A new Fresh Market was being added to the existing shopping center. The flow test conducted by the city behind the center had a static pressure of 67 psi with a residual pressure of 35 psi at a flow of 700 gpm. Additionally the 24 hour static test showed that static pressures had drops to 37 psi for several hours. This was not going to meet the Fresh Market fire flow demands and the mechanical engineer was calling for a fire pump, a tank could even be required to keep the city pressures above 20 psi. Since the city had a large tank located directly across the street the developer questioned this requirement and hired ESL to investigate the water supply.

Investigations into the operation of the Augusta Water Department showed that this site was located between two hydraulic zones with a 65 psi difference. Subsequent testing near the site showed this to be correct, but due to the age of the shopping center no hydrants had been installed on the site, so at first testing was limited to hydrants on either side of the on-site lines.

Once it was determined that adequate pressure was available to the west of the site the next step was to determine which hydraulic grade the existing shopping center lines were connected to. Since there were no hydrants to test, ESL used a mop sink in the center to obtain static and residual pressures and then used an off-site hydrant for the flow. This was used to confirm that the center was connected to the higher pressure zone.

With the new test results neither a fire pump nor tank were required to meet the fire flow requirements for the new Fresh Market.

**Challenge:**  City-supplied flow test showed inadequate water pressure and volume.

**Solution:**  ESL testing with the city determined that the existing center was connected to higher pressure system than the city had tested.

**Benefit:**  Eliminate possible fire pump $15,000 to $35,000