



Middlesboro Storm Sewer System - Upgrades Mitigate Flooding

Full Mitigation Best Practice Story

Bell County, Kentucky

Middlesboro, KY – The residents of Middlesboro in Bell County, Kentucky, are no strangers to flooding. Between 1990 and 1994, the small community was inundated by floodwaters six times.



In February 1994, Middlesboro experienced its worst flood since 1977. Floodwaters from Yellow Creek and Little Yellow Creek flooded East End Elementary School, ruining desks, books, and other items. Major transportation routes in the area became paralyzed with up to six feet of water, and nearly 56 homes and 16 businesses were flooded with up to two and a half feet of water. Rescue squads were called in to evacuate residents from their homes and from stalled vehicles.

Because of its nearly century-old undersized drainage system, the City could not handle flash flooding caused by large amounts of rainfall. Many of the system’s drains collapsed and were so full of debris that floodwaters were not able to pass through quickly enough. Although a \$29 million U.S. Army Corps of Engineers flood control project was underway, the project did not address flooding in the downtown portion of the city.

Following the 1994 flood, the City removed debris from the drainage system, which controlled the severity of flooding over the next two years. By 1998, however, flooding had once again reached dangerous levels. The estimated damages to businesses and homes over the eight-year period from 1990 to 1998 totaled more than \$5 million.

In September 1999, the City of Middlesboro was awarded funds through FEMA’s Hazard Mitigation Grant Program to replace a portion of its downtown storm sewer system. New galvanized tile and cast concrete drains and pipelines replaced those that were damaged or undersized so that floodwaters could drain more quickly. The project was completed in the summer of 2000, and its effectiveness inspired the City to expand the storm sewer update. Construction is underway to replace pipelines and install drains in other areas of Middlesboro.

Middlesboro residents and business owners look forward to the project’s completion so that they can avoid the devastating effects of yet another flood.

Activity/Project Location

Geographical Area: **Single County in a State**

FEMA Region: **Region IV**

State: **Kentucky**

County: **Bell County**

City/Community: **Middlesborough**

Key Activity/Project Information

Sector: **Public**
Hazard Type: **Flooding**
Activity/Project Type: **Flood Control**
Activity/Project Start Date: **09/1999**
Activity/Project End Date: **09/2000**
Funding Source: **Hazard Mitigation Grant Program (HMGP)**
Funding Recipient: **Local Government**
Funding Recipient Name: **City of Middlesboro**
Application/Project Number: **9999**

Activity/Project Economic Analysis

Cost: **\$244,893.00 (Actual)**
Non FEMA Cost:

Activity/Project Disaster Information

Mitigation Resulted From Federal
Disaster? **Yes**
Federal Disaster #: **1018 , 03/16/1994**
Federal Disaster Year: **1994**
Value Tested By Disaster? **Unknown**
Repetitive Loss Property? **Unknown**

Reference URLs

Reference URL 1: <http://www.fema.gov/government/grant/hmgrp/index.shtm>
Reference URL 2: <http://kyem.ky.gov/>

Main Points

- Because of its nearly century-old undersized drainage system, the City of Middlesboro could not handle flash flooding caused by large amounts of rainfall.
- In 1999, the City was awarded funds through FEMA's Hazard Mitigation Grant Program to replace a portion of its downtown storm sewer system.
- The effectiveness of the project inspired the City to expand the storm sewer update. Construction is underway to replace pipelines and install drains in other areas of Middlesboro.



Middleboro Storm Sewer Upgrade Project.



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