

Water Source

For the purpose of this study we designated two types of water sources: public (municipal) and stored (homes on well water including those with a pump and tank system). All costs associated with the sprinkler system relating to water supply (meter upsizing, booster pump and tanks, backflow preventers, etc.) are included in the cost figures. Most of the homes in the current study are served by a public water source. However, seven homes from five different communities are supplied by a stored water source. When there is a stored water source, sprinkler systems often require a booster pump and tank, which can add significantly to the total system cost. On average, the total builder cost for systems having a stored water source is \$6,706. Compared to systems that rely on a public source, with an average total cost of \$5,918, a stored source increases total cost by about 13% (\$800). In terms of price per unit area of sprinklered space, stored source systems range from \$1.13 to \$2.44 per ft², with an average price of \$1.67 per ft². The average price per ft² of sprinklered space for homes on public water is \$1.30, 22% lower than stored water systems.

From the HFSC's "Understanding Water Supply for home Fire Sprinkler Systems" brochure (attached):

Alternatives to Public Water Supply

Fire sprinklers can be installed in areas where homes are built without a municipal water supply or where there is insufficient water pressure from the main. The options include utilizing the home's well system. If the well does not have adequate pressure, a pump may be required. A tank and pump may be used on stand-alone systems. The pump is off until a fire causes a sprinkler to activate, when the pump will automatically turn on to provide the required water flow.

From NFPA's "The Case for Fire Sprinklers in One- and Two-Family Dwellings."

On site water supply

Well systems can be set up to effectively address a fire protection application. Generally speaking, they are set up at the inception of the home building process and a larger well pump is usually installed along with larger expansion tanks. Homes on well water most likely will need a pump to serve the domestic water supply. The cost associated with providing additional pressure to run the fire sprinkler system may simply be the difference between the regular pump the homeowner must install to obtain the necessary pressure for domestic use, and a higher flow pump, or a booster pump and tank. The expansion tanks are sized to pick up the difference between the well capacity and demand so they are not necessarily large. To meet the requirements of NFPA 13D, many installations have been done using this method, effectively and cost competitively.