

HISTORY

Over 15 square miles of land are in flood-prone areas within the Urban Service Area (USA). Damaging floods have been reported many times throughout the history of Owensboro and Daviess County. However, the floods of 1937, 1964, and 1997 caused the most damage. Information on historical floods can be obtained from the record of the United States Geological Survey and the National Weather Service. Useful data can also be found in the records of the Owensboro *Messenger-Inquirer* newspaper.

The following is a brief accounting of the 1964 flood.

- ◆ 4.76 inches of rain fell in two days -- March 3-4, 1964.
- ◆ Flooding reached the 1000 block of Griffith Avenue
- ◆ The first two weeks of March had over 14.49 inches of rain.
- ◆ The rural community of Pettit was evacuated.
- ◆ Damages were in the millions.

Floods of the same or larger magnitude as past floods could occur in the future. Hence, the question arises, "what can be done to eliminate or minimize the effects of flooding?"

DEFINITIONS

According to the *Flood Insurance Study for Daviess County Kentucky and Incorporated Areas* (March 3, 1997) prepared by the Federal Emergency Management Agency, the 100-year flood has been adopted as the base flood for purposes of flood plain management measures. The area of the 100-year flood is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent flood plain areas, that must be kept free of encroachment in order that the 100-year flood may be carried without substantial increases in flood heights. The area between the floodway and the boundary of the 100-year flood is termed the floodway fringe. It encompasses the portion of the flood plain that could be completely obstructed without

increasing the water-surface of the 100-year flood more than one foot at any point. Exhibit 743-MI distinguishes the floodway and floodway fringe on a general basis, however, more precise maps are available for the county through the National Flood Insurance Program, which became effective March 3, 1997.

FLOOD PLAIN MANAGEMENT

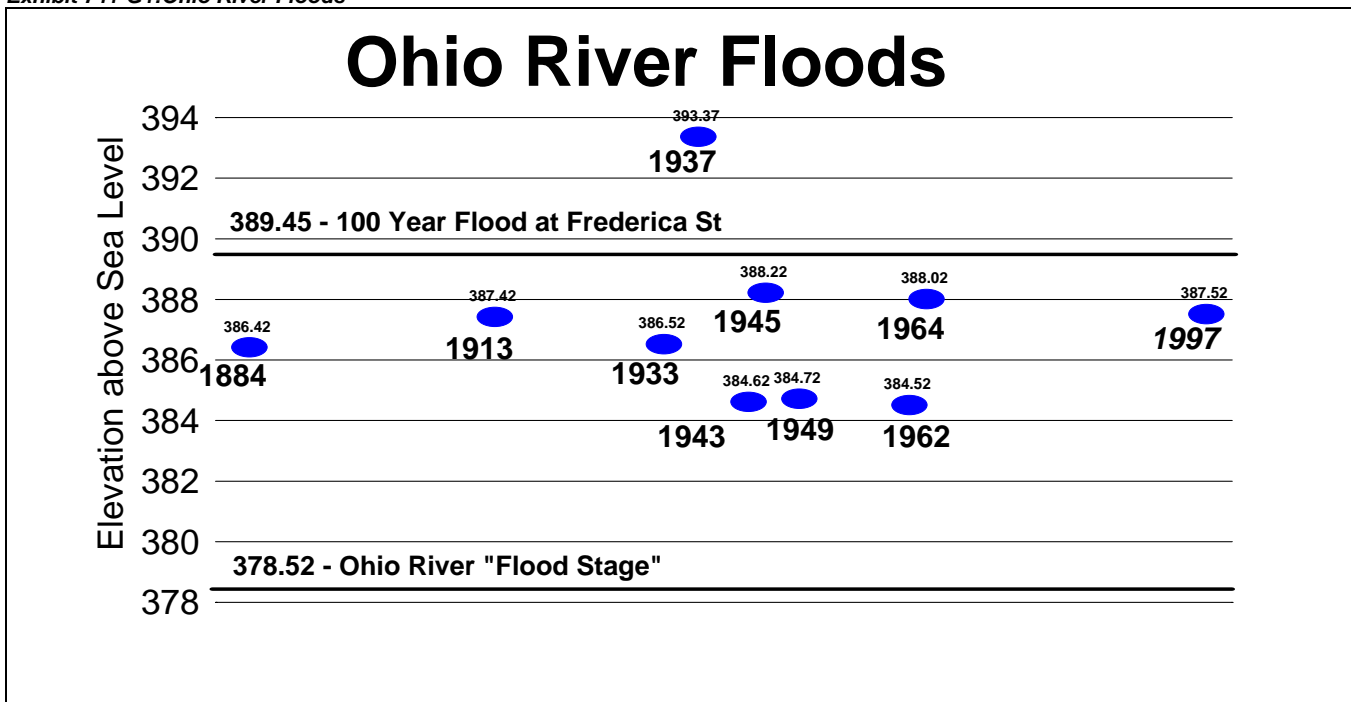
NATIONAL FLOOD INSURANCE PROGRAM

In 1968, Congress created the National Flood Insurance Program (NFIP) in response to the rising cost of taxpayer-funded disaster relief for flood victims and the increasing amount of damage caused by floods.

The NFIP makes federally backed flood insurance available in communities that agree to adopt and enforce flood plain management ordinances to reduce future flood damage. The Federal Emergency Management Agency's Federal Insurance Administration and Mitigation Directorate manage the NFIP. The Federal Insurance Administration manages the insurance component of the NFIP, and works closely with FEMA's Mitigation Directorate, which oversees the flood plain management aspect of the program.

In 1980, the Army Corps of Engineers prepared an exact flood plain map for Daviess County on topographic sheets. This was performed by request from the Federal Insurance Administration. Also in 1980, the Flood Insurance Study for Owensboro and Daviess County was published as the main regulatory control dealing with development near the flood plain. The purpose of the Flood Insurance Study was to provide data that could be used to control obstruction of the floodway and to limit the location of structures within the floodway fringe to elevations at or above the 100-year flood plain. The results of this study provided a basis for calculating flood insurance rates by the National Flood

Exhibit 741-G1: Ohio River Floods



Insurance Program. This was achieved through the creation of a Flood Insurance Rate Map, which breaks the county into flood zones of various levels of flood hazard.

March 3, 1997, the Federal Emergency Management Agency (FEMA) issued an updated *Flood Insurance Study for Daviess County Kentucky and Incorporated Areas*. This study included updated Flood Insurance Rate Maps for use in administering the National Flood Insurance Program. This study supersedes the *Flood Insurance Study* prepared in 1980.

The legislature of the State of Kentucky has in KRS 100 delegated the responsibility to local government units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Construction within the flood plain in Daviess County is regulated through the Owensboro Metropolitan Zoning Ordinance Article 18, adopted in 1996, and through the issuance of building permits.

Through these accomplishments, the county is now eligible for disaster relief monies from the Federal Emergency Management Agency, and structures presently located within the flood plains may acquire flood insurance on the condition that the local community control further development in the flood plain.

STATE AND REGIONAL ASSISTANCE

The Natural Resources and Environmental Protection Cabinet, Division of Water, has major responsibility among state agencies for floodplain management in Kentucky. Within the Division of Water, the Water Resources Branch, Floodplain Management Section is responsible for the following:

- ◆ Analyze and issue permits for proposed construction within the 100-year floodplain.
- ◆ Issue permits for construction, reconstruction, and repair of dams.
- ◆ Provide liaison for the National Flood Insurance Program.
- ◆ Administer the state-owned Dam Repair Program.
- ◆ Coordinate and provide technical assistance for floodplain management activities within the Commonwealth.

Construction in a floodplain without a permit violates KRS 151 and becomes the responsibility of the Dam Safety and Floodplain Compliance Section of the Division of Water.

OTHER TECHNIQUES AND STUDIES

A Storm Water Master Plan was adopted for Owensboro in August 1999. This is the most current plan aimed at development of a system of storm water facilities that will reduce or eliminate flooding inconveniences and flood damage to buildings and property. The plan was prepared by Quest Engineers, Inc. in association with CDP Engineers, Inc. Refer to Section 680 for more details on storm water disposal.

Flood Plain Information on Panther Creek was a study prepared by the Army Corps of Engineers in 1975. It evaluates and delineates the flooding of Panther Creek and the North and South Forks of Panther Creek. The study defines the Intermediate Regional Flood (a flood that could occur once in 1000 years) and the Standard Project Flood (a flood that could occur from a severe combination of meteorological and hydrological conditions).

In 1997, the Corps prepared a study to investigate the cost/benefit of constructing large detention basins at strategic points along Panther Creek. Refer to Section 680 for more on this.

Ditch Maintenance can also assist in eliminating the effects of flooding. During floods, trees, brush, and other vegetation growing in floodways impede flood flows, thus creating backwater and increased flood heights. By implementing a regular maintenance program of the drainage ditches, flooding problems could be reduced significantly. Refer to Section 680 for more about the County's efforts in this regard.

Exhibit 743-M1: 100-Year Flood Plain

