Quick Response is presented monthly by the
Minnesota State Fire Marshal – Fire Protection Section
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Riser Gauge Arrangement

Accurately characterizing the flow and pressure of the available water supply is paramount not only during the initial design and installation of a sprinkler system, but also for the continued protection of the building. Degradation of the water supply or impairment to a sprinkler system can have catastrophic consequences.

Conducting a main drain test on a fire sprinkler system is an essential component of maintaining system performance. This test allows you to evaluate the water supply coming into the fire sprinkler system. It is conducted at each sprinkler system riser to determine whether there has been a change in the condition of the water supply, supply piping and control valves. A decrease in pressure may indicate a deteriorated water supply, obstruction, closed valve or other system impairment. The data obtained from sprinkler system testing is only as valid as the instruments used for measurement. The riser gauge shall be properly located to provide true and accurate readings.

Exhibit 1 shows examples of unacceptable riser gauge locations. A true residual (water flowing) pressure reading will not be given because it will indicate an excessive pressure drop. Exhibit 2 are examples of acceptable riser gauge locations.

Exhibit 1: Unacceptable gauge locations.
Exhibit 2: Acceptable gauge locations.