

**CASE STUDIES ON OKLAHOMA  
STORMWATER LAW**

**Excerpts from City of Norman's  
Stormwater Drainage Criteria Manual  
February 1988\***

**\* With 2 updated attachments**



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CITY OF NORMAN  
STORM DRAINAGE CRITERIA MANUAL

SECTION 400 - OKLAHOMA STORMWATER LAW

401 INTRODUCTION

In 1978 attorney Ruth Wright did extensive legal research to prepare a report on Oklahoma Stormwater Law for the City of Stillwater. It covered a time period of three fourths of a century and over one hundred cases. For the purposes of this 1986 manual the original material has been updated. It is encouraging that there have been no radical changes in the basic law; however, there have been some interesting developments, especially in the field of floodplain management, and some additional subjects have been added.

For easy reference, the basic principles of Oklahoma stormwater law have been summarized in the Summary and Conclusion section. However, it is worthwhile to put them in context and, therefore, City officials, planners and engineers are encouraged to read the whole chapter. Attorneys, of course, may wish to refer to the cited cases for further amplification. All cases cited in the text are listed in alphabetical order at the end of this section in Appendix A. A storm moves in over a basin. The rain hits the earth - some of the water percolates into the ground. Some of it runs across the ground in a diffused manner, collecting in depressions and swales, gathering in gullies, eventually to flow into creeks and streams. If the storm is of a great magnitude, the water cannot be contained within the banks of the creeks and streams, so the water spreads out over the floodplain - the natural path it has created for itself over geologic time.

With the advent of man, a storm still moves in over the basin and the waters move downhill. But now there are changes in the natural topography.

Depressions are filled in. The land is made impermeable by streets, parking lots, and rooftops, resulting in less water percolating into the ground. Streets and storm sewers collect the water so that more water with greater velocity is discharged onto lower lands, or discharged in a different location. Embankments and dikes are built which divert the course of flood waters. Buildings, roads and bridges constrict the flows, causing waters to back up and flood lands which would not have been flooded, or would have been flooded to a lesser extent. Rivers are straightened and channelized which speeds up the flow causing greater impact downstream. These changed conditions can cause injury to persons or property and spawn lawsuits requesting damages for the injury or injunctions to prevent further injury. In addition, as government steps in to attempt to manage surface waters, watercourses, and floodplains by constructing flood control facilities or by controlling development in the floodplain, a host of other legal confrontations arise.

A body of law has developed in the courts and to a lesser degree by statutes to govern these various situations and define the right and duties of private parties and governments.

This chapter sets out the legal framework for stormwater planning in Oklahoma. It is essential that municipalities and counties, and their planners and engineers, have a sound legal basis for their work so that legal obstacles do not impede implementation at a future date. In addition, potential liability due to injury caused by stormwater facilities should be avoided.

402 SUMMARY AND CONCLUSIONS

1. The overriding rule in Oklahoma stormwater law is that natural watercourse and surface water conditions should be maintained wherever possible. Where they are changed, the changes must be designed so that resulting flow conditions will not cause more harm than under natural conditions.
2. The best approach in planning and designing drainage works is to attempt to retain natural and historic conditions of flow.
3. A riparian landowner along a watercourse may take measures to protect himself from the harmful effects of flood waters, but it is fundamental that no one may change, divert, obstruct, or otherwise interfere with the natural flow of a watercourse without being liable for damages to persons and properties injured by such actions.
4. The floodplain of the ordinary flood is part of the watercourse.
5. While a landowner has the right to improve his property, this right is qualified by the "golden maxim" of the common law that one must so use his own property as not to injure the rights of another. This maxim is used by courts in stormwater cases.
6. Where an upper landowner collects surface water, sends it down in a different manner or concentrated form, or in unnatural quantities or velocities, or discharges it in a different location, he is liable for any damage caused thereby. Conversely, a lower landowner may not cast surface waters back onto upper land to the detriment of the upper landowner. The basic principle is that a landowner cannot prevent injury to his own property by transferring that injury to his neighbor's property. Oklahoma courts call this "the common enemy rule modified by the rule of reason."

7. Where one party has caused unnatural water to flow onto another's property, the second party has a right to repel such waters; however, this right is strictly limited to placing the parties in the same conditions as prior to any construction. Nor may a party, in repelling such waters, cause injury to innocent third parties.
8. Where a party interferes with natural detention, either by filling it in or by cutting through its banks, he is liable for injury to lower landowners caused by change in surface water runoff.
9. Artificial ponds and on-site detention are recognized as beneficial for flood and erosion control. They should be encouraged, not only because they protect against potential liability for concentrating or increasing surface water runoff, but also because in an urban setting they tend to reduce the size required for storm sewers, which is a cost advantage.
10. A riparian owner on a watercourse may construct embankments or other structures necessary to maintain his bank of the stream or to restore it to its original course.
11. Any embankments constructed to detain or retain water should be safe from failure in the event of larger floods. The Maximum Probable Flood would be a prudent criterion.
12. If injury to persons or property is due solely to an extraordinary flood, there is no liability. However:
  - a. If a person's negligence, commingled with an extraordinary flood, was a contributing proximate cause of the harm, such person is liable.



- b. It is negligent to build a structure (e.g., inadequate bridge or culvert), which causes damage during an ordinary flood; if such a structure is a proximate cause of injury during an extraordinary flood, liability results.
  - c. In only a few Oklahoma cases has the defense of "extraordinary flood" been successful against liability.
  - d. The flood of record on a watercourse is an ordinary flood for all subsequent events. When an even greater flood occurs, it then becomes the new standard, and there is a duty to meet the new conditions.
  - e. With the technological advances in meteorology and hydrology, and with storm events and floods now being discussed nationwide in terms of their statistical probability, it may become increasingly difficult to convince a court or jury that the flood which caused injury was an "extraordinary flood", that is, one whose magnitude could not be anticipated or foreseen using ordinary diligence.
13. Wherever possible, artificial channels should follow natural thalwegs. Transbasin diversions which increase natural flow should be avoided unless the additional waters are fully accommodated in the design so that no injury can occur from the new flows.
14. Installation of inadequately sized drainage structures should be avoided, especially if such structures cause development and filling of the natural watercourse so that larger flood flows are altered causing damage to properties which would not have been damaged otherwise.

15. Nonstructural floodplain management provides a basis for master planning which has the least exposure for the city in terms of potential liability. It is a natural approach to solving urban drainage problems before they develop, or before they get worse.
16. Municipalities are treated like private parties in watercourse and surface water cases. Governmental immunity as a defense against liability has rarely been mentioned, and never successfully used, in Oklahoma watercourse and surface water cases. Therefore, it would be imprudent for a city to depend on governmental immunity to protect it from liability in stormwater cases.
17. Governmental entities can be found to have taken or damaged property by flooding under Article 2, Section 24, of the Oklahoma Constitution.
18. Floodplain regulations should be viewed not as governmental interference with private property rights, but as protection of private property against the unlawful uses of other private properties, which individually or cumulatively would cause flood injury which would not have occurred prior to the development.
19. Municipalities and counties have statutory authority to adopt floodplain regulations and become participating communities in the National Floodplain Insurance Program. Their locally adopted regulations must be no less stringent than the federal requirement and the requirements adopted in rules of the Oklahoma Water Resources Board. Such regulations cannot supersede but should implement Oklahoma watercourses law articulated in Oklahoma Supreme Court decisions.
20. Floodplain zoning, even though it is a valid use of a governmental entity's police powers, can be challenged as a "taking" of specific properties without just compensation; whether or not the regulation results in a "taking" is a decision by the trier of fact (jury or judge) under the facts of the case.

21. The federal insurance program's one-foot rise criterion for floodway/ flood-fringe delineation appears to be inappropriate in Oklahoma. Since this criterion permits full development of the floodplain to the point where the one-percent floodwaters would be one foot higher than under natural conditions, it is almost by definition stating that a city's regulations will result in cumulatively causing more harm than formerly by raising flood levels. Under Oklahoma watercourse law, if such changes actually cause injury, liability results. The Oklahoma Water Resources Board regulations, however, provide additional criteria for defining and developing in the flood-fringe which are consistent with Oklahoma watercourse law.
22. New urban development should be required to not materially increase the amount of storm runoff nor change natural drainage conditions. This will protect lower properties. It will also protect the developer from liability, and not place the city in a potential liability position for having permitted the development to alter drainage conditions which result in injury. On the other hand, if the city requires the developer to maintain natural runoff conditions, by whatever means are suitable, it is only complying with the basic principles of Oklahoma law.
23. Drainage planning should be based on runoff which will result from future urban development which can be reasonably anticipated.
24. It is essential to get the facts before undertaking a drainage plan or design. The following questions should be addressed:
  - a) What causes the drainage problem? Where does the water come from? From what lands?
  - b) Can natural runoff conditions be maintained or recreated?

- c) Is there an identifiable channel or thalweg where the storm runoff will flow? Is it continuous downstream?
  
- d) Would the proposed corrective action handle the "ordinary flood", that is, a flood whose magnitude can be anticipated by using ordinary diligence? Would it handle the flood of record on that watercourse? Would it handle the one-percent frequency runoff event? In the case of a much larger flood, such as the Standard Project Flood or the Maximum Probable Flood, would the corrective works cause the excessive floodwaters to flow in a different location or direction or at higher velocity than they would naturally?

403 DISTINCTION BETWEEN WATERCOURSE WATERS AND SURFACE WATERS

Stormwater law developed across the United States by courts deciding the rights, duties, and liabilities between private landowners in specific cases. A basic distinction has been made between "watercourse waters" and "surface waters". Surface waters are waters which run in a diffused manner overland, or in depressions and swales, while a watercourse had definite banks and bed. Floodwaters which overflow the banks of the watercourse and follow the course of the stream to its natural outlet, or which upon subsidence return to the stream, are also held to be governed by the law of watercourses. Floodwaters which have entirely lost their connection with the stream, however, and spread out over the adjoining countryside never to return to the stream, would probably be governed by surface water law. While a "nice" distinction in the law, an obvious problem is at what point in their flow do surface waters collecting in swales and gullies suddenly become watercourse waters. Where state courts have adopted surface water rules which are incompatible with their watercourse rules, the courts are in a real dilemma. Even though the waters are hydrologically all part of the same system, liability may hinge totally on how they are categorized in a specific case.

Oklahoma courts have also differentiated between watercourse waters and surface waters. A watercourse has been described in Chicago, R. I. & P. Ry. Co. v. Groves, 20 Okl. 101, 93 P. 755 (1908); Chicago, R. I. & P. Ry. Co. v. Morton, 57 Okl. 711, 157 P. 917 (1916); Garrett v. Haworth, 183 Okl. 569, 83 P. 2d 822 (1938), as follows:

"Where the natural confirmation of the surrounding country necessarily collects therein so large a body of water, after heavy rain or the melting of large bodies of snow, as to require an outlet as to some common reservoir, and whether such water is regularly discharged through a well-defined channel with which the force of the water has made for itself, and which is the accustomed channel through which it flows or has ever flowed, it constitutes a watercourse of waterway."

In addition, areas covered during normal floods by the floodwaters of a watercourse constitute a portion of that watercourse. Town of Jefferson v. Hicks, 23 Okl. 684, 102 P. 79 (1909); Chicago, R. I. & P. Ry. Co. v. Groves, (already cited); Cole v. Missouri, K. & O.R. Co., 20 Okl. 227, 94 P. 540 (1908).

Surface waters, on the other hand are:

"those which, in their natural state, occur on the surface of the earth and places other than definite streams, lakes or ponds, and they may originate from any source and may be flowing vagrantly over broad lateral areas, or occasionally for brief periods, in natural depressions. The essential characteristics of such waters are that they are short lived flows diffused over the ground, and are not concentrated or confined in bodies of water conforming to the definition of lakes or ponds." Dobbs v. Missouri Pacific R. Co., 416 F. Supp. 5, 9 (E.D. Okl. 1975), a federal case involving floodwaters, quoting this definition from an Oklahoma water resources case, Oklahoma Water Res. Bd. v. Central Okl. M. C. Dist., 464 P.2d 748 (Okl. 1969).

Fortunately, however, the rules which the Oklahoma courts have adopted regarding these two categories are totally compatible with each other;

therefore, the distinction has not been critical and in some cases has not even been made. However, since the theories on which the two categories are based are somewhat different, the distinction should still be noted. In addition, the distinction is convenient and useful. Engineers make useful distinctions too, for example, major and minor drainage. One must never forget, however, that these waters are all part of the same hydrologic system.

#### 403.1 Law of Watercourses

Watercourse law is based on the rights and duties established between riparian property owners, that is, owners of land along the banks of a river or lake. The fundamental principle of the riparian system is that each riparian has an equal right to make a reasonable use of the water of a stream subject to the equal rights of the other riparians to do likewise. A riparian right is reciprocal in character as to other riparian rights. Therefore, a riparian owner must exercise his rights in a reasonable manner and extent so as not to interfere unnecessarily with the corresponding rights of others. Applying these principals to flooding situations, a riparian owner does not have the right to protect his property from the ordinary flood if this causes damage to others in time of flooding. This would prohibit, for example, a riparian from building a dike which would divert ordinary floodwater onto his neighbor's property.

#### 403.2 Law of Surface Waters

There are two basic doctrines which courts have adopted regarding surface waters. These are the "common enemy rule" and the "civil law rule". A third has evolved in recent years called the "reasonable use rule".

As originally conceived, under the "common enemy rule" a landowner could do anything he pleased with surface waters to protect his property from the "common enemy" regardless of the harm it might do to others. The upper landowner could divert or drain surface waters onto the lower land, or the lower landowner could block surface waters flowing onto his property, even

if it flooded the upper property. Since the water must go somewhere, this would appear to inevitably result in contests in engineering where might makes right. Therefore, most courts have modified the rule, giving landowners the right to obstruct or divert surface waters, but only where it is incidental to the ordinary use, improvement or protection of their land, and is done without malice or negligence.

Under the "civil law rule", the upper landowner has an easement for the natural drainage from his property over the lower property and the lower landowner must take such water. However, the key word here is "natural" meaning those waters which flowed from the land before alteration or development. If he does send down a greater volume, or at greater velocity, or in a different location, he is liable if it does more harm than would have occurred under the former conditions.

The "reasonable use rule" is based on tort rather than on property law. In tort law, liability is based on negligence. A person can be held negligent if he has not acted like a "reasonably prudent man" in a given situation, and such actions are the proximate cause of the injury. In surface water cases, the test for liability would be the same.

#### 404 OKLAHOMA WATERCOURSE AND SURFACE WATER LAW

Oklahoma has adopted the usual riparian principles of watercourse law whereby landowners have reciprocal rights and duties towards each other. It has adopted the "common enemy rule" for surface waters, but modified it by "the rule of reason". This rule results in liability for landowners who alter natural runoff if such alterations cause injury to others. There is a wealth of cases decided by the Oklahoma Supreme Court since the early 1900's and they are remarkably consistent.

In the first two cases before the Oklahoma Supreme Court, in 1904 and 1908, the court analyzed the competing doctrines for both surface and watercourse waters and chose and articulated compatible principles which have control-

led its decisions ever since. The Oklahoma courts have never had the dilemma of the surface waters/watercourse waters dichotomy because the results are virtually the same for both categories.

In the 1904 case, Davis v. Frey, 14 Okl. 340, 78 P. 180 (1904), surface waters flowed into a natural depression forming a 15-acre pond from which they evaporated or percolated into the ground. Defendant (upper landowner) cut a channel into the bank of this natural ponding area to drain it. Stormwaters, instead of being detained, flowed immediately onto the lower landowner's farm, damaging his crops. In finding the upper landowner liable, the court adopted the rule from an Iowa case:

"If the ditch in question increased the quantity of water upon the plaintiff's land to his injury, or without increasing the quantity, threw it upon the plaintiff's land in a different manner from what the same would naturally have flowed upon it, to his injury, the defendant was liable for the damage thus occasioned, even though the ditch was constructed by the defendant in the course of the ordinary use and improvement of his farm. We recognize the fact ... that surface water ... is a common enemy, which each landowner may reasonably get rid of in the best manner possible, but in relieving himself he must respect the rights of his neighbors, and cannot be justified by an act having the direct tendency and effect to make that enemy less dangerous to himself and more dangerous to his neighbor." (14 Okl. 341, 78 P. 181.)

Then in 1908 the first of many railroad cases came before the court. Chicago, R. I. & P. Ry. Co. v. Groves, 20 Okl. 101, 93 P. 755 (1908). The railroad company had built an embankment across a ravine on the plaintiff's land with culverts which were inadequate to carry water which collected in the ravine after heavy rains. The railroad argued that the ravine was not a watercourse and, therefore, it was not violating a statute requiring railroads to restore streams and watercourses so as not to materially impair their usefulness. The court, however, held that the railroad had the duty to provide:



"sufficient drainage and an outlet to carry off such waters as might be reasonably expected to flow along such channel ... so as to force the water off ... in like manner and in the same channel or place as it flowed prior to the construction of said embankment." (20 Okl. 101, 93 P. 755).

The court further stated that while a landowner has the right to improve his property, this right is qualified by the

"golden maximum of the common law that one must so use his own property as not to injure the rights of another." (20 Okl. 101, 93 P. 755).

Interestingly, the cases cited and quoted are those which would generally be considered surface water cases, that is, they compare the civil law rule with the common enemy rule. It cites the Davis case as holding that an owner of land cannot collect water into an artificial channel and pour it upon the land of another to his injury, and goes on to state that such an owner cannot interfere with the flow of water in a natural channel either. In finding the railroad liable, the court does not appear to base its decision on statutory liability, but on common law principles; therefore, it appears to be saying that whether or not these are surface waters or watercourse waters, such obstructions result in liability.

In one case we have surface water injuring a lower landowner. In the other case we have watercourse waters injuring an upper landowner. The principle upon which liability is based is essentially the same — one cannot change natural flow conditions to the detriment of another's property. These two cases set the stage for integrating the principles of surface water and watercourse water from the outset.

If there was any doubt regarding liability in such cases this was quickly dispelled in rapid succession by three more railroad cases and one against a city. Cole v. Missouri, K. & O. R. Co., 20 Okl. 227, 94 P. 540 (1908), held that where an upper riparian (the railroad) changes the channel and obstructs the flow of a watercourse so that at times of ordinary high

waters it flows over the lower riparian's land in greater volume with more violence, or in a different course or manner than it would flow in its natural state, he is liable. The railroad company still argued surface waters and the common enemy rule, but the court stated that water which overflows its banks in times of flooding does not thereby become surface water.

In Town of Jefferson v. Hicks, 23 Okl. 684, 102 P. 79 (1909), the facts were as follows: the plaintiff's farm on one side of the river was somewhat higher than the town site on the other side. Floodwaters would flow through the town, so the town put up a levee, forcing floodwaters onto the plaintiff's land. The court held that the owner of land situated on a watercourse may construct an embankment to protect his lands from flooding; but he may not place the embankment in such a way that ordinary floods will erode, destroy or injure other landowners on the watercourse. Since recurring floods would continue to cause injury, money damages alone was not an adequate remedy. The plaintiff was granted an injunction; that is, the town had to remove its levee.

In Chicago, R. I. & P. Ry. Co. v. Johnson, 25 Okl. 760, 107 P. 662 (1910), the railroad had built a ditch which accumulated waters from upland farmers and carried them through its roadbed onto plaintiff's farm. In finding the railroad liable for the resulting damage, the court held that one cannot collect waters into an artificial channel or volume and pour it onto the land of another to his injury.

If there had still been any question regarding surface waters being treated any differently than watercourse waters, it was settled in Chicago, R. I. & P. Ry. Co. v. Davis, 26 Okl. 434, 109 P. 214 (1910). The court held that a railroad company has no more right to obstruct, collect or conduct surface waters and force them to be discharged upon lands of another, than it has to do the same with watercourse waters. It is as liable for the resulting injury in the one situation as in the other:

"The wrong intended to be guarded against is the diversion of water, causing it to flow upon the lands of another without his will, which did not naturally flow there; and it is not deemed material whether the water is diverted from a running stream, or is surface water caused to flow where it did not flow before." (26 Okl. 438, 109 P. 218).

See also Culbertson v. Green, 206 Okl. 210, 243 P. 2d 648 (1952).

The basic theme which runs throughout the cases is that one may not alter the natural flow conditions if such changes cause injury to others. This fundamental theme has been amplified and fleshed out in many cases over decades, and the following legal principles have evolved:

404.1. Interference with a watercourse: A riparian landowner may take measures to protect himself generally from the harmful effects of flood waters, but it is fundamental that no one may change, divert, obstruct, or otherwise interfere with the natural flow of a watercourse without having to pay damages to persons and properties injured thereby. Liability was found in the following situations:

Atchison T. & S. F. Ry. Co. v. Hadley, 168 Okl. 588, 35 P.2d 463 (1934). A railroad embankment and jetties created a narrow "bottle neck", greatly increasing the natural velocity of the current.

Chicago, R. I. & P. Ry. Co. v. Groves, 20 Okl. 101, 93 P. 755 (1908). A watercourse was obstructed by embankment with an inadequate capacity.

Chicago, R. I. & P. Ry. Co. v. Maynard, 31 Okl. 685, 122 P. 149 (1911). A railroad embankment obstructed a watercourse and floodwaters damaged crops.

Castle v. Reeburgh, 75 Okl. 22, 181 P. 297 (1919). A dam interfered with a watercourse.

Lowden v. Bosler, 196 Okl. 205, 163 P.2d 957 (1945). The defendant built jetties which restricted the flow and raised the water level. Roiling waters deflected onto plaintiff's property.

Garrett v. Haworth, 183 Okl. 569, 83 P.2d 822 (1938). A watercourse was obstructed.

Chicago, R. I. & P. Ry. Co. v. Schirf, 267 P.2d 574 (Okl. 1954). A railroad trestle was filled in, causing waters to back up onto plaintiff's land.

Godlin v. Hockett, 272 P.2d 389 (Okl. 1954). To protect his subdivision, defendant dredged and deepened a creek and built a dike up to 8 feet high, diverting floodwaters onto other riparian lands in increased volume and with greater depth.

Regier v. Hutchines, 298 P.2d 777 (Okl. 1956). Defendant put an embankment across the oxbow of a river, inundating plaintiff's land to a greater extent than formerly and preventing the water from receding as quickly.

Town of Jefferson v. Hicks, 23 Okl. 684, 102 P. 79 (1909). Defendant town built a levee to protect the town from floodwaters, but the levee caused flooding of plaintiff's land on the other side of the river.

George v. Greer, 207 Okl. 494, 250 P.2d 858 (1952). Defendant built a dike which caused water, which would otherwise have gone over his own land, to go onto plaintiff's land.

404.2. Altering surface water runoff: Where an upper landowner collects surface water, sends it down in a different manner or concentrated form, or in unnatural quantities or velocities, or discharges it in a different location, he is liable for any damage caused thereby. Conversely, a lower landowner may not cast surface waters back onto upper land to the detriment of the upper landowner. The basic principle is that one cannot prevent injury to one's own property by transferring that injury to one's neighbor's property. Oklahoma courts call this "the common enemy rule modified by the rule of reason." Chicago, R. I. & P. Ry. Co. v. Johnson, 25 Okl. 760, 107 P. 662 (1910); Gulf, C. & F. Ry. Co. v. Richardson, 42 Okl. 457, 141 P. 1107 (1914); Chicago, R. I. & P. Ry. Co. v. Taylor, 173 Okl. 454, 49 P.2d 721 (1935); Chicago, R. I. & P. Ry. Co. v. Davis, 26 Okl. 434, 109 P. 214 (1910); Kansas City Southern Ry. Co. v. Hurley, 61 Okl. 241, 160 P. 910 (1916); St. Louis & S. F. R. Co. v. Dale, 36 Okl. 114, 128 P. 137 (1912); Wichita Falls & N. W. Ry. Co. v. Stacey, 46 Okl. 8, 147 P. 1194 (1915).

404.3. Right to restore original bank of watercourse: A riparian owner on a watercourse may construct embankments or other structures necessary to maintain his bank of the stream, or to restore the stream to its original course when it has encroached upon his land, without becoming liable for injury that such action might cause to other riparian lands.

In Gulf C. & S. F. Ry. Co. v. Clark, 101 F. 678 (8th Cir. 1900), the defendant had built an embankment and railroad on solid land, some distance from the bank of the river. The river gradually washed away the bank until it swept away part of the embankment. So the defendant built a dike which encroached on the new channel but not on the channel as originally located. Defendant was not liable.

In Sinclair Prairie Oil Co. v. Fleming, 203 Okl. 600, 225 P.2d 348 (1950), defendant built a fence on the location of the original bank which had washed out in a flood, causing plaintiff's land to erode. Defendant was not liable.

In Pechacek v. Hightower, 269 P.2d 342 (Okl. 1954), both the plaintiff and the defendant built levees. There was a question whether plaintiff did more than just restore, but the court held that the jury should have been instructed that the plaintiff had a right to restore her bank.

404. 4. Limited right to repel unnatural waters: Where one party has caused unnatural water to flow onto another's property, the second party has a right to repel such waters. This right is limited, however, to placing the parties in the same conditions as prior to any construction. Nor may a party, in repelling such waters, caused injury to innocent third parties.

In Dowlen v. Crowley, 170 Okl. 59, 37 P.2d 933 (1934), plaintiff built a dike which cast high waters onto defendant's land, whereupon defendant started to build his own dike. Plaintiff brought an action to stop him. The defendant showed that his dike would not cause more water to flow onto plaintiff's land than if there were no dikes at all. The court refused to halt defendant's dike, stating:

"A riparian proprietor has no right to construct by dyke, dam, or otherwise, anything which in time of ordinary flood will throw the water in larger volume on the lands of another so as to overflow and injure them, and, when flood waters are diverted by one landowner to the land of another, that other has the right to repel it." (170 Okl. 59, 37 P.2d 933).

In a similar situation involving surface waters rather than a watercourse the court took the same position. Rainey v. Cleveland, 203 Okl. 283, 220 P.2d 261 (1950). Plaintiff (upper landowner) had built ditches and levees which in time of heavy local rains collected and discharged waters onto defendant's land in an excessive, unusual and unnatural volume. Defendant put up a levee for protection. Plaintiff's request for an injunction was denied. Since plaintiff had no right to discharge such waters, defendant had the right to protect himself. See also King v. Cade, 205 Okl. 666, 240 P.2d 88 (1951). The Lynn v. Rainey, 400 P.2d 805 (Okl. 1965), court went

even further. Here the upper landowner (plaintiff) was discharging accumulated surface waters onto the lower property. Defendant bought the lower property with these conditions in place, and then built a protective barrier which flooded the upper property. In denying the plaintiff's request for injunction, the court held that the plaintiff still had no legal right to discharge accumulated surface waters, either by easement, license or prescription. Therefore the defendant had the right to protect himself.

Where a dike built as protection to repel unnatural waters harms a third party, however, such dike may not be maintained. In Gregory v. Bogdonoff, 307 P.2d 841 (Okl. 1957) a drainage district had built a levee to protect a town. This levee turned a greater volume of water onto defendant's property, so he built a dike. This dike, however, caused damage to plaintiff's property (innocent third party), so the court ruled he had to remove it.

404. 5. Detention ponds: Where a party interferes with natural detention, either by filling it in or by cutting through the banks, he is liable for injury to lower landowners caused by change in surface water runoff. Artificial ponds which catch surface water are recognized as beneficial for flood and erosion control, where they do not unreasonably interfere with water rights.

The very first surface water case decided by the Oklahoma Supreme Court in 1904, involved natural detention which created a 15-acre pond. As described in an earlier section, the upper landowner was liable for cutting through its banks resulting in injury to the lower farmer's lands. Davis v. Fry, already cited. In Carter v. Gundy, 259 P.2d 528 (Okl. 1953), defendant's land had formerly been in agriculture and had a low spot which constituted a natural lake in which water gathered and stood after rains. In preparation for residential development, he knocked down a bluff thereby filling in the natural lake. Water which formerly stood on his land now flowed onto plaintiff's land, carrying sand, silt, and debris. Defendant was liable.

In a water rights case a lower property owner objected to an upper proprietor's building a dam to catch water which flowed across his land. The court held these waters to be surface waters, and not stream waters where riparian rights would attach. Regarding the benefits to be derived from such farm ponds in general, however, the court heard testimony by the Oklahoma Water Resources Board to the effect that there were almost 200,000 farm ponds along dry gullies, draws and intermittent stream channels and that such ponds aided in flood and erosion control. The court recognized that such ponds and lakes are beneficial and should be encouraged where they do not unreasonably interfere with the rights of others. Oklahoma Water Res. Bd. v. Central Okl. M. C. Dist., 464 P.2d 748 (Okla. 1969).

As such farmlands are converted into subdivisions the farm ponds may be destroyed. The lower property owners probably do not have a right to the maintenance of an artificial pond which causes less runoff than naturally, although the length of time the pond has been there and other factors may affect this decision. However, since urbanization of agricultural land creates more runoff than formerly, it may be prudent for a developer and a city to retain the detention so that natural conditions are not exceeded by the development.

404. 6. Ordinary and extraordinary floods: If injury to persons or property is due solely to an "extraordinary flood", there is no liability. If, however, someone's negligence, commingled with the "extraordinary flood", was a contributing proximate cause of the injury, such person is liable. Building structures which would cause injury to others during ordinary floods is held to be negligence; therefore, such negligence results in liability even during extraordinary floods. A flood of record is an ordinary flood. If a flood of greater magnitude occurs, it becomes the new standard and a duty arises to accommodate the new standard.



Oklahoma, like most other jurisdictions, makes a distinction between the ordinary and the extraordinary flood, sometimes called an "act of God." If the injury is due solely to an extraordinary flood, then there is no liability. Chicago, R. I. & P. Ry. Co. v. Turner, 141 Okl. 267, 284 P. 855 (1930). It is the defendant's burden to prove that the event was an extraordinary one. Oklahoma City v. Tarkington, 178 Okl. 430, 63 P.2d 689 (1936). However, if the defendant was negligent, and his negligence commingled with the act of God caused the injury, then the defendant is liable. Chicago, R. I. & P. Ry. Co. v. Morton, 57 Okl. 711, 157 P. 917 (1916) (both bridge and culvert inadequate to pass ordinary floods). The plaintiff has the burden of proving defendant's negligence, and that, but for such negligence, the loss would not have occurred. Armstrong, Byrd & Co. v. Illinois Cent. R. Co., 26 Okl. 352, 109 P. 216 (1910). In Town of Jefferson v. Hicks, the distinction was made as follows, quoting 13 Ency. of Law (2d Ed.):

"An ordinary flood is one, the repetition of which, though at uncertain intervals, might, by the exercise of ordinary diligence in investigating the character and habits of the stream, have been anticipated. An extraordinary flood is one of those unexpected visitations whose coming is not foreseen by the usual course of nature, and whose magnitude and destructiveness could not have been anticipated and prevented by the exercise of ordinary foresight." (23 Okl. 685, 102 P. 80).

Some cases have simply found that the subject floods were ordinary, and therefore the defendant is liable. Town of Jefferson v. Hicks, already cited. Regier v. Hutchins, 298 P.2d 777 (Okl. 1956). In most cases, however, the instructions to the jury (instructions from the judge inform the jury of the law controlling the case) are as follows:

"You are...instructed that an 'act of God' such as an unprecedented rainfall and resulting flood, which will excuse from liability, must not only be the proximate cause of the loss, but it must be sole cause. If, however, the injury is caused by an act of God, commingled with the negligence of the defendant as an efficient and contributing cause, and the injury would

not have occurred except for such negligence, the defendant would be liable." Chicago, R. I. & P. Ry. Co. v. Morton, 57 Okl. 713, 157 P. 919 (1916).

When the jury finds the defendant liable based on this instruction, one cannot tell whether the jury decided the flood was ordinary, or whether it decided it was extraordinary but commingled with defendant's negligence. See the following cases where defendants were found liable: Missouri, K. & T. Ry. Co. v. Johnson, 34 Okl. 582, 126 P. 567 (1912); Chicago, R. I. & P. Ry. Co. v. McKone, 36 Okl. 41, 127 P. 488 (1912); Chicago, R. I. & P. Ry. Co. v. Bahr, 78 Okl. 78, 188 P. 1058 (1920); Walton v. Bryan, 188 Okl. 358, 109 P.2d 489 (1941); Steirs v. Mayhall, 207 Okl. 219, 248 P.2d 1047 (1952); Black v. Ellithorp, 382 P.2d 23 (Okl. 1963).

Four cases, all arising out of the same fact situation, help to clarify the interrelationship between the "act of God" and defendant's negligence. The floods of 1923 in the Oklahoma City area were held to be extraordinary floods. The June flood was higher than any previous floods, and the October flood was about 5 times as great as the June flood. In prior years a railroad company had built a bridge and embankment which had sufficient capacity to pass ordinary floodwaters. Then Oklahoma City and the railroad closed these openings to create a settling basin for the city, raised the embankment, diverted the water and constructed a waterway through the embankment. In Oklahoma Ry. Co. v. W. H. Boyd, 140 Okl. 45, 282 P. 157 (1929), evidence showed that this new opening had only one-third the capacity of the former opening. A civil engineer testified that the new channel had a capacity of only 12,000 cfs, while in his judgment the amount of water to be reasonably anticipated required a capacity of 37,500. The defendant was found negligent. In two additional cases, arising from the same situation, only the measure of damages came before the appellate court, the defendants having been found liable. Oklahoma Ry. Co. v. Woods, 164 Okl. 215, 23 P.2d 217 (1933) and Oklahoma Ry. Co. v. Mary Boyd, 167 Okl. 151, 28 P.2d 537 (1934). Then in 1936, Oklahoma City v. Rose, 176 Okl. 607, 56 P.2d 775 (1936), came before the court involving the same city construction as before. Once again the jury at the trial court level had

found the defendant liable. However, in this case the uncontradicted evidence in the record showed that the city's single opening in the embankment had more capacity than the prior three openings combined (about 30,000 cfs); that the greatest flood on record prior to construction was 13,640 cfs. In addition, the city had constructed these structures after consulting with nationally known authorities on the subject and the expenditure of a considerable sum of money in making such investigations. The recommendations of these authorities had been followed. With this evidence, the court reversed the jury's findings as a matter of law. It held that the defendant had not been negligent and that the injuries were due solely to an "act of God."

There have been very few Oklahoma cases in which the "extraordinary flood" has been a successful defense against liability. Armstrong, Byrd & Co. v. Illinois Centr. R. Co., 26 Okl. 352, 109 P. 2 (1910); Chicago, R. I. & P. Ry. Co. v. Turner, 141 Okl. 267, 284 P. 855 (1930); Oklahoma City v. Rose, already cited. The first hurdle is proving that the flood was extraordinary. Great strides have been made in meteorology and hydrology. Storms and floods are discussed in terms of their statistical probability. The federal insurance program, many state and local floodplain maps, and floodplain management programs are based on the one-percent flood (100-year flood). The U.S. Army Corps of Engineers uses the Standard Project Flood for design purposes (about a 500-year flood). It may, therefore, become increasingly difficult to convince a court or a jury that a given flood was one which could not be anticipated in the exercise of ordinary diligence, whose coming was unforeseen, and whose magnitude could not have been anticipated by the exercise of ordinary foresight (the Oklahoma court's definition of an extraordinary flood).

In addition, when a flood of greater magnitude than the flood of record occurs, this becomes the new standard. Then one must respond in a timely fashion to the new flood conditions. In Missouri, K. & T. Ry. Co. v. Johnson, 34 Okl. 582, 126 P. 567 (1912), a company had built a roadbed,

bridge and culvert across a narrow valley just below the plaintiff's property; these were adequate for conditions known at that time, that is, in 1903. Then came the May, 1908, flood which put eight feet of water onto plaintiff's land, more than ever before in the history of the river. Then in October of that same year an even larger flood occurred, flooding plaintiff's land twelve feet deep. In finding the railroad company liable for the October flood damages the court made the following analysis:

"(I)f nothing had occurred since the original construction of the road to demonstrate the insufficiency of the construction prior to the October flood, defendant would have been entitled to an instructed verdict. If, however, after the original construction of the road, and prior to the flood in question here, other floods of an unprecedented character came, demonstrating the faulty construction of the roadbed, or the inadequacy of the waterway left under the bridge, then . . . a new standard of obligation was erected for the defendant, and it was its duty to meet the new conditions thus established." (34 Okl. 584, 126 P. 569).

Note that the "new standard of obligation" was created in May of 1908, that is, just five months prior to the flood injuries for which defendant was liable. See also Pahlka v. Chicago, R. I. & P. Ry. Co., 62 Okl. 223, 161 P. 544 (1916).

Then, of course, another factor is that the defendant can still be held liable even in the extraordinary flood event if his negligent actions were a proximate and contributing cause of the injury. Here the cases hold that if defendant's structures were inadequate for the ordinary flood, then he is liable even in the extraordinary flood event. If one assumes that the one-percent flood is an extraordinary event, then a defendant could still be held liable for injury resulting from the one-percent or greater flood if he has not accommodated the ordinary flood and if that was a contributing proximate cause of injury. On the other hand, if one assumes that the one-percent flood is now considered to be an ordinary flood, then if the defendant does not adequately provide for the one-percent flood and this was a contributing proximate cause of flood damages, he can also be liable for the greater flood event.

404. 7. Municipal liability in surface water cases: Municipalities are treated like private parties in surface water cases.

In Gulf, C. & S. F. Ry. Co. v. Richardson, 42 Okl. 457, 141 P. 1107, (1914) the court had to rule specifically on the issue of whether or not municipalities were a breed apart. The city had gathered surface waters via its streets and discharged them onto the railroad right-of-way. The railroad, in turn, wished to place culverts through its roadbed which would discharge these waters onto plaintiff's land. The trial court enjoined the railroad but discharged the city. In reversing and remanding the court stated:

"The law makes no distinction in such cases between natural and artificial persons in the duty it imposes. The law holds the proprietor of the estate to the same obligation in the disposition of surface waters, whether he be a farmer, a municipality, or a railway corporation." (42 Okl. 457, 141 P. 1110).

Five years previously, of course, the court had already required the Town of Jefferson to remove its dike which was diverting floodwaters of a water-course onto Hicks' property. Town of Jefferson v. Hicks, already cited. Other cases involving municipalities described in previous sections of this report are Oklahoma Ry. Co. v. W. H. Boyd, 140 Okl. 45, 282 P. 157 (1929); Oklahoma Ry. Co. v. Woods, 164 Okl. 215, 23 P.2d 217 (1933); Oklahoma R. Co. v. Mary Boyd, 167 Okl. 151, 28 P.2d 537 (1934); Oklahoma City v. Rose, 176 Okl. 607, 56 P.2d 775 (1936); Oklahoma City v. Tarkington, 178 Okl. 430, 63 P.2d 689 (1936). Additional cases are described below.

In Incorporated Town of Idabel v. Harrison, 42 Okl. 469, 141 P. 1110 (1914), the town had constructed drainage ditches along a number of streets. These ditches gathered surface waters which fell over a large area of land, conducting them to a street abutting plaintiff's residential lots. Heavy rains resulted in injury to plaintiff's property. The court held that it was settled law that the owner of the land has no right to gather and accumulate surface waters and conduct them in large volumes onto land of an adjoining proprietor to his injury.

In Oklahoma City v. Bethel, 175 Okl. 193, 51 P.2d 313 (1935) the city had built a municipal storm sewer system designed to drain a considerable area of the city. The outlet was to a ditch, which was inadequate to carry the collected storm waters from a 3.96-inch rain. The plaintiff's amusement park was flooded. The court held the following jury instructions to be proper:

"(I)n the exercise of its corporate powers a municipal corporation has no power or authority to collect water by artificial means and to discharge it or permit it to discharge or overflow upon the premises of an adjacent owner in greater volumes or velocity than it would naturally flow there prior to the construction of such sewer." (175 Okl. 197, 51 P.2d 317).

In addition, it stated that the following was a general and almost universal rule (quoting 43. C. J. 1145):

"A municipality cannot, without rendering itself liable for the resulting damage, exercise its right to construct drains or sewers and grade or otherwise improve streets so as to collect surface waters in artificial channels and discharge it in increased quantities, or in new and destructive currents, upon private property." (175 Okl. 197, 51 P.2d 317).

It should be noted that in neither of these two cases is there evidence that the city owns the lands which are being drained, that is, these are not the classic "lower landowner versus upper landowner" situations. The courts do not even discuss the matter. Apparently the rules of surface waters are not narrowly applied to actual owners of property; or, the ownership requirement, if any, is satisfied by the fact that the city owns the drainage facilities. Taking this concept one step further, consider the following situation: A subdivider takes agricultural land and builds thereon homes, carports, sidewalks, streets and storm sewers, all in accordance with city specifications as established in city ordinances. The city has annexed the property and approved the subdivision plat. The public

facilities (streets, storm sewers, water lines, etc.) are dedicated to the city as part of the subdivision and annexation process. Because of the impermeability of the development, and because storm sewers and streets facilitate movement of runoff, the subdivision causes more surface water, with greater velocity, and in a different manner to be discharged onto lower property owners. No compensating detention facilities were incorporated into the project in an attempt to maintain natural runoff conditions, nor were such detention facilities required by the city. The lower property owners sue both the developer and the city for the harm to their property caused by the changed runoff. How will the court rule regarding defendant city, which did not actually build these facilities, but which approved and controlled the subdivision development?

There are three additional cases which may be pertinent in the above hypothetical situation. These cases hold that the duty to prevent injury caused by altering surface water and watercourses conditions is a non-delegable duty. Oklahoma Ry. Co. v. W. H. Boyd, 140 Okl. 45, 282 P. 157 (1929), described in a previous section, involved raising the railroad embankment, closing culverts, and diverting water through a new culvert, in order to form a municipal settling basin. The defendant railroad raised the defense that the city, not the company, had actually done the construction, and was its only beneficiary. The court, however, was not convinced by this argument. It held that the railroad company, being:

"under obligation imposed upon it by law to leave sufficient openings through its embankment for the flow of water to be reasonably anticipated, could not delegate the duty of rebuilding the embankment to another, so as to escape liability for the violation of a positive legal duty owing to third persons." (140 Okl. 50, 282 P. 162).

It held the city and the railroad to be joint tortfeasors. In Allied Hotels, Ltd. v. Barden, 389 P.2d 968 (Okl. 1964), a Ramada Inn was built which caused surface water to flow in greater volume onto plaintiff's residence. The motel owner argued that all of the construction had been

performed by an independent contractor. Again, the court held that an owner owes a nondelegable duty to adjacent landowners to refrain from causing injury. One who owes such a duty to third persons cannot escape the obligation of performing his duty by engaging for its performance by a contractor. See also Garrett v. Haworth, 183 Okl. 569, 83 P.2d 822 (1938).

Large subdivisions annexing to cities or developing inside corporate boundaries are a fact of modern life. Many municipal facilities such as water lines sewers, streets, and storm drains in such subdivisions are no longer actually constructed by municipal crews but are constructed by the subdivider in accordance with city specifications and approval. In light of the fact that municipalities are treated like other parties in surface water cases, would a court really discharge the city of responsibility in such situations? Or would it find that the city and the developer are joint tortfeasors; that since the city owns or will own the public facilities built by the developer, it cannot avoid liability by attempting to delegate a nondelegable duty to another party; and that it cannot, via a third party (the developer), collect and discharge water onto other properties in greater volumes or velocity than would naturally flow there prior to such construction?

404. 8. Municipal liability in watercourse cases: Municipalities are treated like private parties in watercourse cases.

In Herwig v. City of Guthrie, 182 Okl. 599, 78 P.2d 793 (1938), the city had built a dam across the channel creating a water supply reservoir. Plaintiff had property upstream and above the high water line of the reservoir and maintained that the lake retarded the ordinary rapid flow of water across her land to such an extent that sediment was deposited, forming a "secondary dam" and that this obstruction caused overflow and injury. The trial court had directed the verdict for the city, but the appellate court reversed. The question of whether the city had obstructed a natural watercourse, and whether this had resulted in injury to the upper riparian, were questions of fact for the jury to decide.



A city has also been liable where it failed to remove a temporary dike which was built to divert river water while it repaired a water line, and the dike caused flooding to a farmer's land and crops. Elk City v. Rice, 286 P.2d 275 (Okla. 1955).

In Murduck v. City of Blackwell, 198 Okla. 171, 176 P.2d 1002 (1947), the city was liable for injury to plaintiff's land caused by interference with his drain tile. The city had built a water supply reservoir whose high water line was higher than the outlet to the drain tile. When the river overflowed its banks, water which formerly could have been drained from plaintiff's land via the drain, backed up, causing injury to crops and buildings.

These cases find cities liable for interfering with or obstructing watercourses. A municipality is liable when it constructs the obstruction itself, or when it contracts for such construction. Would it also be liable for granting a permit to a private party to construct an obstruction if it knows or should have known such obstruction would cause flooding on other properties? If the dike in Town of Jefferson v. Hicks (already cited) had been built not by the town to protect the town, but by a subdivider to protect his subdivision which was part of the town, and with the town's approval, would Hicks have had a cause of action against the town? A city's permitting the placing of fill to elevate a subdivision to protect it from flooding would be a similar situation, if such fill diverts ordinary floodwaters onto property where it would not have flowed previously, or not to the same height or velocity. Another would be the channelizing of a watercourse by a developer as required by a city, which causes greater volumes and velocity of floodwater on downstream property. These are issues which will probably eventually be raised in Oklahoma courts.

404. 9. Governmental immunity: Governmental immunity as a defense against liability has rarely been mentioned, and never successfully used, in Oklahoma watercourse and surface water cases.

As can be seen from the above cases, municipalities are treated like private parties in surface water and watercourse cases. Where is the traditional defense known as "governmental immunity?" The concept of governmental immunity was derived from the old English common law principle that "the King can do no wrong." While it has long since been abrogated in England, there are still vestiges of the doctrine in some states, including Oklahoma. A distinction which was made throughout the United States and in Oklahoma, however, is between a municipality's governmental and its proprietary functions, being immune to liability in the former, and liable for its tortious acts in the latter. See discussion in City of Oklahoma v. Hill, 6 Okl. 114, 50 P. 242 (1897).

In the area of watercourse and surface water law, there are only a few Oklahoma cases which even address governmental immunity. One of these is Oklahoma City v. Hoke, 75 Okl. 211, 182 P. 692 (1919), where the city rebuilt its water supply dam to a higher level after a flood, causing plaintiff's property to be flooded. Governmental immunity was raised but rejected on the traditional basis that in supplying water, a city is operating like a business corporation (proprietor) and therefore not immune. Another case is Richards v. City of Lawton, 629 P.2d 1260 (Okla. 1981). Here the city raised the street level above plaintiff's property and inadequately maintained the drainage ditches. The court held that governmental immunity was not a shield since maintenance of streets and drainage systems is a proprietary function. In addition, it found another basis for municipal liability in 11 O.S. 1978, Section 36-111, regarding changes in grade. Whether this absence of governmental immunity as a defense is (1) because it is not raised, (2) because the activities which affect surface water and watercourses automatically fall into the proprietary category, (3) because surface water and watercourse law is based more on property than tort law, or (4) simply because the Oklahoma courts have established these rules and decided that municipalities are to be held to them also — the fact is that in the final analysis municipalities have been found

liable. It would, therefore, be imprudent for any municipality to depend on governmental immunity as a defense against liability in watercourse and surface water situations. It should be noted that "The Governmental Tort Claims Act," 51 O.S. 1978, Sections 151 through 171, as amended from time to time by the Oklahoma Legislature, can affect this area of the law.

404. 10. Taking or damaging property without just compensation: Governmental entities can be found to have taken or damaged property by flooding under Article 2, Section 24, of the Oklahoma Constitution.

Section 24 of Article 2 of the Oklahoma Constitution states, "Private property shall not be taken or damaged for public use without just compensation." Landowners whose property has been permanently or temporarily flooded or where there are other consequential damages due to governmental actions may allege violations of this constitutional provision. (A permanent taking can also be sometimes called inverse condemnation). As the Oklahoma Supreme Court has stated,

"(I)t makes little sense to rule that a taking is present when a citizen's land is covered with steel and cement, yet not present when land is covered with water." State of Oklahoma v. Hoebel, 594 P.2d 1213, (Okla. 1979).

In City of Wewoka v. Mainard, 155 Okl. 156, 8 P.2d 676 (1932) the city built a reservoir which partially flooded land on which plaintiff owned mineral rights. The court held that for all practical purposes the flooded property had been totally taken and found the city liable for appropriating his mineral rights by flooding.

The flooding in Oklahoma City v. Collins-Dietz-Morris Co., 183 Okl. 264, 79 P.2d 791 (1938) was only temporary during the construction phase of a city project. Here the court depended on the "damage" wording of the Constitution and found the city liable.

In another case the governmental entity had actually taken less than an acre of plaintiff's land; however, plaintiff was also awarded money for consequential damages of an additional 157 acres of land which would become inaccessible during times of flooding. Grand River Dam Authority v. Rose, 195 Okl. 698, 161 P.2d 766 (1945). But see Oklahoma Turnpike Authority v. Strough, 266 P.2d 623 (Okl. 1954) where the court decided that the damages plaintiff claimed were not obvious consequences of the defendant's actions, so he would have to wait until the injury actually occurred and sue at that time.

A property owner may also use the "taking" clause when he challenges a government's use of its powers to regulate property, such as floodplain zoning. This is discussed in a subsequent section.

404. 11. Remedies: Wherever the law recognizes a right, it also provides a remedy. In stormwater law, several remedies are available.

If the illegal act has caused injury, such as destroying crops, damages are assessed. Castle v. Reeburgh, 75 Okl. 22, 181 P. 297 (1919). If the situation is such that injury could recur in future floods, the court may grant damages in the amount of the permanent depreciated value of the property. Chicago, R. I. & P. Ry. Co. v. Davis, 26 Okl. 434, 109 P. 214 (1910).

A more appropriate remedy, however, may be to remove the offending structure, in which case the court will grant an injunction (after the fact). Town of Jefferson v. Hicks, already cited.

Where such a structure has not yet been built, but the court is convinced that it would cause injury in the future, it may grant an injunction to prevent its construction. McLeod v. Spencer, 60 Okl. 89, 159 P. 326 (1916).

Or the court may combine several remedies, Miller v. Marriott, 48 Okl. 179, 149 P. 1164 (1915) (damages and injunctions), or fashion a remedy appropriate for the situation. Where defendant's drainage ditch was causing erosion to plaintiff's land, and the land could be protected at small expense by structural improvements, the court denied the injunction but required the improvements. Kollman v. Pfennig, 196 Okl. 186, 163 P. 2d, 534 (1945).

#### 405 MANAGEMENT OF STORMWATER BY MUNICIPALITIES

Management of stormwater in a city is as important to the health, safety, and welfare of its citizens as providing water, sewer, transportation, streets, parks, and recreational facilities. It is part of the total urban system, and includes managing surface waters, watercourses, and their floodplains. As urbanization occurs, changes are made in natural flow conditions. Whether by default or inaction, or by positive action and policies, a city is affecting stormwater flows.

##### 405.1 Managing Surface Waters

It is obvious from the many surface water decisions that if natural runoff conditions are changed — in amount, velocity, location, etc. — to do more harm than formerly, liability results. Where a city simply requires that a developer build streets, storm sewers, shopping centers and parking lots so as to move storm runoff as quickly as possible off the development, it is placing the developer in a very vulnerable position regarding liability to lower property owners. The city itself may be in a vulnerable position for authorizing or requiring such action. If, on the other hand, the city requires that the developer maintain natural runoff conditions, by whatever means are suitable, it is only complying with the basic principles of Oklahoma law. On-site detention of various kinds, such as parking lots, rooftops, and landscaping features, can be encouraged or required by the city. On the other hand, it is risky to allow transbasin diversions, which by definition will bring in additional water to the new basin. This should

be avoided where possible, or fully accommodated in the design so no injury can occur from the new flows. It is obvious from the many cases cited that the courts consistently look at the pre-development hydrologic situation as a baseline. Any changes from that baseline which cause injury may result in liability.

#### 405.2 Managing Watercourses and Floodplain Regulation

Activities along the watercourse and its floodplain are considerably more complex in cities than in rural areas. This makes implementing watercourse law in cities more complex because: (1) it may be the cumulative effect of many structures, rather than any single structure, which causes the harm, and (2) it may involve not only how the property is to be developed, but whether it can be developed at all. This immediately gets into the realm of constitutionality, as the prohibiting regulation is challenged as an unconstitutional "taking" of private property without compensation. It is important, however, to analyze such regulations in terms of Oklahoma watercourse law.

Oklahoma decisions state that it is unlawful to interfere with the flow of ordinary floodwaters to the detriment of other property owners. Ordinary floodwaters include those which can be anticipated by a reasonably diligent analysis of the stream, its characteristics, and its history. With today's technology, a diligent analysis would certainly include rainfall/runoff relationships and storm rainfall probability. The ordinary flood includes, at a minimum, the flood of record and may include larger floods. If one affects the flow so that it would result in harm to others during an ordinary flood, one is also liable even when the flood damage occurs during an extraordinary flood.

Certainly the city's own activities should comply with watercourse law. Regarding private developments, the city may be the only entity which has the overview, and the overall authority, to implement the law. In a rural situation it may be fairly easy to point the finger at the transgressor who

interferes with the flood flows. In the urban situation it may be an accumulation of filling, channelizing, diking and placing structures which results in the unlawful interference. As courts have said again and again, no one is permitted to sacrifice his neighbor's property for his own benefit. Floodplain regulation, then, should not be viewed as governmental interference with private property rights, but as protection of private property against unlawful use of other private property, which individually or cumulatively would cause flood injury which would not have occurred prior to development. On the other hand where, by its own policies and regulations, a city permits violation of Oklahoma watercourse law, the individual property owner who is harmed or sees a potential threat has to fend for himself by suing for damages or an injunction; it may be very difficult to prove cause and effect in an urban cumulative situation. In addition, the city itself may be vulnerable to liability where it authorized the developments.

Floodplain regulation, therefore, is a key element in implementing Oklahoma watercourse law in the complex urban setting where it is exceedingly difficult, if not impossible, for private individual landowners to obtain relief in court against the cumulative actions of many other property owners. A major additional incentive to floodplain regulation is the National Flood Insurance Act of 1968. The Act was designed to deal with the escalating flood losses nationwide and to provide relief in the form of insurance to property owners. On the one hand, subsidized insurance became available, but only to properties in those communities which participated in the program. On the other hand, to become a "participating community" the local government had to adopt certain minimum floodplain regulations to prevent unwise floodplain development, which would otherwise be spurred on by the availability of subsidized insurance.

Prior to 1980, questions were raised whether local governments had the authority to adopt such controls. The Attorney General of Oklahoma issued Opinion No. 70-234 in 1970 (see Appendix B). The opinion concluded that

cities and towns had the authority to participate in the program and to establish the necessary land use and control measures to provide for prudent use of flood prone areas. He also concluded that counties did not have such authority in their individual capacities; however, with certain limitations, counties could do so where they had created a Metropolitan Area Planning Commission or a Lake Area Planning and Zoning Commission.

Many Oklahoma communities became participating communities based only on the Attorney General's 1970 opinion. (Refer to "Flood Control in Oklahoma: An Example of Land Use Preceding Land Use Planning," 29 Okl. L. Rev. 16 (1976) for an excellent historical discussion of the issue and need for adoption by the Oklahoma Legislature of a statute granting specific authorities to local government to adopt floodplain regulations.)

The City of Tulsa adopted floodplain zoning in the early 1970s which became the subject of a lawsuit when property owners continued a landfill operation contrary to the floodway zoning. The City sought an injunction and the property owners counterclaimed, requesting the court to declare the floodway zoning unconstitutional and unenforceable. A major issue was whether the floodway zoning was a new comprehensive zoning plan requiring a hearing with notice by publication only, or whether it was a "change" in zoning requiring written notification to all property owners within 300 feet of the subject property. The City had complied with the former, but not with the latter. The City argued that this was a huge comprehensive area encompassing many square miles, and that written notice to all affected landowners would be costly, time consuming and cumbersome. However, the Oklahoma Supreme Court eventually held that the ordinance was a "change," and therefore required the written notice. Morland Development Co. v. City of Tulsa, 596 P.2d 1255 (Okla. 1979). The City of Tulsa settled out of court regarding damages to the property owners and has subsequently controlled developments in the floodplain through the building permit process. (Phone conversation with Mr. Alan Jackerie, Tulsa City Attorney's Office, May 22, 1986). The majority on the court did not address the ques-



tion of whether or not Tulsa had the power to promulgate floodplain regulations, deciding the issue was not properly before the court on appeal. Justice Barnes, however, in a concurring opinion, stated that he believed the issue was so important that the court should have addressed it and then articulated the reasons why he believed cities had such authority.

Perhaps in response to the Tulsa case, during the following year the Oklahoma Legislature adopted the Floodplain Management Act, 82 O.S. Supp. 1984, Sections 1604 through 1619 (see Appendix C) authorizing municipalities, counties, and the State to promulgate floodplain regulations. The Act also establishes hearing and notice requirements for adoption of floodplain regulations, the notice being by publication only. Since the wording of Section 1610B does not necessarily address the distinction made by the court in the Tulsa case, without further analysis this author cannot establish whether or not the Legislation intended to supercede the mailing notice requirement or not.

In addition to granting authority to adopt floodplain regulations, the Act further reinforces Oklahoma watercourse law. The floodplain is defined as land which may be covered by flooding, but not limited to the one hundred-year flood. This indicates that larger floods should be considered. It stresses the need to preserve the capacity of the floodplain to carry and discharge regional floods. It requires that floodplain regulations include controls on all construction in the floodplains which may divert, retard, or obstruct floodwater. After adoption of floodplain regulations and delineating floodplains, all future development is prohibited unless a special permit is granted; however, such permits may be issued only when the applicable floodplain board decides that such development is not a danger to persons or property. Under certain conditions variances may be granted; however, the granting of such a variance does not relieve the recipient from any liability imposed by other laws of the state. One can assume such other laws include the body of watercourse law developed by Oklahoma courts.

There is one section, however, which appears to contradict Oklahoma watercourse law. Section 1617 states:

"No new structure, fill, excavation or other floodplain use that is unreasonably hazardous to the public or that unduly restricts the capacity of the floodway to carry and discharge the regional flood shall be permitted without securing written authorization from the floodplain board in which the floodplain is located. Any person violating the provisions of this section shall be guilty of a misdemeanor."

The floodway is earlier defined as the channel of a stream, watercourse or body of water and those portions of floodplains which are reasonably required to carry and discharge the floodwater or floodflow of any river or stream, that is, that portion which carries the deepest and highest velocity floodwaters. This section appears to allow a board to issue written authority for a new structure, fill or excavation which is unreasonably hazardous and does unduly restrict the floodway. A warning is in order here. Any person placing such fill or building such structure, and potentially the governmental entity authorizing them, would be highly vulnerable to a lawsuit under Oklahoma watercourse law.

The Act establishes three areas of jurisdiction: cities, unincorporated areas of counties and state lands. Each of these entities may create a floodplain board and each is authorized to adopt its own floodplain regulations and delineations. The Oklahoma Water Resources Board (OWRB), however, has promulgated regulations controlling state lands (see Appendix D), which also are the minimum standards for the local entities. (Phone conversation with Mr. Cecil Beardon, OWRB staff member, May, 1980). More stringent regulations may be adopted by the local boards and submitted to the OWRB for approval. More stringent regulations have never been disapproved.

The OWRB rules also reinforce Oklahoma stormwater law. Additional purposes for adopting floodplain regulations include protecting public health,

safety, and welfare by restricting damageable floodplain improvements and rises which increase flood damage potential elsewhere; protecting adjacent upstream and downstream private and public landowners from increases in flood elevations, velocities, or both, which could increase the potential for flood damages; and protecting individuals from buying lands which are unsuited for intended purposes because of flood hazard.

The issue raised above regarding the complexity of enforcing watercourse law in the urban setting, where it may be the cumulative effect of developments which cause the flood damage, is recognized in Section 1200.3 of the OWRB rules.

"All calculations of damaging or potentially damaging increases in flood stage or velocity shall assume a reasonably equal degree of encroachment of existing and potential use in the floodplain and shall take into account the cumulative impact of such encroachment."

This section goes on to recommend approaches to minimize damages, including locating structures outside the one-hundred-year floodplain altogether, limited construction in the flood fringe, and placing habitable structures on elevating members (not fill), or provisions to pass the flood through or over non-habitable structures. All of these suggestions are designed to prevent the use of property by one landowner which would cause flood damage to other properties.

The OWRB rules also require that any designation and mapping of the regulatory floodplain be done using accepted engineering principles reflecting the current state of the art. Thereafter such maps shall not be changed unless reservoir or channel improvements have been constructed, the original delineation is shown to be in error, or there are changed conditions which modify the original computations.

Since the flood insurance program is a federal program, all of the floodplain regulations also have to comply with minimum federal standards. Again, an entity may adopt more stringent standards.

Both federal and CWRB rules establish the floodplain which is to be regulated (regulatory floodplain) as that portion of the floodplain which is susceptible of being covered by the regulatory flood (a 100-year flood, i.e., one that has a one percent chance of occurring in any given year). The regulatory floodplain is then divided into the floodway and flood fringe. The federal program provides that the flood fringe is that portion that can be encroached upon without raising the regulatory flood elevation more than one foot. By definition, then, a city is admitting that it is permitting fill and structures which will raise the level of flooding. Such higher levels may cause flood damage to properties which would not previously have been injured. The CWRB rules however, provide additional criteria. They define the flood fringe as that area which may be developed to the extent the regulatory floodway is preserved and natural conditions allowed. They further state that the flood fringe may be filled or used provided this does not increase the potential for damages or velocities in addition to the usual wording that such uses do not increase the regulatory flood elevations more than one foot. These additional criteria are consistent with Oklahoma watercourse law which protects landowners from the actions of other landowners which could adversely affect them in times of flooding.

405.3 Mattoon v. City of Norman

Of particular interest to the City of Norman is the Mattoon case, 617 P.2d 1347 (Okla. 1980) and 633 P.2d 735 (Okla. 1981). The facts as described by the court are as follows. In 1975 the City adopted an ordinance prohibiting all but certain limited uses on lands along tributaries determined to be within a Flood Hazard District. Plaintiff's land was in one of those districts. On behalf of himself and all landowners in Norman similarly situated (about 500) he claimed 1) that the ordinance was a "taking" of the

properties without just compensation and 2) that the City had diverted waters into certain tributaries, and because of inadequate maintenance of these drainage channels, had caused flooding of properties in the districts. The trial court found the ordinance to be a valid exercise of the City's police power and, therefore, did not constitute a taking requiring compensation. The court sustained the City's demurrer to the petition (that is, the facts of the case never went to trial). The Oklahoma Supreme Court reversed, deciding that both the taking issue and the diversion-and-flooding issue involved questions of fact which could not be decided on a demurrer. Back at the trial court the question was then raised whether the case was a proper class action. The court decided it was not and refused to certify the suit as a class action. This issue then went up on appeal, the Oklahoma Supreme Court affirming the trial court's decision. At that point the plaintiff dropped the suit. The substantive issue of whether or not the ordinance constituted a taking was never tried. The case, therefore stands for:

1. A city's diversion of additional water into a channel and inadequate maintenance thereof may result in liability for flooding of properties (adding just one more case to the many previously cited).
2. Even though a floodplain zoning ordinance is a valid exercise of police power, under some fact situations it may constitute a taking of specific properties; the test cited from another case is "substantial interference" and is a question of fact for the trier of fact to decide.

406 FINANCING THE PROJECT: THE DRAINAGE AND FLOOD CONTROL UTILITY AND FEE

Communities have long found it difficult to finance drainage projects. One community, Billings, Montana, developed an imaginative solution. It decided to view drainage projects as part of a drainage utility, just like water and sewer projects, and would charge customers for the services

provided. Property owners whose runoff drained into city storm sewers would be considered customers of the storm sewer utility just like citizens whose homes used city water and sewer services. The fee charged would essentially be based on the difference between historic runoff and the amount of runoff from the property in its developed state. The reasoning was that under natural conditions a considerable amount of stormwater percolates into the ground. However, where land is covered with homes, carports, parking lots, etc., the surface is impermeable, producing much more runoff, at greater velocity, causing higher peak flows than naturally. Commercial establishments which usually have more impervious surface than residential property, would be charged a higher rate. The proposal was challenged in court in City of Billings v. Nore, 148 Mont. 96, 417 P.2d 458 (1966). The proposal was upheld as constitutional and equitable, and has since been implemented.

Other communities like Boulder, Colorado, have also adopted and implemented the drainage utility and fee concept. Additional refinements to the basic concept have been made, such as:

1. Giving credit for on-site detention; since the amount of runoff will be less, the drainage fee is reduced; giving credit is an incentive to on-site storage, which keeps runoff as close to natural as possible.
2. Providing that the revenue produced by the fee can be used not only for structural projects, but also for nonstructural measures such as purchase of land or easements to preserve a natural drainageway.
3. Providing for calculating actual runoff from a particular parcel, such as a shopping center, in order to more precisely determine the fee.
4. Adding a surcharge to the drainage fee for developed properties situated in a floodplain or flood hazard area because of the extraordinary public costs involved in protecting the properties and in providing emergency services in the event of a flood.

A drainage plan is of little value unless it is implemented. While some aspects can be implemented through zoning, subdivision regulations and building permits, corrective actions are usually costly, and financial resources are needed to implement such projects. This drainage fee concept, based on the difference between natural runoff and developed runoff, is particularly appropriate under Oklahoma's surface water law.

APPENDIX A

CASES CITED



APPENDIX A

CASES CITED

PAGE

- Allied Hotels, Ltd. v. Barden, 389 P.2d 968 (Okl. 1964).
- Armstrong Byrd & Co., v. Illinois Cent. R. Co., 26 Okl. 352,  
109 P. 216 (1910)
- Atchison, T. & S.F. Ry Co. v. Bishop, 201 Okl. 471, 207 P.2d 282  
(1949).
- Atchison, T. & S.F. Ry Co. v. Eldridge, 41 Okl. 463, 139 P.254  
(1914).
- Atchison, T. & S.F. Ry Co. v. Hadley, 168 Okl. 588, 35 P.2d 463  
(1934).
- Baker v. Ellis, 292 P.2d 1037 (Okl. 1956).
- Black v. Ellithorp, 382 P.2d 23 (Okl. 1963).
- Branch v. City of Altus, 195 Okl. 625, 159 P.2d 1021 (1945).
- Burkett v. Bayes, 78 Okl. 8, 187 P. 214 (1920).
- Carter v. Gundy, 259 P.2d 528 (Okl. 1953).
- Castle v. Reeburgh, 75 Okl. 22, 181 P. 297 (1919).
- Caughlin v. Sheets, 206 Okl. 283, 242 P.2d 724, (1952).
- Chicago, R.I. & P. Ry. Co. v. Bahr, 78 Okl 78, 188 P. 1058 (1920).
- Chicago, R.I. & P. Ry. Co. v. Davis, 26 Okl. 434, 109 P. 214 (1910).
- Chicago, R.I. & P. Ry. Co. v. Groves, 20 Okl. 101, 93 P. 755 (1908).
- Chicago, R.I. & P. Ry. Co. v. Hale, 208 Okl. 141, 254 P.2d 338  
(1953).
- Chicago, R.I. & P. Ry. Co. v. Johnson, 25 Okl. 760, 107 P. 662  
(1910).
- Chicago, R.I. & P. Ry. Co. v. Maynard, 31 Okl. 685, 122 P. 149  
(1911).
- Chicago, R.I. & P. Ry. Co. v. McKone, 36 Okl. 41, 127 P. 488 (1912).
- Chicago, R.I. & P. Ry. Co. v. Morton, 57 Okl. 711, 157 P. 917 (1916).
- Chicago, R.I. & P. Ry. Co. v. Schirf, 267 P.2d 574 (Okl. 1954).

Chicago, R.I. & P. Ry. Co. v. Taylor, 173 Okl. 454, 49 P.2d 721 (1935).

Chicago, R.I. & P. Ry. Co. v. Turner, 141 Okl. 267, 284 P. 855 (1930).

City of Altus v. Martin, 268 P.2d 228 (Okl. 1954).

City of Billings v. Nore, 148 Mont. 96, 417 P.2d 458 (1966).

City of Holdenville v. Moore, 293 P.2d 363 (Okl. 1956).

City of Oklahoma v. Hill, 6 Okl. 114, 50 P. 242 (1897).

City of Tulsa v. Morland Development Company and Newcomb Cleveland, Oklahoma Supreme Court Case No. 49621.

City of Wewaka v. Mainard, 155 Okl. 156, 8 P.2d 676 (1932).

Cole v. Missouri, K.& O. R. Co., 20 Okl. 227, 94 P. 540 (1908).

Conkin v. Ruth, 581 P.2d 923 (Okl. App. 1978).

Culbertson v. Green, 206 Okl. 210, 243 P.2d 648 (1952).

Cunningham v. McConnell, 382 P.2d 429 (Okl. 1963).

Davis v. Fry, 14 Okl. 340, 78 P. 180 (1904).

Dobbs v. Missouri Pacific R. Co., 416 F.Supp. 5 (E.D. Okl. 1975).

Dowlen v. Corwley, 170 Okl. 59, 37 P.2d 933 (1934).

Elk City v. Rice, 286 P.2d 275 (Okl. 1955).

Franks v. Rouse, 192 Okl. 520, 137 P.2d 899 (1943).

Garrett v. Haworth, 183 Okl. 569, 83 P.2d 822 (1938).

George v. Greer, 207 Okl. 494, 250 P.2d 858 (1952).

Godlin v. Hockett, 272 P.2d 389 (Okl. 1954).

Grand River Dam Authority v. Rose, 195 Okl. 698, 161 P.2d 766 (1945).

Gregory v. Bogdanoff, 307 P.2d 841 (Okl. 1957).

Gulf, C. & S. F. Ry. Co. v. Clark, 101 F. 678 (8th Cir. 1900).

Gulf, C. & S. F. Ry. Co. v. Richardson, 42 Okl. 457, 141 P. 1107 (1914).

Haskins v. Felder, 270 P.2d 960 (Okla. 1954).

Hatmaker v. Gripe, 184 Okla. 26, 84 P.2d 418 (1938).

Herwig v. City of Guthrie, 182 Okla. 599, 78 P.2d 793 (1938).

Hoerschler v. Graham, 306 P.2d 701 (Okla. 1957).

Incorporated Town of Idabel v. Harrison, 42 Okla. 469, 141 P. 1110 (1914).

Iven v. Roder, 431 P.2d 321 (Okla. 1967).

Johnston v. Woodard, 376 P.2d 602 (Okla. 1962).

Kansas City Southern Ry. Co. v. Hurley, 61 Okla. 241, 160 P. 910 (1916).

King v. Cade, 205 Okla. 666, 240 P.2d 88 (Okla. 1951).

Kollman v. Pfenning, 196 Okla. 186, 163 P.2d 534 (1945).

Lowden v. Bosler, 196 Okla. 205, 163 P.2d 957 (1945).

Lynn v. Rainey, 400 P.2d 805 (Okla. 1965).

Marduck v. City of Blackwell, 198 Okla. 171, 176 P.2d 1002 (1947).

Mattoon v. City of Norman, 617 P.2d 1347 (Okla. 1980) and 633 P.2d 735 (Okla. 1981).

McLeod v. Spencer, 60 Okla. 89, 159 P.326 (1916).

Miller v. Marriott, 48 Okla. 179, 149 P. 1164 (1915).

Missouri, K. & T. Ry. Co. v. Johnson, 34 Okla. 582, 126 P. 567 (1912).

Morehead v. Dyer, 518 P.2d 1105 (Okla. 1974).

Morland Development Co. v. City of Tulsa, 596 P.2d 1255 (Okla. 1979).

Newman v. State ex. rel. Board of Regents, etc., 490 P.2d 1079 (Okla. 1971).

Nunn v. Osborne, 417 P.2d 571 (Okla. 1966).

Oklahoma City v. Bethel, 175 Okla. 193, 51 P.2d 313 (1935).

Oklahoma City v. Collins - Dietz - Morris Co., 183 Okla. 264, 79 P.2d 791 (1938).

Oklahoma City v. Hoke, 75 Okl. 211, 182 P. 692 (1919).  
Oklahoma City v. Rose, 176 Okl. 607, 56 P.2d 775 (1936).  
Oklahoma City v. Tarkington, 178 Okl. 430, 63 P.2d 689 (1936).  
Oklahoma City v. Taylor, 470 P.2d 325 (Okla. 1970).  
Oklahoma Ry. Co. v. Mary Boyd, 167 Okl. 151, 28 P.2d 537 (1934).  
Oklahoma Ry. Co. v. W. H. Boyd, 140 Okl. 45, 282 P. 157 (1929).  
Oklahoma Ry. Co. v. Woods, 164 Okl. 215, 23 P.2d 217 (1933).  
Oklahoma Turnpike Authority v. Strough, 266 P.2d 623 (1954).  
Oklahoma Water Res. Bd. v. Central Okl. M. C. Dist., 464 P.2d 748 (Okla. 1969).  
Pahlka v. Chicago, R. I. & P. Ry. Co., 62 Okl. 223, 161 P. 544 (1916).  
Pechacek v. Hightower, 269 P.2d 342 (Okla. 1954).  
Rainey v. Cleveland, 203 Okl. 283, 220 P.2d 261 (1950).  
Regier v. Hutchins, 298 P.2d 777 (Okla. 1956).  
Richards v. City of Lawton, 629 P.2d 1260 (Okla. 1981).  
Roberts v. Sterr, 312 P.2d 449 (Okla. 1957).  
Sebranek v. Krivohlavek, 196 Okl. 132, 163 P.2d 530 (1945).  
Sinclair Prairie Oil Co. v. Fleming, 203 Okl. 600, 225 P.2d 348 (1950).  
Sorge v. Graham, 312 P.2d 929 (Okla. 1957).  
State of Oklahoma v. Hoebel, 594 P.2d 1213 (1979).  
Stiers v. Mayhall, 207 Okl. 219, 248 P.2d 1047 (1952).  
St. Louis & S. F. R. Co. v. Dale, 36 Okl. 114, 128 P. 137 (1912).  
St. Louis - San Francisco Railway Co. v. Pinkston, 420 P.2d 537 (Okla. 1966).  
Taylor v. Shriver, 82 Okl. 11, 198 P.329 (19 ).

Town of Jefferson v. Hicks, 23 Okl. 6894, 102 P. 79 (1909).

Walton v. Bryan, 188 Okl. 358, 109 P.2d 489 (1941).

Wichita Falls & N.W. Ry. Co. v. Stacey, 46 Okl. 8, 147 P. 1194  
(1915).

Zalaback v. City of Kingfisher, 59 Okl. 222, 158 P. 926 (1916).

APPENDIX B

ATTORNEY GENERAL'S OPINION



THE ATTORNEY GENERAL  
OF OKLAHOMA

Oklahoma City, Okla. 73105

September 17, 1970

G. T. BLANKENSHIP  
ATTORNEY GENERAL

Honorable Rex Privett  
Speaker, House of Representatives  
Honorable Finis W. Smith  
President Pro Tempore of the Senate  
Chairman and Vice Chairman of  
Committee on Interstate Cooperation  
State Capitol  
Oklahoma City, Oklahoma 73105

Opinion No. 70-234

Gentlemen:

The Attorney General has had under consideration your recent letter relative to the National Flood Insurance Act, of 1968, as amended in 1969. You ask, in effect, the following questions:

1. Do cities, towns, and counties in Oklahoma have the authority to participate in this National Flood Insurance program?

2. Do they have the authority to establish land use and control measures, zoning ordinances, subdivision regulations, and other applications and extensions of the normal police power to provide safe standards of occupancy for, and prudent use of, flood prone areas?

Title 42 U.S.C., § 4011, provides in relevant part that:

"(a) To carry out the purposes of this chapter, the Secretary of Housing and Urban Development is authorized to establish and carry out a national flood insurance program which will enable interested persons to purchase insurance against loss resulting from physical damage to or loss of real property or personal property related thereto arising from any flood occurring in the United States."

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Title 42 U.S.C., § 4012, provides in part as follows:

"(c) The Secretary shall make flood insurance available in only those states or areas (or sub-division thereof) which he has determined have --

"(1) Evidenced a positive interest in securing flood insurance coverage under the Flood Insurance Program, and

"(2) Given satisfactory assurance that by December 31, 1971, adequate land use and control measures will have been adopted for the State or area (or sub-division) which are consistent with the comprehensive criteria for land management and use developed under Section 4102 of this Title, and that the application and enforcement of such measures will commence as soon as technical information on floodways and on controlling flood elevations is available."

Title 42 U.S.C., § 4022, provides:

"After December 31, 1971, no new flood insurance coverage shall be provided under this chapter in any area (or sub-division thereof) unless an appropriate public body shall have adopted adequate land use and control measures (with effective enforcement provisions) which the Secretary finds are consistent with the comprehensive criteria for land management and use under Section 4102 of this Title."

Title 42 U.S.C., § 4102(a), authorizes the Secretary to carry out studies and investigations, using available state, local and federal sources, with respect to the adequacy of state and local measures in flood prone areas, etc. It provides under (b) that such studies and investigations shall include, but not be limited to, laws, regulations, or ordinances relating to encroachments and obstructions on stream channels and floodways, the orderly development and use of flood plains of rivers or streams, floodway encroachment lines and flood plain zoning, building codes, building permits, and subdivision or other building restrictions. It further provides, under (c), that the Secretary shall from time to time develop comprehensive criteria designed to encourage where neces-



sary the adoption of permanent state and local measures which, to the maximum extent feasible, will --

- "(1) Constrict the development of land which is exposed to flood damage where appropriate,
- "(2) Guide the development of proposed construction away from locations which are threatened by flood hazards,
- "(3) Assist in reducing damage caused by floods, and
- "(4) Otherwise improve the long range land management and use of flood prone areas."

Under 11 O.S. 1961, §§ 401 through 412, as amended in 1968, 1969 and 1970, Oklahoma cities and towns are authorized to establish land use and control measures, and to adopt and enforce ordinances, subdivision regulations, building codes, and other regulations pertaining to the public health and welfare in respect to areas within the jurisdiction of their respective legislative bodies.

The 32nd Oklahoma Legislature, at its second regular session, enacted Senate Bill No. 320, effective April 28, 1970, which provided in its Title for "County Planning and Zoning." However, the body of the Act contains no reference to zoning or authority to establish regulations, other than with respect to "Planning."

Title 19 O.S. 1961, §§ 863.1 through 863.29, as amended, provided for city county planning and zoning by counties having cities with a certain population and more than 50% of their incorporated area within the county. However, in Elias v. City of Tulsa, Okl. 408 P.2d 517 (1965), the Supreme Court held:

" . . . that Chapter 19Aa, S.L. 1955, 19 O.S. Supp. 1955, §§ 863.1-863.43 is unconstitutional."

Title 19 O.S. 1961, §§ 866.1 through 866.36, as amended, provides for the creation, by one or more counties and certain municipalities located therein, of Metropolitan Area Planning Commissions. Specific powers are given to participating counties to establish zoning regulations, building codes, construction codes, and housing codes, for all the area located within three miles of

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the municipality, or within one-fourth mile of any State or Federal Highway located anywhere in the county, or within one-half mile of any water supply or reservoir owned by the municipality, excluding, however, any incorporated area. . . .

Title 19 O.S. Supp.1969, §§ 866.2 and 866.36 were respectively §§ 1 and 2 of O.S.L. 1965 Regular Session, Thirtieth Legislature, ch. 403, which was approved July 5, 1965, and contained the emergency clause and a provision for codification in Title 19 O.S. Supp.1965.

Section 866.2, as reenacted provides:

". . . .In every county of this state having an upstream terminal port and turnaround where navigation ends, or in any county containing all or any part of a reservoir or reservoirs constructed by the United States Army Corps of Engineers or by the Grand River Dam Authority, such county is hereby granted authority, at the discretion of the board of county commissioners, to establish zoning regulations, a building code and construction codes, and a housing code in accordance with the provisions of this act for all or any part of the unincorporated area within the county. . . ."  
(Emphasis added).

Section 866.2 was amended by the addition of the following paragraph:

"In the counties in which a Lake Area Planning and Zoning Commission is authorized as provided above, said commission may be created by the Board of County Commissioners of said counties as provided in this act and said commission may exercise all the powers and authority hereinafter provided for City-County Planning and Zoning Commissions. The jurisdiction of any such Lake Area Planning and Zoning Commission is limited to a three mile perimeter from the normal elevation lake shoreline of any such lake." (Emphasis added)

Despite the lack of specific reference thereto in Section 866.2, it is apparent that the Legislature intended the first quoted portion thereof to be applicable to counties which were participants in the creation of a Metropolitan Area Planning Commission, and also had within their jurisdictions an upstream terminal and navigational turnaround or a reservoir built by the U.S.C.E. or G.R.D.A. Confirmation of the Legislative intent is shown by the language constituting a part of amended Section 866.36, hereinafter quoted.

Title 19 O.S. Supp.1969, § 866.36, provides for creation of a Lake Area Planning and Zoning Commission by any one or more counties having within their jurisdiction a lake constructed by the United States Corps of Engineers or by the Grand River Dam Authority.

Said section contains the following:

" . . . A Lake Area Planning and Zoning Commission may be formed to include all or any part of a county in which there is a lake constructed by the Corps of Engineers or by the Grand River Dam Authority regardless of the population of said county or the cities and towns therein. More than one county may cooperate in a joint Lake Area Planning and Zoning Commission. Funds for the operation of a Lake Area Planning and Zoning Commission may be appropriated by any county, city or town in the area affected by such Planning Commission. A Lake Area Planning and Zoning Commission when properly formed shall be authorized to exercise all the powers and duties set forth in this act." (Emphasis added)

It is therefore, the opinion of the Attorney General that your questions numbered 1 and 2 must be answered in the following manner: Oklahoma cities and towns presently have authority under State statutes to participate in the National Flood Insurance Program of 1968, and to establish land use and control measures, and to adopt and enforce zoning ordinances, subdivision regulations, building codes and other regulations to provide safe standards of occupancy for and prudent use of flood prone areas pursuant to such participation.

However, counties as such do not presently have such authority, or the power to establish such land use and control measures or to

APPENDIX C

OKLAHOMA FLOODPLAIN MANAGEMENT ACT

**Floodplain Management Act**  
**82 O.S. §§1601-1618**

**§1601. Short title.**

Chapter 23 of this title shall be known and may be cited as the Oklahoma Floodplain Management Act.

**§1602. Purpose of act.**

A. The State of Oklahoma recognizes the personal hardships and economic distress caused by flood disasters; in particular, the loss of life from floods, the physical and emotional impact of flooding on individuals and communities, public and private property damage and disruption, the increased cost for disaster relief and the need for preservation and restoration of the natural resources and functions of floodplains. Oklahoma also recognizes that it has become uneconomical for private insurance industry alone to make flood insurance available to those in need of such protection on reasonable terms and conditions. Recognizing these problems, Congress enacted the National Flood Insurance Act of 1968, which, among other things, requires the development of a unified national program for floodplain management which sets out a framework for national goals towards which agencies at all levels of government and in the private sector can work each within its own mission and role.

B. The purpose of the Oklahoma Floodplain Management Act pursuant to the most current version of a unified program for floodplain management is to:

1. Protect the natural and beneficial functions of the floodplain, to reduce damage and disruption to property from floods, to reduce costs of disaster relief and to reduce injury and loss of life from floods;
2. Assist state agencies, local government and the private sector in developing local floodplain management programs and in obtaining training and funding therefore; and
3. Procure flood insurance for those citizens that desire to participate in this federal program.

**§1603. Definitions.**

As used in the Oklahoma Floodplain Management Act:

1. "Area of jurisdiction" means:
  - a. all of the lands within an incorporated town or city, for a municipality,
  - b. all of the unincorporated areas of the county, for a county, or
  - c. all property owned or operated by the state, for the state;
2. "Board" means the Oklahoma Water Resources Board;
3. "Dwelling unit" means a place of residence and may be a single or multiple-dwelling building;
4. "Flood" or "flooding" means general and temporary conditions of partial or complete inundation of normally dry land areas from the overflow of lakes, streams, rivers or any other inland waters;
5. "Floodplain" means the land adjacent to a body of water which has been or may be covered by flooding, including, but not limited to, the one-hundred-year flood;

6. "Floodplain board" means an administrative and planning board, for floodplain management, of a county, a municipality or the state or the planning commission of a municipality or a county if so designated by the governing body of the municipality or county;

7. "Floodplain regulations" means the codes, ordinances and other regulations relating to the use of land and construction within the channel and floodland and construction within the channel and floodplain areas including, but not limited to, zoning ordinances, platting regulations, building codes, housing codes, setback requirements and open area regulations;

8. "Floodway" means the channel of a stream, watercourse or body of water and those portions of floodplains which are reasonably required to carry and discharge the floodwater or floodflow of any river or stream;

9. "One-hundred-year flood" means a flood which has a one percent (1%) chance of occurring each year, based upon the criteria established by the Oklahoma Water Resources Board; and

10. "Program" means the overall national flood insurance program authorized by the National Flood Insurance Act of 1968 (42 U.S.C. 4001-4128) as amended.

**§1604. County and municipal floodplain boards – Land use rules and regulations.**

A. To allow participation in the program, the Oklahoma Water Resources Board, boards of county commissioners and municipal governing bodies are authorized to establish floodplain board for their respective area of jurisdiction which may adopt, administer and enforce floodplain management rules and regulations, for the purpose of:

1. The delineation of floodplain and floodways;
2. The preservation of the capacity of the floodplain to carry and discharge regional floods;
3. The minimization of flood hazards;
4. The establishment and charging of reasonable fees, not to exceed Five Hundred Dollars (\$500.00), for services provided by the Board, county commissioners and municipalities in the administration of their responsibilities pursuant to the Oklahoma Floodplain Management Act.
5. The regulation of the use of land in the floodplain; and
6. The protection of the natural and beneficial functions of the floodplain, reducing damage to property from floods, reducing injury and loss of life from floods, and allowing communities to be eligible for flood insurance.

B. The rules and regulations shall be based on adequate technical data and competent engineering advice and shall be consistent with local and regional comprehensive planning.

C. The rules and regulations shall be approved by the Oklahoma Water Resources Board, the county or the municipality, as the case may be, by appropriate order, resolution or ordinance.

**§1605. County, municipal and state floodplain board – Composition – Term – Compensation.**

A. 1. A county floodplain board shall be composed of five (5) members to be appointed by the board of county commissioners.

2. All the members of the board shall be residents of the county and shall own or operate real property within the unincorporated area of the county;

3. Two members shall be appointed for terms of two (2) years, two members shall be appointed for terms of four (4) years and one member shall be appointed for a term of six (6) years. Thereafter, all appointments shall be made for terms of six (6) years.
  4. All members shall serve without compensation. Members may be removed by the board of county commissioners for cause after a public hearing for that purpose.
  5. Vacancies shall be filled by additional appointments for the unexpired term only.
- B.
1. A municipal floodplain board shall be composed of five (5) members to be appointed by the municipal governing body. all the members of the board shall be residents of the municipality.
  2. Membership of floodplain boards in existence prior to the effective date of this act shall remain as currently constituted. Membership for boards created subsequent to the effective date of this act shall consist of two members appointed for terms of two (2) years, two members appointed for terms of four (4) years and one member appointed for a term of six (6) years. Thereafter, all appointments shall be made for terms of six (6) years.
  3. All members shall serve without compensation.
  4. Members may be removed by the municipal governing body for cause after a public hearing for that purpose.
  5. Vacancies shall be filled by additional appointments for the unexpired term only.
- C.
- A state floodplain board shall be composed of the members of the Oklahoma Water Resources Board. All members shall serve without additional compensation.

**§1606. Establishment and delineation of floodplains and one-hundred-year flood elevations for Oklahoma.**

The Oklahoma Water Resources Board shall develop, adopt and promulgate criteria and rules for aiding the floodplain boards in the establishment and delineation of the floodplains and the one-hundred-year flood elevations for Oklahoma.

**§1607. Floodplain definitions and one-hundred-year elevations to be submitted.**

The floodplain boards shall delineate and submit to the Oklahoma Water Resources Board all floodplain definitions and one-hundred-year flood elevations within their respective area of jurisdiction, using methods consistent with the criteria and rules developed by the Board.

**§1608. Floodplain regulations – Requirements – Contents**

All floodplain boards that choose to participate in the program shall adopt floodplain regulations, which shall conform with the requirements necessary to establish eligibility and to maintain participation in the program and shall include the following:

1. Regulations for any platting of land in floodplains, construction of dwelling units and commercial or industrial structures in floodplains, and all other construction in the floodplains, which may divert, retard or obstruct floodwater and threaten public health, safety and welfare;
2. Regulations which establish minimum flood protection elevations and flood damage prevention requirements for use of structures and facilities which are located in a floodplain or are vulnerable to flood damage. Regulations adopted under this section are to be in accordance with any applicable state and local laws, regulations and ordinances.
3. Regulations which provide for coordination by the floodplain board with all other interested and affected political subdivisions and state agencies. The regulations of a floodplain board shall not

apply to the use of usual farm buildings for agricultural purposes, the planting of agricultural crops or the construction of farm ponds; and

4. Counties and municipalities that choose to participate in the program and utilize a floodplain manager are encouraged to attend the floodplain development management classed offered by the National Flood Insurance Program and any additional annual continuing education classes offered by the Oklahoma Water Resources Board.

**§1609. Cooperative agreements for delineation of floodplains and adoption of regulations.**

Floodplain boards may enter into cooperative agreements pursuant to the "Interlocal Cooperation Act" for the delineation of floodplains and adoption of regulations within the floodplains.

**§1610. Promulgation floodplain rules – Procedure.**

A. Floodplain rules enacted pursuant to the Oklahoma Floodplain Management Act shall only be promulgated by the Oklahoma Water Resources Board in accordance with the Administrative Procedures Act.

B. Floodplain regulations enacted pursuant to the Oklahoma Floodplain Management Act shall only be adopted by the county or municipal floodplain boards adopted by the county or municipal floodplain boards after a public hearing at which parties in interest and other citizens have an opportunity to be heard. At least thirty (30) days prior to the hearing, a notice of the time and place of hearing shall be published in a newspaper of general circulation regularly published nearest the area of jurisdiction.

**§1611. Redefining floodplain upon completion of flood control protective work.**

Within one hundred eighty (180) days after the completion of construction of any flood control protective works, the floodplain board in its area of jurisdiction shall redefine the floodplain as altered by the works. The new floodplain definition and one-hundred-year flood elevations shall then be submitted to the Oklahoma Water Resources Board

**§1612. Construction or development in floodplain area prohibited – Exceptions.**

A. After a floodplain board has submitted to the Oklahoma Water Resources Board definitions of all floodplains and one-hundred-year flood elevations within its area of jurisdiction, all platting of land, all construction of dwelling units or commercial or industrial structures, and all future development within the delineated floodplain area is prohibited unless:

1. Floodplain regulations have been adopted pursuant to the Oklahoma Floodplain Management Act for such areas and are in full force and effect;
2. Prior to regulations having been adopted, a special permit is granted by the floodplain board; or
3. A special permit is granted by the state floodplain board, if development or construction is to be on lands owned or held in trust by the state. provided, that notice of such construction or development must be afforded to all concerned governmental entities within thirty (30) days of the decision to undertake such construction or development.

B. Special permits authorized by subsection A of this section may be issued when the applicable floodplain board determines that construction or development in the floodplain in question is not a danger to persons or property. In making its determination, the floodplain board shall comply with Section 1610 of this title.

**§1613. Existing prior use may continue – Conditions.**

Any use that exists prior to May 13, 1980, which does not meet the minimum standards specified and authorized by the Oklahoma Floodplain Management Act may continue. However, unless brought into compliance with the minimum standards set forth in regulations adopted pursuant to the Oklahoma Floodplain Management Act such uses may be not substantially altered, enlarged or added to.



**§1614. Business needs to be considered in promulgating floodplain rules and preparing floodplain regulations.**

The Oklahoma Water Resources Board in promulgating rules pursuant to Section 1606 of this title and floodplain boards in preparing floodplain management regulations shall give due consideration to the needs of an industry, including agriculture, whose business requires that it be located within a floodplain.

**§1615. Variances.**

A. The floodplain board may grant variances for uses which do not satisfy the requirements of the Oklahoma Floodplain Management Act upon presentation of adequate proof that compliance with the local floodplain regulations adopted pursuant to the Oklahoma Floodplain Management Act will result in an arbitrary and unreasonable taking of property without sufficient benefit or advantage to the people. However, no variance shall be granted where the effect of the variance will be to permit the continuance of a condition which unreasonably creates flooding hazards. Any variance so granted shall not be construed as to relieve any person who receives it from any liability imposed by the Oklahoma Floodplain Management Act or by other laws of the state.

B. Any person seeking a variance shall file a petition with the floodplain board, accompanied by a filing fee of Twenty-five Dollars (\$25.00).

C. The floodplain board shall exercise wide discretion in weighing the equities involved and the advantages and disadvantages to the applicant and to the public at large when determining whether the variance shall be granted. The floodplain board shall conduct a hearing which complies with all requirements of the Oklahoma Floodplain Management Act for public notice. In no case shall variances be effective for a period longer than twenty (20) years. A copy of any variance issued shall be sent to the Oklahoma Water Resources Board within fifteen (15) days of issuance.

**§1616. Appeals.**

A. Appeals of any decision of the Oklahoma Water Resources Board shall be in accordance with the Administrative Procedures Act.

B. Appeals of the decision of a county or municipal floodplain board shall be taken to the board of adjustment for the area of jurisdiction involved in the appeal or to the governing body of the county or municipality where no board of adjustment exists. Appeals may be taken by any person aggrieved or by a public officer, department, board or bureau affected by any decision of the floodplain board in administering the floodplain board's regulations. The appeal shall be taken within a period of not more than ten (10) days, by filing written notice with the appellant body and the floodplain board, stating the grounds thereof. An appeal shall stay all proceedings in furtherance of the action appealed from unless the floodplain board from which the appeal is taken shall certify to the appellant of body that by reason of facts stated in the certificate a stay would, in its opinion, cause imminent peril to life or property. The appellant body shall have the following powers and duties:

1. To hear and decide appeals where it is alleged that there is error of law in any order, requirement, decision or determination made by the floodplain board in the enforcement of the floodplain board's regulations.

2. In exercising its powers, the appellant body may reverse or affirm wholly or partly, or may modify the order, requirement, decision of determination as ought to be made, and to that end shall have all the powers of the floodplain board from which the appeal is taken.

3. In acting upon any appeal, the appellant body shall apply the principals, standards and objectives set forth and contained in all applicable regulations and plans adopted.

**§1617. New structures, fills, excavations or other uses prohibited without written authorization – Violations.**

A. No new structure, fill, excavation or other floodplain use that is unreasonably hazardous to the public or that unduly restricts the capacity of the floodway to carry and discharge the regional flood shall

be permitted without securing written authorization from the floodplain board in which the floodplain is located.

B. Any person convicted of violating the provisions of this section shall be guilty of a misdemeanor.

**§1618. Application of Act.**

The provisions of this act shall not apply to those counties, municipalities or other agencies who are in compliance with federal floodplain regulations and are participating in the program prior to the effective date of this act.

**§1619.** Repealed by Laws 1989, c. 154, §2, operative July 1, 1989.

**HB 2284**  
**Changes To**  
**The Oklahoma Floodplain Management Act**

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HB 2284 was signed into law on April 14, 2004.

This act amended Title 82 O.S. 2001, Section 1085.2, "In addition to any and all other authority conferred upon it by law, the Oklahoma Water Resources Board shall also have authority: ..."

**Item 20. To accredit persons having requisite knowledge in floodplain management and in minimization and prevention of flood hazards and losses.**

Also, 82 O.S. 2001, Section 1603, is amended to read as follows:

Definition 6 added - **6. "Floodplain administrator" means a person accredited by the Board and designated by a floodplain board, to administrator and implement laws and regulations relating to the management of floodplains;**

And renumbered the other definitions.

Section 1604 was amended to read and added item 7- **7. The hiring and employment of an accredited floodplain administrator.**

Also, a new section of law to be codified in the Oklahoma Statutes as Section 1620 of Title 82:

- A. Each floodplain board shall designate a person to serve as the floodplain administrator to administer and implement floodplain regulations.**
- B. Beginning November 1, 2004, each floodplain administrator shall be accredited by the Oklahoma Water Resources Board.**

Also, another new section of law to be codified is added:

- A. In determining accreditation standards for floodplain administrators, the Oklahoma Water Resources Board may consider the knowledge, experiences, skills and training of an applicant in floodplain management and in minimization and prevention of flood hazards and losses. The accreditation standards may include:**
  - 1. Passage of an examination;**
  - 2. Completion of approved training; or**
  - 3. Certification by a nationally recognized floodplain management organization.**
- B. Continued training may be required for continued accreditation of a floodplain administrator.**

**Section 6. This act shall become effective January 1, 2005.**

For more information, please contact Mr. Mike Mathis, Chief of Planning & Management at (405) 530-8800.

APPENDIX D

OKLAHOMA WATER RESOURCES BOARD  
RULES

**CHAPTER 55.  
DEVELOPMENT ON STATE OWNED  
OR OPERATED PROPERTY WITHIN  
FLOODPLAINS**

with amendments effective July 1, 1999

Note: This document contains only an unofficial version of Chapter 55 of the Oklahoma Water Resources Board's rules. This document was prepared by Oklahoma Water Resources Board staff as a convenience to the reader, and is not a copy of any portion of the official Title 785 of the Oklahoma Administrative Code. State law requires that the Secretary of State's office provide permission to copy the official code. The rules in the official Oklahoma Administrative Code control if there are any discrepancies between the Code and this document.

**CHAPTER 55.**  
**DEVELOPMENT ON STATE OWNED OR OPERATED**  
**PROPERTY WITHIN FLOODPLAINS**  
with amendments effective July 1, 1999

Subchapter	Section
1. General Provisions .....	785:55-1-1
3. Development .....	785:55-3-1
5. Variances and Exemptions .....	785:55-5-1

[Authority: 82 O.S., Section 1085.2 and 1601 et seq.]

**SUBCHAPTER 1.**  
**GENERAL PROVISIONS**

Section
785:55-1-1. Authority and purpose
785:55-1-2. Definitions
785:55-1-3. Administrative provisions
785:55-1-4. Permits

**785:55-1-1. Authority and purpose**

(a) **Authority.** These rules have been promulgated and adopted pursuant to and as authorized by 82 O.S. 1981, §§1601 et seq., as amended.

(b) **Purpose of rules.** The purpose of these rules and regulations is to set forth the minimum criteria for development of state owned or state operated property within floodplains and to comply with the requirements necessary to establish eligibility and maintain participation in the National Flood Insurance Program, as set forth in the Federal Emergency Management Agency regulations at 44 C.F.R., Part 60. These criteria and requirements are to:

- (1) Protect human life and health;
- (2) Minimize expenditure of public money for costly flood control projects;
- (3) Minimize the need for rescue and relief efforts associated with flooding and generally under taken at the expense of the general public;
- (4) Minimize prolonged business interruptions;
- (5) Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;
- (6) Help maintain a stable tax base by providing for the sound use and development of flood-prone areas in such a manner as to minimize future flood losses;

- (7) Insure that potential buyers are notified that property is in a flood area; and
- (8) Allow for the procurement of flood insurance.

(c) **Coordination role of Board.** The Board acts as state coordinator of the National Flood Insurance Program (NFIP) for the Federal Emergency Management Agency (FEMA), and in that role provides guidance and information to local communities' floodplain boards about the NFIP and FEMA regulations promulgated thereunder. The Board also disseminates copies of floodplain maps which show the 100-year floodplain, upon payment of fees as set forth in Chapter 5 of this Title.

[Source: Amended at 10 Ok Reg 3369, eff 6-25-93; amended at 14 Ok Reg 2808, eff 7-1-97]

**785:55-1-2. Definitions**

The following words and terms, when used in this Chapter, shall have the following meaning, unless the context clearly indicates otherwise:

**"Base flood"** means the flood having a one percent chance of being equalled or exceeded in any given year, also known as the regulatory flood.

**"Base flood elevation"** means the elevation above mean sea level for the base flood.

**"Basement"** means any area of the building having its floor subgrade (below ground level) on all sides.

**"Base flood discharge"** means the peak volume of water passing through a cross-section of a watercourse expressed in cubic feet per second.

**"Board"** means the Oklahoma Water Resources Board or any employee or agent or staff member thereof.

**"Certificate"** means a letter or statement signed and sealed by a Registered Professional Engineer stating that certain condition or requirements have been met.

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"CFR" means Code of Federal Regulations.

"Development" means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

"Development permit" means specific written authorization from the Board to allow development within a floodplain in accordance with the applicable regulations governing development within floodplains.

"Dwelling unit" means a place of residence which may be a single residence or a multiple-residence building [82:1603(3)] and includes mobile homes.

"Elevation (MSL)" means elevation in feet in relation to mean sea level.

"Existing structures" means structures constructed prior to May 13, 1980.

"Existing manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community.

"Expansion to an existing manufactured home park or subdivision" means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

"Farm building" means a walled and roofed structure which is not intended for human habitation or commercial use but which may be used for agricultural purposes including but not limited to the storage of crops, farm machinery, or livestock.

"Farm pond" means a reservoir impounding less than 50 acre-feet of water with a dam less than 25 feet in height and a drainage area less than one square mile used for stock water and domestic use.

"FEMA" means Federal Emergency Management Agency.

"Flood" means general and temporary conditions of partial or complete inundation of normally dry land areas from the overflow of lakes, streams, rivers or any other inland waters [82:1603(4)] or watercourses.

"Flooding" means "flood".

"Floodplain" means the land adjacent to a body of water which has been or may be covered by flooding, including, but not limited to, the one-hundred year flood. [82:1603(5)]

"Floodway" means the channel of a stream, watercourse or body of water and those portions of floodplains which are reasonably required to carry and discharge the floodwater or floodflow of any river or stream. [82:1603(8)]

"Flood boundary floodway map" means an official map of a community, issued by the Federal Emergency Management Agency, where the boundaries of the regulatory floodway have been identified.

"Flood carrying capacity" means the ability of a stream or water course to pass the base flood.

"Flood hazard boundary map (FHBM)" means an official map of a community, issued by the Federal Emergency Management Agency, where the boundaries of the flood area having special hazards have been designated as flood zones.

"Flood insurance rate map (FIRM)" means an official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

"Flood insurance study" means an official report provided by FEMA to communities regarding flood profiles, water surface elevations of the base flood, as well as the Flood Boundary-Floodway Map.

"Floodplain management" means the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works and floodplain management regulations.

"Flood proofing" means any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

**"Functionally dependent use"** means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

**"Highest adjacent grade"** means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

**"Historic structure"** means any structure that is:

(A) Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

(B) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;

(C) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or

(D) Individually listed on local inventory of historic places in communities with historic preservation programs that have been certified either:

(i) By an approved state program as determined by the Secretary of the Interior or;

(ii) Directly by the Secretary of the Interior in states without approved programs.

**"Levee"** means a man-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding.

**"Lowest floor"** means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking or of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided

that such enclosure is not built so as to render the structure in violation of the applicable nonelevation design requirements of 44 CFR Section 60.3, FEMA regulations.

**"Manufactured home"** means a structure transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a "recreational vehicle".

**"Manufactured home park or subdivision"** means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

**"Mean sea level"** means; for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a community's Flood Insurance Rate Map are referenced.

**"Natural drainage"** means the drainage basin without man-made alterations.

**"New construction"** means for floodplain management purposes, structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

**"New manufactured home park or subdivision"** means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of floodplain management regulations adopted by a community.

**"Non-residential structure"** means a building not used for one or more families.

**"One hundred year flood"** means the base flood.

**"Permit"**, for purposes of Chapter 55 means specific written authorization by the Board and consists of the following:

(A) Building permits which are issued for the construction or substantial improvement of a structure.

(B) Construction permits which are issued for any man-made alteration, construction or development which may have an adverse

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effect on the regulatory floodplain.

**"Program"** means the overall National Flood Insurance Program authorized by the National Flood Insurance Act of 1968 (42 U.S.C. 4001-4128) as amended [82:1603(10)], and the Oklahoma Floodplain Management Act (82 O.S. 1981, §§1601 through 1619).

**"Recreational vehicle"** means a vehicle which is:

- (A) Built on a single chassis;
- (B) 400 square feet or less when measured at the largest horizontal projections;
- (C) Designed to be self-propelled or permanently towable by a light duty truck; and
- (D) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

**"Regulatory flood"** means the one-hundred-year flood, i.e., the flood having a one percent (1%) chance of occurrence in any given one year period, also known as the base flood.

**"Regulatory flood fringe"** means the area of the regulatory floodplain which may be developed by equal encroachment to the extent that the regulatory floodway is preserved and natural conditions allowed.

**"Regulatory floodplain"** means the area susceptible to being covered by the regulatory flood.

**"Regulatory floodway"** means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

**"Riverine"** means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

**"Start of construction"** means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days of the permit date, unless the Board extends such time period for good cause shown. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent

construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footing, piers, or foundations of the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

**"State floodplain board"** means the Oklahoma Water Resources Board whose members also serve as members of the State Floodplain Board

**"State owned property"** means real property owned or leased in whole or in part or operated by any agency of the State of Oklahoma, and includes but is not limited to lands held in trust by the Commissioners of Land Office. It shall be presumed that development or substantial improvement on rights of way, licenses, easements, or other interests less than fee simple shall be considered to be development or substantial improvement on state owned property.

**"Structure"** means any walled and roofed edifice or building including but not limited to manufactured homes and gas or liquid storage tanks.

**"Substantial improvement"** means reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:

(A) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions or

(B) Any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure."



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"**Variance**" means a grant of relief to a person from the requirement of these rules. A variance, therefore, permits construction or development in a manner otherwise prohibited by these rules.

"**Watercourse**" means the channel or area that conveys a flow of water.

"**Water surface elevation**" means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, (or other datum, where specified) of floods of various magnitudes and frequencies in the floodplains of riverine areas.

[Source: Amended at 10 Ok Reg 3369, eff 6-25-93; Amended at 11 Ok Reg 3023, eff 6-13-94; Amended at 14 Ok Reg 2808, eff 7-1-97]

**785:55-1-3. Administrative provisions**

**(a) General prohibition assumption and methods of development.** A general prohibition assumption and methods of development are as follows:

(1) In making determinations hereunder, the Board shall, to the extent possible, prohibit damaging or potentially damaging increases in flood elevation or velocity caused by alterations in or encroachments upon the regulatory floodplain of state owned or operated property.

(2) All calculations of damaging or potentially damaging increases in flood elevation or velocity shall assume a reasonably equal degree of encroachment of existing and potential uses in the floodplain and shall take into account the cumulative impact of such encroachment.

(3) The Board shall consider acceptable methods of developing floodplain areas, including but not limited to the following to prevent significantly increased flood elevations and velocities and to minimize damages to floodplain uses:

(A) Location of structures, landfills or other development outside of the regulatory floodplain, thus preserving the floodplain for uses which have no significant effect on the storage and conveyance of floodwaters.

(B) Location of limited development in the floodplain in accordance with Subchapters 3 and 5 of this Chapter so that development will be in itself safe from flood damage and will preserve the base

flood elevation.

(b) **Rules as minimum criteria.** The provisions of these rules shall be construed to be minimum requirements to decrease and eliminate human-induced changes to the floodplain which may increase flooding. Natural and human-induced conditions may still cause floods to occur within and outside the floodplain in any event. The degree of flood protection required herein is based on engineering and scientific methods reflecting the current state of the art.

(c) **Administration.** The Board, acting in its official capacity and/or by and through its Executive Director and Board staff, shall administer and enforce these rules.

(d) **Liabilities not imposed on Board.** The rules of this Chapter shall not be deemed nor construed to create any liability on the part of the Board or any officer or employee thereof for any flood damages which might be alleged or claimed to have occurred or sustained as a result of reliance on these rules or any administrative decision lawfully made thereunder.

(e) **Prior use.** Any state owned or operated buildings or uses within a regulatory floodplain that existed prior to May 13, 1980, which do not meet the minimum standards set forth herein may continue. However, unless brought into compliance with the minimum standards set forth herein, such prior uses may not be substantially improved, altered or enlarged.

(f) **Use of maps prepared by FEMA.** The Board will utilize FHBMs, FBFMs, and FIRMs where appropriate in the administration of these rules.

(g) **Field surveys.** All required field surveys shall be conducted under the supervision of a Registered Professional Engineer or Registered Land Surveyor and shall be so certified.

(h) **Open records.** The Board shall maintain and hold open for public inspection all records submitted in accordance with this Chapter of these rules.

[Source: Amended at 14 Ok Reg 2808, eff 7-1-97]

**785:55-1-4. Permits**

(a) **Development permits required.** A development permit shall be required for all proposed development or substantial improvement located on state owned or operated property within the regulatory floodplain identified by the Board.

(1) Permits will be required for any

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proposed development or substantial improvement including the placement of manufactured homes within the regulatory floodplain.

(2) Development permits will be issued after the Board determines that the proposed development in the regulatory floodplain is not a danger to persons or property. The Board shall give notice of proposed development permit applications to counties and municipalities participating in the National Flood Insurance Program at least thirty (30) days before granting the permit to undertake such development.

(b) **Permit forms.** Permit application forms provided by the Board shall be used in applying for a permit. The application shall be submitted in duplicate and shall provide sufficient information to determine the effect of the proposed development on the conveyance of flood waters. If the Board deems necessary and so notifies the applicant in writing, one or more sets of plans and specifications may be required. The Board may enter into Memorandums of Agreement with applicants in accordance with this Chapter.

(c) **Board action.** The requirements imposed by these rules shall govern the Board in making development permit approval decisions. The Board shall exercise such discretion in its application of these rules as may be necessary to produce reasonable decisions based upon examination by and recommendation of the Board's staff.

(d) **Permit conditions.** When necessary to accomplish the purposes of these rules, special conditions may be included in the permit. Such conditions may include but are not limited to as-built certifications, maintenance guarantees, floodproofing requirements, fill, dike or levee requirements, control of the design and location of structures and other specifications related to the accomplishment of the purposes of this Chapter of these rules. When as-built certification is included as a special condition, the required key elevations or critical dimensions will be specifically identified. One or more sets of plans and specifications prepared by a Registered Professional Engineer may also be required under a special condition.

(e) **Bridges and roads.** All applications for development permits for bridges and roads shall include a certification signed and sealed by a Registered Professional Engineer that all

applicable requirements of these rules have been met.

(f) **Riverine development.** In riverine situations, the Board shall notify adjacent communities at least thirty (30) days prior to granting a permit which would result in the alteration or relocation of a watercourse and submit copies of such notifications to the Federal Emergency Management Agency.

(g) **Permit expiration.** Construction as authorized by a development permit shall begin within one (1) year from the date of issuance of the permit, unless extended by the Board. For consideration of an extension, the permittee shall submit a written request for extension, setting forth the reasons for the request. Such request must be filed before the initial one-year period shall run, unless approved by the Board. Request to further extend shall be filed prior to the running of the extension.

[Source: Amended at 10 Ok Reg 3369, eff 6-25-93; Amended at 11 Ok Reg 3023, 6-13-94; Amended at 16 Ok Reg 2711-2712, eff 7-1-99]

### SUBCHAPTER 3. DEVELOPMENT

#### Section

- 785:55-3-1. Development without base flood elevations determined or regulatory floodways delineated
- 785:55-3-2. Development in the regulatory floodplain with base flood elevations determined
- 785:55-3-3. Development in delineated regulatory floodways
- 785:55-3-4. General requirements for development in any regulatory floodway

#### **785:55-3-1. Development without base flood elevations determined or regulatory floodways delineated**

(a) **Applicability of section.** If a proposed development site is in a regulatory floodplain where no base flood elevations have been determined and no regulatory floodways have been delineated, the criteria and requirements of this section shall apply. Also, in such cases, all proposed development and substantial improvements shall:

- (1) Be designed (or modified) and adequately anchored to prevent flotation,

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collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;

(2) Be constructed with material resistant to flood damage;

(3) Be constructed by methods and practices that minimize flood damages; and

(4) Be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating with the components during conditions of flooding.

(b) **Other permits.** The applicant for a proposed development permit shall assure that all necessary permits have been obtained for which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334, as amended.

(c) **Subdivision development in regulatory floodplains.** Subdivision proposals and other proposed new development, including manufactured home parks, shall meet the requirements of these rules. If a subdivision proposal or other proposed new development is in a regulatory floodplain, any such proposals shall be reviewed to assure that:

(1) All such proposals are consistent with the need to minimize flood damage within the regulatory floodplain;

(2) All public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage; and

(3) Adequate drainage is provided to reduce exposure to flood hazards.

(d) **Water systems in regulatory floodplains.** New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems.

(e) **Sanitary sewers within regulatory floodplains.** Sanitary sewers within regulatory floodplains shall be subject to the following:

(1) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters; and

(2) Onsite waste disposal systems shall be located to avoid impairment to the system or contamination from the systems during

flooding.

(f) **Development prior to delineation of regulatory floodway.** Until a regulatory floodway is delineated, no new construction, substantial improvements, or other development (including fill) shall be permitted within a regulatory floodplain, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development will not increase the water surface elevation of the base flood more than one foot at any point within the community.

(g) **Base flood elevation data.** All new subdivision proposals and other proposed developments (including proposals for manufactured home parks) greater than 50 lots or 5 acres, whichever is the lesser, shall include within such proposals base flood elevation data. [Source: Amended at 10 Ok Reg 3369, eff 6-25-93]

**785:55-3-2. Development in the regulatory floodplain with base flood elevations determined**

(a) **Applicability of section.** In addition to the criteria and requirements set forth in 785:55-3-1 and 785:55-3-4 herein, all developments within the regulatory floodplain where base flood elevations have been determined shall comply with the criteria and requirements of this section.

(b) **Use of base flood elevations.** The Board shall obtain, review and utilize any base flood elevation and floodway data available from a federal, state, or other source, including data developed pursuant to 785:55-3-1(g), as criteria for requiring that new construction, substantial improvements, or other development in the regulatory floodplain meets the requirements of these Rules as applicable.

(c) **Floor and floodproof elevations.** The applicant shall obtain and provide the Board with the elevation (in relation to mean sea level) of the lowest floor (including basement) of all new and substantially improved structures. If the structure has been floodproofed in accordance with (i)(2) and (j) of this section, the applicant shall obtain and provide the Board with the elevation (in relation to mean sea level) to which the structure was floodproofed.

(d) **Flood carrying capacity of altered watercourse.** The Board shall assure that the flood carrying capacity within the altered or

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relocated portion of any watercourse is maintained.

(e) **Manufactured home installation in general.** All manufactured homes which are to be placed within a regulatory floodplain shall be installed using methods and practices which minimize flood damage. For the purposes of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not to be limited to, use of over-the-top frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.

(f) **Manufactured home with permanent foundations.** Manufactured homes that are placed or substantially improved on sites within a regulatory floodplain shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated at least one (1) foot above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement where the manufactured home is located as follows:

- (1) Outside of a manufactured home park or subdivision.
- (2) In a new manufactured home park or subdivision.
- (3) In an expansion to an existing manufactured home park or subdivision; or
- (4) In an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as the result of a flood.

(g) **Manufactured homes without permanent foundations.** Manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision within regulatory floodplains that are not subject to the provisions of (f) of this section shall be elevated so that either:

- (1) The lowest floor of the manufactured home is at or above the base flood elevation; or
- (2) The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength, that are no less than 36 inches in height above grade and be securely anchored to an adequately anchored foundation system

to resist flotation, collapse and lateral movement.

(h) **Other residential structures.** All new construction and substantial improvements of residential structures within the regulatory floodplain shall have the lowest floor (including basement) elevated at least one (1) foot above the base flood elevation.

(i) **Non-residential structures.** All new construction and substantial improvements of non-residential structures within regulatory floodplains shall:

- (1) Have the lowest floor (including basement) elevated at or above the base flood elevation; or
- (2) Together with attendant utility and sanitary facilities, be designed so that below the base flood level the structure is watertight with wall substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

(j) **Non-residential floodproofing.** Where a non-residential structure is intended to be made watertight below the base flood elevation, the following shall apply:

(1) A Registered Professional Engineer or Architect shall develop and/or review structural design, specifications, and plans for the construction, and shall certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the applicable provisions of (i)(2) of this section; and

(2) A record of such certificates which includes the specific elevation (in relation to mean sea level) to which such structures are floodproofed shall be maintained by the Board.

(3) Floodproofing for non-residential structures will be required only when the other aforementioned techniques for flood protection are impossible or impractical. Floodproofing measures shall be designed consistent with the base flood elevation for the particular area, flood velocities, durations, rate of rise, hydrostatic and hydrodynamic forces, and other factors associated with the regulatory flood. The Board may require that the applicant submit a plan or document certified by a Registered Professional

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Engineer or Licensed Architect that the floodproofing measures are consistent with the base flood elevation and associated flood factors for the particular area. Floodproofing measures which may be required include but are not limited to the following:

- (A) Construction with materials and utility equipment resistant to flood damage.
  - (B) Anchorage to resist flotation and lateral movement.
  - (C) Installation of watertight doors, bulkheads and shutters or similar methods of construction.
  - (D) Reinforcement of walls to resist water pressures.
  - (E) Use of paints, caulks, or other substances to reduce seepage of water through walls.
  - (F) Addition of mass or weight to structures to resist flotation.
  - (G) Installation of pumps to lower water levels in structures.
  - (H) Construction of water supply and waste treatment systems so as to prevent the entrance of floodwaters.
  - (I) Pumping facilities or comparable practices for subsurface drainage systems for buildings, to relieve external foundation wall and basement flood pressures.
  - (J) Construction to resist rupture or collapse caused by water pressure or floating debris.
  - (K) Installation of valves or controls on sanitary and storm drains which will permit the drains to be closed to prevent backup of sewage and storm waters into the buildings or structures. Gravity draining of basements may be eliminated by mechanical devices.
  - (L) Location of all electrical equipment, circuits, and installed electrical appliances to assure they are above the base flood elevation.
- (k) **Enclosed areas below lowest floor.** For all new construction and substantial improvements:
- (1) Fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the

entry and exit of floodwaters.

(2) Designs for meeting this requirement must either be certified by a Registered Professional Engineer or Architect or meet or exceed the following minimum criteria:

- (A) A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
- (B) The bottom of all openings shall be no higher than one foot above grade.
- (C) Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

(l) **Recreational vehicles.** Recreational vehicles placed on sites within regulatory floodplains shall:

- (1) Be on the site for fewer than 180 consecutive days.
- (2) Be fully licensed and ready for highway use. A recreational vehicle will be considered ready for highway use if it is on its wheels or jacking system, if attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or
- (3) Meet the permit requirements of 785:55-1-4 and the elevation and anchoring requirements for "manufactured homes" in (f) of this section.

[Source: Amended at 10 Ok Reg 3369, eff 6-25-93; Amended at 14 Ok Reg 2808, eff 7-1-97]

**785:55-3-3. Development in delineated regulatory floodways**

(a) **Development where regulatory floodway delineated.** In areas in which a regulatory floodway has been delineated, the following shall apply to development in such delineated regulatory floodways in addition to those in 785:55-3-1, 785:55-3-2 and 785:55-3-4.

(b) **Regulatory floodway designation.** The Board shall designate regulatory floodways based on the principle that the area chosen for the regulatory floodway must be designed to carry the waters of the base flood, without increasing the water surface elevation of that flood more than one foot at any point.

(c) **Development or encroachments within regulatory floodway.** Encroachments, including

fill, new construction, substantial improvements, and other development within the designated regulatory floodway are prohibited unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge.

(d) **Increase in base flood elevations.** Encroachments within the designated regulatory floodway that would result in an increase in the base flood elevation are prohibited unless the applicant first makes application to FEMA and receives a conditional letter of map revision or floodway revision.

(e) **Modifications or additions.** For modification or additions, the following shall apply:

(1) Non-substantial improvements to existing structures which are located in a regulatory floodway or are vulnerable to flood damage may be allowed provided:

(A) The new construction does not increase flood damage potential of the structure and does not obstruct flood flows.

(B) Floodproofing of existing structures is allowed and encouraged, but must comply with these rules.

(2) The Board shall prohibit the repair or replacement of insured substantially damaged structures which are located in a regulatory floodway delineated by the Board. Destroyed structures may not be rebuilt without a permit issued by the Board in such a regulatory floodway. Where such insured perils are prohibited by regulation, the loss becomes a constructive total loss.

[Source: Amended at 10 Ok Reg 3369, eff 6-25-93; Amended at 14 Ok Reg 2808, eff 7-1-97]

**785:55-3-4. General requirements for development in any regulatory floodplain**

(a) **Applicability of section.** The provisions of this section shall apply to development within any regulatory floodplain, regardless of whether base flood elevations have been determined or regulatory floodways have been delineated.

(b) **Temporary fills.** Temporary fills, such as cofferdams or fills used during construction, may be used upon assumption of full responsibility by the sponsoring agency.

(c) **Roadways, bridges and public utilities within the regulatory floodplain.** For roadways, bridges and public utilities within the regulatory floodplain, the following shall apply:

(1) When failure or interruption of service of roadways, bridges, or public utilities would endanger public health or safety, such roadways, bridges, or public utilities shall be protected to the base flood elevation or to the elevation of the flood of record, whichever is greater. In other instances where only economic losses are threatened, protection shall be provided to the extent practical. A degree of protection less than the base flood elevation may be justified even in cases where overtopping could occur.

(2) The following provisions shall apply to all applicable construction:

(A) Buried crossings such as pipelines shall be maintained at least three (3) feet below the channel bottom.

(B) Modification, addition and replacement of existing roadways, bridges and public utilities shall be allowed providing adequate provision is made for the backwater effects of new flow obstructions in accordance with 785:55-3-1, 785:55-3-2, and 785:55-3-3.

(d) **Storage of materials.** Materials that are buoyant, flammable, explosive, or could be injurious to human, animal or plant life shall be stored above the base flood elevation, floodproofed or protected by structural measures consistent with the standards set forth herein. Storage of materials likely to cause water pollution, in the event of flooding, is prohibited unless adequate safeguards are provided.

(e) **Emergency repairs and replacements.** Emergency repairs and replacements which will not threaten public health or safety may be built or constructed without a permit. If the construction would normally require a permit, application for such permit must be made as soon as practical. Construction must be removed if it does not conform to the rules in this Chapter.

(f) **Government projects.** Government projects for flood damage control or other water management purposes otherwise authorized by law shall be allowed under the following conditions:

(1) The project does not increase flood damage potential.

(2) Any increase in flooding above, below or

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through the project area is mitigated by project design.

(3) Plans, specifications and provisions for securing required land rights have been approved and a development permit issued by the Board; and

(4) A sponsoring agency is authorized and has accepted full responsibility for operations, maintenance and repair of the project.

(g) **Dikes, levees, floodwalls and similar structures.** For dikes, levees, floodwalls and similar structures, the following shall apply:

(1) Protection afforded by existing dikes, levees, floodwalls and similar structures will be evaluated during delineation of the regulatory floodplain. If the existing levee provides protection to the base flood elevation, to include at least 3 feet of freeboard, the boundary of the regulatory floodplain will be located channelward of the levee. Regulatory floodplains will then be delineated along interior streams, based on their regulatory flood discharge. If the existing levee does not provide protection to the base flood elevation, the regulatory floodplain will be delineated as if the levee does not exist.

(2) Construction of new levees may be allowed as a government project as provided in (f) of this section. Protection must be provided equivalent to that provided by filling to the base flood elevation.

(h) **Reservoir or channel improvements.** The regulatory floodplain shall not be changed on the basis of proposed reservoir or channel improvements. The regulatory floodplain may be changed after the reservoir or channel improvements are constructed and operative. All requests to change the regulatory floodplain boundaries must be submitted through the Board to FEMA for approval.

(i) **Error in delineation of the regulatory floodplain.** The delineation of the regulatory floodplain shall not be changed unless it has been shown that the original delineation is in error or there are changed conditions which modify the original computations. Any person contesting the correctness of the delineation shall be given reasonable opportunity to submit his own technical evidence. Such evidence along with a request to change shall be forwarded to FEMA through the Board for consideration.

(j) **Methods for providing flood protection.** The following are nonexclusive acceptable methods for providing flood protection:

(1) Permanent fill may be allowed as a means of providing safe construction sites, provided:

(A) The fill, except in exceptional circumstances, is contiguous with the boundary of the regulatory floodplain and shaped, in plan, so as not to create adverse velocities or current patterns.

(B) The surface of the fill is above the regulatory flood elevation.

(C) The channelward face of the fill shall be protected against erosion. If protected by vegetative cover, slopes shall be no steeper than three (3) horizontal to one (1) vertical. Steeper slopes shall be protected by riprap. A vertical bulkhead may be used if adequately founded and protected against scour.

(D) Fill shall be of suitable material and so compacted to provide adequate support under saturated conditions.

(E) Adequate provision is made for conducting drainage across or through the fill.

(2) Elevating on adequately anchored pilings or columns is allowed provided:

(A) The lowest portion of the structural members of the lowest floor (excluding the pilings and columns) is elevated one-foot above the base flood elevation and securely anchored to such piles or columns.

(B) The elevating members are designed to withstand saturated conditions, hydrostatic pressure, and to minimize scouring.

(C) The size, shape, spacing and alignment of elevating members are selected to minimize turbulence and deflection of current patterns, and to facilitate easy passage of debris.

(D) Major access and utility services are elevated at least one (1) foot above the base flood elevation.

(k) **Channel relocation and modification.** Channel relocation and modification may be allowed provided the upstream and downstream flood potential is not altered.

(l) **New storm cellars.** For new storm cellars,

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the following shall apply:

(1) New storm cellars may be built below the flood elevation provided that such new storm cellars are:

- (A) Limited to nonhabitable uses,
- (B) Designed so that all electrical, heating and other mechanical equipment is above the regulatory flood protection level.
- (C) Designed so that hydrostatic pressure and uplift forces are unable to dislodge structure from the ground and the integrity of the storm cellar is preserved during the flooding.

(2) Compliance with requirements of (1)(A) through (C) of this subsection must be certified by a Registered Professional Engineer or Licensed Architect.

[Source: Amended at 10 Ok Reg 3369, eff 6-25-93; Amended at 14 Ok Reg 2808, eff 7-1-97]

**SUBCHAPTER 5.  
VARIANCES AND EXEMPTIONS  
ON STATE OWNED OR OPERATED  
PROPERTY WITHIN THE FLOODPLAINS**

Section

- 785:55-5-1. Variances
- 785:55-5-2. Exemptions

**785:55-5-1. Variances**

(a) **State law applicable.** The Board shall hear and render judgment on request for variances from the requirements of these regulations in accordance with Title 82 O.S. 1981, Section 1615.

(b) **Board discretion, hearing, term of variance.** The Board shall exercise wide discretion in weighing the equities involved and the advantages and disadvantages to the applicant and to the public at large when determined whether the variance shall be granted. The Board shall conduct a hearing which complies with all requirements of the Floodplain Management Act, Title 82 O.S. 1981, Section 1610(B), for public notice. In no case shall variances be effective for a period longer than twenty (20) years.

(c) **Variances for historic structures.** Variances may be granted for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places of the State Inventory of Historic Places.

(d) **Conditions on variances.** Upon consideration of the factors noted above and the

intent of these rules, the Board may attach such conditions to the granting of variances as it deems necessary to further the purposes and objectives of this Chapter of the rules.

(e) **Requirements for granting variances.** The following prerequisites for granting variances shall apply:

(1) Variances shall not be granted within any delineated regulatory floodway if any increase in flood levels during the base flood discharge would result. Notification of the denial of the requested variance shall be given to the applicant and shall be maintained with a record of all variance actions as required in 785:55-1-4(f).

(2) Variances for uses which do not satisfy the requirements of the Oklahoma Floodplain Management Act shall only be granted upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief and meets the following criteria:

- (A) Showing a good and sufficient cause.
- (B) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws, ordinances or regulations.

(3) Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with the lowest floor elevation below the base flood elevation, and that the cost of flood insurance will be commensurate with

the increased risk resulting from the reduced lowest floor elevation, and will result in increased flood insurance premium rates up to amounts as high as \$25.00 for each \$100.00 of coverage. Applicants shall also be notified that construction below the base flood level increases risks to life and property.

(4) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

(f) **Variances for functionally dependent use.** Variances may be granted for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that:



(1) The criteria outlined in this subsection and subsection (h) are met, and

(2) The structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

(g) **Justification for variance in relation to lot size.** Variances may be granted for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing the requirements of this Section are met. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.

(h) **Variance prohibited if flood hazard.** No variance shall be granted where the effect of the variance will be to allow the continuance or to establish a condition which unreasonably creates flooding hazards.

(i) **Variances do not relieve liability.** Variances granted shall not be construed as to relieve any person who receives it from any liability imposed by the laws of this state.

[Source: Amended at 10 Ok Reg 3369, eff 6-25-93]

#### 785:55-5-2. Exemptions

(a) **Agricultural uses.** These floodplain management rules in this Chapter shall not apply to usual agricultural purposes, the planting of crops, or the construction of farm ponds, provided that such activities do not pose a threat to public health, safety, and welfare.

(b) **Recreational or open-space use of land.** Any use of land in the regulatory floodplain for recreational or open-space purposes, not otherwise specifically addressed by this Chapter of the rules is exempt provided that such use does not alter the flood carrying capacity or the regulatory floodplain. Such uses may include but are not limited to non-enclosed boat docks, fishing docks and boat houses; floating stores and floating marinas which are walled and roofed; non-enclosed picnic shelters; anchored picnic tables; boat ramps; and unimproved parking lots.

[Source: Amended at 10 Ok Reg 3369, eff 6-25-93; Amended at 14 Ok Reg 2808, eff 7-1-97; Amended at 15 Ok Reg 2450, eff 6-11-98]