

Part I

Introduction

This guide is intended to help local offices in cities, towns, villages, and counties in the United States understand what they can do to reduce the damage, disruption, and public and private costs that result from the shallow, localized flooding that occurs within their jurisdictions. This is flooding that all too often escapes the attention received by larger floods or those that are clearly mapped and subject to floodplain development regulations.

Part I of the document introduces the content and goals of the guide. It includes Chapters 1 and 2, which:

- Outline the purpose of the guide and how to use it;
- Explain what is meant by local or localized flooding;
- Lay out the scope of the localized flooding problem as it affects jurisdictions throughout the United States;
- Give reasons why communities would want to deal with these types of flood problems; and
- Explore how a community can get started to find and implement remedies for its localized flooding problems.

Part I:

Chapter 1. Background

Chapter 2. Localized Flooding



Background

Most cities, towns, villages, and counties in the United States have one or several clearly recognizable flood-prone areas, usually along a river or stream or other large body of water. These areas usually are identified as the Special Flood Hazard Area (SFHA) on the community's Flood Insurance Rate Map (FIRM), which is provided to the community by the Federal Emergency Management Agency (FEMA) when it joins the National Flood Insurance Program (NFIP). These flood-prone areas are properly the subject of community, State, and Federal initiatives to minimize the flooding and its impacts. The NFIP and communities address these flood-prone areas through maps, floodplain management criteria, ordinances, and community assistance programs.

However, thousands of communities also have shallow, localized flooding problems outside of the SFHA resulting from ponding, poor drainage, inadequate storm sewers, clogged culverts or catch basins, sheet flow, obstructed drainageways, sewer backup, or overbank flooding from small streams. These kinds of flood events can occur anywhere in a community.

If these localized floods occurred infrequently, the problems would be minor. However, in some areas localized flooding can be chronic, so that over the years the cumulative damage and recurring disruption from localized flooding can be more than that caused by flooding on major rivers and streams. The costs of insuring buildings that are subject to this repeated damage add up as well.

Local and State officials confirm that localized flooding is a problem. They characterize it as “a drainage issue,” “low-level nuisance flooding,” and “headwater flooding.” According to one local official, citizens seem to present more complaints about



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Flood water does not have to be deep to make a costly mess.

repetitive localized flooding than about deeper, more destructive flooding from larger bodies of water.

A community's floodplain management requirements in the SFHA will protect new construction from localized flooding. However, most communities do not have such regulations for development outside the SFHA, in areas mapped as B Zones, C Zones, or X Zones. If action is not taken, local flooding problems will likely increase over time as development in watersheds and in B, C, and X Zones continues without sufficient land use and building regulations.

The NFIP's Interest

Flood insurance is available for all eligible buildings within a community that participates in the NFIP. However, the NFIP currently has no floodplain management criteria for B, C, and X Zones—those areas that lie outside of the SFHA—and no requirements for communities to take action to reduce or prevent losses in these areas. The result is significant financial losses for the NFIP, including the cost of insuring

repetitive loss properties. Here are some statistics that show the cost of localized flooding to the NFIP:

- Since 1978 the NFIP has paid over \$2.8 billion in claims in B, C, and X Zones.
 - ▶ Of that, \$1.1 billion was paid for claims on repetitive loss properties.
- Between 20 percent and 25 percent of all repetitive loss properties are rated as being in B, C, and X Zones.
- In some communities, over half of the repetitive loss buildings are in B, C, and X Zones.

What is Localized Flooding?

In this guide, localized flooding refers to flooding outside the scope of criteria that apply to the SFHA as depicted on a community's FIRM. This includes areas within and outside the B, C, and X Zones. Such floods are often referred to as:

- stormwater flooding
- nuisance flooding
- flooding on small streams
- carpet wetters
- poor drainage
- ponding

About This Guide

Many State and local officials assert that their communities have put forth substantial effort to address localized flooding problems with much success. They say that, although flood mitigation is not always seen as a good use of funds in lower risk areas, communities would benefit from guidance on addressing localized flooding problems. They believe that information for both the property owner and local officials is important, and that both audiences need to understand the necessity for taking action and how reducing flood losses can benefit them and their communities in the long term.

This guide is a response to that expressed need. It is meant to help State and local officials understand what they can do to reduce the damage, disruption, and public and private costs that result from localized flooding that occurs within their jurisdictions.

Accordingly, this document

- Supports the premise that State officials, local officials, and residents can do something about localized flooding problems;
- Focuses on building a community's capability to minimize its existing localized flood problems and avoid future ones; and
- Contains ideas and techniques that can work within the existing community framework. Nothing has to be reinvented unless the community wants to do so.

This is not a technical manual; there are many excellent technical reference sources already available. Instead, this guide outlines the types of actions that can be taken, explains why they are important and what their potential benefits are, and points the reader in the direction of where to obtain more information and assistance.

How to Use the Guide

This guide is organized into four parts.

The rest of Part I (Chapter 2) describes the problems that accompany localized flooding, gives reasons why communities would want to deal with these types of flood problems, and lists general actions that can be taken by the community.

The three parts that follow describe tools and techniques that can be used for different types of flood problems. The tools should be selected carefully; certain ideas work well in some situations but not in others. Many of the techniques are best applied on a small scale, perhaps building-by-building.

Part II addresses techniques for coping with flooding that are appropriate for community-wide action, such as comprehensive planning, regulations, public education efforts, and warning systems.

Part III concentrates on the specific neighborhood or block where the flooding takes place. Techniques that are appropriate at this scale are described, including conducting an area-wide analysis, making improvements to the drainage system, or redeveloping flood-prone properties.

Part IV narrows the focus even further, offering techniques that can be used building-by-building and by individual property owners to reduce potential flood damage or how to better cope with it when it does occur. These chapters cover retrofitting and flood insurance.

A set of appendices lists sources of technical assistance and advice, along with contact information and additional recommended reading.