

Chapter 2

LEGAL ASPECTS

ODOT ROADWAY DRAINAGE MANUAL

November 2014

Chapter 2
LEGAL ASPECTS

Table of Contents

<u>Section</u>	<u>Page</u>
2.1 OVERVIEW.....	2.1-1
2.1.1 Introduction.....	2.1-1
2.1.2 Order of Authority	2.1-1
2.1.3 Related Publications.....	2.1-1
2.2 FEDERAL LAWS	2.2-1
2.2.1 General Laws	2.2-1
2.2.2 Drainage.....	2.2-1
2.2.3 Significant Highway Acts	2.2-1
2.3 NAVIGABLE WATER REGULATIONS	2.3-1
2.3.1 Constitutional Power.....	2.3-1
2.3.2 Federal Agencies.....	2.3-1
2.3.2.1 U.S. Coast Guard (USCG).....	2.3-1
2.3.2.2 U.S. Army Corps of Engineers (USACE)	2.3-2
2.3.2.3 Federal Highway Administration (FHWA)	2.3-2
2.3.2.4 U.S. Environmental Protection Agency (USEPA)	2.3-3
2.4 U.S. FISH AND WILDLIFE SERVICE (USFWS).....	2.4-1
2.4.1 Requirements	2.4-1
2.4.2 USFWS Role	2.4-1
2.5 NATIONAL FLOOD INSURANCE PROGRAM	2.5-1
2.5.1 Flood Insurance.....	2.5-1
2.5.2 Flood Disaster Protection	2.5-1
2.5.3 Local Community.....	2.5-1
2.5.4 NFIP Maps.....	2.5-2
2.5.5 Coordination with FEMA.....	2.5-2
2.5.6 Levee Systems	2.5-2
2.6 EXECUTIVE ORDERS	2.6-1
2.6.1 Background	2.6-1
2.6.2 EO 11988: Floodplain Management.....	2.6-1
2.6.3 EO 11990: Protection of Wetlands	2.6-1
2.7 STATE DRAINAGE LAW	2.7-1
2.7.1 Derived From.....	2.7-1

Table of Contents

(Continued)

<u>Section</u>	<u>Page</u>
2.7.2 Common Law	2.7-1
2.7.3 Statutory Law.....	2.7-1
2.7.4 Predominates	2.7-1
2.7.5 Classification of Waters	2.7-1
2.8 STATE WATER RULES.....	2.8-1
2.8.1 Basic Concepts.....	2.8-1
2.8.2 Surface Waters	2.8-1
2.8.3 Stream Waters.....	2.8-2
2.8.4 Flood Waters	2.8-3
2.8.5 Ground Water	2.8-3
2.9 STATUTORY LAW.....	2.9-1
2.9.1 Introduction.....	2.9-1
2.9.2 Eminent Domain	2.9-1
2.9.3 Water Rights.....	2.9-1
2.10 LOCAL LAWS AND APPLICATIONS	2.10-1
2.10.1 Local Laws.....	2.10-1
2.10.2 Municipal Liability	2.10-1
2.10.3 Acts of Government Agency Employees	2.10-2
2.10.4 Acts of Developers	2.10-2
2.10.5 Drainage Improvements	2.10-2
2.10.6 Special Issues	2.10-2
2.11 REMEDIES	2.11-1
2.11.1 Common Actions	2.11-1
2.11.2 Inverse Condemnation	2.11-1
2.11.3 Injunction	2.11-1
2.11.4 Tort Claims	2.11-1
2.11.5 Personal Liability	2.11-2
2.12 ROLE OF THE HYDRAULICS DESIGNER AND ROADWAY DRAINAGE ENGINEER	2.12-3
2.12.1 Hydraulics designer	2.12-3
2.12.2 Roadway Drainage Engineer.....	2.12-3
2.12.3 Investigating Complaints	2.12-3
2.12.4 Legal Opinion	2.12-5
2.13 REFERENCES.....	2.13-7

Table of Contents
(Continued)

<u>Section</u>	<u>Page</u>
2.7.2 Common Law	2.7-1
2.7.3 Statutory Law.....	2.7-1
2.7.4 Predominates	2.7-1
2.7.5 Classification of Waters	2.7-1
2.8 STATE WATER RULES.....	2.8-1
2.8.1 Basic Concepts.....	2.8-1
2.8.2 Surface Waters	2.8-1
2.8.3 Stream Waters.....	2.8-2
2.8.4 Flood Waters	2.8-3
2.8.5 Ground Water	2.8-3
2.9 STATUTORY LAW.....	2.9-1
2.9.1 Introduction.....	2.9-1
2.9.2 Eminent Domain	2.9-1
2.9.3 Water Rights.....	2.9-1
2.10 LOCAL LAWS AND APPLICATIONS	2.10-1
2.10.1 Local Laws.....	2.10-1
2.10.2 Municipal Liability	2.10-1
2.10.3 Acts of Government Agency Employees	2.10-2
2.10.4 Acts of Developers	2.10-2
2.10.5 Drainage Improvements	2.10-2
2.10.6 Special Issues	2.10-2
2.11 REMEDIES	2.11-1
2.11.1 Common Actions	2.11-1
2.11.2 Inverse Condemnation	2.11-1
2.11.3 Injunction	2.11-1
2.11.4 Tort Claims	2.11-1
2.11.5 Personal Liability	2.11-2
2.12 ROLE OF THE HYDRAULICS DESIGNER AND ROADWAY DRAINAGE ENGINEER	2.12-3
2.12.1 Hydraulics Designer	2.12-3
2.12.2 Roadway Drainage Engineer.....	2.12-3
2.12.3 Investigating Complaints	2.12-3
2.12.4 Legal Opinion	2.12-5
2.13 REFERENCES.....	2.13-7

Chapter 2

LEGAL ASPECTS

2.1 OVERVIEW

2.1.1 Introduction

Chapter 2 discusses various drainage laws and rules applicable to highway facilities. The intent is only to provide information and guidance on the hydraulics designer's role in the legal aspects of highway drainage. This Chapter should not be considered a document upon which to base legal advice or make legal decisions. It is also not a summary of all existing drainage laws and, most emphatically, this Chapter is not intended as a substitute for legal counsel.

The following generalizations can be made regarding liability:

- A goal in highway drainage design should be to perpetuate natural drainage, insofar as practical.
- The courts look with disfavor upon infliction of injury or damage that could reasonably have been avoided by a prudent hydraulics designer, even where some alteration in flow is legally permissible.

2.1.2 Order of Authority

The descending order to law supremacy is Federal, State and local and, except as provided for in the statutes or constitution of the higher level of government, the superior level is not bound by the laws, rules or regulations of a lower level. State permit requirements are an example of law supremacy. Federal agencies do not secure permits issued by State agencies, except as required by Federal law. Many laws of one level of government are passed to enable that level to comply with or implement provisions of laws of the next higher level. In some instances, however, a lower level of government may promulgate a law, rule or regulation that would require an unreasonable or even illegal action by a higher level. An example is a local ordinance that would require an expenditure of State funds for a purpose not intended in the appropriation. Many such conflicts in the laws of different levels of government involve constitutional interpretation and must be determined case-by-case. These types of conflicts should be referred to ODOT legal counsel before any action is taken.

2.1.3 Related Publications

There are numerous publications on the legal aspects of drainage and water laws. For additional information, see the AASHTO *Highway Drainage Guidelines* (1), which also includes a glossary of legal definitions. Applicable local references to use are:

- "Rules, Regulations and Modes of Procedures," Oklahoma Water Resources Board, July 1, 1998;

- Title 11 and 11a City of Tulsa Charters and Ordinances, seventh revision dated December 31, 2009; and
- Chapter 16 *Oklahoma City Municipal Code*, 2007 and latest revisions.

2.2 FEDERAL LAWS

2.2.1 General Laws

Federal law consists of the Constitution of the United States, *Acts* of Congress, regulations that governmental agencies issue to implement these *Acts*, Executive Orders issued by the President and case law. *Acts* of Congress are published immediately upon issuance and are accumulated for each session of Congress and published in the *United States Statutes At Large*. Compilations of Federal Statutory Law, revised annually, are available in the *United States Code* (USC) and the *United States Code Service* (USCS).

The *Federal Register*, which is published daily, provides a uniform system for making regulations and legal notices available to the public. The *Federal Register* publishes Presidential Proclamations and Executive Orders, Federal agency regulations/documents having general applicability and legal effect, documents required to be published by an *Act* of Congress and other Federal agency documents of public interest. Compilations of Federal regulatory material, revised annually, are available in the *Code of Federal Regulations* (CFR).

2.2.2 Drainage

Federal law does not address drainage per se, but many laws have implications that affect drainage design. These laws include the following topics:

- flood insurance and construction in flood-hazard areas,
- navigation and construction in navigable waters,
- water pollution control, and
- environmental protection.

Federal agencies formulate and promulgate rules and regulations to implement these laws, and highway designers and hydraulics designers should remain informed on proposed and final regulations.

2.2.3 Significant Highway Acts

Some of the more significant highway acts affecting highway drainage are listed below with a brief description of their subject area:

1. *Department of Transportation Act* (80 Stat. 941, 49 USC 1651 et seq.). This *Act* established the US Department of Transportation and set forth its powers, duties and responsibilities to establish, coordinate and maintain an effective administration of the transportation programs of the Federal Government.
2. *Federal-Aid Highway Acts* (23 USC 101 et seq.). The *Federal-Aid Highway Acts* provide for the administration of the Federal-Aid Highway Program. Proposed Federal-Aid projects must be adequate to meet the existing and probable future traffic needs and conditions in a manner conducive to safety, durability and economy of maintenance and

must be designed and constructed according to standards best suited to accomplish these objectives and to conform to the needs of each locality.

3. Federal-Aid Highway Act of 1970 (84 Stat. 1717, 23 USC 109 (h)). This Act provided for the establishment of general guidelines to ensure that possible adverse economic, social and environmental effects relating to any proposed Federal-aid project have been fully considered in developing the project. In compliance with the Act, FHWA issued process guidelines for the development of environmental action plans. These guidelines are contained in 23 CFR 771 and 23 CFR 795 et seq.
4. Federal-Aid Highway Act of 1966 (80 Stat. 766), Amended by the Act of 1970 (84 Stat. 1713, 23 USC 109 (g)). This Act required the issuance of guidelines for minimizing possible soil erosion from highway construction. In compliance with these requirements, FHWA issued guidelines that are applicable to all Federal-aid highway projects. Regulatory material is found in 23 CFR 650 Subpart B.

2.3 NAVIGABLE WATER REGULATIONS

2.3.1 Constitutional Power

The Congress of the United States is granted constitutional power to regulate “commerce among the several states.” A part of that power is the right to legislate on matters concerning the instrumentalities of interstate commerce (e.g., navigable waters). The definition of navigable waters expands and contracts depending upon the breadth required to adequately implement the Federal purpose. The result is that Congress can properly assert regulatory authority over at least some aspects of waterways that are not in themselves subject to navigation.

2.3.2 Federal Agencies

Basically, four Federal agencies implement existing Federal regulations, as discussed in the following subsections. When the hydraulics designer becomes involved in obtaining approvals from the Federal agencies, however, these agencies do not always work in concert. Quite often, they will not be in agreement with one another. This can result in significant project delays unless early coordination is initiated and diligently pursued. These conflicts between Federal agencies occur as a result of their varying rules; some are “regulators” while others are “resource” motivated. For this reason, they will have different goals and, in some instances, different definitions of certain elements (e.g., wetlands). When conflicts occur, it is best to quickly determine which agency has primary responsibility and attempt to satisfy its needs.

2.3.2.1 U.S. Coast Guard (USCG)

USCG has regulatory authority under Section 9 of the *Rivers and Harbors Act of 1899*, 33 USC 401 (delegated through the Secretary of Transportation in accordance with 49 USC 1655 (g)) to approve plans and issue permits for bridges and causeways across navigable rivers. As outlined in 23 CFR 650, the area of jurisdiction of USCG and FHWA is established as follows:

1. FHWA Responsibility. FHWA has the responsibility under 23 USC 144(h) to determine that a USCG permit is not required. This determination is made at an early stage of project development so that any necessary coordination can be accomplished during environmental processing.
2. USCG Responsibility. USCG has the responsibility for the following:
 - to determine whether or not a USCG permit is required for the improvement or construction of a bridge over navigable waters except for the exemption exercised by FHWA as stated above; and
 - to approve the bridge location, alignment and appropriate navigational clearances in all bridge permit applications.

For more information related to navigational clearances for bridges, see 23 CFR 650 Subpart H and Chapter 15 “Permits.”

2.3.2.2 U.S. Army Corps of Engineers (USACE)

USACE has regulatory authority over the construction of dams, dikes or other obstructions (that are not bridges or causeways) under Section 9 (33 USC 401). USACE also has authority to regulate Section 10 of the *Rivers and Harbors Act of 1899* (33 USC 403), which prohibits the alteration or obstruction of any navigable waterway with the excavation or deposition of fill material. Section 11 of the *Rivers and Harbors Act of 1899* (33 USC 404) authorizes the Secretary of the Army to establish harbor lines. Work channelward of those lines requires separate approval of the Secretary of the Army and work shoreward requires Section 10 permits (see Chapter 15 “Permits”).

Section 404 of the *Clean Water Act* (33 USC 1344) prohibits the unauthorized discharge of dredged or fill material into waters of the United States, including navigable waters (see Chapter 15 “Permits”). These types of discharges require a permit. The term “discharge of fill material” means the addition of rock, sand, dirt, concrete or other material into the waters of the United States incidental to construction of any structure.

USACE has granted Nationwide General Permits for 26 categories of certain minor activities involving discharge of fill material. Under the provisions of 33 CFR 330.5(a)(15), fill associated with construction of bridges across navigable waters of the United States (including cofferdams, abutments, foundation seals, piers, temporary construction and access fills) are authorized under the Nationwide Section 404 Permit, provided that the fill has been permitted by USCG under Section 9 of the *Rivers and Harbors Act of 1899* as part of the bridge permit. Therefore, formal application to USACE for a Section 404 Permit is not required, unless bridge approach embankment is located in a wetland area contiguous to the navigable stream.

USACE has Section 404 regulatory authority over streams that USCG has placed in the “advance approval” category. This category of navigable streams is defined as navigable in law but not actually navigated other than by logs, log rafts, rowboats, canoes and motorboats. Notably, this regulation does not apply to the actual excavation or “dredging of material,” provided that this material is not reintroduced into any regulated waterway including the one from which it was removed.

Section 404 of the *Clean Water Act* (33 USC 1344) requires any applicant for a Federal permit for any activity that may affect the quality of waters of the United States to obtain a water quality certification from the Oklahoma Water Resources Board, the Oklahoma State Department of Health or EPA District 6 (headquartered in Dallas) (see Chapter 15 “Permits”).

The *1992 Energy and Water Development Appropriation Act* provides guidance to use the USACE *Wetland Delineation Manual* of 1987. This allows more flexibility in the definition and determination of wetlands.

2.3.2.3 Federal Highway Administration (FHWA)

For Federal-aid highway projects processed under 23 CFR 771.115 (b), FHWA has the authority to implement categorical exclusions as defined by the Section 404 Permit Program (*Clean Water Act of 1977*). This authority was delegated to FHWA by USACE to reduce unnecessary Federal regulatory controls over activities adequately regulated by another

agency. This Nationwide permit is granted for projects where the activity, work or discharge is categorically excluded from detailed environmental documentation because the activity does not have an individual or cumulative significant effect on the human environment (see Chapter 15 “Permits”).

2.3.2.4 U.S. Environmental Protection Agency (USEPA)

USEPA is authorized to prohibit the use of any area as a disposal site when it is determined that the discharge of materials at the site will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas, wildlife or recreational areas (Section 404(c), *Clean Water Act*, 33 USC 1344). Also, USEPA is authorized under Section 402 of the *Clean Water Act* (33 USC 1344) to administer and issue a “National Pollutant Discharge Elimination System” (NPDES) permit for point source discharges, provided that prescribed conditions are met. USEPA has delegated the authority for issuing NPDES permits to the Oklahoma Department of Environmental Quality.

NPDES is the regulatory permit program that controls the quality of treated sewage discharge from sewage treatment plants as established in 40 CFR Part 125 pursuant to the *Clean Water Act*, 33 USC 1342 (23 CFR 650). In compliance with this regulation, the following factors apply to the design of sewage treatment facilities for highway safety rest areas:

- The NPDES permit required should be obtained prior to approval of the plans, specifications and estimate and authorization for the advertisement of bids.
- Sewage treatment must be accomplished at the site as may be necessary to meet effluent limitations. Any effluent is monitored in accordance with the standards established by the NPDES permit.

2.4 U.S. FISH AND WILDLIFE SERVICE (USFWS)

2.4.1 Requirements

The *Fish and Wildlife Act* of 1956 (16 USC 742 et seq.), the Migratory Game-Fish Act (16 USC 760c-760g) and the *Fish and Wildlife Coordination Act* (16 USC 611-666c) express the concern of Congress with the quality of the aquatic environment as it affects the conservation, improvement and enjoyment of fish and wildlife resources. The *Fish and Wildlife Coordination Act* requires that “whenever the waters of any stream or body of water are proposed or authorized to be impounded or diverted, the channel deepened or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States or by any public or private agency under Federal permit or license, such department or agency should first consult with the USFWS, Department of the Interior and with the head of the agency exercising administration over the wildlife resources of the particular State with a view to the conservation of wildlife resources by preventing loss of and damage to such resources as well as providing for the development and improvement thereof.”

2.4.2 USFWS Role

The USFWS role in the permit review process is to review and comment on the effects of a proposal on fish and wildlife resources. It is the function of the regulatory agency (e.g., USACE, USCG) to consider and balance all factors, including anticipated benefits and costs in accordance with NEPA, in deciding whether to issue the permit (40 FR 55810, December 1, 1975). This requirement is addressed in the appropriate environmental document (see Chapter 15 “Permits”).

2.5 NATIONAL FLOOD INSURANCE PROGRAM

2.5.1 Flood Insurance

The *National Flood Insurance Act* of 1968, as amended, (42 USC 4001-4127) (2) requires that communities adopt adequate land-use and control measures to qualify for insurance. The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security (DHS) is in charge of administering this *Act*. Federal criteria promulgated to implement this provision contain the following requirements that can affect certain highways:

- In riverine situations, when the Administrator of FEMA has identified the flood-prone area, the community must require that, until a floodway has been designated, no use, including land fill, be permitted within the floodplain area for which base flood elevations have been provided, unless it is demonstrated that the cumulative effect of the proposed use, when combined with all other existing and reasonably anticipated uses of a similar nature, will not increase the water surface elevation of the 100-year flood more than 1 ft at any point within the floodplain.
- After the floodplain area has been identified and the water surface elevation for the 100-year flood has been provided, the community must designate a floodway. FEMA requires that any fill, encroachments, new construction and substantial improvements of existing structures within the designated floodway should not increase the 100-year flood elevation more than 0.00 ft at any point within the designated floodway. The participating cities and/or counties agree to regulate new development in the designated floodplain and floodway through regulations adopted in a floodplain ordinance. The ordinance requires that development in the designated floodplain be consistent with the intent, standards and criteria set by the National Flood Insurance Program (NFIP); see Chapter 15 “Permits.”

2.5.2 Flood Disaster Protection

The *Flood Disaster Protection Act* of 1973 (PL 93-234, 87 Stat. 975) denies Federal financial assistance to local communities that fail to qualify for flood insurance. Formula grants to States are excluded from the definition of financial assistance and the definition of construction in the *Act* does not include highway construction; therefore, Federal-aid for highways is not affected by the *Act*. The *Act* does require communities to adopt certain land-use controls to qualify for flood insurance. These land-use requirements could impose restrictions on the construction of highways in floodplains and floodways in communities that have qualified for flood insurance.

2.5.3 Local Community

The local community with land-use jurisdiction, whether it is a city, county or State, has the responsibility for enforcing NFIP regulations in that community if the community is participating in the NFIP. Consistency with NFIP standards is a requirement for Federal-Aid highway actions involving regulatory floodways. The community, by necessity, is the entity that must submit proposals to FEMA for amendments to NFIP ordinances and maps in that community should it

be necessary. Determination of the status of a community's participation in the NFIP and the review of applicable NFIP maps and ordinances are, therefore, essential first steps in conducting location hydraulic studies and preparing environmental documents.

ODOT could obtain this information through the Oklahoma Water Resources Board (OWRB) or through the community (if needed).

2.5.4 NFIP Maps

Where NFIP maps are available, their use is mandatory in determining whether a highway location alternative will include an encroachment on the base floodplain. Three types of NFIP maps (see Chapter 15 "Permits") are published:

- Flood Hazard Boundary Map (FHBM),
- Flood Boundary and Floodway Map (FBFM), and
- Flood Insurance Rate Map (FIRM).

FEMA is no longer publishing the above NFIP maps. They have replaced the maps with the Digital Flood Insurance Rate Map (DFIRM) in CD and DVD formats.

2.5.5 Coordination with FEMA

ODOT must coordinate with the OWRB, a State agency that has been delegated by FEMA, where administrative determinations are needed involving a regulatory floodway or where flood risks in NFIP communities are significantly impacted (see Chapter 15 "Permits"). By Oklahoma State law, ODOT must apply for a permit with the OWRB for any proposed development on State-owned property within FEMA regulatory floodplain.

2.5.6 Levee Systems

For purposes of the NFIP, FEMA will only recognize in its flood hazard and risk mapping effort those levee systems that meet, and continue to meet, minimum design operation and maintenance standards that are consistent with the level of protection sought through the comprehensive floodplain management criteria as outlined in the NFIP. The levee system must provide adequate protection from the base flood. Information supporting this must be supplied to FEMA by the community or other party seeking recognition of a levee system at the time a flood risk study or restudy is conducted, when a map revision is sought based on a levee system, and upon request by the Administrator during the review of previously recognized structures. The FEMA review will be solely to establish appropriate risk zone determinations for NFIP maps and will not constitute a determination by FEMA on how a structure or system will perform in a flood event. For more information on the requirements related to levee systems, see the *National Flood Insurance Program and Related Regulations*, FEMA, Revised October 1, 1986 and Amended June 30, 1987 (44 CFR 65.10) and the FEMA web site "What is required to certify a levee as providing protection from the base flood?". Generally, ODOT does not build highways to act as levees.

2.6 EXECUTIVE ORDERS

2.6.1 Background

Presidential Executive Orders (EO) have the effect of law in the administration of programs by Federal agencies. Although Executive Orders do not directly apply to State departments of transportation, these requirements are usually implemented through general regulations.

2.6.2 EO 11988: Floodplain Management

Executive Order 11988, May 24, 1977, requires each Federal agency, in implementing its activities, to take the following actions:

- to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains; and
- to evaluate the potential effect of any actions it may take in a floodplain and to ensure that its planning programs reflect consideration of flood hazards and floodplain management.

These requirements are contained in 23 CFR 650 Subpart A and were published in the *Federal Register*, April 26, 1979 (44 FR 24678). ODOT addresses the floodplain avoidance and evaluation requirements (see Chapter 15 “Permits”) in the environmental document. ODOT addresses floodplain encroachment impacts in the drainage design criteria found in each Chapter of this *Manual*.

2.6.3 EO 11990: Protection of Wetlands

Executive Order 11990, May 24, 1977, orders each Federal agency:

- to take action to minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values to wetlands;
- to avoid undertaking or providing assistance for new construction in wetlands unless the head of the agency finds that there is no practical alternative and all practical measures are taken to minimize harm that may result from the action; and
- to consider factors relevant to the proposal’s effects on the survival and quality of the wetlands.

These requirements are contained in 23 CFR 771. ODOT addresses these requirements in the environmental document.

2.7 STATE DRAINAGE LAW

2.7.1 Derived From

State drainage law is derived mainly from two sources: (1) common law and (2) statutory law.

2.7.2 Common Law

Common law is that body of principles that developed from immemorial usage and custom and that receives judicial recognition and sanction through repeated application. These principles were developed without legislative action and are embodied in the decisions of the courts.

2.7.3 Statutory Law

Statutory laws of drainage are enacted by legislatures to enlarge, modify, clarify or change the common law applicable to particular drainage conditions. This type of law is derived from constitutions, statutes, ordinances and codes.

2.7.4 Predominates

In general, common law rules of drainage predominate unless they have been enlarged or superseded by statutory law. In most instances where statutory provisions have been enacted, it is possible to determine the intent of the law. If, however, there is a lack of clarity in the statute, the point in question may have been litigated for clarification. In the absence of either clarity of the statute or litigation, a definitive statement of the law is not possible, although the factors that are likely to be controlling may be indicated.

2.7.5 Classification of Waters

State drainage laws originating from common law, or court-made law, first classified the water that was being addressed, after which the rule that was pertinent to the particular classification was applied to obtain a decision.

The first step in the evaluation of a drainage problem is to classify the water as surface water, stream water, flood water or groundwater. These terms are defined below. Once the classification has been established, the rule that applies to the particular class of water determines responsibilities with respect to disposition of the water.

The following definitions apply:

1. Surface Waters. Surface waters are those waters that have been precipitated on the land from the sky or forced to the surface in springs and that have then spread over the surface of the ground without being collected into a definite body or channel.

2. Stream Waters. Stream waters are former surface or ground waters that have entered and now flow in a well-defined natural watercourse, together with other waters reaching the stream by direct precipitation or rising from springs in the bed or banks of the watercourse. A watercourse, in the legal sense, refers to a definite channel with bed and banks within which water flows either continuously or intermittently.
3. Flood Waters. Flood waters are former stream waters that have escaped from a watercourse (and its overflow channels) and flow or stand over adjoining lands. They remain flood waters until they disappear from the surface by infiltration or evaporation, or return to a natural watercourse.
4. Ground Waters. In legal considerations, ground waters are divided into two classes — percolating waters and underground streams. The term “percolating waters” generally includes all waters that pass through the ground beneath the surface of the earth without a definite channel. The general rule is that all underground waters are presumed to be percolating and, to take them out of the percolating class, the existence and course of a permanent channel must be clearly shown. Underground streams are waters passing through the ground beneath the surface in permanent, distinct and well-defined channels.

2.8 STATE WATER RULES

2.8.1 Basic Concepts

Two major rules have been developed by the courts regarding the disposition of surface waters. One is known as the civil law rule of natural drainage. The other is referred to as the common enemy doctrine. Modification of both rules has tended to bring them somewhat closer together and, in some cases, the original rule has been replaced by a compromise rule known as the reasonable-use rule.

Much of the law regarding stream waters is founded on a common law maxim that states “water runs and ought to run as it is by natural law accustomed to run.” Thus, as a general rule, any interference with the flow of a natural watercourse to the injury or damage of another will result in liability. This may involve augmentation, obstruction and detention or diversion of a stream. However, there are qualifications.

In common law, flood waters are treated as a “common enemy” of all people, lands and property attacked or threatened by them.

In ground water law, the “English Rule,” which is analogous to the common enemy rule in surface water law, is based on the doctrine of absolute ownership of water beneath the property by the landowner.

2.8.2 Surface Waters

The civil law rule is based upon the perpetuation of natural drainage. The rule places a natural easement or servitude upon the lower land for the drainage of surface water in its natural course and the natural flow of the water cannot be obstructed by the downstream owner to the detriment of the upstream owner. Most States following this rule have modified it so that the owner of upper lands has an easement over lower lands for drainage of surface waters, and natural drainage conditions can be altered by an upper proprietor provided that the water is not sent down in a manner or quantity to do more harm than formerly.

Under the common enemy doctrine, surface water is regarded as a common enemy that each property owner may fight off or control as he will or is able, either by retention, diversion, repulsion or altered transmission. Thus, there is not cause of action even if some injury occurs causing damage. In most jurisdictions, this doctrine has been subject to a limitation that one must use his land so as not to unreasonably or unnecessarily damage the property of others.

Under the reasonable-use rule, each property owner can legally make reasonable use of his land, even though the flow of surface waters is altered thereby and causes some harm to others. However, liability attaches when the harmful interference with the flow of surface water is “unreasonable.” Whether a landowner’s use is unreasonable is determined by a nuisance-type balancing test. The analysis involves several questions:

- Was there reasonable necessity for the actor to alter the drainage to make use of his land?

- Was the alteration done in a reasonable manner?
- Does the utility of the actor's conduct reasonably outweigh the gravity of harm to others?

Based on these rules and to protect ODOT drainage facilities (e.g., bridges, culverts, ditches) from being overloaded by extra runoff from new adjacent developments, ODOT requests that the runoff from these new adjacent developments needed to be reduced to the existing (historical) runoff level. This request is applied for the six major frequencies, including the 2-year, 5-year, 10-year, 25-year, 50-year and 100-year return period rainfall. The developers should use detention facility(ies) to achieve this request.

The design criteria of the detention facility(ies) will be explained in detail in Chapter 3 "Policy" and Chapter 9 "Storage Facilities" and summarized as follows:

- Use the NRCS (formerly SCS) Type II or Type III, 24-hour duration rainfall distribution in computing the peak discharges and in hydrograph routing (see SCS TR-55). The use of the hypothetical rainfall distribution hydrograph, the SCS simplified hydrograph and the Modified Rational Method triangular hydrograph are NOT accepted.
- The Curve Number (CN) of the land should be based on the local soil as shown in the NRCS Soil Report of the related county and also on the proposed land use change.
- Use six major frequencies in the routing, including the 2-year, 5-year, 10-year, 25-year, 50-year and 100-year return period rainfall.
- The use of the US Corps of Engineers (USACE) programs, HEC-1 or HEC-HMS, in the routing is recommended. Use other commercial programs (e.g., Eagle Point, Bentley) if ODOT Design Criteria can be satisfied.
- The 24-hour (or the 1-day, whichever is greater) duration rainfall precipitation data of the site should be obtained from the 1999 USGS WRI No. 99-4232, instead of from the 1966 US Weather Bureau TP-40 and NOAA HYDRO-35.
- If the size of the proposed pond is greater than 20 acres, the hydraulics designer should conform with the Oklahoma Water Resources Board (OWRB) detention pond requirements.
- The size of the principal spillway structure of the proposed detention pond should not be greater than the downstream structure size.

2.8.3 Stream Waters

Where natural watercourses are unquestioned in fact and in permanence and stability, there is little difficulty in application of the rule. Highways cross channels on bridges or culverts, usually with some constriction of the width of the channel and obstruction by substructure within the channel, both causing backwater upstream and acceleration of flow downstream. The changes in regime must be so small as to be tolerable by adjoining owners, or there may be liability of any injuries or damages suffered.

Surface waters from highways are often discharged into the most convenient watercourse. The right is unquestioned if those waters were naturally tributary to the watercourse and unchallenged if the watercourse has adequate capacity. However, if all or part of the surface waters have been diverted from another watershed to a small watercourse, any lower owner may complain and recover for ensuing damage.

2.8.4 Flood Waters

Considering flood waters as a common enemy permits all affected landowners, including owners of highways, to act in any reasonable way to protect themselves and their property from the common enemy. They may obstruct its flow from entering their land, backing or diverting water onto lands of another without penalty, by gravity or pumping, by diverting dikes or ditches or by any other reasonable means.

Again, the test of “reasonableness” has frequently been applied, and liability can result where unnecessary damage is caused. Ordinarily, the hydraulics designer should make provision for overflow in areas where it is foreseeable that it will occur. There is a definite risk of liability if these waters are impounded on an upper owner or, worse yet, are diverted into an area where they would not otherwise have gone. Merely to label waters as “flood waters” does not mean that they can be disregarded.

2.8.5 Ground Water

The “English Rule” has been modified by the “Reasonable-Use Rule,” which states in essence that each landowner is restricted to a reasonable exercise of his own right and a reasonable use of his property in view of the similar right of his neighbors.

The key word is “reasonable.” Although this may be interpreted somewhat differently from case-to-case, it generally means that a landowner can utilize subsurface water on his property for the benefit of agriculture, manufacturing, irrigation, etc., pursuant to the reasonable development of his property although this action may interfere with the underground waters of neighboring proprietors. However, it does generally preclude the withdrawal of underground waters for distribution or sale for uses not connected with any beneficial ownership or enjoyment of the land from whence they were taken.

A further interpretation of “reasonable” in relation to highway construction would view the excavation of a deep “cut section” that intercepts or diverts underground water to the detriment of adjacent property owners as unreasonable. There are also cases where highway construction has permitted the introduction of surface contamination into subsurface waters and thus incurred liability for resulting damages.

2.9 STATUTORY LAW

2.9.1 Introduction

The inadequacies of the common law or court-made laws of drainage led to a gradual enlargement and modification of the common-law rules by legislative mandate. In the absence of statute, the common law rules adopted by State courts determine surface water drainage rights. If the common-law rules have been enlarged or superseded by statutory law, the statute prevails. In general, statutes have been enacted that affect drainage in one way or another in the subject areas described below.

2.9.2 Eminent Domain

In the absence of an existing right, public agencies may acquire the right to discharge highway drainage across adjoining lands through the use of the right of eminent domain. Eminent domain is the power of public agencies to take private property for public use and is a fundamental attribute of a sovereign State. This inherent power is limited by the Constitution of the State of Oklahoma Article 2, Section 24 providing that private property should not be taken or damaged for public use without just compensation.

Section 23 of the *Oklahoma Territory Organic Act*, 26 US Stat. at Large 81-100, reserved all Section Lines as Public Highways. The Constitution of the State of Oklahoma Article 16, Section 1 created the Oklahoma Department of Highways (ODOT) and in Section 2 accepted all reservation of land for public highways by previous Act of Congress in the *Organic Act*. Because section lines are not adequate for proper highway development, public right-of-ways must be established through acquisition of private land by the power of eminent domain. The Oklahoma Legislature granted ODOT the power of eminent domain in Title 69 Okla. Stat. §1203, which allows the taking of private real property for public purposes. It is important to remember, however, that when any real property is taken under eminent domain, the private landowner must be compensated for his loss, which includes not only the fair market value of the property taken, but also relocation benefits required by State and Federal law at 42 USC §4601, 49 CFR Part 24 and 63 OS §1092.1.

County and city governments have the right of eminent domain to construct, operate, repair or maintain any floodway, reservoir spillway, levee or diversion or other flood control improvements. Similarly, any levee or drainage district, through its Board of Directors, has eminent domain powers if it is declared necessary by the Chief of Engineers, United States Army, for the location, construction, operation or maintenance of any levee, channel rectification, drainage canal, floodway, reservoir, spillway or diversion to be constructed by the United States government.

2.9.3 Water Rights

The water right that attaches to a watercourse is a right to the use of the flow, not ownership of the water itself. This is true under both the riparian doctrine and the appropriation doctrine. This right of use is a property right, entitled to protection to the same extent as other forms of property and is regarded as real property. After the water has been diverted from the stream

flow and reduced to possession, the water itself becomes the personal property of the riparian owner or the appropriator. The following applies:

1. Riparian Doctrine. Under the riparian doctrine, lands contiguous to watercourses have prior claim to waters of the stream solely by reason of location and regardless of the relative productive capacities of riparian and non-riparian lands.
2. Doctrine of Prior Appropriation. The essence of this doctrine is the exclusive right to divert water from a source where the water supply naturally available is not sufficient for the needs of all those holding rights to its use. This type of exclusive right depends upon the effective date of the appropriation, the first in time being the first in right.

Generally, the important concept for hydraulics designers to remember regarding water rights is that proposed work in the vicinity of a stream should not impair either the quality or quantity of flow of any water rights to the stream.

2.10 LOCAL LAWS AND APPLICATIONS

2.10.1 Local Laws

Local governments (i.e., cities, counties, improvement districts) have ordinances and codes that require consideration during design. For example, zoning ordinances can have a substantial effect on the design of a highway and future drainage from an area. On occasion, a question may arise as to whether the State must comply with local ordinances. Generally, the State is not legally required to comply with local ordinances except where compliance is required by specific State statute. As a matter of law, a local government does not have inherent authority to impose municipal ordinances or local rules on an ODOT job site against either ODOT or its contractor and does not meet the “balancing of interests” test articulated by the Oklahoma Supreme Court in *Independent School District 89 of Oklahoma County v. City of Oklahoma City*, 1986 OK 47, 722 P2d 1212, in order to enforce local laws against ODOT projects. Quite often, however, the State conforms to local ordinances as a matter of courtesy, especially when it can be done without imposing a burden on the State.

Following is a discussion on the application of some of the principles and concepts of drainage law.

2.10.2 Municipal Liability

A municipality is a political subdivision of the State in State drainage matters. A municipality undertaking a public improvement is liable as an individual for damage resulting from negligence or an omission of duty subject to the limitations of the Governmental Tort Claims Act, Title 51 OS §151 et seq. (GTCA). As a general rule, municipalities are under no legal duty to construct drainage improvements unless public improvements necessitate drainage, as in those situations in which street grading and paving or construction accelerate or alter storm runoff. In addition, it is generally held that municipalities are not liable for adoption or selection of a defective plan of drainage.

Municipalities can be held liable for:

- negligent construction of drainage improvements,
- negligent maintenance and repair of drainage improvements, and
- failure to provide a proper outlet for drainage improvements.

In general, in the absence of negligence, a municipality will not be held liable for increased runoff occasioned by the necessary and desirable construction of storm drains; nor will a municipality be held liable for damages caused by overflow of its storm drains occasioned by extraordinary, unforeseeable rains or floods. Municipal liability will attach where a municipality:

- collects surface water and casts it in a body onto private property where it did not formerly flow;
- diverts, by means of artificial drains, surface water from the course it would otherwise have taken, and casts it in a body large enough to do substantial injury on private land where, but for the artificial storm drain, it would not go; and

- fills up, dams back or otherwise diverts a stream of running water so that it overflows its banks and flows on the land of another.

2.10.3 Acts of Government Agency Employees

A municipality is liable for loss resulting from its torts or the torts of its employees acting in the scope of their employment subject to the limitations of the GTCA and only in circumstances where the municipality, if it were a private entity, would be liable for damages under State law. A municipality is not liable for the negligence of an employee acting outside the scope of his employment or for any act or omission of an independent contractor.

2.10.4 Acts of Developers

Unless an ordinance or statute imposes a duty on a municipality to prevent or protect land from surface water drainage, a municipality will not incur liability for wrongfully issuing building permits, failing to enforce an ordinance or approving defective subdivision plans. The GTCA specifically exempts a municipality from liability for loss from licensing or inspection powers, law enforcement or discretionary acts among other things.

2.10.5 Drainage Improvements

A municipality's inherent police powers enable it to enact ordinances that serve the public health, safety, morals or general welfare. Ordinances addressing drainage problems are clearly a proper exercise of a municipality's police powers.

2.10.6 Special Issues

The following provides a brief discussion on special issues related to drainage in Oklahoma:

1. Irrigation Ditches. Where an irrigation ditch intersects a drainage basin, the irrigation ditch need not take underground waters diverted by a tile-drain. However, the surface drainage must be accepted if the irrigation ditch is constructed in a way into which surface water would naturally flow.
2. Dams and Detention Facilities. See Section 2.8.2 and Chapter 12 "Storage Facilities" for additional information.
3. Water Quality. See Section 2.1.3 for applicable ordinances.

2.11 REMEDIES

2.11.1 Common Actions

The most common legal actions through which a complainant may seek legal recourse include inverse condemnation, injunction and tort claims. The remedy for a wrong suffered by a party may be an equitable remedy that is nonmonetary (e.g., an injunction or a legal remedy that is a monetary compensation for a loss).

2.11.2 Inverse Condemnation

Oklahoma law allows damage suits to be brought against the State where the property owner has sustained a damage that has resulted in “taking or damaging” of his property for which “just compensation” is required under the Oklahoma Constitution Art. 2, §24, but for which the State has not instituted condemnation proceedings to provide this compensation. These are “inverse or reverse condemnation” suits that arise where a property, no part of which was taken for public use, sustains a consequential damage by reason of the making of a public improvement. Therefore, under Oklahoma law, just compensation is provided in cases of both property “taken” and property “damaged.”

2.11.3 Injunction

Oklahoma law at Title 12 OS §1381 provides an equitable remedy in the form of an injunction which is “a command to refrain from a particular act”. This is an equitable remedy (as opposed to a legal remedy) that may only be imposed by a Judge of the District Court and not by a civil jury. An injunction requires a finding that irreparable injury would occur absent the injunctive relief. An injury is irreparable when it is incapable of being fully compensated by money damages, or where the measure of damages is so speculative that arriving at an amount of damages would be difficult or impossible. An example could be an order to enjoin continual trespass on the land of another or an order for noise abatement.

2.11.4 Tort Claims

In the early development of the law, the courts recognized that, whenever possible, compensation should be awarded to those persons harmed by the actions of another. This was the origin of the theory of tort liability. In very general terms, a tort is an injury other than a breach of contract, which the law will redress with money damages, i.e. a legal remedy (as opposed to an equitable remedy) that may be imposed in a trial by a judge or a jury. A person has committed a tort if he has interfered with another person’s health, safety, liberty, reputation or private property. Tort liability exists primarily to compensate the victim by compelling the wrongdoer to pay for the damage he has done. If the plaintiff, as an injured party in a tort action, can prove the defendant proximately caused the injury, the court (or trier of fact) will hold the defendant responsible for the plaintiff’s injury and compel the defendant to pay for the damage in a money judgment.

2.11.5 Personal Liability

Under the GTCA, at 51 OS §153, the State or a political subdivision should be liable for loss resulting from its torts or the torts of its employees acting within the scope of their employment subject to the limitations of the GTCA. The State or a political subdivision should not be liable under the GTCA for any act or omission of an employee acting outside the scope of his employment.

2.12 ROLE OF THE HYDRAULICS DESIGNER AND ROADWAY DRAINAGE ENGINEER

The role of the hydraulics designer and Roadway Drainage Engineer for the legal aspects of highway drainage is discussed in the following sections.

2.12.1 Hydraulics designer

The hydraulics designer calculates hydraulics and hydrology to size structures, utilizing the tools and procedures approved by the Roadway Drainage Engineer. The hydraulics designer should be familiar with the legal aspects of highway drainage so that land owner complaints can be avoided. If a complaint is made, the hydraulics designer may be involved in investigating complaints (see Section 2.12.2) with the Roadway Drainage Engineer or requesting a legal opinion (see Section 2.12.3).

2.12.2 Roadway Drainage Engineer

The Roadway Drainage Engineer has the following responsibilities for the legal aspects of highway drainage:

- should know the legal principles involved and apply this knowledge to all designs and,
- should work closely with the ODOT legal staff, as necessary, in the preparation and trial of drainage cases.

The duties of the Roadway Drainage Engineer include direct legal involvement in the following areas:

- conduct investigations, advise and provide expert testimony on the technical aspects of drainage claims involving existing highways; and
- provide drainage design information during right-of-way acquisition to assist appraisers in evaluating damages and provide testimony in subsequent condemnation proceedings, when necessary.

2.12.3 Investigating Complaints

It is imperative that drainage complaints be addressed promptly and in an unbiased manner. This means accepting that the flooding is a serious problem for the complainer and not accepting anyone's preconceived conclusions. All facts must be assembled and analyzed before conclusions can be determined. Also, it is well to list any action by others that could possibly be responsible for the flooding.

When the Roadway Drainage Engineer or hydraulics designer is requested to investigate a complaint, the following guidelines are recommended:

2.12 ROLE OF THE HYDRAULICS DESIGNER AND ROADWAY DRAINAGE ENGINEER

The role of the hydraulics designer and Roadway Drainage Engineer for the legal aspects of highway drainage is discussed in the following sections.

2.12.1 Hydraulics Designer

The hydraulics designer calculates hydraulics and hydrology to size structures, utilizing the tools and procedures approved by the Roadway Drainage Engineer. The hydraulics designer should be familiar with the legal aspects of highway drainage so that land owner complaints can be avoided. If a complaint is made, the hydraulics designer may be involved in investigating complaints (see Section 2.12.2) with the Roadway Drainage Engineer or requesting a legal opinion (see Section 2.12.3).

2.12.2 Roadway Drainage Engineer

The Roadway Drainage Engineer has the following responsibilities for the legal aspects of highway drainage:

- should know the legal principles involved and apply this knowledge to all designs and,
- should work closely with the ODOT legal staff, as necessary, in the preparation and trial of drainage cases.

The duties of the Roadway Drainage Engineer include direct legal involvement in the following areas:

- conduct investigations, advise and provide expert testimony on the technical aspects of drainage claims involving existing highways; and
- provide drainage design information during right-of-way acquisition to assist appraisers in evaluating damages and provide testimony in subsequent condemnation proceedings, when necessary.

2.12.3 Investigating Complaints

It is imperative that drainage complaints be addressed promptly and in an unbiased manner. This means accepting that the flooding is a serious problem for the complainer and not accepting anyone's preconceived conclusions. All facts must be assembled and analyzed before conclusions can be determined. Also, it is well to list any action by others that could possibly be responsible for the flooding.

When the Roadway Drainage Engineer or hydraulics designer is requested to investigate a complaint, the following guidelines are recommended:

Step 1. Determine Facts about the Complaint

- Show on a map the location of the problem on which the complaint is based.
- Clearly determine the basis for the complaint by obtaining information including what was flooded, complainer's opinion on what caused the flooding, description of the alleged damages, dates, times and durations of flooding.
- Briefly relate the history of any other grievances that were expressed prior to the claim presently being investigated.
- Obtain approximate dates that the damaged property and/or improvements were acquired by those claiming damages.
- Collect facts about the specific flood event(s) involved:
 - Obtain rainfall data including dates, amounts, time periods and locations of gages. Rainfall data are often helpful regardless of the source.
 - Document observed highwater information at or in the vicinity of the claim. Locate highwater marks on a map and specify datum. Always try to obtain highwater marks both upstream and downstream of the highway and the time the elevations occurred.
 - Determine the duration of flooding at the site of alleged damage. Determine the direction of flood flow at the damaged site. Describe the condition of the stream before, after and during flood(s). Determine if the growth in the channel was light, medium or heavy and if there were drift jams. Determine if the stream carries much drift in flood stage. Determine if the flow was fast or sluggish and if light, moderate or severe erosion occurred.
 - Document the flood history at the site. Determine if the highway was overtopped by the flood. If so, determine the depth of overtopping and, if possible, estimate a flow velocity across the highway. Obtain narratives of any eyewitnesses to the flooding. Obtain facts about the flood(s) from sources outside ODOT (e.g., newspaper accounts, witnesses, measurements by other agencies (e.g., USGS, USACE, NRCS) individuals, maps, Weather Bureau rainfall records).
- State facts about the highway crossing involved.
- Show a profile of the highway across the stream valley. Give the date of the original highway construction and dates of all subsequent alterations to the highway and describe what the alterations were. Describe what existed prior to the highway (e.g., county road, city street, abandoned railroad embankment). Also, include a description of the drainage facilities and drainage patterns that were there prior to the highway. Give a description of

the existing drainage facilities. Give the original drainage design criteria or give capacity and frequency of the existing facility based upon current criteria.

- List possible actions by others which affect the drainage.
- Determine if there are any other stream crossings in the vicinity of the damaged site that could have affected the flooding. Determine if there are any other contributing factors (e.g., pipelines, highways, streets, railroads, dams). Determine if there have been any significant constructed changes to the stream or watershed that might affect the flooding.

Step 2. Analyze the Facts

From the facts, decide what should be done to relieve the problem regardless of who has responsibility for the remedy. Identify others who may possibly provide assistance.

Step 3. Make Conclusions and Recommendations

- Determine the contributing factors leading to the alleged flood damage.
- Specify feasible remedies. This should be done without regard for who has responsibility to affect a remedy.

The list under Step 1 “Determine Facts about the Complaint” is not all inclusive, nor is it intended that the entire list will be applied in each case. This outline is given as a guide to the type and scope of information desired from an investigation of a drainage complaint. It is advantageous to have available hydraulic design documentation as outlined in Chapter 6 “Documentation” of this *Manual*. When ODOT’s investigation is completed, the Roadway Drainage Engineer or hydraulics designer should again analyze the facts, consider the conclusions and recommendations and prepare a response to the complainer explaining the results of the investigation. Documentation of the facts and findings is important if there is future action.

2.12.4 Legal Opinion

Drainage matters range from the simple to the complicated. If the facts are ascertained and a plan developed before initiating a proposed improvement, the likelihood of an injury to a landowner is remote, and ODOT or a developer should be able to undertake these improvements relatively assured of no legal complications.

If the hydraulics designer or Roadway Drainage Engineer needs a legal opinion on a specific drainage problem or improvement, the request for an opinion should state at a minimum whether:

- The watercourse under study has been viewed.
- There are problems involved and what causes them (e.g., obstructions, topography, present and future development).

- The proposed improvements will make the situation better.
- The proposal requires that the natural drainage be modified.
- There is potential liability for doing something versus doing nothing.
- Someone will benefit from the proposed improvements.
- In general, what is proposed is “reasonable.”

2.13 REFERENCES

1. **AASHTO.** *Highway Drainage Guidelines, Chapter 5 Legal Aspects of Highway Drainage.* Washington, DC : American Association of State Highway and Transportation Officials, 2007.
2. **FEMA.** *The National Flood Insurance Act of 1968.* Washington, DC : Federal Emergency Management Agency, 1968. Available at http://www.fema.gov/media-library-data/20130726-1545-20490-9247/frm_acts.pdf.

