase bone density and tooth development especially in younger children.

Phosphate-Phosphate is added as a corrosion control inhibitor. While the water is in the distribution system phosphate coats the lining of the pipes to lessen the possibility of metals leaching into our drinking water.

Distribution and Reserve-Once the final chemical additions are made, water is pumped into the distribution system. Sioux City is made up of five pressure zones- the Grandview system is made up of Grandview, 38th street, and Singing Hills reservoirs. These are filled by excess water not demanded by businesses or residents of the community. The reserve water in the Grandview pressure system is then pumped to the Morningside, Indian Hills, Western Hills and Airport pressure zones.