



# FEMA

## A Bridge Over Powered Water in Duncan, Oklahoma

**Duncan, OK** – During 2007, five intense storms, in as many months, tested the resolve of City administrators and residents in Duncan, Oklahoma. Over 100 businesses and homes suffered damage, and numerous pedestrian bridges loosened from their footings. One particular bridge, however, built higher than the Base Flood Elevation (BFE), remained solid and functional. Its fortitude proving the worth of mitigation!

Duncan’s Public Works Director R. Scott Vaughn said, “Townspople had lived with drought for about ten years and forgotten the power of floodwaters, until this year.”

By the end of August 2007, Duncan had experienced the sixth wettest year in their history. Roads flooded, creeks eroded banks, and bridges washed away. Home and business owners grew tired of cleaning red mud from their properties after waters receded and the City faced costly repairs on pedestrian bridges used to cross canals.

Vaughn’s experience as a public works director taught him the power of water, especially moving water. With that experience in mind, Vaughn built a pedestrian bridge on Main Street in the late 1990s at a height three feet above the BFE.

The elevated bridge project took 30 months to complete and included a concerted effort to educate the City Council regarding the benefits of building above the BFE prior to construction. The bridge now stands about four feet above street level supported by deep footings, and according to Vaughn includes access from both sides of the bridge in compliance with the Americans with Disabilities Act.

The wet summer months of 2007 resulted in four pedestrian bridges being damaged or completely washed away with the exception of the elevated bridge Vaughn had built above the BFE, which sustained no damage.

Costing about \$20,000 in materials and using City staff for labor, Vaughn’s bridge proved cost effective and served Duncan residents by providing the only safe way to cross the canal by foot. Replacing the bridge entirely would have added an estimated \$10,000 to the cost, or \$30,000 total.

Vaughn feels that the wise use of local floodplain maps and building above the BFE are effective floodplain management measures that contribute to community safety and sustainability.



Stephens County, Oklahoma



### Quick Facts

Sector:

**Public**

Cost:

**\$20,000.00 (Estimated)**

Primary Activity/Project:

**Elevation, Structural**

Primary Funding:

**Local Sources**