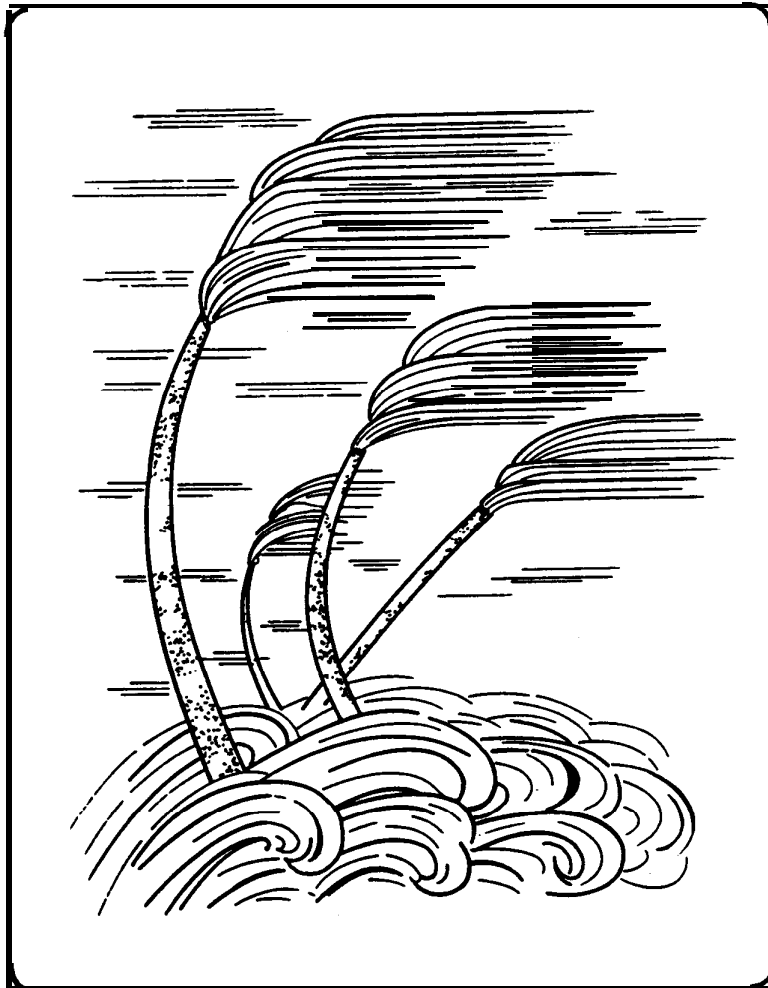


July 1990

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Mitigation of Hurricane Losses: Federal, State and Local Programs



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MITIGATION OF HURRICANE LOSSES: FEDERAL, STATE AND LOCAL PROGRAMS

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Preface

As development increases in coastal areas, Florida faces a growing threat of natural disasters from hurricanes. The threat is largely created by humans. Hurricanes are a natural and necessary part of our subtropical environment that cannot be predicted, much less controlled. Hurricanes must be expected and accommodated to avoid disasters.

Today there are numerous local, state and federal programs with improved standards for the siting, design and construction of new development. If properly implemented and enforced, these programs will do much to mitigate the risks of hurricane damage in new development. A more difficult problem is what to do about existing development that does not meet newer standards. The substantial destruction of such structures creates an opportunity to reduce the risk of future losses. Although the issue of post-disaster mitigation is addressed in many current programs, the greatest opportunity for implementing effective strategies is at the local level.

In part I of this report, the nature of the hurricane threat and the opportunities for mitigation of hurricane damage are assessed. Parts II and III analyze the numerous federal and state programs that affect hurricane mitigation. In Part IV, several local approaches to hurricane disaster mitigation in Florida are described. Finally, Part V concludes with recommendations for local governments on hurricane mitigation. A subsequent study will develop a model ordinance and supporting legal analysis.

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I. INTRODUCTION

A. HURRICANE HAZARDS

As a peninsula jutting into warm tropical seas, Florida is particularly vulnerable to hurricanes and tropical storms.

Fifty-one hurricanes struck Florida between 1900 and 1982.¹

Twenty-one of those were classified as major storms, with winds in excess of 110 miles per hour (mph) and storm surge of at least nine feet.² The probability of hurricanes is thus high. Dade County, for example, can expect to experience a hurricane, on average, every 2.1 years and a major hurricane every 3.7 **years**.³

The destructive potential of a hurricane comes from high winds, storm surge and heavy rains. The Saffir/Simpson scale classifies hurricanes on a scale of 1 to 5, based on maximum wind speed.⁴ When a tropical storm achieves winds in excess of 73 mph, it is rated as a class 1 hurricane, capable of causing relatively minor damage and storm surge of about four feet. A storm with winds over 155 mph is a class 5 hurricane, in which

¹ National Weather Service, The Deadliest, Costliest, and Most Intense States Hurricanes of This Century (and other Frequently Requested Hurricane Facts), NOAA Technical Memorandum NWS NHC (Updated January 1983, Fourth Printing June 1985), at 12, table 7.

² Id.

³ South Florida Regional Planning Council, South Florida Region Hurricane Loss Study, table 5, p. 25 (February 1987).

⁴ Id., 117-118; National Weather Service, The Deadliest, Costliest, and Most Intense States Hurricanes of This Century (and other Frequently Requested Hurricane Facts), NOAA Technical Memorandum NWS NHC (Updated January 1983, Fourth Printing June 1985), at 1, n. 1.

catastrophic damage levels are likely, with a storm surge over 18 feet above normal.

Winds are strongest in the wall of the hurricane surrounding the "eye," and in the leading right-hand quadrant of the storm system.⁵ Hurricanes often spawn tornadoes with much stronger winds. Hurricane force winds have the capability of removing roofs and siding from structures, and producing wind-driven missiles from loose objects that may destroy windows, allowing rain and storm surge to penetrate the structure. Lighter structures and mobile homes may be literally blown off their foundations.

The storm surge created by a hurricane is the most destructive feature. The low pressure created within a hurricane system pulls up a "dome" of water. High winds accentuate the rise in sea level, and the effect of enormous breaking waves can push the surge far inland with potentially devastating effects on coastal areas.⁶ The shape of the ocean floor near the coast, the wind speed, the angle at which a hurricane strikes the coast, and the forward speed of the hurricane all contribute to the level of storm surge experienced in any one location.⁷

⁵ McElyea, Brower and Godschalk, Before the Storm: Managing Development to Reduce Hurricane Damages, at 2-6, Ocean and Coastal Policy Program, Center for Urban and Regional Studies, University of North Carolina at Chapel Hill (August 1984).

⁶ Id. at 2-7.

⁷ Simpson and Riehl, The Hurricane and Its Impact, at 242 (1981).

Structures are subject to hydrodynamic forces created by storm surge and waves riding the surge. Static flooding caused by the storm surge can cause an unanchored structure to float off of its foundation.⁸ Waves on top of the storm surge can batter improperly elevated structures, destroying them completely or sufficiently damaging them to allow severe damage from other storm impacts. Waves can also destroy structures by scouring away sand underlying the foundations, causing collapse or lateral displacement. Sand deposited under an elevated structure during a hurricane can create site-specific conditions in which wave action is focused on the structure. Damage to a dune system can weaken its ability to withstand hurricane forces and cause a breach that may lead to the formation of an inlet.

Hurricanes and tropical storms can also bring extremely heavy rainfall, frequently exceeding a foot and sometimes reaching astonishing levels. In 1950, for example, Hurricane Betsy rained 38.7 inches of water on Yankeetown in 24 hours.⁹ In 1941, a tropical disturbance dropped 35 inches of rainfall on Trenton in 48 hours.¹⁰ On Florida's flat, low terrain, high rainfall often leads to widespread inland flooding.

⁸ Miller & Bachman, Planning for Hurricanes and Other Coastal Disturbances, Urban Land 20-21 (January 1984); Pilkey Sharma, Wanless, Doyle, Pilkey, Neal & Gruver, Living with the East Florida Shore, 129 (1984).

⁹ E. Fernald and D. Patton (eds.), Water Resources Atlas of Florida, 26 (1984).

¹⁰ Id., 28.

Large numbers of lives and billions of dollars in property value are at risk on Florida's coastal areas and barrier islands. Current observation and warning capabilities allow reasonably accurate forecasts of where a hurricane will strike within about 12 hours of landfall.¹¹ However, evacuation of the Florida Keys would take approximately 35 **hours**,¹² Sanibel Island about 15 to 19 **hours**,¹³ and the Tampa Bay area 12 to 18 **hours**.¹⁴ Storm surge strikes low-lying coastal areas about six hours before the hurricane itself, sometimes cutting off evacuation routes and increasing the time necessary to fully evacuate an area. With massive increases in development on coastal barriers and barrier islands, potential property damage from hurricanes has climbed into the billions of dollars. In 1979, Hurricane Frederic caused 2.3 billion dollars in damages.¹⁵ Studies by the South Florida Regional Planning Council (SFRPC) predict that a class 3 hurricane (111 mph winds) would cause 1.99 billion dollars in

¹¹ The average error in prediction is about 80 kilometers, 12 hours before landfall, Simpson and Riehl, supra note 7 at 300.

¹² Florida Senate Natural Resources and Conservation Committee, A Review of Hurricane Preparedness Activities Pursuant to Ch. 252 Florida Statutes 2 (1986).

¹³ Federal Emergency Management Agency, Preparing for Hurricanes and Coastal Flooding: A Handbook for Local Officials 80 (1983).

¹⁴ Griffith, Critical Hurricane Evacuation Problems: The Need for Innovative Evacuation Planning in Managing High Risk Flood Areas: 1985 and Beyond 248 (Monday and Butler, eds.), Association of State Floodplain Managers (1984).

¹⁵ National Weather Service, supra note 1.

damages to Dade **County**,¹⁶ and a class 5 storm (155 mph winds) could result in 7.7 billion dollars of **damage**.¹⁷

The potential for hurricane destruction will be greatly increased if current predictions prove correct that the "greenhouse effect" will gradually increase global temperature, and accelerate the rise of ocean levels.¹⁸ Scientists at the Environmental Protection Agency (EPA) believe the effect of historic rates of subsidence plus anticipated rates of sea level rise is likely to result in substantial rises in effective sea level in Florida. Estimates range from a low of about 60 inches in Fernandina to a high of about 90 inches in Pensacola by the year 2100. A rise of 20 inches by the year 2050 is **expected**.¹⁹ Such rises in sea level would greatly increase rates of erosion and could destroy some barrier **islands**.²⁰ Add to these facts the seemingly unending pressure to build more structures near the shoreline, and a massive increase in populations living in

¹⁶ South Florida Regional Planning Council, South Florida Region Hurricane Loss Study 91 (February 1987).

¹⁷ Id.

¹⁸ See Titus (ed.), Greenhouse Effect, Sea Level Rise and Coastal Wetlands, U.S. Environmental Protection Agency, EPA-230-05-86-013 (1988); Titus, Leatherman, Everts, Kriebel & Dean, Potential Impacts of Sea Level Rise on the Beach at Ocean City, Maryland 4-13, U.S. Environmental Protection Agency (1985); Miller and Bachman, Planning for Hurricanes and other Coastal Disturbances, Urban Land 18 (January, 1984).

¹⁹ Titus (ed.), Greenhouse Effect, Sea Level Rise and Coastal Wetlands, 3-10 U.S. Environmental Protection Agency, EPA-230-05-86-013 (1988).

²⁰ Id., 17.

coastal areas, and the stage is set for a major hurricane disaster in Florida.

B. OPPORTUNITIES FOR MITIGATION

The potential for hurricane destruction can be reduced or mitigated in several ways.²¹ Improved tracking and warning systems can allow time for securing physical property and evacuating people from dangerous areas. Susceptibility of an area to damage can sometimes be reduced by improved drainage or shore protection structures, but the economic and environmental costs of such solutions are often excessive. Modification of the way in which vulnerable areas are used is usually most practical. This can be accomplished through regulatory programs or such nonregulatory means as education and acquisition.

The causes of hurricane loss are conceptually simple. Buildings may be located on sites that are susceptible to flooding, currents, waves and erosion. This usually happens because buildings are located too close to the water or because designers fail to appreciate the dynamic nature of the coastal environment. Restricting the use of hazardous sites can avoid

²¹ See generally, J. Salmon & D. Henningson, Prior Planning for Post-hurricane Reconstruction Florida Sea Grant College Report No. 88 (1986); J. Kusler (ed.), Post Disaster Response and Mitigation of Future Losses (1985); National Science Foundation, A Report on Flood Hazard Mitigation (1980); McElyea, Brower and Godschalk, Before the Storm: Managing Development to Reduce Hurricane Damages at 2-6, Ocean and Coastal Policy Program, Center for Urban and Regional Studies, University of North Carolina at Chapel Hill (August 1984).

problems that result from improper siting. Another cause is that buildings may not be designed and constructed to withstand the forces of wind and water. Requiring the elevation of buildings above flood heights and the strengthening of structural elements can reduce the potential for wind and water damage. Finally, population may be too great to safely evacuate. Limiting density to levels that can be evacuated can avoid loss of life.

Certainly the best opportunities for mitigating hurricane losses are in the design and construction of new development. The destruction or substantial damage of existing buildings creates opportunities for correcting past errors or for accommodating newly recognized forces such as sea level rise. Compliance with new standards for siting, design and construction may be required. The hazard posed by redevelopment, however, must be balanced against the economic cost of compliance with more stringent requirements.²² All of these approaches are incorporated in the federal, state and local programs described in this report and are the basis of our recommendations for local mitigation efforts.

²² R. Hamann, Constitutional Issues in Post-Hurricane Reconstruction Planning, in R. Platt, S. Pelczarski and B. Burbank (eds.) Cities on the Beach: Management Issues of Developed Coastal Barriers (1987).

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II. FEDERAL PROGRAMS

A. INTRODUCTION

Federal floodplain management programs generally fall under four laws with varying requirements and benefits. The National Flood Insurance Act of 1968¹ and the Flood Disaster Protection Act of 1973² comprise the National Flood Insurance Program (NFIP), supplying subsidized flood insurance to participating communities that enact regulations which restrict development in floodprone areas and increase the ability of structures to withstand flooding with minimal damage. The Coastal Barrier Resources Act³ restricts the use of federal funds, including insurance subsidies, on designated coastal barriers. The Disaster Relief Act of 1974⁴ supplies various forms of federal assistance for individuals, businesses and government units in flooded areas.

B. THE NATIONAL FLOOD INSURANCE PROGRAM

1. Overview

The National Flood Insurance Program (NFIP) is administered by the Federal Insurance Administration (FIA), part of the

¹ P.L. 90-488 codified at 42 U.S.C. § 4001 et seq. (1986).

² P.L. 93-234, codified at 42 U.S.C. § 4001 et seq. (1986).

³ P.L. 97-348, codified at 16 U.S.C. § 3501 et seq. (1986).

⁴ P.L. 93-288, codified at 42 U.S.C. § 5121 et seq. (1986).

Federal Emergency Management Agency (**FEMA**).⁵ The NFIP offers flood insurance to property owners in floodprone communities that agree to meet the requirements of the **program**.⁶ out of 20,000 communities identified as being floodprone in the United States, 17,000 are participating in the **program**.⁷ There are approximately 1.9 million insured properties under the program.⁸ In 1982, the federal liability under the program was \$105 **billion**.⁹

In order to qualify for federally subsidized flood insurance, a community must adopt and enforce floodplain management regulations addressing the flood hazards within its

⁵ see generally Houck, Rising Water: The National Flood Insurance Program and Louisiana, 60 Tulane Law Review 61, 73-78 (1985); Water Management Division, Michigan Department of Natural Resources, The National Flood Insurance Program (1983); Rastatter, Flood Hazard Management and Natural Resource Protection, The Conservation Foundation (1980); Division of Water Resources, Illinois Department of Transportation, National Flood Insurance Program Floodplain Regulations, Local Assistance Series 2C (1980); Miller, Coastal Flood Hazards and the National Flood Insurance Program Federal Insurance Administration (1978).

⁶ 44 C.F.R. § 59.2 (1987).

⁷ Federal Emergency Management Agency, A Unified National Program for Floodplain Management, II-2 D-3, FEMA 100/March, 1986.

⁸ General Accounting Office, Statistics on the National Flood Insurance Program, GAO/RCED-88-155FS.

⁹ Id. The Federal Emergency Management Agency predicts that after a single catastrophic flood year it will be liable to pay insurance claims of \$3.5 to \$4 billion. See also General Accounting Office, The Effect of Premium Increases On Achieving the National Flood Insurance Program's Objectives, 6, GAO/RCED-83-107, Feb. 26, 1983.

jurisdiction.¹⁰ Minimum standards are established in 44 Code of Federal Regulations (CFR) Part 60. These generally require the elevation of structures above the 100-year flood and the design of new construction to avoid increasing flood hazards.¹¹ The program encourages more restrictive control of land use and construction standards in the affected areas.¹²

As a condition of receiving any form of federally-related financial assistance for acquisition or construction in identified hazard areas, the NFIP requires the purchase of flood **insurance**.¹³ There are two layers of coverage supplying different amounts of insurance, and requiring different levels of land use **regulation**.¹⁴ Before subsidized insurance will be made available, communities must first submit an application to participate in the NFIP, including basic information related to

¹⁰ 42 U.S.C. § 4022. See also 44 C.F.R. § 60.1(a) (1986).

¹¹ Minimum criteria for required regulations in floodprone areas are contained in 44 C.F.R. § 60.3; areas with mudslide hazards must meet the requirements of 44 C.F.R. § 60.4. NFIP regulations also refer to control of flood-related erosion hazards (44 C.F.R. § 60.5) but the areas (E-zones) to which these regulations were to apply have never been designated by FEMA. Dawson, The NFIP and Developed Coastal Barriers, in Platt, Pelczarski and Burbank (eds.), Cities on the Beach: Management Issues of Developed Coastal Barriers, Land and Water Policy Center, University of Massachusetts at Amherst (1987).

¹² 44 C.F.R. § 60.1(d) (1987).

¹³ 42 U.S.C. § 4012a. (1986). See also 44 C.F.R. § 64.3(b) (1987).

¹⁴ Insurance coverage and rates, including terms and conditions, premium rates, maximum amounts of coverage, and the Standard Flood Insurance Policy are codified at 44 C.F.R. Part 61 (1987).

legislative authorization, population, development and existing efforts to manage development in floodplains.¹⁵

When a community applies, the FIA begins technical studies that eventually define the different flood hazard areas within the community, and assigns insurance premium rates to each **area**.¹⁶ The first study produces a general Flood Hazard Boundary Map (FHBM), on which areas of special flood **hazard**¹⁷ are designated as A-zones. The second study results in a Flood Insurance Rate Map (FIRM), on which the basic zones are more finely delineated and given risk premium rates¹⁸ according to relative risk. On the FIRM, coastal high hazard **areas**,¹⁹ subject to high velocity storm surge, are designated by several

15 44 C.F.R. § 59.22 (1987).

16 42 U.S.C. § 4014 (1986). Procedures for the establishment, revision, appeal and correction of the special flood hazard areas are codified at 44 C.F.R. Parts 65, 66, 67, 68, 70 and 72 (1987).

17 Defined as "the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. The area may be designated as Zone A on the FHBM. After detailed ratemaking has been completed in preparation for publication of the FIRM, Zone A usually is refined into Zones A, AO, AH, A1-30, AE, A99, VO, or V1-30, VE, or V." 44 C.F.R. § 59.1 (1987).

18 Defined as "those rates established by the Administrator pursuant to individual community studies and investigations which are undertaken to provide flood insurance in accordance with section 1307 of the Act and the accepted actuarial principles." 44 C.F.R. § 59.1 (1987).

19 Defined as "the area subject to high velocity waters, including but not limited to hurricane wave wash or tsunamis. The area is designated on a FIRM as Zone V1-30, VE, or V." 44 C.F.R. § 59.1 (1987).

categories of V-zone.

2. Required Regulations

a. Emergency Program

After a community's application, if the FIA has not provided any flood-related data or issued an FHBM, the community will be eligible for lower level "first layer" insurance at subsidized **rates**,²⁰ but must utilize data from any federal, state or other source to establish minimum land use and construction standards in floodprone **areas**.²¹ At this point in the program, the local government must require permits for all proposed development, including manufactured homes: review permits for determining reasonable safety from flooding and for compliance with federal and state laws; and enforce certain design, construction and placement standards for all new construction and substantial **improvements**.²² Substantial improvements are defined as "any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either, (a) before the improvement or repair is started, or (b) if the structure has been damaged, and is being restored, before the damage occurred."²³

²⁰ Applicable amounts of coverage are contained in 44 C.F.R. § 61.6; premium rates are contained in 44 C.F.R. §§ 61.8, 61.9 and 61.10 (1987).

²¹ 44 C.F.R. § 64.5 (1987). Minimum criteria for floodprone areas are contained in 44 C.F.R. §§ 60.2 and 60.3 (1987).

²² 44 C.F.R. § 60.3(a) (1987).

²³ 44 C.F.R. § 59.1 (1987).

If the proposed building site is in a floodprone area, new construction and substantial improvements must be adequately anchored to prevent flotation, collapse, or lateral movement from flood forces; constructed with materials and methods that minimize flood damage; have electrical, heating, ventilation, plumbing, and air conditioning equipment designed and/or located to prevent water from entering or accumulating during flooding.²⁴

The community must review proposed developments in floodprone areas to assure that the proposals are consistent with the need to minimize flood damage in these areas, that all public utilities and facilities are located and constructed to minimize or eliminate flood damage, and that adequate drainage is provided.²⁵ Water supply systems in floodprone areas must be designed to minimize or eliminate infiltration of flood waters into the systems.²⁶ Sanitary sewage systems and onsite waste disposal systems must be designed to minimize or eliminate exfiltration, infiltration and impairment during flooding.²⁷ The regulations must be legally enforceable, applied uniformly to all privately and publicly owned land, and must take precedence over any less restrictive ordinances.²⁸

24 44 C.F.R. § 60.3(a)(3) (1987).

25 44 C.F.R. § 60.3(a)(4) (1987).

26 44 C.F.R. § 60.3(a)(5) (1987).

27 44 C.F.R. § 60.3(a)(6) (1987).

28 44 C.F.R. § 60.1(b) (1987).

b. Regular Program

The Emergency Program requirements for flood insurance availability apply during the early stage of participation. In order to remain eligible for flood insurance, within six months of the date that increasing levels of flood-related data are made available by the FIA, the community must enter the Regular Program by enacting regulations that meet more restrictive **standards.**²⁹ Local governments are subject to suspension from the NFIP for the failure to enact or the repeal of floodplain management regulations meeting the requirements of the **Act.**³⁰ failure to adequately enforce otherwise adequate floodplain regulations may subject the community to probationary status, with additional premiums charged to new or renewing **policyholders.**³¹

During the Emergency Program, "first layer" insurance coverage is available at subsidized rates for the structure and contents of residences, small businesses, and church and other

²⁹ 44 C.F.R. § 60.2(a) (1987). The types of data provided and the criteria for accompanying regulations are contained in 44 C.F.R. §§ 60.3(b),(e). See "Recommended Model Flood Damage Prevention Ordinance" (available from FEMA) for regulations meeting or exceeding the minimum standards of the NFIP. See also Federal Emergency Management Agency, Design Guidelines for Flood Damage Reduction (1981); Federal Insurance Administration, Federal Emergency Management Agency, Guide for Ordinance Development: According to §§1910.3 (b).(d),(e) of the National Flood Insurance Program Regulations (1978).

³⁰ See 44 C.F.R. § 59.24 (1987).

³¹ **Id.**

properties.³² Once a community enters the Regular Program, flood insurance is required in all but one subcategory of A-zones, and all V-zones, as they are delineated.³³ Basically, these represent areas subject to the 100-year or base flood, including coastal areas vulnerable to storm surge and storm wave heights.³⁴ From the date the FIRM is established, "first layer" flood insurance is available at subsidized rates for existing structures.³⁵ First layer coverage is also available for new construction and substantial improvements, but only at risk premium rates. Higher amounts of "second layer" coverage are available to new and existing structures at risk premium rates.³⁶

The regulations that a community must adopt increase in stringency with each additional level of data provided by the

³² 44 C.F.R. § 60,3(a) (1987).

³³ 44 C.F.R. § 64.3(b) (1987). See generally Federal Insurance Administration, U.S. Department of Housing and Urban Development, Entering the Regular Program, Community Assistance Series No. 3 (1978).

³⁴ 44 C.F.R. § 64.3(a) (1987).

³⁵ Defined as "structures for which the 'start of construction' commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date." 44 C.F.R. § 59.1 (1987). "Start of construction" includes substantial improvement, and means the date the building permit was issued, provided that the first placement of permanent construction of a structure on the site (or the placement of a manufactured home on a foundation) occurred within 180 days of the permit date. 44 C.F.R. § 59.1 (1987).

³⁶ 44 C.F.R. § 64.5 (1987). Amounts of available coverage for several types of structures are contained in 44 C.F.R. § 61.6 (1987).

FIA. When the FIA has designated areas of special flood hazard (A-zones) by publication of a FHBM or FIRM, but produced neither water surface elevation data, nor a regulatory floodway or coastal high hazard areas (V-zones), all construction and proposed development in A-zones must meet the Emergency Program regulatory standards discussed **above.**³⁷ All new subdivision proposals greater than 50 lots or acres including those for manufactured homes, must include base flood elevation (BFE) **data.**³⁸ The community must utilize this data, or that available from other reliable sources, as criteria for requiring that new construction and substantial improvements of residential structures in most A-zones have the lowest floor (including basement) elevated to or above the **BFE.**³⁹

New or substantially improved nonresidential structures in A-zones must have the lowest floor (including basement) elevated to or above the BFE, or be designed so that below BFE the structure is watertight with walls substantially impermeable to water, and capable of resisting hydrostatic and hydrodynamic loads, and the

³⁷ **See** Federal Insurance Administration, Federal Emergency Management Agency, Design and Construction Manual for Residential Buildings in Coastal High Hazard Areas (1984) for a thorough discussion of hurricane and flood forces, and structural designs that meet or exceed the requirements of the NFIP.

³⁸ 44 C.F.R. § 60.3(b)(3) (1987).

³⁹ Requirement stated in 44 C.F.R. § 60.3(b) (4). **See** 44 C.F.R. § 60.3(c)(2) for applicable standard.

effects of **buoyancy**.⁴⁰ All new construction and substantial improvements which have fully enclosed areas below the lowest floor and which are subject to flooding must be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for entry and exit of **floodwaters**.⁴¹ Designs must be either certified by a registered engineer or architect, or must meet specified design **criteria**.⁴² All manufactured homes to be placed in most A-zones must be installed using methods which minimize flood damage, with the lowest floor elevated to or above the BFE, and be anchored to an adequately anchored foundation **system**.⁴³ On June 30, 1987, FEMA amended its regulations, suspending the requirement that new, replacement and substantially improved manufactured homes in existing parks or subdivisions be elevated to or above the **BFE**.⁴⁴

At this point in the program, the community must obtain and review information from federal, state and other sources, and use

⁴⁰ Requirement stated in 44 C.F.R. § 60.3(b)(4). See 44 C.F.R. § 60.3(c)(3) for applicable standard.

⁴¹ Requirement stated in 44 C.F.R. § 60.3(b)(4). See 44 C.F.R. § 60.3(c)(5) for applicable standard.

⁴² Id.

⁴³ Requirement stated in 44 C.F.R. § 60.3(b)(4). See 44 C.F.R. § 60.3(c)(6) for applicable standard.

⁴⁴ 52 Fed. Reg. 24370 (1987), codified at 44 C.F.R. Parts 59 and 60. The suspension was originally specified to be in effect until March 31, 1988 and has been extended until October 1, 1988. During the time the suspension is in effect, FEMA will be analyzing the impacts of applying the elevation requirement to manufactured homes placed or substantially improved in existing manufactured home parks and subdivisions.

it to select and adopt a regulatory floodway, 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."⁴⁵ The community must prohibit any fill, development or substantial improvement within the adopted floodway that would result in any further increase in flood levels anywhere in the community during the discharge of the base flood.⁴⁶ Where base flood elevation data are utilized, within A-zones the community must obtain and maintain records of the elevation of the lowest floor (including basement) of all new and substantially improved structures, and the elevation to which any nonresidential structure has been floodproofed.⁴⁷

In riverine situations, the community is required to notify all adjacent communities, and the state coordinating office prior to any alteration or relocation of a watercourse, and must submit evidence of the notification to the FIA.⁴⁸ It must also maintain the flood carrying capacity of the altered or relocated portion of any watercourse.⁴⁹ Any manufactured homes "to be placed within Zone A" must be elevated and anchored to resist flotation,

⁴⁵ Requirement stated in 44 C.F.R. § 60.3(b)(4). See 44 C.F.R. § 60.3(d)(2) for applicable standard.

⁴⁶ Requirement stated in 44 C.F.R. § 60.3(b)(4). See 44 C.F.R. § 60.3(d)(3) for applicable standard.

⁴⁷ 44 C.F.R. § 60.3(b)(5) (1987).

⁴⁸ 44 C.F.R. § 60.3(b)(6) (1987).

⁴⁹ 44 C.F.R. § 60.3(b)(7) (1987).

collapse, or lateral movement. The requirement is in addition to any state or local anchoring requirements for resisting wind forces.⁵⁰

When the FIA provides final base flood elevations for one or more special flood hazard areas (A-zones) on a FIRM but has not identified the regulatory floodway or coastal high hazard areas (V-zones), the community must enforce the above regulations in all categories of A-zones, with additional requirements. All construction and substantial improvement of residential structures in A-zones with designated BFEs, and in A-zones with shallow water depths or unpredictable flow paths must have the lowest floor (including basement) elevated to or above the BFE,⁵¹ or above the depth indicated on the FIRM,⁵² or at least two feet above the highest adjacent grade if no water elevation depth is specified.⁵³

New and substantially improved nonresidential construction in these zones must meet the same elevation standard as residential structures, or be completely floodproofed (including utilities and sanitary facilities) below the BFE.⁵⁴ Any floodproofing must be certified by a registered engineer or architect as being in

⁵⁰ 44 C.F.R. § 60.3(b)(8) (1987).

⁵¹ 44 C.F.R. § 60.3(c)(2) (1987).

⁵² 44 C.F.R. § 60.3(c)(7) (1987).

⁵³ Id.

⁵⁴ 44 C.F.R. § 60.3(c)(8) (1987).

compliance with accepted standards for such construction,⁵⁵ and the record of certifications, including the specific elevations to which structures are floodproofed, must be maintained by a designated community official.⁵⁶

Until a regulatory floodway is designated, no new development or substantial improvement may be permitted in areas of special flood hazard with water surface elevations indicated unless there is a showing that it will not cumulatively raise the base flood elevation by more than one foot.⁵⁷ In areas with shallow water depths and unpredictable flow paths, adequate drainage must be supplied to guide floodwater around and away from proposed structures.⁵⁸ When the FIA provides flood data sufficient to allow the designation of a regulatory floodway, the community must select and adopt the floodway,⁵⁹ and prohibit all fill and construction within the floodway that would increase the level of the base flood discharge anywhere in the community.⁶⁰

55 44 C.F.R. § 60.3(c)(4) (1987).

56 Id.

57 44 C.F.R. § 60.3(c)(10) (1987).

58 44 C.F.R. § 60,3(c)(11) (1987).

59 44 C.F.R. § 60.3(d)(2) (1987). See Federal Insurance Administration, Federal Emergency Management Agency, The Floodway: A Guide for Community Permit Officials (1979) for basic information on floodways and procedures for upgrading structures in those areas.

60 44 C.F.R. § 60.3(d)(3) (1987).

The final level of regulation is triggered when the FIA has provided base flood elevations in all designated A-zones on the FIRM, and has identified coastal high hazard areas (V-zones), if applicable. The boundaries of V-zones are determined by the inland penetration of a three foot breaking wave, riding the 100-year storm surge.⁶¹ In V-zones, the BFE is calculated using the 100-year storm wave crest elevations, rather than the lower storm surge level utilized in calculating BFEs for A-zones, which are subject to little or no wave action.⁶² In addition to the standards discussed above, communities must require that all new construction be located landward of the mean high tide line⁶³ and be elevated on pilings or columns so that horizontal structural members of the lowest floor are elevated above the BFE.⁶⁴ Piling or column foundations and all structures in V-zones must be certified by a registered engineer or architect as being capable of resisting flotation, collapse, and lateral movement due to wind and water loads during the 100-year storm, acting simultaneously on all building components.⁶⁵

61 McElyea Brower and Godschalk, Before the Storm: Managing Development to Reduce Hurricane Damages, 4-18, Ocean and Coastal Policy Program, Center for Urban and Regional Studies, University of North Carolina at Chapel Hill (August, 1984).

62 Id.

63 44 C.F.R. § 60.3(e)(3) (1987). Substantial improvements to a structure may not be subject to this requirement. Id.

64 44 C.F.R. § 60.3(e)(2) (1987).

65 44 C.F.R. § 60.3(e)(4) (1987).

All new construction and substantial improvements in V-zones must be free of obstructions below the lowest floor, or constructed with non-supporting breakaway walls, open wood lattice-work or insect screening designed to collapse under water loads less than those of the 100-year storm without affecting the structural integrity of the building.⁶⁶ The space enclosed by these walls may only be used for parking, building access, or storage.⁶⁷ Fill may not be used for structural support,⁶⁸ and any alteration of sand dunes and mangrove stands is prohibited if the potential for flood damage would increase.⁶⁹ Though the requirement that participating communities adopt adequate floodplain management regulations is statutory and may not be waived, under extraordinary circumstances FEMA may accept regulations that vary from the above standards.⁷⁰ A community proposing a different regulatory structure must explain the nature and extent of and reasons for the exception request, and include supporting economic, environmental, topographic, hydrologic, and other scientific and technical data, as well as data on the impact to public safety and the environment."

66 44 C.F.R. § 60.3(e)(5) (1987).

67 44 C.F.R. §§ 60.3(e)(5)(i),(ii) (1987).

68 44 C.F.R. § 60.3(e)(6) (1987).

69 44 C.F.R. § 60.3(e)(7) (1987).

70 44 C.F.R. §§ 60.6(b),(c) (1987).

71 44 C.F.R. § 60.6(b)(1).

3. Variances

There are no absolute criteria for the provision of variances from these requirements, and a variance will not modify the applicable insurance premium rates.⁷² They may be granted by a community to relieve hardship, but may be reviewed by the FIA, and if found to be part of a pattern inconsistent with the objectives of sound floodplain management, may result in a community being placed on probation, or being suspended from the program.⁷³ Variances cannot be issued within any designated regulatory floodway if this would increase flood levels during the base flood discharge.⁷⁴

Generally, variances require a showing of good and sufficient cause, a determination of exceptional hardship, and a finding that granting the 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 or ordinances.⁷⁵

New construction and substantial improvements on lots one-half acre or less, contiguous to and surrounded by existing

⁷² 44 C.F.R. § 60.6(a) (1987).

⁷³ Id.

⁷⁴ 44 C.F.R. § 60.6(a)(1) (1987).

⁷⁵ 44 C.F.R. § 60.6(a)(3) (1987).

structures built below base flood elevation may be granted variances, but the community must notify the applicant that any variance for structures below base flood level will result in increased premium rates, and that construction below base flood levels increases risks to life and property.⁷⁶ A record of all variance actions must be maintained by the community, along with the justifications for their issuance.⁷⁷ Variances for development "necessary for the conduct of a functionally dependent use"⁷⁸ may be issued if the above criteria are met and the structure is designed to minimize flood damage. Variances may only be allowed on a determination that the variance is the minimum necessary to afford relief.⁷⁹

4. Comprehensive Management Plans

The NFIP encourages the formation and adoption of comprehensive management plans for floodprone areas. Though adoption of such plans is not mandatory, communities are required to evaluate a number of planning considerations, which if included in a flood management ordinance, would strengthen the overall program.⁸⁰ Such regulations should not permit development of floodprone areas unless the development is

76 44 C.F.R. § 60.6(a)(2) (1987).

77 44 C.F.R. § 60.6(a)(6) (1987).

78 44 C.F.R. § 60.6(a)(7) (1987).

79 44 C.F.R. § 60.6(a)(4) (1987).

80 44 C.F.R. § 60.21 (1987).

"appropriate" in light of probable flood damage, is an "acceptable social and economic use of the land in relation to the hazards involved," and "does not increase the danger to human life."⁸¹ The regulations should also prohibit "nonessential or improper installation of public utilities and public facilities in floodprone areas."⁸²

In formulating community development goals after a flood disaster, participating communities must consider preserving floodprone areas for open space purposes, relocating occupants away from floodprone areas, acquiring frequently damaged structures, and acquiring land or land development rights for public purposes with the goal of minimizing future property losses.⁸³ In formulating a comprehensive flood management plan, and in adopting its regulations, the community must consider the following:

1. Human safety.
2. Diversion of development to areas safe from flooding.
3. Disclosure to prospective purchasers, renters and other interested parties that structures are located in floodprone areas or below base flood levels, that variances have been granted for structures in flood-prone areas, and that premium rates for new structures

⁸¹ 44 C.F.R. § 60.22(a)(1) (1987).

⁸² 44 C.F.R. § 60.22(a) (2) (1987).

⁸³ 44 C.F.R. § 60.22(b) (1987).

at elevations below the base flood increase as the elevation decreases.

4. Adverse effects of floodplain development on existing development.
5. Encouragement of floodproofing.
6. Flood warning and preparedness plans.
7. Provision for alternative access and escape routes.
8. Establishment of minimum floodproofing and access requirements for hospitals, nursing homes, police stations, and other public or quasi-public facilities located in the floodprone areas.
9. Improvement of local drainage.
10. Coordination of plans with neighboring communities.
11. Requiring new construction in areas subject to subsidence be elevated above the base flood level equal to expected subsidence for at least a 10-year period.
12. Requiring developers to delineate floodways.
13. Restricting alteration of watercourses to maintain overall flood carrying capacity.
14. Requiring setbacks for new construction in coastal high hazard areas.
15. Requiring additional elevation above the base flood level for new construction in areas of special flood hazard and coastal high hazard areas.
16. Requiring consistency between state, regional and

local comprehensive plans and floodplain management.

17. Requiring pilings or columns rather than fill, for the elevation of structures within floodprone areas.
18. Prohibiting hazardous materials facilities within floodways and coastal high hazard areas.⁸⁴

5. Flooded Property Purchase Program

In addition to regulatory and planning requirements, the NFIP includes a Flooded Property Purchase Program, authorized by section 1362 of the Act.⁸⁵ After a natural disaster, the FIA may negotiate to buy damaged structures and land from private owners, and arrange for the sale, lease or donation to a community.⁸⁶ Participation in the program by private landowners is voluntary.⁸⁷

Several conditions must be met for the transaction to occur. The property must be located in any of the designated special flood hazard areas, and must have been covered by an NFIP flood insurance policy at the time the damage took place.⁸⁸ While insured, the building must have been damaged substantially beyond repair: or damaged at least three times during the preceding five years, each time the cost of repair equalling 25 percent or more

84 44 C.F.R. § 60,22(c) (1987).

85 42 U.S.C. § 4103 (1986).

86 44 C.F.R. § 77.2(b) (1987).

87 44 C.F.R. § 77.2(g) (1987).

88 44 C.F.R. §§ 77.2(b)(1),(2) (1987).

of the structure's value; or damaged from a single casualty of any nature such that a statute, ordinance or regulation precludes repair, or permits it at significantly increased cost.⁸⁹ In addition, the state or local government must enter into an agreement, authorized by ordinance or legally binding resolution, to take title to and manage the property in a manner consistent with sound land use management,⁹⁰ and must remove any damaged structures to which it takes title.⁹¹

Several types of deed restrictions may be imposed by the FIA before title is transferred to the state or local government. Potential restrictions include: that the land be dedicated in perpetuity for open space purposes and that the community manage it for those purposes; that only functionally related structures be built, capable of withstanding the 500-year flood; or that the property be transferred subject to zoning and building ordinances, easements, and covenants.⁹²

6. Structures Subject to Imminent Collapse as a Result of Erosion or Subsidence

The NFIP now permits claim payments to demolish or move

⁸⁹ 44 C.F.R. § 77.2(b)(3) (1987). "Significantly increased cost" is defined as occurring when a regulation or code requires that improvements be made to a structure as a condition of the repair of damages sustained, such that the actual cost of repair would be 25 percent more than the cost of only repairing the damages. 44 C.F.R. § 77.1(b).

⁹⁰ 44 C.F.R. § 77.2(b) (4) (1987).

⁹¹ 44 C.F.R. § 77.2(b) (5) (1987).

⁹² 44 C.F.R. § 77.2(d) (1987).

insured buildings that are subject to "imminent collapse or subsidence as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels."⁹³ For demolition, an NFIP-insured building subject to such damage is eligible for a claim equal to the value of the building or the amount of insurance coverage, whichever is less, as well as 10 percent for the cost of demolition and clearing. If an eligible owner chooses to move the structure rather than demolish it, the NFIP will pay up to 40 percent of its value or of the coverage limits for the relocation, not to exceed the cost of the move. Septic systems must also be demolished or relocated.⁹⁴ The value of a structure for the purposes of these provisions will be the lower of: the fair market value of a comparable structure not subject to imminent collapse or subsidence; the price paid for the structure and any improvements, as adjusted for inflation; or the value of the structure under an NFIP flood insurance contract.⁹⁵ Until the FIA publishes final regulations, buildings are eligible for the coverage only when they are condemned by a state or community official and are determined to be in imminent danger of collapse. When the regulations have been adopted, a local or state official will have to certify that the danger exists. The property must have been covered by flood insurance

93 42 U.S.C.S. § 4013(c) (1988).

94 42 U.S.C.S. §§ 4013(c)(1)(A), (B) (1988).

95 42 U.S.C.S. § 4013(c)(3) (1988).

before condemnation in order to qualify. After June 1, 1988, coverage must be in effect prior to condemnation for the lesser of two years or the period of ownership.⁹⁶ These erosion coverage provisions are scheduled to expire September 30, 1989. Only buildings certified as threatened prior to that date will be eligible for **payments.**⁹⁷

7. Repair or Reconstruction of Damaged Structures

Under the NFIP, the treatment of structures damaged by hurricanes and coastal storms varies according to the level of data and accompanying regulations in effect in the community, the flood hazard zone within which a structure is located, the type of structure, and the level of damage. Generally, under final levels of regulation, if located in any area of special flood **hazard,**⁹⁸ all structures requiring "substantial improvement"⁹⁹ or complete reconstruction must meet the requirements of the NFIP. In coastal high hazard areas, all "new construction" must be located landward of the mean high tide line.¹⁰⁰ It is not clear whether "new construction" includes substantial improvement, for

96 42 U.S.C.S. § 4013(c)(4) (1988).

97 42 U.S.C.S. § 4013(c)(7) (1988).

98 See supra note 17 for definition of "areas of special flood hazard."

99 See supra note 23 and accompanying text for definition of "substantial improvement."

100 See 44 C.F.R. § 60.3(e)(3) (1987).

the purposes of this subsection.¹⁰¹ A structure requiring less than substantial improvement may be repaired without meeting the substantive standards, and may remain in its original position on or seaward of the mean high tide line.

To meet the standards of the NFIP, residential structures in most A-zones with established base flood elevations must have the lowest floor (including basement) elevated to or above the base flood level. Nonresidential structures must be elevated or floodproofed to the base flood level, with the floodproofing certified by a registered engineer or architect. Manufactured homes must be elevated to the base flood level in new or substantially improved manufactured home parks, and must be anchored by over-the-top and frame ties to resist flotation, collapse and lateral movement. Any new construction or substantial improvements must not cause the base flood level to increase by more than one foot at any point in the community.

In V-zones, in addition to the above requirements, all "new construction and substantial improvements" must be elevated to the base flood level on pilings or columns, with certification by a registered engineer or architect that the pilings, columns and structures are adequately anchored to resist flotation, collapse and lateral movement due to the forces of the 100-year storm event, acting simultaneously. The space below the lowest floor

¹⁰¹ 44 C.F.R. § 60.3(e)(3) requires "new construction" to be located landward of mean high tide. The next subsection, 44 C.F.R. § 60.3(e)(4) specifically requires "new construction and substantial improvements" to meet other requirements.

must be free of obstruction, or constructed with non-supporting breakaway walls, open wood lattice-work, or insect screening. Fill must not be used for the structural support of buildings in these zones, and there must be no manmade alteration of sand dunes and mangrove stands which would increase potential flood damage. "New construction" in these zones must be located landward of the mean high tide line.

C. DISASTER RELIEF ACT OF 1974

The Disaster Relief Act of 1974¹⁰² provides authorization for several forms of financial and direct assistance to state and local governments, individuals and businesses. It also establishes guidelines and procedures for the distribution of other forms of aid available from federal agencies.¹⁰³ Under the Act, FEMA is given primary responsibility for coordinating the various forms of assistance and expediting the process by which damages are assessed, assistance is requested and allocated, and

¹⁰² P.L. 93-288, codified at 42 U.S.C. § 5121 et seq. (1986). On October 21, 1988, the Robert T. Stafford Disaster Relief and Emergency Assistance Amendments of 1988 (P.L. 100-707) were enacted, modifying the Disaster Relief Act of 1974. Relevant amendments have been incorporated into this text. They apply to any emergency or major disaster declared after the effective date of the enactment. The Stafford Act stipulates that regulations necessary to implement its provisions be issued within 180 days of the effective date. P.L. 100-707 § 113 (1988).

¹⁰³ See generally Propst, A Review of Federal Programs Providing Disaster Assistance to Coastal Local Governments Following a Hurricane, Center for Urban and Regional Studies, University of North Carolina at Chapel Hill (1988).

post-disaster planning is carried out. FEMA's policies are to provide assistance for state, local government and private losses resulting from disasters: to encourage development of comprehensive disaster preparedness and assistance plans by state and local governments; to achieve better coordination and responsiveness of disaster relief and preparedness programs; to encourage insurance coverage and reduce dependence on federal aid; and to encourage hazard mitigation measures such as land-use and construction regulations, floodplain management, protection of wetlands, and environmental planning.¹⁰⁴ The fundamental concern is with achieving permanent solutions to problems in disaster-prone areas.¹⁰⁵

1. Administration

For catastrophic events, the trigger by which federal aid is activated is the Presidential declaration of an "emergency"¹⁰⁶ or a "major disaster."¹⁰⁷ An emergency is defined as "any occasion or instance for which, in the determination of the President, federal assistance is needed to supplement state and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of

¹⁰⁴ 44 C.F.R. § 206.3 (1989). See generally 44 C.F.R. Part 206 - Federal Disaster Assistance for Disasters Declared on or After November 23, 1988.

¹⁰⁵ 44 C.F.R. §§ 206.400-206.402 (1989).

¹⁰⁶ 44 C.F.R. §§ 206.35-206.40 (1989).

¹⁰⁷ Id.

a catastrophe in any part of the United States."¹⁰⁸ A major disaster is any natural catastrophe or any fire, flood, or explosion which in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance under the Act to supplement the efforts and resources of states, local governments and disaster relief organizations.¹⁰⁹

As a hurricane or related natural event occurs, local government officials must report the nature and extent of damages to the state emergency management agency, which apprises the Governor of the situation. If it appears that state and local resources are exceeded, the Governor can request the President to declare an emergency or a major disaster. The request is submitted to FEMA's Regional Director (RD), who evaluates a preliminary assessment¹¹⁰ made by federal, state and local officials, and makes a recommendation to the FEMA Associate Director for State and Local Programs and Support.¹¹¹ The Director of FEMA makes his or her recommendation to the President,¹¹² who may then issue the declaration and begin the

¹⁰⁸ P.L. 100-707 § 103(b) (1988), codified at 42 U.S.C. § 5121 et seq.; see also 44 C.F.R. § 206.2(a)(9) (1989).

¹⁰⁹ Id. See also, 44 C.F.R. § 206.2(a)(17) (1989).

¹¹⁰ 44 C.F.R. §§ 206.35, 205.36 (1989).

¹¹¹ 44 C.F.R. § 206.37(b) (1989).

¹¹² 44 C.F.R. §§ 206.37(c), 206.37(d) (1989).

process of providing federal **assistance.**¹¹³

Once the Presidential declaration is made, FEMA's Associate Director for State and Local Programs and Support designates the areas eligible for supplementary federal **assistance.**¹¹⁴ The Governor and FEMA's RD execute and sign a FEMA-State Agreement containing the understandings and conditions under which assistance will be provided.¹¹⁵ It includes a description of the incident period for which assistance is available, the type and extent of assistance available, and a commitment of state and local governments as to the amount of funds to be expended in alleviating the effects of the disaster or **emergency.**¹¹⁶ Standard conditions for the federal assistance include an agreement to submit a hazard mitigation plan within 180 days to assure that appropriate hazard mitigation actions are taken, and to review and update the disaster mitigation portions of the state's emergency plan.¹¹⁷ Future federal disaster assistance may be unavailable in situations where hazard mitigation plans have not been properly **implemented.**¹¹⁸

113 44 C.F.R. § 206.38 (1989).

114 44 C.F.R. § 206.40 (1989).

115 44 C.F.R. § 206.44 (1989).

116 44 C.F.R. §§ 206.44(b) (1989).

117 44 C.F.R. § 206.403(e) (1989).

118 44 C.F.R. § 206.402(d) (1989).

When the Presidential declaration is made, the Governor designates the Governor's Authorized Representative (GAR), and appoints the State Coordinating Officer (SCO) who work to administer federal assistance programs on behalf of the state and local governments.¹¹⁹ The GAR administers federal disaster assistance programs on behalf of the state and local governments, and is responsible for state compliance with the FEMA-State Agreement.¹²⁰ The SCO coordinates state and local disaster assistance efforts with those of the federal government.¹²¹ The FEMA Director appoints a Federal Coordinating Officer (FCO) who coordinates federal assistance and works with the SCO and GAR in administering the Agreement.¹²²

The FCO is responsible for:

1. Appraising the types of assistance needed.
2. Establishing field offices and Disaster Application Centers for the benefit of individuals, families and businesses.
3. Coordinating federal activities with state, local and private organizations.
4. Assuring that all federal agencies are performing their proper disaster assistance roles.

119 44 C.F.R. §§ 206.41-206.42 (1989).

120 44 C.F.R. § 206.41(d) (1989).

121 44 C.F.R. §§ 206.41(c), 206.42(b) (1989).

122 44 C.F.R. §§ 206.41(a), 206.42(a) (1989).

5. Taking other authorized actions to assist public officials and citizens in obtaining assistance.¹²³

The FCO can also request the assistance of emergency support teams composed of federal personnel to aid the FCO in carrying out his or her responsibilities.¹²⁴

2. Immediate Emergency Assistance

In the immediate aftermath of an emergency or natural disaster, but prior to a Presidential declaration, the Governor of an affected state may request the President to direct the Secretary of Defense to utilize resources of the Department of Defense to perform emergency work necessary for the preservation of life and property. This type of public assistance may extend no longer than 10 days after the disaster.¹²⁵

After a Presidential declaration of an emergency, the Associate Director or RD may direct any federal agency to a) utilize its authorities and resources to support state and local efforts to save lives, protect property and public health and safety, and lessen or avert the threat of a catastrophe,¹²⁶ or b) provide technical and advisory assistance to state and local governments for essential community services: issuance or warnings of risks and hazards: public health and safety

¹²³ 44 C.F.R. § 206.42(a) (1989).

¹²⁴ 44 C.F.R. § 206.43 (1989).

¹²⁵ P.L. 100-707 § 106(a)(3) (1988) (creating new section 403 of P.L. 98-288).

¹²⁶ 44 C.F.R. § 206.62(a) (1989).

information; health and safety measures; and management, control, and reduction of immediate threats to public health and safety.¹²⁷

If this type of assistance is inadequate, the Associate Director or RD may direct federal agencies to a) provide emergency assistance under the Stafford Act, b) remove debris in accordance with Section 407 of the Stafford Act, c) provide temporary housing assistance in accordance with the terms and conditions of Section 408 of the Stafford Act, d) assist state and local governments in the distribution of food, medicine, and other consumable supplies, and make contributions to affected state and local governments for the purpose of accomplishing essential emergency work.¹²⁸

The efforts of federal, state and local governments and voluntary organizations after an emergency declaration are coordinated by the FCO.¹²⁹ Total assistance provided in any given emergency declaration may only exceed \$5,000,000 when the Associate Director determines that continued emergency assistance is immediately required; there is a continuing and immediate risk to lives, property, public health and safety; and necessary assistance will not otherwise be provided on a timely basis.¹³⁰

127 44 C.F.R. § 206.62(b) (1989).

128 44 C.F.R. § 206.63(b) (1989).

129 44 C.F.R. § 206.64 (1989).

130 44 C.F.R. § 206.66 (1989).

The federal government will pay at least 75 percent of the cost of this assistance.¹³¹

3. Individual Assistance Programs

There are several types of federal assistance available after a natural disaster, generally falling into one of two categories: individual assistance, for individuals, families and businesses, and public assistance, for state and local governments.

Individual assistance includes temporary housing, disaster unemployment assistance (DUA), individual and family grant programs (IFG), relocation assistance, disaster-related legal services, and funds from a special disaster assistance fund known as the Cora Brown Fund.¹³² Individual disaster victims are also eligible for crisis counseling assistance, though the assistance is sought and implemented by the state.¹³³ FEMA's Associate Director must assure that adequate stocks of food be available for mass feeding or distribution in the event of a major disaster or emergency.¹³⁴

After an emergency or major disaster, temporary housing assistance is authorized by Section 404 of the Disaster Relief Act,¹³⁵ and is available to individuals who have been displaced as

¹³¹ 44 C.F.R. § 206.65 (1989).

¹³² 44 C.F.R. Part 206, Subparts D, E, F (1989).

¹³³ 44 C.F.R. § 206.171 (1989).

¹³⁴ 44 C.F.R. § 206.151 (1989).

¹³⁵ 42 U.S.C. § 5174 (1986). See P.L. 100-707 (creating new Section 408, replacing Section 404 of P.L. 93-288).

a result of disaster related damage to a primary residence, combined with a lack of adequate insurance or assistance from other sources.¹³⁶ Eligibility for the assistance is based on an evaluation of the habitability of the residence and a determination that no other secondary residence is owned by the applicant.¹³⁷ Qualifying applicants are encouraged to make their own arrangements for temporary housing or repairs.¹³⁸

This assistance is normally in the form of a check to cover the cost of rent or essential home repairs, but can take the form of suitable rental housing, mobile homes, travel trailers or other manufactured housing.¹³⁹ Temporary housing assistance may also take the form of mortgage or rental payments provided on behalf of an eligible applicant who, as a result of a major disaster or emergency, has received written notice of dispossession or eviction from his primary residence by foreclosure of a mortgage or lien, cancellation of any contract of sale, or termination of a lease entered into prior to the disaster.¹⁴⁰ In cases where minor repairs can restore a primary

¹³⁶ 44 C.F.R. § 206.101(f) (1989).

¹³⁷ Id.

¹³⁸ 44 C.F.R. § 206.101(b) (1989).

¹³⁹ 44 C.F.R. §206.101(g) (1989). Placement of these forms of housing must comply with applicable state and local codes, as well as FEMA's regulations at 44 C.F.R. Part 9, Floodplain Management and Protection of Wetlands, and at 44 C.F.R. Part 10, **Environmental** Considerations. 44 C.F.R. § 206.101(g)(ii)(2) (1989).

¹⁴⁰ 44 C.F.R. § 206.101(g)(ii)(3) (1989).

residence to habitability, an applicant may be eligible to receive cash payments, provision of materials, or a government awarded repair contract for the needed repairs.¹⁴¹

Federal temporary housing assistance begins as of the date of the disaster, or at the expiration of housing assistance provided by any other relief organization, if the applicant establishes eligibility.¹⁴² If eligibility is maintained, the assistance is available for 18 months, after which the occupant must be recertified in three month increments.¹⁴³ Before receiving the assistance, the applicant must agree to repay FEMA from insurance proceeds or other recovery sources, an amount equal to the value of the temporary housing assistance.¹⁴⁴ The federal share of these costs is 100 percent, except for the construction and site development costs at a mobile home group site, where the federal share is 75 percent.¹⁴⁵ If approved by FEMA, a state may be given authority to administer all or part of the temporary housing assistance program.¹⁴⁶

141 44 C.F.R. § 206.101(g)(ii)(4) (1989).

142 44 C.F.R. § 206.101(k)(1) (1989).

143 44 C.F.R. §§ 206.101(k)(1), (k)(3) (1989).

144 44 C.F.R. §206.101(d)(2) (1989).

145 P.L. 100-707 § 106 (1988) (creating new Section 408, replacing Section 404 of P.L. 93-288). See also, 44 C.F.R. § 206.101(g)(ii) (2) (iii) (1989).

146 44 C.F.R. §206.101(s) (1989).

DUA is authorized by Section 407 of the Disaster Relief Act,¹⁴⁷ and is provided to individuals unemployed as a result of a major disaster. Authority to implement the program and to issue regulations is currently delegated to the Secretary of Labor.¹⁴⁸ The assistance includes employment services, counseling, work referrals and appropriate training for reemployment.¹⁴⁹ Individuals who have become unemployed¹⁵⁰ as a result of a major disaster must file applications within 30 days of the announcement that a major disaster has occurred.¹⁵¹ Disaster unemployment assistance is made available to an unemployed individual based on the "weekly amount of compensation the individual would have been paid as regular compensation, as computed under the provisions of the applicable state law for a week of total unemployment."¹⁵² It applies to any week of unemployment for which other unemployment compensation is not available, beginning the first week after the disaster began, and

¹⁴⁷ 42 U.S.C. § 5177 (1986). See P.L. 100-707 § 106(e), (f) (1988) (amending and redesignating Section 407 of P.L. 93-288 as new Section 410).

¹⁴⁸ 44 C.F.R. § 206.141 (1989). See 20 C.F.R. Part 625 - Disaster Unemployment Assistance (1989) for implementing regulations.

¹⁴⁹ 20 C.F.R. § 625.3 (1989).

¹⁵⁰ See 20 C.F.R. § 625.5 (1989) for regulations defining eligible unemployed individuals.

¹⁵¹ 20 C.F.R. § 625.8 (1989).

¹⁵² 20 C.F.R. § 625.6(a) (1989).

normally ending after one year.¹⁵³

IFGs are intended to allow individuals and families to meet expenses or serious needs resulting from a major disaster.¹⁵⁴ A federal grant is made to a state after the Governor's request,¹⁵⁵ and is limited to 75 percent of its actual cost of meeting such needs.¹⁵⁶ It is conditioned on an agreement that the state will supply the remaining 25 percent of the necessary assistance.¹⁵⁷ Total IFG funds available to an individual or family under this program are limited to \$10,000,¹⁵⁸ and are only available to those who have not qualified for other governmental disaster assistance programs, or have not satisfied their disaster-related necessary expenses from other programs.¹⁵⁹ The \$10,000 cap is tied to annual adjustments based on the Consumer Price Index (CPI).¹⁶⁰

153 20 C.F.R. § 625.7 (1989); P.L. 100-707 § 106(e) (1988).

154 44 C.F.R. § 206.131(b) (1989).

155 44 C.F.R. § 206.131(a) (1989).

156 *Id.*

157 *Id.*

158 *Id.*

159 44 C.F.R. § 206.131(d) (1989).

160 44 C.F.R. § 206.131(a) (1989).

An IFG grant for acquisition or **construction**¹⁶¹ in a designated special flood hazard area is prohibited unless the community is participating in the NFIP, or qualifies for and enters the NFIP within six months of the Presidential **declaration**,¹⁶² and the individual or family agrees to purchase and maintain adequate flood insurance for three years.¹⁶³ Grants may be used for repair or replacement of a primary residence (including a mobile home) that was owner-occupied at the time of the disaster, providing access, for clearing and debris removal, preventing safety hazards, and for complying with the hazard minimization standards required in floodplains and **wetlands**.¹⁶⁴ They also apply to personal property: repair, replacement or provision of transportation, medical or dental expenses; funeral expenses: cost of the first year's NFIP flood insurance premium as may be required; and costs for estimates required for IFG eligibility **determinations**.¹⁶⁵ IFG grants may not be used for business losses: improvements or additions to real or personal

¹⁶¹ "Financial assistance for acquisition or construction purposes" means a grant to an individual or family to repair, replace, or rebuild the insurable portions of a home, and/or to purchase or repair insurable contents. 44 C.F.R. § 206.131(d)(1)(ii)(iii)(A) (1989). See 44 C.F.R. Part 61 - Insurance Coverage and Rates, for discussion of what elements of a home and contents are insurable.

¹⁶² 44 C.F.R. § 206.131(d)(1)(ii)(iii)(B) (1989).

¹⁶³ 44 C.F.R. § 206.131(d)(1)(ii)(iii)(C) (1989).

¹⁶⁴ 44 C.F.R. § 206.131(d)(1)(ii)(iv)(2) (1989). See also 44 C.F.R. § 9.11(d) (1989).

¹⁶⁵ 44 C.F.R. § 206.131(d)(1)(ii)(iv)(2) (1987).

property: landscaping: recreational property or equipment; or financial obligations incurred prior to the disaster.¹⁶⁶

An IFG grant may not be allowed for acquisition or construction purposes when the applicant is deemed to have knowingly assumed the risk of future flood damage, such as where property is located within a flowage easement, or in an area between a river and levee where the applicant built a home after the levee was **built**.¹⁶⁷ The restriction also applies to situations when a residence is located on leased land, where the lease holds the government harmless from the risk of damages, however eligibility may be retained if the applicant uses the funds to move out of the risk **area**.¹⁶⁸ Grants must comply with the President's Executive Orders on Floodplain Management (Executive Order 11988) and Protection of Wetlands (Executive Order **11990**).¹⁶⁹

Legal services required as a result of a major disaster are made available free to low-income individuals,¹⁷⁰ but are restricted to non-fee-generating cases related to the securing of benefits under the Disaster Relief Act, and claims arising from

¹⁶⁶ 44 C.F.R. § 206.131(d)(1)(ii)(iv)(3) (1989).

¹⁶⁷ 44 C.F.R. § 206.131(d)(1)(ii)(iii)(E) (1989).

¹⁶⁸ **Id.**

¹⁶⁹ 44 C.F.R. § 206.131(d)(ii)(iv) (1989). See 44 C.F.R. Part 9 (1989) for regulations defining which IFG program actions require a floodplain management decision-making process, and specifying the steps in the process.

¹⁷⁰ 44 C.F.R. § 206.164 (1989).

the disaster.¹⁷¹ As mentioned above, food commodities are made available for emergencies or major disasters under the authority of Section 410 of the Act.¹⁷² Section 411 of the Act¹⁷³ assures that a person eligible for a replacement housing payment under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646), will not be denied eligibility if a major disaster makes him or her unable to meet the occupancy requirements of the Act.¹⁷⁴

Short term disaster-related counseling is also made available to victims of a major disaster to relieve mental health problems caused or aggravated by the disaster.¹⁷⁵ The Governor or his authorized representative must assess the need for a counseling program within 10 days of the Presidential declaration.¹⁷⁶ A grant for immediate services may be made if the severity of the disaster is such that state and local resources are insufficient to provide the services.¹⁷⁷ The funding period for immediate services may not exceed 60 days from the declaration.¹⁷⁸ After a

171 Id.

172 42 U.S.C. § 5180 (1986).

173 42 U.S.C. § 5181 (1986).

174 44 C.F.R. § 206.161 (1989).

175 44 C.F.R. § 206.171(c) (1989).

176 44 C.F.R. § 206.171(d) (1989).

177 44 C.F.R. § 206.171(f) (1989).

178 44 C.F.R. § 206.171(f)(4) (1989).

more extensively documented application is received, a regular program grant is made to the state, local or private mental health organization designated by the **Governor**.¹⁷⁹ The application must be made to the Assistant Associate Director of FEMA and to the Secretary of Health and Human Services within 60 days of the **declaration**,¹⁸⁰ and the program may run no longer than nine months from the date of the notice of grant award, though a 90-day extension may be authorized because of documented extenuating circumstances.¹⁸¹

The Cora Brown Fund provides grants up to \$2000 for disaster-related needs that are not met by other **programs**.¹⁸² General categories of assistance for which the fund is available include: disaster-related home repair and rebuilding, site acquisition and development, relocation and temporary **housing**;¹⁸³ disaster related needs that are not met by funds from other sources; and other services which alleviate human **suffering**.¹⁸⁴ The fund is made available when a major disaster or emergency is declared by the

¹⁷⁹ 44 C.F.R. § 206.171(g) (1989).

¹⁸⁰ *Id.*

¹⁸¹ 44 C.F.R. § 206.171(g)(iv)(4)(i) (1989).

¹⁸² 44 C.F.R. §§ 206.181(b), (c)(2) (1989).

¹⁸³ 44 C.F.R. § 206.181(b)(1) (1989). The grant is subject to a requirement that any construction or acquisition must include purchase of adequate flood insurance as determined by the Assistant Associate Director. Flood Disaster Protection Act (P.L. 93-234); 44 C.F.R. § 206.181(c)(6) (1989).

¹⁸⁴ 44 **C.F.R.** § 206.181(b)(3) (1989).

President.¹⁸⁵

4. Public Assistance Grants and Community Disaster Loans

a. Administration

After a Presidential declaration of an emergency or major disaster, the RD of FEMA and the GAR's schedule and conduct meetings for state and local governments and nonprofit organizations providing public service facilities, to explain the requirements and procedures for obtaining public assistance. Generally, federal grant assistance is provided after a project application is submitted to and approved by the GAR and the RD.¹⁸⁶ Within 30 days of the designation of an area, the GAR must submit to the RD a completed Notice of Interest (FEMA Form 90-49) for each applicant requesting assistance.¹⁸⁷ For each site, joint federal-state inspection teams prepare Damage Survey Report-Data Sheets (DSRs) (FEMA Form 90-91), which must be included in any project application. A local representative must accompany the damage survey inspection team to ensure that all eligible work and costs are identified.¹⁸⁸ All pertinent information is recorded on the Data Sheets, including an estimate of the cost of the recommended work.¹⁸⁹ Project applications based on the DSRs

185 44 C.F.R. § 206.181(c)(1) (1989).

186 44 C.F.R. § 206.202 (1989).

187 44 C.F.R. § 206.202(c) (1989).

188 44 C.F.R. § 206.202(d) (1989).

189 44 C.F.R. § 206.202(d) (1989).

are submitted to the RD through the GAR.¹⁹⁰

Federal assistance is available for several categories of public assistance. These include debris removal,¹⁹¹ emergency **work,**¹⁹² restoration of damaged facilities,¹⁹³ fire suppression,¹⁹⁴ community disaster **loans,**¹⁹⁵ and hazard mitigation grants.¹⁹⁶ In the first four categories, to be eligible for financial assistance, an "item of work" must be required as a result of the major disaster; be located within a designated disaster area; and be the legal responsibility of an eligible **applicant.**¹⁹⁷

Applicants may also receive reimbursement for certain allowable costs, including ownership and operation costs for applicant-owned equipment; state (grantee) management costs; subgrantee

190 44 C.F.R. § 206.202(e) (1989).

191 See 44 C.F.R. § 206.224 (1989).

192 See 44 C.F.R. § 206.225 (1989).

193 See 44 C.F.R. § 206.226 (1989).

194 See 44 C.F.R. §§ 206.390 et seq. (1989).

195 **See 44** C.F.R. §§ 206.360 et seq. (1989).

196 See 44 C.F.R. §§ 206.430 et seq. (1989).

197 44 C.F.R. § 206.223(a) (1989). Eligible applicants include state agencies, local governments, private nonprofit organizations which own or operate a private nonprofit facility, and Indian tribes or authorized tribal organizations. 44 C.F.R. § 206.222 (1989). See 44 **C.F.R. §§ 206.220-206.223** for general eligibility requirements. Once approved for assistance, an eligible applicant becomes a "subgrantee," with the state acting as the "grantee." 44 **C.F.R. §§ 206.201(e), (k)** (1989).

administrative expenses: and grantee administrative expenses.¹⁹⁸

When the approved estimate of eligible costs for one project is \$35,000 or greater, federal funding will equal the federal share of the actual eligible costs documented by the state.¹⁹⁹ The \$35,000 figure is adjusted annually to reflect changes in the CPI. Final payment is made when the project is completed.²⁰⁰ When the approved estimate of eligible costs is under \$35,000, federal funding is equal to the federal share of the approved estimate of eligible costs. The cut-off figure is also adjusted to reflect changes in the CPI, and federal funds are released when the project is approved.²⁰¹

If a subgrantee intends to restore a damaged facility with improvements, the federal funding share will not be reduced, but the subgrantee must obtain the approval of the state's GAR.²⁰² If a subgrantee determines that the public welfare is not best served by restoring a damaged facility or the function of that facility, the GAR may request the Regional Director to approve an alternate project, for which the federal funding share will be 90 percent of the federal share of the approved estimate of eligible

198 44 C.F.R. § 206.228 (1989). See 44 C.F.R. §§ 206.204, 206.207 for rules regarding project performance, and administrative and audit requirements.

199 44 C.F.R. § 206.203(c)(1) (1989).

200 Id. See also 44 C.F.R. § 206.205(b) (1989).

201 44 C.F.R. § 206.203(c)(2) (1989).

202 44 C.F.R. § 206.203(d) (1989).

costs.²⁰³ Alternate projects must include a description of the proposed project, a schedule of work, the projected cost, and all necessary measures to comply with special requirements, including those for floodplain management, environmental assessment, hazard mitigation, protection of wetlands, and **insurance.**²⁰⁴

b. Public Assistance Grants

Grants for debris removal from public and private lands may be approved by the RD when determined to be in the public interest.²⁰⁵ This can include clearance of debris from the living, recreational, and working areas of private property, if found to be in the public interest. It does not include clearance of areas use for crops and livestock, or unused **areas.**²⁰⁶ No direct financial assistance will be provided to an individual or private organization for this purpose, or to an eligible applicant for reimbursement of an individual or private organization, except for private nonprofit organizations operating eligible **facilities.**²⁰⁷

Grants for emergency work involve protective measures to save

²⁰³ 44 C.F.R. § 206.203(d)(2) (1989).

²⁰⁴ **Id.**

²⁰⁵ 44 C.F.R. § 206.224(a) (1989). The debris removal is in the public interest when it is necessary to eliminate immediate threats to life, public health, and safety: or eliminate immediate threats of significant damage to improved public or private property: or ensure economic recovery of the affected community to the benefit of the community-at-large. **Id.**

²⁰⁶ 44 C.F.R. § 206.224(b) (1989).

²⁰⁷ 44 C.F.R. § 206.224(c) (1989).

lives, protect public health and safety, and to protect improved property.²⁰⁸ To be eligible, these measures must eliminate or lessen immediate threats to life, public health or safety, or eliminate or lessen threats of significant additional damage to improved public or private property through cost-effective measures.²⁰⁹ This type of work includes restoring emergency access, establishing emergency communications, and providing emergency public transportation.²¹⁰

When state and local governments are unable to perform or to contract for eligible debris removal or emergency work, the GAR may request the work be done directly by federal agencies.²¹¹ The work must be completed within 60 days of a Presidential declaration, though the deadline may be extended for extenuating circumstances.²¹² This type of assistance is subject to the eligibility and cost-sharing provisions applicable to financial grants.

208 44 C.F.R. § 206.225(a) (1989).

209 Id.

210 44 C.F.R. §§ 206.225(b), (c), (d). FEMA funding for emergency communications and public transportation is intended to supplement but not replace predisaster communications and facilities, and will be discontinued as soon as the emergency needs have been met. Id. §§ 206.225(c), (d) (1989).

211 See 44 C.F.R. § 206.208 (1989).

212 44 C.F.R. § 206.208(d) (1989).

Grants may be made to restore eligible facilities based on the predisaster **design.**²¹³ The costs associated with federal, state or local repair/replacement standards will be eligible if the standards apply to the type of repair or restoration required; are appropriate to the predisaster use of the facility; are in writing and formally adopted prior to the project approval; and apply uniformly to all similar types of facilities within the jurisdiction of the **owner.**²¹⁴ The RD may authorize or require cost-effective hazard mitigation measures not required by applicable standards, and the resultant costs will be eligible for FEMA **assistance.**²¹⁵ A facility damaged up to 50 percent of the replacement cost is considered repairable, if it is feasible to repair the facility so that it can perform its predisaster **function.**²¹⁶ If not considered repairable, approved restorative work may include replacement of the facility. Instead of replacing it, the applicant may choose to repair the facility in conformity with applicable standards, however eligible costs will

²¹³ 44 C.F.R. § 206.226 (1989). Facilities being used for purposes other than those for which they were designed are eligible for restoration funds only to the extent necessary to restore the immediate predisaster alternate purpose. Facilities not in active use at the time of the disaster are not eligible for restoration funds, unless it was a temporary inactivity. 44 C.F.R. § 206.226(h) (1989). Replacement of sand on unimproved natural beaches is not eligible, while work on an improved beach may be eligible only under certain conditions. 44 C.F.R. § 206.226(g) (1989).

²¹⁴ 44 C.F.R. § 206.226(a) (1989).

²¹⁵ 44 C.F.R. § 206.226(b) (1989).

²¹⁶ 44 C.F.R. § 206.226(c) (1989).

be limited to the less expensive option.²¹⁷

The RD may approve funding for and require restoration of a destroyed facility at a new location when the facility is and will be subject to repetitive heavy damage: the approval is not barred by other provisions of Title 44 CFR; and the overall project, including costs, is cost effective.²¹⁸ Eligible work in this circumstance includes that for demolition and removal of the old facility, land acquisition, and ancillary facilities such as roads and utilities.²¹⁹ When relocation is required, no future funding for repair or replacement of any facility at the original site will be approved, except those facilities which facilitate an open space use in accordance with 44 CFR Part 9.²²⁰ If approval is requested for an alternate project,²²¹ eligible costs are limited to 90 percent of the estimate of restoration at the original location excluding hazard mitigation measures. If relocation is not feasible or cost effective, the RD must disapprove federal funding when he or she determines in accordance with 44 CFR Part 9, 44 CFR Part 10, or 44 CFR Part 206, Subpart M, that restoration in the original location is not

²¹⁷ Id.

²¹⁸ 44 C.F.R. § 206.226(d) (1989).

²¹⁹ 44 C.F.R. § 206.226(d)(2) (1989).

²²⁰ 44 C.F.R. § 206.226(d)(3) (1989).

²²¹ Alternate projects may be requested by the GAR where the subgrantee determines the public welfare would not be best served by restoring a damaged public facility. See 44 C.F.R. § 206.203(d)(2) (1989).

allowed.²²²

Fire suppression grants, equipment, supplies and personnel may be authorized by the Associate Director when he or she determines that a fire or fires threaten destruction that would constitute a major disaster.²²³ The assistance is for suppression of fires on any publicly or privately owned forest or grassland,²²⁴ and is subject to the terms and conditions of a continuing FEMA-State Agreement for Fire Suppression Assistance.²²⁵ Eligible costs include those for field camps, meals, use of federal and state equipment, tools, supplies, lost equipment replacement, firefighter safety and health needs, and mobilization costs.²²⁶

c. Community Disaster Loans

Community Disaster Loans may be made by the Associate Director to any local government which suffers a substantial loss of tax and other revenues as a result of a major disaster and which demonstrates a need for federal financial assistance in order to perform its governmental functions.²²⁷ The loan is based

²²² 44 C.F.R. § 206.226(d)(5) (1989).

²²³ 44 C.F.R. § 206.390 (1989).

²²⁴ Id.

²²⁵ 44 C.F.R. § 206.391 (1989).

²²⁶ 44 C.F.R. § 206.394 (1989).

²²⁷ 42 U.S.C. § 5184 (1986); See also 44 C.F.R. § 206.361 et seq. (1989). See 44 C.F.R. § 206.363 for rules regarding eligibility criteria.

on need, but may not exceed 25 percent of the operating budget of the local government for the fiscal year in which the disaster occurs.²²⁸ Only one loan may be approved for any particular local government, for either the fiscal year in which the disaster occurred or in the following fiscal **year.**²²⁹ It must normally be repaid within five years.

Requests for extensions will be considered based on financial condition of the local government, and may be allowed beyond 10 years if the local government agrees to repay over the extended period of **time.**²³⁰ The interest rate will equal that of the Treasury rate for five year maturities in effect for the month the promissory note is executed.²³¹ The Associate Director will cancel repayment of all or part of the loan to the extent that revenues of the local government during the three years following the disaster are insufficient to meet the operating budget of the local government because of disaster-related revenue **losses.**²³² Community Disaster Loans must be used to carry on existing local government functions of a municipal character or to meet

²²⁸ 44 C.F.R. § 206.361(b) (1989).

²²⁹ 44 C.F.R. § 206.361(d) (1989). See 44 C.F.R. §§ 206.364 and 206.365 for rules regarding loan application procedures and loan administration requirements.

²³⁰ 44 C.F.R. § 206.361(e) (1989). See 44 C.F.R. § 206.367 for rules regarding loan repayment and loan extensions.

²³¹ 44 C.F.R. § 206.361(c) (1989).

²³² 44 C.F.R. § 206.361(g) (1989). See 44 C.F.R. § 206.366 for policies and rules regarding loan cancellation.

disaster-related municipal operations, not to finance capital improvements of repair public **facilities.**²³³

d. Hazard Mitigation Grants

FEMA has also been given the authority to make 50-50 matching grants to states for approved hazard mitigation projects following the hazard mitigation evaluation.²³⁴ Total federal contributions under this section may not exceed 10 percent of the estimated federal assistance under Section 406 of the **Act.**²³⁵ To be eligible for a grant under this program, a project must: a) be in conformance with the hazard mitigation plan developed under Section 409 of the Act; b) have a beneficial impact upon the designated disaster area, whether or not located in the disaster area; c) be in conformance with 44 CFR Part 9, Floodplain Management and Protection of Wetlands, and 44 CFR Part 10, Environmental Considerations; d) solve a problem independently or constitute a functional portion of a solution where there is assurance that the project as a whole will be completed; e) be cost-effective and substantially reduce the risk of future damage, hardship, loss, or suffering resulting from a major **disaster.**²³⁶ Eligible projects include, but are not limited to:

²³³ 44 C.F.R. § 206.361(f) (1989).

²³⁴ P.L. 100-707 §-106(a) (1988) (creating new Section 404 of P.L. 93-288). See generally, 44 C.F.R. §§ 206.430-207.440 (1989).

²³⁵ **Id.** See 44 C.F.R. § 206.432 (1989).

²³⁶ 44 C.F.R. § 206.434(b) (1989).

structural hazard control or protection projects; construction activities that will result in protection from hazards; retrofitting of facilities: acquisition or relocation; development of state or local mitigation standards: development of comprehensive hazard mitigation programs with implementation as an essential component: development or improvement of warning

5. Hazard Mitigation

Under Section 409 of the Disaster Relief Act,²³⁷ local governments receiving federal loans or grants must agree to evaluate natural hazards in the area in which the funds are used and take appropriate action to mitigate the hazards, including safe land use and construction practices.²³⁸ Implementing regulations are codified at 44 C.F.R. §206, Subpart M, and describe a cooperative process by which federal, state and local authorities evaluate hazards and develop hazard mitigation plans.²³⁹ The plans must be submitted to FEMA'S RD within 180 days of the Presidential declaration.²⁴⁰ FEMA has adopted an advisory role in the formulation and implementation of hazard mitigation plans, encouraging local and state governments to

²³⁷ 42 U.S.C. § 5176 (1986). See P.L. 100-707 § 106(a) (1988) (redesignating Section 406 of P.L. 93-288, as new Section 409).

²³⁸ Id. See also 44 C.F.R. §§ 206.402, 206.403(e) (1989).

²³⁹ 44 C.F.R. § 206.400 et seq. (1989).

²⁴⁰ 44 C.F.R. § 206.403(e) (1989).

adopt effective hazard mitigation measures.²⁴¹ It provides technical assistance for hazard mitigation to local and state governments,²⁴² as well as "realistic and attainable mitigation options for their consideration and adoption,"²⁴³ with due consideration given to nonstructural disaster protection methods.²⁴⁴

Following the declaration of an emergency or major disaster, a joint federal/state/local survey team, composed of hazard mitigation coordinators for each level of government, is established by the FEMA RD, the GAR, and the local government.²⁴⁵ The team visits the disaster area and utilizes information from preliminary damage assessments, DSRs and other pertinent sources to evaluate disaster-related hazards and review any applicable land use regulations, construction standards and other hazard mitigation measures.²⁴⁶ The FEMA Hazard Mitigation Coordinator supplies model regulations, suggested standards and other references during this time.²⁴⁷ The team must recommend appropriate hazard mitigation measures for each significant

241 44 C.F.R. § 206.402(a) (1989).

242 44 C.F.R. § 206.402(c) (1989).

243 *Id.*

244 44 C.F.R. § 206.402(h) (1989).

245 44 C.F.R. §§ 206.403, 206.404 (1989).

246 44 C.F.R. § 206.404(b) (1989).

247 *Id.*

hazard identified in the final **report**,²⁴⁸ which is submitted to the RD and the GAR. Federal funding can be recovered whenever an applicant fails to satisfy any conditions upon which the approval of a grant is **based**.²⁴⁹

The state hazard mitigation coordinator arranges for consultations on the findings and recommendations of the joint survey team and follows up to assure that local governments take timely and adequate hazard mitigation **actions**.²⁵⁰ He or she also arranges for state funding or technical assistance to applicants, to implement hazard mitigation actions, and follows up with inspections or audits to verify compliance with the approved **actions**.²⁵¹ The local hazard mitigation coordinator informs local officials of survey team activities. With each project application, the applicant must submit assurances that any required hazard mitigation measures have been taken or will be completed, and must enforce any land use regulations and construction standards upon which a loan or grant is conditioned.²⁵² A joint federal/state/local planning team is also established, in the same manner as the joint survey team, and evaluates existing state/local hazard mitigation plans, with

²⁴⁸ **Id.**

²⁴⁹ 44 C.F.R. § 206.403(b)(3) (1989).

²⁵⁰ 44 C.F.R. § 206.403(c) (1989).

²⁵¹ **Id.**

²⁵² 44 C.F.R. § 206.403(d) (1989).

particular attention given to their adequacy for warning and **evacuation.**²⁵³ The planning team also reviews the survey team's findings, prepares the Section 406 Hazard Mitigation Plan and submits it to the RD, through the **GAR.**²⁵⁴

Several types of measures can be recommended, including avoidance of hazards, reduction of hazards, and adoption/enforcement of land use regulations and safe construction **practices.**²⁵⁵ The preferred strategy for siting new facilities or major reconstruction is to avoid further damage by locating the facility out of high hazard **areas.**²⁵⁶ Appropriate land use regulations may include existing or modified local zoning ordinances, state or federal land use regulations, or FEMA approved standards applicable to FEMA assisted **projects.**²⁵⁷ In reviewing construction practices or standards in an area, the joint survey team or planning team may recommend model federal or state standards more appropriate to the disaster mitigation needs of a local government. Construction standards may also include those of state and federal agencies, and federal requirements for

²⁵³ 44 C.F.R. § 206.405(a) (1989).

²⁵⁴ 44 C.F.R. § 206.411(c) (1989). See e.g., Division of Emergency Management, Florida Department of Community Affairs, ~~Post-Disaster Hazard Mitigation Plan for the State of Florida, (1986)~~ (prepared in response to hurricane: **Elena and Kate in 1985**).

²⁵⁵ 44 C.F.R. § 206.406(a) (1989).

²⁵⁶ 44 C.F.R. § 206.406(b) (1989).

²⁵⁷ 44 C.F.R. § 206.407 (1989).

communities participating in the NFIP.²⁵⁸

D. COASTAL BARRIER RESOURCES ACT

The Coastal Barrier Resources Act (CBRA)²⁵⁹ was enacted in 1982 in the face of rising concern over unacceptable levels of development and federal expenditures on coastal barriers.²⁶⁰ Its purposes are to minimize loss of human life; reduce wasted federal expenditures; and reduce damage to fish and wildlife habitat and other valuable natural resources of coastal barriers.²⁶¹ The Act establishes a Coastal Barrier Resources System (CBRS) along the Atlantic and Gulf coasts,²⁶² and essentially prohibits "future federal expenditures and financial assistance which have the effect of encouraging development of coastal barriers."²⁶³

²⁵⁸ 44 C.F.R. § 206.408 (1989).

²⁵⁹ P.L. 97-348, codified at 16 U.S.C. §§ 3501 - 3510 (1986).

²⁶⁰ S. Rep. No. 419, 97th Cong., 2d Sess. 2-3 (1982).

²⁶¹ 16 U.S.C. § 3501(b) (1986).

²⁶² 16 U.S.C. § 3503(a)(1) (1986). See generally, Godschalk, The 1982 Coastal Barrier Resources Act: A New Federal Policy Tack, in Platt, Pelczarski & Burbank (eds.), Cities on the Beach: Management Issues of Developed Coastal Barriers, University of Chicago (1987); Kuehn, The Coastal Barrier Resources Act and the Expenditures Limitation Approach to Natural Resources Conservation: Wave of the Future or Island Unto Itself?, 11 Ecology Law Quarterly 583-670 (1984).

²⁶³ 16 U.S.C. § 3501(b) (1986).

As established by Congress, the CBRS consists of 186 undeveloped coastal barrier units, totalling 452,834 acres, including 61,575 acres in Florida.²⁶⁴ If adopted by Congress, recommendations being made by the Department of the Interior may increase the total to 1.4 million acres, with over 237,000 acres in Florida.²⁶⁵ At present, an undeveloped coastal barrier is defined as a depositional geologic feature consisting of unconsolidated sedimentary materials, subject to wave, tidal and wind energies, which protects landward aquatic habitats from direct wave attack, including all associated aquatic habitats such as adjacent wetlands, estuaries and nearshore waters.²⁶⁶ The barrier must contain few manmade structures and not be within an established wildlife refuge or natural resource conservation area.²⁶⁷

The Department of Interior's proposals will specifically include within the CBRS adjacent aquatic habitats associated with coastal barriers. Though the current definition includes such areas, the 1982 designations concentrated on landfast areas that could support residential development, leaving many associated

²⁶⁴ U.S. Dept. of Interior, Draft Report to Congress: Coastal Barrier Resources System, Executive Summary 10 (March, 1987).

²⁶⁵ Id.

²⁶⁶ 16 U.S.C. § 3502(1) (1986).

²⁶⁷ Id.

aquatic areas out of the **system**.²⁶⁸ The proposals will also expand the definition of "coastal barrier" to include landforms that function as coastal barriers, even if not composed of unconsolidated sediments, such as the Florida Keys and other coral reef or mangrove **ecosystems**.²⁶⁹

Financial assistance restricted by the Act includes any loan, grant, guaranty, insurance, payment, rebate, subsidy or other form of direct or indirect federal **assistance**.²⁷⁰ The Act's restrictions do not apply to general revenue-sharing grants, deposit or account insurance for banks and similar institutions, the purchase of mortgages or loans by certain federal mortgage associations, assistance for federally required environmental or planning studies, and assistance unrelated to **development**.²⁷¹ Effective October 1, 1983, flood insurance under the NFIP is also restricted for any new construction or substantial improvement of

²⁶⁸ U.S. Dept. of Interior, Draft Report to Congress: Coastal Barrier Resources System. Executive Summary, 8-9 (March, 1987).

²⁶⁹ National Wildlife Federation, Barrier Islands Newsletter, May 1987, at 4.

²⁷⁰ 16 U.S.C. § 3502(3) (1986). The restriction also applies to small business loan assistance under the Small Business Act (P.L. 85-536), 15 U.S.C. § 631, and the Small Business Investment Act (P.L. 85-699), 15 U.S.C. § 661 (1986). **See** 13 C.F.R. § 116.40 (1987). Regulations applying the restrictions of CBRA to the assistance provided by the Disaster Relief Act of 1974 are contained in 44 C.F.R. Part 206, Subpart J--Coastal Barrier Resources Act (1989).

²⁷¹ *Id.* This category includes Individual and Family Grants not intended for acquisition or construction; crisis counseling; legal assistance; disaster unemployment assistant. **See** 44 C.F.R. § 206.343 (1989).

a structure within the **CBRS**.²⁷² Insurance contracts entered into prior to that date are valid.

Section 5 of the **Act**²⁷³ prohibits any new federal expenditures or new financial assistance within the CBRS, including that for construction or purchase of structures and infrastructure: roads, airports, bridges, causeways or boat landing facilities: and most erosion control or stabilization **projects**.²⁷⁴ Expenditures and assistance are considered to be new if money had not been appropriated, and no legally binding commitment for the expenditure or assistance was made before the date the Act was passed (October 18, 1982).²⁷⁵ Expenditures for emergencies threatening life, land and property immediately adjacent to a CBRS unit are not **restricted**.²⁷⁶ Exceptions also include: expenditures in the CBRS for certain federal activities involving energy resources facilities; maintenance of existing channel improvements and related structures: maintenance and replacement, but not the expansion of publicly-owned or operated roads or facilities that are "essential links in a larger network or

²⁷² Id. See also 42 U.S.C. § 4028 (1987). See 44 C.F.R. Part 71 (1987).

²⁷³ 16 U.S.C. § 3504 (1986).

²⁷⁴ 16 U.S.C. § 3504(a) (1986). See 44 C.F.R. § 206.344 (1989).

²⁷⁵ 16 U.S.C. § 3504 (b) (1986). See 44 C.F.R. § 206.342(g) (1989).

²⁷⁶ 16 U.S.C. § 3504(a) (1986). See 44 C.F.R. § 206.347(a)(2) (1989).

system;²⁷⁷ and military activities and Coast Guard **facilities.**²⁷⁸

Assistance for any of the following is allowed if considered consistent with the purposes of the Act: projects for scientific and ecological research; navigational aids; emergency **assistance;**²⁷⁹ maintenance and replacement, but not expansion of publicly-owned or operated roads and **facilities;**²⁸⁰ nonstructural shoreline stabilization **projects;**²⁸¹ Land and Water Conservation Fund **projects,**²⁸² and those under the Coastal Zone Management Act.²⁸³

The Department of Interior is proposing that private inholdings within conservation or recreation areas established by federal, state or local law on undeveloped coastal barriers be

²⁷⁷ See 44 C.F.R. § 206.347(c) (1989) for rules regarding repair or replacement of "essential links."

²⁷⁸ 16 U.S.C. § 3505(a) (1986). See 44 C.F.R. § 206.345(a) (1989).

²⁷⁹ Including debris removal from public property; protective measures to save life, protect public health and safety, and prevent damage to improved property: restoration of essential community services: provision of access to a private residence; provision of emergency shelter, including provision of heat, utilities, or minimal cooking facilities: relocation of persons or property out of danger; home repairs for habitability; housing eligible families in existing CBRS resources; mortgage and rental payment assistance. 44 C.F.R. § 206.346(a) (1989).

²⁸⁰ Including roads and bridges: drainage structures, dams, levees: buildings and equipment: utilities; park and recreational facilities. 44 C.F.R. § 206.346(b) (1989).

²⁸¹ 16 U.S.C. § 3505(a)(b) (1986). See 44 C.F.R. § 206.345(b) (1989).

²⁸² 16 U.S.C. § 4001 et seq. (1986).

²⁸³ 16 U.S.C. § 1451 et seq. (1986).

included within the CBRS. If a private not-for-profit owner holding an undeveloped coastal barrier for conservation purposes attempts to sell the property for development inconsistent with the long-term conservation of the barrier, the Department of Interior also proposes that the area be automatically included in the **CBRS**.²⁸⁴ The recommendations are undergoing final review, and are expected to be formally presented to Congress in the Fall of **1988**.²⁸⁵

E. EXECUTIVE ORDER 11988

On May 24, 1977, the President promulgated Executive Order 11988, establishing a uniform federal policy on floodplain **management**.²⁸⁶ Recognizing the "long and short term adverse impacts associated with the occupancy and modification of **floodplains**,"²⁸⁷ the order requires federal agencies to "avoid direct or indirect support of floodplain development wherever

²⁸⁴ U.S. Dept. of Interior, Draft Report to Congress: Coastal Barrier Resources System. Executive Summary, 11-12 (March, 1987):

²⁸⁵ Telephone interview with Elise Jones, Coastal Barrier Coordinator, National Wildlife Federation (June 14, 1988).

²⁸⁶ 42 Fed. Reg. 26951 (May 24, 1977). See The Environment Message to Congress, May 23, 1977, in Weekly Compilation of Presidential Documents, Monday, May 30, 1977, Vol. 13, No. 22, pp. 782-808. Executive Order 11990, establishing a federal policy for the protection of wetlands, was promulgated at the same time. For implementing rules, see 18 C.F.R. Part 725 (1987).

²⁸⁷ Id., §1.

there is a practicable alternative."²⁸⁸ It applies to federal agencies in the acquisition, disposal or management of federal lands; in undertaking, financing or assisting in construction projects: and in federal planning, licensing or regulatory **activities.**²⁸⁹

The order requires federal agencies to first determine whether the proposed action will occur in a **floodplain.**²⁹⁰ If so, the agency must consider alternatives that will avoid adverse effects and incompatible floodplain development.²⁹¹ If the only practicable alternative is to site the activity in the floodplain, then the agency must minimize potential harm to the **floodplain.**²⁹² Damage to structures from flooding must also be minimized by compliance with the standards of the **NFIP.**²⁹³ Floodproofing or other flood protection measures must be **used.**²⁹⁴ Wherever practicable, buildings must be elevated above the base flood elevation to achieve protection rather than placed on **fill.**²⁹⁵ In places where floods have damaged federal facilities,

²⁸⁸ **Id.**

²⁸⁹ **Id.**

²⁹⁰ **Id.**, §2 (a) (1).

²⁹¹ **Id.**, § (a) (2) .

²⁹² **Id.**

²⁹³ **Id.**, §3.

²⁹⁴ **Id.**, §3 (b).

²⁹⁵ **Id.**, §3 (b).

the order requires "conspicuous delineation of past and probable flood height in order to enhance public awareness of and knowledge about flood **hazards.**"²⁹⁶

The U.S. Water Resources Council has issued guidelines for other federal agencies to use in implementing Executive Order **11988.**²⁹⁷ The guidelines establish an eight-step process for ensuring compliance:

1. Determine whether the proposed action is in the 100-year floodplain or has the potential to affect the floodplain;
2. Inform and involve the public;
3. Identify practicable alternatives to carrying out the action in the floodplain:
4. If there is no practicable alternative to using the floodplain, identify potential adverse impacts:
5. Identify ways to minimize potential adverse effects and preserve natural floodplain values;
6. Reevaluate the proposed action in light of the information developed in the steps described above;
7. Notify the public of the final decision and the rationale for it;

²⁹⁶ **Id.**, §3 (c).

²⁹⁷ U.S. Water Resources Council, Floodplain Management Guidelines for Implementing Executive Order 11988, 44 Fed. Reg. 6030 (February 10, 1978).

8. Review actions taken to ensure consistency with the order.²⁹⁸

FEMA conducted a review of Executive Order 11988 in 1982 at the direction of the Office of Management and Budget.²⁹⁹ As a result, support for the order was reaffirmed by the Reagan administration.³⁰⁰

F. LEGAL CHALLENGES TO FEDERAL PROGRAMS

There have been at least 85 cases in the federal courts addressing various sections of the National Flood Insurance Act of 1968,³⁰¹ and the Flood Disaster Protection Act of 1973,³⁰² which together form the NFIP.³⁰³ Although most of the cases address the insurance aspects of the NFIP, others involve constitutional challenges, judicial and administrative procedural matters, or questions regarding flood elevation determinations made by FEMA

²⁹⁸ Id.

²⁹⁹ Federal Emergency Management Agency, The 100-year Base Flood Standard and the Floodplain Executive Order (September, 1983), cited in Federal Emergency Management Agency, A Unified National Program for Floodplain Management, VI-19, FEMA 100 (March, 1986).

³⁰⁰ Id.

³⁰¹ P.L. 90-448, codified at 42 U.S.C. §§ 4001-4128 (Supp. III 1985).

³⁰² P.L. 93-234, codified at 42 U.S.C. §§ 4001-4128 (Supp. III 1985).

³⁰³ See e.g., Deason, Mandatory Federal Flood Insurance and Land Use Control, 49 Fla. B.J. 302 (June, 1975); Dinkins, The Federal Zoning Program: Regulation of Flood Plain Use Under the National Flood Insurance Act, 14 L. Notes 35 (Spring, 1978).

under the land management aspects of the program.³⁰⁴

1. Constitutionality of the National Flood Insurance Program

In Texas Landowners Rights Association v. Harris,³⁰⁵ several landowners and communities challenged the constitutionality of the NFIP by seeking an injunction to prevent the FIA from suspending them from the program. The D.C. District Court held that the program does not violate state and local sovereign powers or federalism principles under the Tenth Amendment because it is a "...carrot and stick scheme...which offers certain inducements for state participation, rather than one...which mandates local compliance...."³⁰⁶

The district court also held that the NFIP does not constitute a taking of land without payment of just compensation under the Fifth and Fourteenth Amendments. The court concluded that even if the sanctions imposed on nonparticipating areas resulted in a loss of certain mortgage financing and caused a diminution of land values, in applying the "...usual balancing test of social policy and public interest versus the rights of a landowner to be unencumbered in the use of his property...the scales tip in favor of the public interest."³⁰⁷

³⁰⁴ Smith, Litigation on the National Flood Insurance Program, Ins. L.J. 524 (Sept., 1979).

³⁰⁵ 453 F.Supp. 1025 (D. D.C. 1978), aff'd 598 F.2d 311 (D.C. Cir. 1979), cert. denied, 100 S.Ct. 267 (1979).

³⁰⁶ 453 F.Supp. 1025, 1030 (D. D.C. 1978).

³⁰⁷ Id. at 1032.

The court concluded that the NFIP is a reasonable exercise of Congressional power " . . .rationally related to the legitimate national goal of protecting property owners, and the United States, against flood damage..." and that "...whatever deprivation of property may result from the Program must be considered insubstantial when balanced against the procedures provided for protecting that **interest....**"³⁰⁸ It held, therefore, that plaintiffs' due process challenge must also fail, and denied the injunction to prohibit the FIA from suspending plaintiffs from the program.

2. Agency Discretion Under the NFIP

In Commonwealth of Pennsylvania v. National Association of Flood Insurers,³⁰⁹ the Commonwealth, on behalf of itself and its citizens, brought an action against private flood insurers and the federal agency administering the NFIP for their alleged failure to advertise the availability of flood insurance prior to floods, seeking damages in excess of \$1 billion. The district court dismissed the complaint, concluding that the NFIP imposed no statutory or contractual duty on the private insurers to publicize flood insurance availability, and that even if such a duty were implied, plaintiffs were not third party beneficiaries and therefore had no standing to sue. The court also concluded

308 *Id.* at 1033.

309 378 F.Supp. 1339 (M.D. Pa. 1974), aff'd in part, rev'd in part, and remanded, 520 F.2d 11 (3d Cir. 1975), aff'd on remand, 420 F.Supp. 221 (M.D. Pa. 1976). See also, Schell v. National Flood Insurers Ass'n, 520 F.Supp. 150 (D. Colo. 1981).

that the program did not impose a nondiscretionary duty on the federal administrative agency. The district court's ruling was affirmed on appeal as to the private insurers, but reversed as to the federal agency.

The appellate court held that the federal agency administering the program did have a statutory duty to determine whether action should be taken to publicize the program, and remanded the case to the district court to determine whether that requirement had been met. On remand, the district court concluded that the federal agency "...did consider taking action to make information and data available..." and that "...such decisions were followed by extensive and varied methods of publicity...."³¹⁰ Because the court held that "...the time and manner of acting to disseminate information are matters of discretion which are not open to review by this Court...",³¹¹ it granted defendants' motion for summary judgment of dismissal.

Although the appellate court held that the federal agency which administers the NFIP had a duty to determine whether to publicize the program, other courts have ruled against imposing other notification obligations on the agency. In Brazil Giuffrida,³¹² the court held that FEMA was not obligated to provide renewal notices to Standard Flood Insurance Policy (SFIP)

310 420 F.Supp. 221, 226 (M.D. Pa. 1976).

311 Id. at 225.

312 763 F.2d 1072 (9th Cir. 1985).

holders, and in Gulf Coast Investment Corp. v. Secretary of Housing and Urban Development,³¹³ the court concluded that evidence of customary computer procedures was sufficient to establish delivery to homeowners of termination notices.

3. Governmental Role As Insurer Under the NFIP

The question of what the federal government may do to recover money paid to insured property owners under the NFIP was the central issue in United States v. Parish of St. Bernard.³¹⁴ The United States sought recovery of over \$100 million from various public and private Louisiana parish defendants for causing ". . .massive flood damage by violating their contractual and regulatory obligations to adopt and enforce flood control measures consistent with the parishes' participation in the NFIP."³¹⁵ The court held that although the federal government may not force communities to join the program or to comply with federal floodplain regulations, "...subrogation is available..." and ". . .the United States may pursue any available common law right of recovery against the parish defendants so as to recover for any property the parishes owned and insured under the NFIP." The court affirmed the cause of action in subrogation in order to fulfill Congress' intent to apply insurance principles, rather

313 509 F.Supp. 1321 (E.D. La. 1980).

314 756 F.2d 1116 (5th Cir. 1985), cert. denied, 474 U.S. 1070 (1986).

315 756 F.2d 1116, 1119 (5th Cir. 1985).

than direct disaster relief, to flood **losses.**³¹⁶

Although an unincorporated association of private insurance companies originally handled the insurance aspects of the NFIP, the Department of Housing and Urban Development Secretary's decision to have the government take control of the program was within her **authority.**³¹⁷ One court held that a complainant's sole remedy was against the current director of **FEMA.**³¹⁸ Other courts have held that, because of the government's increased role in the NFIP, a complaint must be dismissed where valid service against the government was not **obtained,**³¹⁹ no right to jury trial exists,³²⁰ and any waiver of sovereign immunity under the NFIP must be strictly **construed.**³²¹

During the program's earlier years, court decisions had split over whether the federal courts had original exclusive jurisdiction over claims arising under the NFIP, or whether claims could be brought in state courts. Some courts held that

³¹⁶ See also Houck, Rising Water: The National Flood Insurance Program and Louisiana, 60 Tulane L Rev. 61, 142-164 (Oct. 1985).

³¹⁷ National Flood Insurers Ass'n v. Harris, 444 F.Supp. 969 (D. D.C. 1977).

³¹⁸ Yonker v. Guiffrida, 581 F.Supp. 1243 (D. W.Va. 1984).

³¹⁹ Barco Arroyo v. Federal Emergency Management Agency, 113 F.R.D. 46 (D. P.R. 1986).

³²⁰ Kolner v. Director, Federal Emergency Management Agency, 547 F.Supp. 828 (N.D. Ill. 1982); Latz v. Gallagher, 550 F.Supp. 257 (W.D. Mich. 1982).

³²¹ Latz v. Gallagher, 562 F.Supp. 690 (W.D. Mich. 1983).

claimants could seek remedies in state **courts**,³²² and some held they could **not**.³²³ The issue was resolved effective November 30, 1983, when the statute was amended to confer original exclusive jurisdiction on the federal district **courts**.³²⁴ Because the state courts lack jurisdiction, claims which are now brought in state courts, even if later removed to federal courts, must be **dismissed**.³²⁵ Suits against the government pertaining to claims arising under the NFIP must be brought in the district in which the insured property, or a major portion of it, is **located**.³²⁶

4. Insurance Aspects of the NFIP

Courts have held that, where an insurance agent was negligent in not mailing a homeowner's policy application, the agent, and

³²² Kelly v. Director, Federal Emergency Management Agency, 549 F.Supp 8 (D. Mass. 1981); Harper v. National Flood Insurers Ass'n, 494 F.Supp. 234 (M.D. Pa. 1980); Bains v. Hartford Fire Insurance Co., 440 F.Supp. 15 (N.D. Ga. 1977); Mason v. National Flood Insurers Ass'n, 431 F.Supp. 1021 (N.D. Okla. 1977); Burrell v. Turner Corp. of Oklahoma, 431 F.Supp. 1018 (N.D. Okla. 1977).

³²³ Siekmann v. Kirk Mortgage Co., 548 F.Supp. 50 (E.D. Pa. 1982); Possessky v. National Flood Insurers Ass'n, 507 F.Supp. 913 (D. N.J. 1981); Schultz v. Director, Federal Emergency Management Agency, 477 F.Supp. 118 (C.D. Ill. 1979); Dunkle v. National Flood Insurers Ass'n, 432 F.Supp. 489 (M.D. Pa. 1977).

³²⁴ P.L. 98-181, codified at 42 U.S.C.S. §§ 4053, 4072 (Lawyers Co-op. Supp. 1988).

³²⁵ Spielman v. Federal Emergency Management Agency, 609 F.Supp. 111 (D. Minn. 1985).

³²⁶ Brumfield v. National Flood Insurance Program, 492 F.Supp. 1043 (M.D. La. 1980).

not the federal agency, was liable for **damages**,³²⁷ and that federal defendants could not be held liable for misrepresentations or communications problems between the insured and his **agent**.³²⁸ One court held that it lacked pendent party jurisdiction over a private insurance company, finding that Congress intended to exclude them when authorizing actions against the FEMA **Director**.³²⁹ However, the same court held that pendent party jurisdiction was proper where the sole discretion of determining whether mailing of the premium notice had been effected, and whether a grace period provided for in the policy would apply, was not vested in the **NFIP**.³³⁰

Courts have also held that federal law controls interpretation of the **SFIP**³³¹ and governs disputes over coverage, including the award of attorneys fees.³³² Although one court, in an earlier case, awarded prejudgment interest at the rate

³²⁷ Smith v. National Flood Insurance Program, 796 F.2d 90, (5th Cir. 1986).

³²⁸ Gement v. Allstate Insurance Co., 516 F.Supp. 11 (E.D. La. 1981). cf., Durham v. McFarland, Gay and Clay, Inc., 527 So.2d 403 (La. 4th Cir. 1988).

³²⁹ Center Glass and Trim Co. v. United States, 637 F.Supp 209 (S.D. W. Va. 1986).

³³⁰ Hoffmaster v. Guiffrida, 630 F.Supp. 1289 (S.D. W. Va. 1986).

³³¹ Drewett v. Aetna Casualty & Surety Co., 405 F.Supp. 877 (W.D. La. 1975).

³³² Hanover Building Materials v. Guiffrida, 748 F.2d 1011 (5th Cir. 1984).

allowable by the forum state,³³³ the same court held in a later case that it should not be awarded because of the government's increased role in the **NFIP**.³³⁴

Standard insurance law principles apply to policy interpretation and dispute resolution.³³⁵ The "loss-in-progress" principle has been applied in several cases, with courts holding that homeowners could not recover for damage under policies which were obtained as the flood waters were **rising**.³³⁶ Where flood waters rose, receded, and then rose again, one court characterized the situation as a continuous state of flood, rather than separate flooding events, and therefore denied plaintiffs **recovery**.³³⁷

The principle of preexisting condition has also been applied by the courts. In one case, the court held that the plaintiff could not recover because damage to the structure occurred prior to flooding, and any additional damage to the dwelling caused by

³³³ West v. Harris, 573 F.2d 873 (5th Cir. 1978), cert. denied, 440 U.S. 946.

³³⁴ Estate of Lee v. National Flood Insurance Program, 812 F.2d 253 (5th Cir. 1987).

³³⁵ Atlas Pallet v. Gallagher, 725 F.2d 131 (1st Cir. 1984).

³³⁶ Mason Drug Co. v. Harris, 597 F.2d 886 (5th Cir. 1979); Summers v. Harris, 573 F.2d 869 (5th Cir. 1978); Drewett v. Aetna, 539 F.2d 496 (5th Cir. 1976).

³³⁷ Presley v. National Flood Insurers Ass'n, 399 F.Supp. 1242 (E.D. Miss. 1975).

the flood was below the property damage **deductible**.³³⁸ In another case, however, a court decided that, even though water had occasionally been present in plaintiffs' basement to depths of up to two inches, which may have weakened the structure's foundation, flooding of two to three feet was the proximate cause of structural damage to the house. The court therefore found in favor of the plaintiffs.³³⁹

Courts have also held that a flood policy obtained by a purchaser was a personal contract and not subject to an equitable lien in favor of the **vendor**,³⁴⁰ and that recovery for damage occurring on the same day the insurer received a renewal premium for a lapsed policy must be denied because the renewal was not effective until the following day.³⁴¹

There have been several cases litigated, and sharply divided opinion, over whether the SFIP, issued pursuant to the NFIP, provides coverage for structural damage caused by soil settlement. In Sodowski v. National Flood Insurance Program,³⁴² the district court denied coverage for the structural damages to plaintiff's dwelling sustained during a flood, finding that the

³³⁸ Durkin v. Federal Emergency Management Agency, No. 86-4728 (E.D. La. July 27, 1987)(Westlaw, Allfeds library).

³³⁹ Cincotta v. National Flood Insurers Ass'n, 452 F.Supp. 928 (E.D. N.Y. 1977).

³⁴⁰ Brown v. Harris, 466 F.Supp. 210 (E.D. Mich. 1979).

³⁴¹ Brazil v. Giuffrida, 763 F.2d 1072 (9th Cir. 1985).

³⁴² 834 F.2d 653 (7th Cir. 1987).

damage was caused by soil settlement of the fill underneath the structure, and therefore excluded under the SFIP's earth movement exclusion. The appellate court, over a strong dissent, affirmed the district court's denial of coverage. Following West v. Harris,³⁴³ the court held that, because the policy "...excludes coverage for losses caused by any earth movement other than erosion or **mudslide....**",³⁴⁴ "...structural damages similar to Sodowski's caused by any earth movement, other than mudslides or erosion, are not covered under the clear and unambiguous terms of the SFIP."³⁴⁵ Although the Sodowski and West courts, and **others**,³⁴⁶ have held that damage due to soil settlement is not covered, in Quesada v. Director. Federal Emergency Management Agency,³⁴⁷ the court, also over a strong dissent finding that West should be followed, held that the policy provided coverage because "...the soil compaction would not have been triggered

³⁴³ West v. Harris, 573 F.2d 873 (5th Cir. 1978), cert. denied, 440 U.S. 946.

³⁴⁴ Sodowski v. National Flood Insurance Program, 834 F.2d 653, 659 (7th Cir. 1987).

³⁴⁵ Id.

³⁴⁶ See, Stenersen Corp. v. Giuffrida, 61 B.R. 702 (D. Md. 1986); Hidenfelter v. Director, Federal Emergency Management Agency, 603 F.Supp. 434 (W.D. Mich. 1985); McAlister v. Director, Federal Emergency Management Agency, 544 F.Supp. 15 (D. Vt. 1982); Beck v. Director, Federal Emergency Management Agency, 534 F.Supp. 516 (N.D. Ohio 1982); Winkler v. Great American Insurance Co., 447 F.Supp. 135 (E.D. N.Y. 1978).

³⁴⁷ 753 F.2d 1011 (11th Cir. 1985).

'but for' the **flooding.**"³⁴⁸ There may be more cases litigated over whether soil settlement due to flooding is covered under the SFIP, or is to be excluded as earth movement other than mudslides or erosion.

Other courts have determined that an insured may recover for all damage arising from a flood which remained at one level for several hours, then rose to a higher level, holding that until the water subsided and the land dried, the flood was one occurrence under the meaning of the **policy.**³⁴⁹ However, the policy excludes coverage for consequential damages, and a court therefore denied a claim for damage to a corporation's milldam, for the cost of installing a new fire protection sprinkler system, and for the increased fire insurance cost while the sprinkler system was **inoperative.**³⁵⁰

Courts have held that the standard policy covers damage to a building's additions, such as a concrete slab underneath an elevated structure, even though the slab itself was not a building or **dwelling.**³⁵¹ However, another court denied coverage for a separate structure which included a garage, bedroom and

³⁴⁸ Id. at 1014.

³⁴⁹ Miller v. Macy, 526 F.Supp. 46 (D. Mass. 1981).

³⁵⁰ Atlas Pallet v. Gallagher, 725 F.2d 131 (1st Cir. 1984).

³⁵¹ Jackson v. National Flood Insurers Ass'n, 398 F.Supp. 1383 (S.D. Tex. 1974).

porch **area.**³⁵² Although one court held that damage to the contents of an unenclosed "umbrella" building consisting of a roof and columns, but no walls, was not **covered,**³⁵³ another court held that the term "enclosed" is ambiguous and allowed recovery for damages to contents of a building consisting of a roof and two **walls.**³⁵⁴

Courts have denied recovery for damage to a sand dune and septic tank **system,**³⁵⁵ and damage from a rainstorm which caused no generalized flooding of adjacent properties but was substantially confined to one **house.**³⁵⁶ They have denied recovery for damage to the upper floors of a hotel caused by a **rainstorm,**³⁵⁷ and for damage resulting from conditions related to an insured's premises and within the insured's **control.**³⁵⁸ One court held that damage to a home's patio was caused by a structural defect in a seawall, not from unusual wave action, and therefore denied recovery since

³⁵² Woods v. National Flood Insurance Program, No. 86-4115-CV-C-9 (W.D. Mo. Feb. 26, 1987)(Westlaw, Allfeds library).

³⁵³ Riverside Building Supply v. Federal Emergency Management Agency, 723 F.2d 1159 (4th Cir. 1983).

³⁵⁴ Hanover Building Materials v. Guiffrida, 748 F.2d 1011 (5th Cir. 1984).

³⁵⁵ Goldblatt v. Department of Housing and Urban Development, 482 F.Supp. 642 (E.D. Va. 1979).

³⁵⁶ Segal v. Great American Insurance Co., 390 F.Supp. 1074 (E.D. N.Y. 1974).

³⁵⁷ Cross Queen v. Director, Federal Emergency Management Agency, 516 F.Supp. 806 (D. V.I. 1980).

³⁵⁸ Bull's Corner Restaurant v. Director, Federal Emergency Management Agency, 759 F.2d 500 (5th Cir. 1985).

the damage was not caused by a "flood" within the meaning of the **policy.**³⁵⁹

5. Mortgage Lenders and the NFIP

Courts have held that general principles of contract law govern third party beneficiary status under a policy service **agreement.**³⁶⁰ Several courts have held that the NFIP does not provide for a private cause of action against lenders approving loans for construction in a flood prone **area,**³⁶¹ even where the lender does not notify the borrower that the property is flood-prone or require the borrower to purchase flood **insurance,**³⁶² because the program is to protect the lender and is directed to the federal agencies which supervise **them.**³⁶³ Although there may be an action for common law negligence in a state **court,**³⁶⁴ the NFIP was not intended for the purpose of creating a standard of

³⁵⁹ Mason v. National Flood Insurers Ass'n, 361 F.Supp. 939 (D. Haw. 1973).

³⁶⁰ Beverly v. Macy, 702 F.2d 931 (11th Cir. 1983).

³⁶¹ Brill v. Northern California Savings and Loan Ass'n, 555 F.Supp. 566 (N.D. Cal. 1982); Till v. Unifirst Federal Savings and Loan Ass'n, 653 F.2d 152 (5th Cir. 1981).

³⁶² Mid-America National Bank of Chicago v. First Savings and Loan Association of South Holland, 737 F.2d 638 (7th Cir. 1984); Arvai v. First Federal Savings & Loan Ass'n, 539 F.Supp. 921 (D. S.C. 1982, aff'd, 698 F.2d 683 (4th Cir.1983)). See also Judge and Schirott, National Flood Insurance Act Mid-America National Bank of Chicago v. First Savings & Loan Ass'n, 130 Chicago Daily Law Bulletin 1 (Aug. 28, 1984).

³⁶³ Hofbauer v. Northwestern National Bank of Rochester, Minnesota, 700 F.2d 1197 (8th Cir. 1983).

³⁶⁴ Id.

conduct for **negligence**.³⁶⁵

Although a lender not regulated by federal instrumentalities is not subject to the NFIP statutes, it is subject to Federal Home Administration (FHA) regulations regarding notification and purchase of flood insurance.³⁶⁶ One court has held that the Farm Credit Administration (FCA) is not a federal instrumentality and therefore, the NFIP does not apply to the FCA nor to its supervised institutions.³⁶⁷ Another court held that FHA officials who, acting within their official capacity, did not inform a buyer of the need to purchase flood insurance, were immune from liability for damage resulting from a flash **flood**.³⁶⁸

6. Procedural Requirements under the NFIP

In Wagner v. Director, Federal Emergency Management Agency,³⁶⁹ the court considered whether several plaintiffs had satisfied the SFIP's procedural requirements. The policy requires that a claimant must submit a signed and sworn proof of loss to FEMA within 60 days after the loss occurs and, if the claim is disallowed, the claimant must file any action in federal district court within one year after the mailing of the notice of

³⁶⁵ Jacobsen v. Banco Mortgage Co., 547 F.Supp. 954 (D. Minn. 1981).

³⁶⁶ Id.

³⁶⁷ Namey v. Federal Land Bank of Baltimore, 646 F.Supp. 237(S.D. W.Va. 1986).

³⁶⁸ Harrah v. Miller, 558 F.Supp. 702 (S.D. W.Va. 1983).

³⁶⁹ 658 F.Supp. 1530 (C.D. Cal. 1987), rev'd 847 F.2d 515 (9th Cir. 1988).

disallowance.³⁷⁰ Although some of the plaintiffs had advised FEMA informally of their losses, none had filed a proof of loss within 60 days, even though most plaintiffs did so eventually.

The plaintiffs argued that FEMA was equitably estopped from asserting the procedural default as a defense to their claims. The district court agreed because the claimants had ". . .reasonably relied, to their detriment, on FEMA's own delay in not raising the subject of the proofs of **loss....**"³⁷¹ The appellate court, however, disagreed, concluding that a party must establish affirmative misconduct in order to raise estoppel against the **government.**³⁷² Finding no such conduct, the appellate court dismissed the actions filed by those plaintiffs who had not submitted formal proofs of loss.

As to the other plaintiffs, the district court held that the one-year period in which they could file suit ran from the date of the second of two letters FEMA had sent, the first denying their claims, and the second reaffirming the denial. The appellate court disagreed, and held that those plaintiffs who had failed to file their lawsuits within one year of FEMA's initial letter were barred from commencing any **action.**³⁷³ The remaining plaintiffs, who had met the procedural requirements, were denied

³⁷⁰ 847 F.2d 515, 517.

³⁷¹ 658 F.Supp. 1530, 1538.

³⁷² 847 F.2d 515, 519.

³⁷³ **Id.** at 521.

recovery on the basis that the damage was due to a landslide and therefore within the SFIP's earth movement exclusion.³⁷⁴

In earlier cases, other courts had also upheld the policy's proof of loss requirement, even where equitable estoppel or waiver elements were present. They found either no intent to waive the provision by the insurer,³⁷⁵ or, where waiver was stated and relied upon, that estoppel did not apply against a federal government agency, or that the policy itself precluded waiver.³⁷⁶ However, other courts have allowed recovery absent the filing of a proof of loss when the claimant showed he was misled by an agent, there was no prejudice to the insurer, and the insurer was on notice of the claim and the information that would have been included in the proof of loss.³⁷⁷

³⁷⁴ Id. at 522.

³⁷⁵ Jenkins v. United States Department of Housing & Urban Development, 780 F.2d 1549 (11th Cir. 1986).

³⁷⁶ Schumitzki v. Director, Federal Emergency Management Agency, 656 F.Supp. 430 (D. N.J. 1987); Phelps v. Federal Emergency Management Agency, 785 F.2d 13 (1st Cir. 1986); West Augusta Development Corp. v. Giuffrida, 717 F.2d 139 (4th Cir. 1983); Pavone, Inc. v. Secretary of Housing and Urban Development, 547 F.Supp. 230 (D. Conn. 1982); Harper v. National Flood Insurers Ass'n, 516 F.Supp. 725 (M.D. Pa. 1981); Continental Imports v. Macy, 510 F.Supp. 64 (E.D. Pa 1981).

³⁷⁷ LaSalle National Bank v. Federal Emergency Management Agent, No. 84 C 9066 (N.D. Ill. July 26, 1985)(Westlaw, Allfeds Library); Reeves v. Guiffrida, 756 F.2d 1141 (5th Cir. 1985); Bolton v. Giuffrida, 569 F.Supp. 30 (N.D. Cal. 1983); Dempsey v. Director, Federal. Emergency Management Agency, 549 F.Supp. 1334 (E.D. Ark. 1982); Meister Bros. Inc. v. Macy, 674 F.2d 1174 (7th Cir. 1982).

One court, in an earlier case, held that the one-year limitation period could run from the time the insured demanded satisfaction rather than from the date the insured received a letter rejecting his claim, but denied recovery because the suit was not filed within the longer of the two periods.³⁷⁸ Another court held that suit was not barred where it was filed within one year of the second notice of rejection.³⁷⁹

7. Land Use Restrictions under the NFIP

Although there is a certain amount of technical uncertainty regarding the land use restrictions that will mitigate flood hazards, which must be adopted in order to be eligible for insurance under the NFIP,³⁸⁰ there have been relatively few cases addressing the land management aspects of the NFIP. In Town of Falmouth v. Hunter,³⁸¹ the town challenged the accuracy of the flood maps prepared by the FIA. The town appealed the FIA's determination of the flood levels. The FIA issued a new study revising the elevations, and the town again appealed, but did not provide supporting technical information. The FIA then notified the town it had 90 days to comply with NFIP floodplain management

³⁷⁸ Nunnery v. Insurance Companies, Members of National Flood Insurers Ass'n, 414 F.Supp. 973 (N.D. Miss. 1976).

³⁷⁹ Horeftis v. National Flood Insurers Ass'n, 437 F.Supp. 794 (E.D. Mich. 1977).

³⁸⁰ See Baram and Miyares, Managing Flood Risk: Technical Uncertainty in the National Flood Insurance Program, 7 Colum. J. Envtl. L. 129 (Winter 1982).

³⁸¹ 427 F.Supp. 26 (D. Mass. 1976).

regulations, and that failure to do so would result in the town's suspension from NFIP eligibility. The town continued to be in disagreement with the flood elevation determination, and sought an injunction to prevent the FIA from suspending them from the program.

The district court denied the town's motion because, although the town could not purchase flood insurance through the NFIP, it did not demonstrate its inability to purchase it through private insurance companies, or that its suspension from the program would cause irreparable harm.³⁸² Additionally, the town could have remained in the program by adopting ordinances to meet NFIP requirements, and then continued to try to resolve the disagreement over the elevations, later modifying the ordinances if necessary.³⁸³ The court concluded that the FIA's conduct concerning the flood elevation determinations and the resulting appeals was not irregular and did not violate the town's due process rights, finding that there was "...communication between plaintiff and defendant..." and "...defendant did seek the advice of an independent scientific body..." as required by the NFIP.³⁸⁴

382 Id. at 30.

383 Id. at 30, 31.

384 Id. at 31, 32.

In Roberts v. Secretary, Department of Housing and Urban Development,³⁸⁵ a property owner sought judicial review of the Housing and Urban Development's (HUD's) administrative decision regarding the application of the NFIP to the City of Aberdeen, Mississippi. The court considered whether defendants' actions relevant to the floodplain designations developed for the city were arbitrary and capricious, an abuse of discretion, or otherwise not in accordance with the law. The court found that ". . .the procedural steps required by statute and applicable regulations were followed with meticulous care..." in the administrative proceedings.³⁸⁶ Although HUD's administrative decision did not consider the flooding effects, beneficial or detrimental, of the changes occurring at Aberdeen due to construction of a waterway project, the court could not conclude that the determination of floodplains "...based on known historical flood data, is arbitrary and capricious, an abuse of discretion, or an act contrary to law."³⁸⁷ Since the court found judicial review of the administrative decision inappropriate, it granted the government's motion for summary judgment.

Another city challenged the FIA's final flood elevation determination in City of Trenton v. Federal Emergency Management

³⁸⁵ 473 F.Supp. 52 (N.D. Miss. 1979).

³⁸⁶ Id. at 60

³⁸⁷ Id.

Agency.³⁸⁸ However, the action was filed six months after the final determination was issued, rather than within 60 days as required by the NFIP. The district court held that, because the city failed to meet the conditions established by Congress for administrative and judicial review of FIA's flood elevation determination, it lacked subject matter jurisdiction, and dismissed the case.³⁸⁹

In a later case, City of Biloxi, Mississippi v. Giuffrida,³⁹⁰ the court also dismissed the city's challenge to FEMA's base flood elevation determination because of their failure to comply with the 60-day appeal period. The city alleged that the statutory period of 90 days, within which to gather and assemble scientific and technical data, did not allow enough time to adequately research and develop its appeal. The court found that the 60-day appeal period was not chosen randomly, but determined by Congress following "...considerable discussion and debate to assure an equitable balancing of all interests involved."³⁹¹ Therefore, the court held that the statutory period to appeal FEMA's determination did not unconstitutionally violate the city's due process or equal protection rights.

³⁸⁸ 545 F.Supp. 13 (E.D. Mich. 1981).

³⁸⁹ Id. at 17.

³⁹⁰ 608 F.Supp. 927 (S.D. Miss. 1985).

³⁹¹ Id. at 929.

Another court denied judicial review of FEMA's flood elevation determination because the action was quasi-legislative, not adjudicatory in nature, and the fact-finding procedure was adequate. In City of Wenatchee v. United States,³⁹² the court held that an engineering firm met the statutory definition of "independent scientific body" within the provision for resolving the appeal, despite speculation concerning bias because of the firm's minimal involvement in the initial determination. The court found that the agency's determination was not arbitrary or capricious but based on reasonable grounds.

Another challenge to FEMA's base flood elevation resulted in a court's holding that resolution of an administrative appeal by consultation with local officials, rather than by holding an administrative hearing, or by submitting conflicting data to an independent body or federal agency for review, was appropriate under the NFIP. In Falls Chase Special Taxing District v. Director, Federal Emergency Management Agency,³⁹³ the court found that the complainants did not demonstrate that the historical data used in reaching the flood elevation determination was inaccurate or improper. Therefore, the court held the determination was supported by competent substantial evidence, was not arbitrary and capricious, and would not be disturbed.

³⁹² 526 F.Supp 439 (E.D. Wash. 1981).

³⁹³ 580 F.Supp 967 (N.D. Fla. 1983), aff'd 788 F.2d 711 (11th Cir. 1986).

In Reardon v. Krimm,³⁹⁴ the court held that, as a prerequisite for judicial review of a flood elevation determination, a city must challenge the determination only on the basis of its scientific and technical accuracy at the administrative level. Therefore, the court found that an appeal challenging the boundaries of a proposed floodway which were negotiated by the affected communities, but did not bring into question the technical or scientific accuracy of the boundaries, was outside the scope of the NFIP. The court dismissed the city's appeal for lack of jurisdiction, finding that the city was attempting "...just the sort of unlimited appeal which the language of the Act **forecloses.**"³⁹⁵

In Britt v. United States,³⁹⁶ the court concluded that allegedly negligent preparation and dissemination of a city's flood hazard map were within the government's flood immunity under the Flood Control Act. Property owners had built and occupied homes which were subsequently severely damaged by flooding. The court held that governmental immunity under the Act was not limited to results of action taken in connection with physical flood control measures such as dams and dikes, but extended to any activity undertaken as an integral part of Congressionally mandated flood control initiatives, including the

³⁹⁴ 541 F.Supp. 187 (D. Kan. 1982).

³⁹⁵ Id. at 189.

³⁹⁶ 515 F.Supp. 1159 (M.D. Ala. 1981).

NFIP.

Although a district court awarded a plaintiff attorneys fees, costs and other expenses incurred in litigation over a flood insurance study, following an arbitrator's finding of various errors in methodology in performing the study, the ruling was reversed on appeal. In City of Brunswick, Georgia v. United States,³⁹⁷ the appellate court found that the position of the United States was substantially justified. The court held that the district court abused its discretion by focusing on the accuracy of the flood insurance study, rather than the position the government took before the arbitration panel.

8. Legal Challenges to the Coastal Barrier Resources Act

There has been one case challenging the designation of property as an undeveloped coastal barrier island pursuant to the **CBRA**.³⁹⁸ In Bostic v. United States,³⁹⁹ developers and landowners of property on Topsail Island in North Carolina alleged that the designation of their land as part of an undeveloped coastal barrier, which disqualified certain construction for federal flood insurance, was erroneous, and denied them substantive due

³⁹⁷ 661 F.Supp. 1431 (S.D. Ga. 1987), rev'd, 849 F.2d 501 (11th Cir. 1988).

³⁹⁸ P.L. 97-348, codified at 16 U.S.C. § § 3501 et seq. (Supp. IV 1986). See Withers, The Coastal Barrier Resources Act, 30 Boston Bar J. 32 (May-June 1986); Kuehn, The Coastal Barrier Resources Act and the Expenditures Limitation Approach to Natural Resources Conservation: Wave of the Future or Island Unto Itself? 11 Ecology L.O. 583 (Summer 1984).

³⁹⁹ 581 F.Supp. 254 (E.D. N.C. 1984), aff'd, 753 F.2d 1292 (4th Cir. 1985).

process. The district court denied plaintiffs injunctive relief and dismissed their complaint. The appellate court affirmed the ruling.

Based on legislative history and statutory language, the court found that Congress unquestionably intended to include the property as part of the CBRS. It found that the CBRA's definition of an undeveloped coastal barrier as "containing few manmade structures which do not significantly impede geomorphic and ecological processes" is informational only, and that the controlling designation of the land included in the system is the map incorporated into the CBRA by reference.⁴⁰⁰

Additionally, the court found that the designation of the property as an undeveloped coastal barrier had substantial relation to the CBRA's objectives of minimizing the loss of human life, preventing wasteful expenditure of federal resources by discouraging construction that would not be feasible if developers had recourse to private insurance only, and lessening damage to fish, wildlife and other natural resources. The court held, therefore, that the designation of the property as an undeveloped coastal barrier covered by the CBRA had a rational justification.⁴⁰¹

The court also held that in making such a clear-cut designation of the specific coastal barriers included within the

⁴⁰⁰ 581 F.Supp. 254, 259.

⁴⁰¹ 753 F.2d 1292, 1294.

system, perfection is not required. It held that Congress could properly conclude that it was desirable to be specific to avoid ". . . litigation and dispute over what portion of what barrier or island satisfies the necessarily imprecise description of 'undeveloped coastal barrier'..." found in the CBRA.⁴⁰²

9. Challenges to the Conditioning of Federal Grants

In Shanty Town Associates Ltd. v. E.P.A.,⁴⁰³ the Fourth Circuit held that restrictive conditions placed on federal construction funds for municipal sewage systems did not conflict with the Coastal Zone Management Act (CZMA) or the National Flood Insurance Act (NFIA). The Court found restrictive conditions imposed by the EPA, under the Federal Water Pollution Control Act (**FWPCA**),⁴⁰⁴ did not prohibit construction of sewage collection systems serving coastal floodplains or attempt to regulate land use in floodplains, but "simply forbid the use of federal funds to encourage such **development.**"⁴⁰⁵ The local government under these conditions, could still authorize development in the floodplain if sewage facilities were not constructed with federal **funds.**⁴⁰⁶

⁴⁰² **Id.**

⁴⁰³ 843 F.2d 782, 793 (4th Cir. 1988).

⁴⁰⁴ 33 U.S.C. Sec. 1281(g)(1). See also 40 C.F.R. Sec. 35.840(a) (1987) for EPA's regulations authorizing additional conditions necessary to minimize water pollution caused by facility construction.

⁴⁰⁵ 843 F.2d at 793.

⁴⁰⁶ **Id.**

The grant conditions were not in violation of consistency requirements of the CZMA where they were approved by Maryland state officials as "preferable from this Program's standpoint . . . [to] [t]he locally funded system [which] ignores restrictions on growth and sewer service within the 100-year floodplain."⁴⁰⁷ The court noted the CZMA expressly provides that "nothing in this chapter shall in any way affect any requirement (1) established by the FWPCA, as amended . . . or (2) established by the Federal Government or by any state or local government pursuant to [that Act]."⁴⁰⁸

The NFIA⁴⁰⁹ also "provided no basis for invalidating the grant conditions"⁴¹⁰ imposed by the EPA. The purpose of the NFIA to minimize flood damage by controlling development in the coastal floodplain through the use of local government regulation incentives, was held to include the denial of federal flood insurance and other federal assistance. The court found no prohibition on EPA's use of grant conditions to protect water quality in the floodplain pursuant to the authority of the FWPCA in either the language or legislative history of the NFIA.⁴¹¹

⁴⁰⁷ 843 F.2d at 793.

⁴⁰⁸ 843 F.2d at 794.

⁴⁰⁹ 42 U.S.C. Sec. 4001 et seq. (1987).

⁴¹⁰ 843 F.2d at 794.

⁴¹¹ 842 F.2d at 794.

The court distinguished Shanty Town⁴¹² from the decision in Cape May Greene, Inc. v. Warren.⁴¹³ While Cape May Greene also involved EPA floodplain grant conditions limiting access of new development to sewage facilities, the grant conditions were "flatly **inconsistent**"⁴¹⁴ with the state's interpretation of its plan under the CZMA. The conditions not only denied the use of federally funded sewage systems, but also prohibited the use of all other means of sewage disposal, whether public or private, in the floodplain. Thus, their effect was to make development on floodplain property "virtually **impossible**."⁴¹⁵

Consistency requirements were violated in Cape May Greene as the state agency administering the state Coastal Zone Management Plan had already granted the plaintiff a permit, "finding that circumstances warranted an exception to its general prohibition against floodplain **development**."⁴¹⁶ The Third Circuit in Cape May Greene "**specifically** grounded its finding that EPA had acted arbitrarily and capriciously on its failure to give sufficient weight to the CZMA's admonition that federal actions in the coastal zone should, to the maximum extent possible, be

⁴¹² 843 F.2d at 794.

⁴¹³ 698 F.2d 179 (3rd Cir. 1983).

⁴¹⁴ 843 F.2d at 794.

⁴¹⁵ 843 F.2d at 794.

⁴¹⁶ 698 F.2d at 181

consistent with the state's management **plan.**"⁴¹⁷ The court noted consistency "is at the heart of the statutory scheme of encouraging, but not directing, state management of the coastal **areas.**"⁴¹⁸

Cape May Greene also found EPA's conditions were not "directly related" to the goal of the FWPCA to protect water quality, but were imposed to reduce flooding. Thus "in finding EPA's action to be arbitrary and capricious, the Third Circuit placed special emphasis on the fact that flood control was not a factor it was authorized to consider by the **FWPCA.**"⁴¹⁹ However, the Court "recognize[d] the legitimate interest in limiting development of floodplains and that, under other circumstances, EPA's actions might be sustainable,"⁴²⁰ foreseeing the type of restrictions imposed in Shanty Town.⁴²¹

10. Implementation of Executive Order 11988

Sierra v. Hassell,⁴²² although not deciding whether a private cause of action exists under Executive Orders 11988 and 11990

⁴¹⁷ 843 F.2d at 794.

⁴¹⁸ 698 F.2d at 191.

⁴¹⁹ 843 F.2d at 794, citing 698 F.2d 179, 186-87, 190 & n.
15.

⁴²⁰ 698 F.2d at 193.

⁴²¹ 843 F.2d 782 (4th Cir. 1988).

⁴²² 636 F.2d 1095, 1100 (5th Cir. 1981).

(addressing **wetlands**),⁴²³ held the Federal Highway Administration (FHWA) and Coast Guard were substantially in compliance with these orders. The Court determined that the agencies had "fully evaluated the effects" of a proposed bridge rebuilding on wetlands and floodplains, and alternatives were "considered and rejected for sound reasons."⁴²⁴ Further, since the agencies found no significant impacts, written findings were not **required**.⁴²⁵ Although such written findings would have facilitated review, the record was adequate for the Fifth Circuit to review the decision.

The court also held that although no public review of the project "devoted solely to consideration of its impact on wetlands and floodplain values," was afforded as required by Executive Orders, the public was given an opportunity to comment on the project's impact on the "total environment," and to request a public **hearing**.⁴²⁶ These actions were deemed sufficient to provide the appellants an opportunity for comment at an early stage, avoiding violation of the Executive Orders.

⁴²³ Compare Aluli v. Brown, 437 F.Supp. 602 (D. Hawaii 1977), rev'd in part 602 F.2d 876(9th Cir. 1979)(private cause of action exists under Executive Order 11593), with Farkas v. Texas Instrument, Inc., 375 F.2d 629 (5th Cir. 1967)(no cause of action under Executive Order 10925).

⁴²⁴ 636 F.2d at 1100.

⁴²⁵ 636 F.2d at 1100.

⁴²⁶ 636 F.2d at 1100.

Another case involving the requirements of Executive Order 11988, is Savia v. U.S. Postal Service.⁴²⁷ In Savia no actual construction was to take place in the floodplain, thus the Court held requirements for siting "in a **floodplain**"⁴²⁸ inapplicable. However, the Court held that since construction was to take place within three feet of a floodplain and impacts to the floodplain were likely and acknowledged by defendants in their own environmental assessment, requirements of the order to collect information on floodplain impacts of the project were to be met. The Court found that defendants had not complied with these requirements where impacts were only mentioned in a " cursory fashion" in the environmental **assessment**,⁴²⁹ and

. . .nowhere has the government documented, for instance, the short-term and long-term or concentrated and dispersed impact on the floodplain, as required by Section 776.5(b). Nowhere has the government documented the risk to lives and property, Section 776.5(b)(3) nor has defendant undertaken a minimization of harm assessment [as required by Section 776.5(b)(5)] by indicating the amount of investment at risk or the flood loss potential. Further... defendant has also not acted... 'to minimize the impact on human safety, health,

427 659 F.Supp. 653, 656-658 (D.D.C. 1987).

428 39 C.F.R. Sec. 776.5(a).

429 659 F.Supp at 658. See also 39 C.F.R. Sec. 776,5(b) for requirements.

and welfare,' of actions impacting a **floodplain.**⁴³⁰

In County of Bergen v. Dole a decision to proceed with a highway project was challenged on grounds which included noncompliance with Executive Orders 11990 and 11988. The District Court finding the standard of review under Executive Order 11988 to be "whether the agency action was arbitrary, capricious or an abuse of discretion under the mandates of the Executive **Order,**"⁴³¹ held for defendants. The difficult standard of review to overturn arose from the Court's determination that no private cause of action existed under Executive Orders 11990 and **11988.**⁴³² Plaintiffs did not establish this standard by a preponderance of the evidence, even though the Court found defendant's factual bases supporting a finding of minimal floodplain impacts as "not plentiful" and "plaintiff's experts opine that defendant's methodology [was] flawed in this regard."⁴³³

Environmental groups were denied a preliminary injunction to halt construction of an extension of interstate highway I-75 in **Florida Wildlife Federation v. Goldschmidt.**⁴³⁴ Plaintiffs alleged violations of Executive Orders 11990 and 11988 as part of their

⁴³⁰ 659 F.Supp at 658. See also 39 C.F.R. Sec 776.5(j).

⁴³¹ 620 F.Supp at 1061.

⁴³² 620 F.Supp at 1061.

⁴³³ 620 F.Supp at 1062.

⁴³⁴ 506 F.Supp. 350 (S.D Fla. 1981).

motion.⁴³⁵ The opinion by Judge Hoeveler, however, found that "in fact, nearly all of Dade and Broward Counties are within the floodplain . . . (and] for that reason, no alternative road or site, . . . would escape the floodplain **designation,**"⁴³⁶ and the road could be raised by the use of fill materials. Further, the Court held evidence indicated "floodplain levels would not be significantly affected by I-75 or by any attendant development it might cause in the study **area.**"⁴³⁷

In No Oilport! v. Carter⁴³⁸ the Court held plaintiffs who were challenging construction of an oil pipeline were entitled to a right of review under 5 U.S.C. Sec. 702,⁴³⁹ despite defendants' response that Executive Order 11988 did not grant a private right of action. However, the court held that guidelines adopted pursuant to Executive Order 11988 were not binding regulations but "merely set out BLM's internal policies and procedures for implementing the Executive Order," and therefore did not "have the effect and force of **law.**"⁴⁴⁰ Special circumstances existed in this case as Congress mandated the permit process be expedited, pursuant to the Public

435 506 F.Supp. at 353.

436 506 F.Supp. at 365.

⁴³⁷ **Id.**

438 520 F.Supp. 334, 368-369 (W.D. Wash. 1981).

439 **Citing Chrysler Corp. v. Brown, 441 U.S. 281 (1978).**

440 520 F.Supp. at 369.

Utility Regulatory Policies Act (**PURPA**)⁴⁴¹. Noting these circumstances, the Court found floodplain impacts to be adequately considered where, under the expedited process, only information already compiled and available was to be considered and "defendants acknowledge[d] that specific and detailed information on the floodplains in the Puget Sound area [was] not **available.**"⁴⁴²

A Forest Service road was rerouted, with construction virtually complete, to cross a floodplain in an area of the national forest not having roads in Sierra Club v. Block.⁴⁴³ The Court held procedural steps for public comment in the Forest Service **manual**⁴⁴⁴ substantially complied with would not have to be repeated. The opinion noted since the record contained a report from a soil scientist identifying potential problems, the public was afforded some opportunity for comment and actually participated in the decision, "alert[ing] [the Forest Service] to the factual issues associated with rerouting the road across the

⁴⁴¹ Public Utility Regulatory Policies Act of 1978, Sec. 501 et **seq.**, 43 U.S.C.A. Sec. 2001 **et seq.**

⁴⁴² 520 F.Supp. 334 (1981).

⁴⁴³ 576 F.Supp 959, 962-964 (D.C.Oregon 1983).

⁴⁴⁴ Forest Service Manual Title 2500 "sets forth procedural steps to be followed when considering projects located on floodplains or having the potential to affect a floodplain. The procedural steps include public notice and comment on the decision-making process, identification and analysis of alternative sites outside the floodplain, and consideration of mitigating measures." 576 F.Supp. at 963.

floodplain. ⁴⁴⁵

⁴⁴⁵ 576 F.Supp at 963. A similar case involving the issue of whether an Environmental Impact Statement must be prepared under the National Environmental Policy Act is Town of Orangetown v. Gorsuch, 718 F.2d 29 (2d Cir. 1983). The Second Circuit held regulations requiring an EIS where a project "may directly cause or induce changes that 'significantly adversely affect a floodplain,'" 40 C.F.R. Sec. 6.506(a)(4), did not compel an EIS where the EPA has not "ignored the project's effect on floodplains and wetlands, or . . . abused its discretion by determining that the wetlands and floodplains impact of this project did not warrant preparation of an EIS." 718 F.2d at 37. In Orangetown the encroachment by a small part of two buildings on the floodplain, was held to be a de minimus intrusion that did not "significantly adversely affect a floodplain," where the Environmental Assessment indicated that EPA had considered the effect of the project on the floodplain.

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III. FLORIDA PROGRAMS

Most of Florida's programs for hurricane loss mitigation impose structural and land-use restrictions on the construction and rebuilding of structures within various parts of the coastal zone. State policy is that funding for the construction or expansion of infrastructure in sensitive coastal areas will be restricted. The Departments of Natural Resources (DNR), Environmental Regulation and Community Affairs bear primary responsibility for the implementation of these programs, but local governments play a significant role in one program, and are subject to the provisions of others.¹

The laws authorizing these programs include: the Florida Coastal Management Act,² Beach and Shore Preservation Act,³ Coastal Zone Protection Act,⁴ State Emergency Management Act,⁵ and the Local Government Comprehensive Planning and Land Development Regulation Act.⁶

¹ See generally, L. deHaven Smith, R. Patterson, A. Fleming & J. Hendry, Florida Floodplain Management: Public Sector Responsibilities and Intergovernmental Coordination in Land and Water Resource Decision Making (1987) (FAU/FIU Joint Center for Environmental and Urban Problems).

² FLA. STAT. Ch. 380 Part II (1987).

³ FLA. STAT. Ch. 161 Part I (1987).

⁴ FLA. STAT. Ch. 161 Part III (1987).

⁵ FLA. STAT. Ch. 252 (1987).

⁶ FLA. STAT. Ch. 163 Part II (1987).

A. COASTAL CONSTRUCTION CONTROL LINE PROGRAM

The Coastal Construction Control Line (CCCL) program is authorized by Section 161.053, Florida Statutes, part of the Beach and Shore Preservation **Act.**⁷ The primary purpose of the program is to predict as accurately as possible coastal areas most impacted by the 100-year storm event, and to reduce or eliminate structural damage and erosion within those **areas.**⁸ In coastal areas subject to high velocity waves and storm surge, the program has the potential to significantly reduce storm damage and loss of life.

The DNR's Division of Beaches and Shores is charged with two responsibilities under the Act. The first is for the establishment and reestablishment of a Coastal Construction Control Line on a county-by-county basis, administered through the Bureau of Coastal Data Acquisition.⁹ Coastal Construction Control Lines have been established in all 24 coastal counties to which they are applicable, but the dynamic nature of Florida's coastline requires that they be resurveyed regularly. The 1985

⁷ FLA. STAT. Ch. 161 Parts I and II (1987).

⁸ See generally Getzoff and Oertel, Beach, Shore, and Coastal Zone Protection in **Florida Environmental and Land Use Law (Vol. II)** Environmental and Land Use Law Section, The Florida Bar (1987); Lewis, A Coastal Barriers Resource Manual: Federal and State Program Highlights, Florida Department of Community Affairs (1986).

⁹ Balsillie, Athos, Bean, Clark & Ryder, Florida's Program of Beach and Coast Preservation in Preventing Coastal Flood Disasters: The Role of the States and Federal Response 110 Assoc. of State Floodplain Managers, Madison, Wisconsin (1983).

Florida Legislature recognized the need for updated Coastal Construction Control Lines by giving "critical priority" to the reestablishment of any Coastal Construction control Line that has not been updated since June 30, 1980.¹⁰ DNR's second responsibility involves regulation of all construction and reconstruction activities occurring seaward of or straddling the Coastal Construction Control Lines.¹¹ Chapter 16B-33 of the Florida Administrative Code (FAC) supplies detailed criteria for the regulation of activities under the Act.

1. CCCL Establishment and Adoption

The Coastal Construction Control Line program is only applicable to counties with sandy beaches fronting on the Atlantic Ocean or Gulf of Mexico, with Coastal Construction Control Lines established to define "that portion of the beach-dune system which is subject to severe fluctuations based on a 100-year storm surge, storm waves, or other predictable weather **conditions.**"¹² In setting Coastal Construction Control Lines, DNR contracts with coastal engineers and scientists to first take beach profiles at 1,000-foot intervals (from behind the dune

¹⁰ FLA. STAT. § 161.053(3) (1987).

¹¹ Balsillie, Athos, Bean, Clark & Ryder, Florida's Program of Beach and Coast Preservation, in Preventing Coastal Flood Disasters: The Role of the States and Federal Response 110, Assoc. of State Floodplain Managers, Madison, Wisconsin (1983).

¹² FLA. STAT. § 161.053(1) (1987). The CCCL program replaces the coastal setback line program which placed less rigorous requirements on structures located within 50 feet of the line of mean high water: See FLA. STAT. §§ 161.053(11), 161.052 (1987).

system into the surf), and off-shore profiles at 3,000-foot intervals, extending from the surf to approximately 3,000 feet **offshore.**¹³ In addition to these profiles, which are keyed to DNR reference monuments, periodic condition surveys and post-storm surveys are conducted to update the data base. Information from a computer-based storm surge model is also used to provide estimates of storm surges for events with return periods of 50 to 500 years. Total tides are computed on potential combinations of storm tide, astronomical tide, and conditions within a breaking wave zone. Operating with the storm surge model is a time series model that estimates the dune/bluff erosion that can be expected from a given storm **impact.**¹⁴ Recommendations for relocation of the Coastal Construction Control Line are based on an analysis of the impact of a 100-year storm surge, however under appropriate conditions, DNR may establish the line further landward, to the landward toe of the coastal barrier dune structure.¹⁵ The average of recently reestablished Coastal Construction Control Lines has been approximately 500 feet landward of mean high-water **line.**¹⁶

¹³ Balsillie, Athos, Bean, Clark & Ryder, Florida's Program of Beach and Coast Preservation, in preventing Coastal Flood Disasters: The Role of the States and Federal Response 111 Assoc. of State Floodplain Managers, Madison, Wisconsin (1983).

¹⁴ Id. at 112.

¹⁵ FLA. STAT. § 161.053(1) (1987).

¹⁶ Lewis, A Coastal Barriers Resource Manual: Federal and State Program Highlights, Fla. Dept. of Community Affairs, 22 (Dec. 1986).

After a public hearing, DNR adopts the series of lines that run between the reference monuments, records the Coastal Construction Control Line at the local level, and supplies the clerk of the circuit court a survey of the **line**.¹⁷ Coastal Construction Control Lines are adopted as administrative rules of **DNR**.¹⁸ Until 1985, potential applicants often engaged in unscheduled construction activities during the normal 20-day waiting period between the time a rule was filed with the Secretary of State and the date it became **effective**,¹⁹ in an attempt to take advantage of an exemption involving "grandfathered" structures.²⁰ An amendment to Section 161.053(2) in 1985 provided that the rule establishing a Coastal Construction Control Line now becomes effective upon filing with the Office of the Secretary of State. Normally, under Chapter 120 of the Florida Statutes, a rule challenge after publication but before adoption of a rule operates to stay the adoption of the rule.²¹ If a drawout proceeding is filed under Chapter 120, the effective date of the rule is delayed until a hearing is held

¹⁷ FLA. STAT. § 161.053(2) (1987).

¹⁸ Metes and bounds descriptions of all CCCL's are contained in FLA. ADMIN. CODE Rule 16B-26 (1987).

¹⁹ **See** FLA. STAT. § 120.54 (1987).

²⁰ Getzoff and Oertel, Beach, Shore, and Coastal Zone protection 14-7 in Florida Environmental and Land Law (Vol. II), Environmental and Land Use Law Section, The Florida Bar (1987).

²¹ FLA. STAT. § 120.54(4) (1987).

to determine the impact of the rule on the **petitioners.**²² Under Section 161.053(2), Florida Statutes, rules establishing Coastal Construction Control Lines are not subject to such rule challenges or drawout proceedings, however once adopted, they may be subject to an invalidity challenge on a site-by-site basis under Section 120.56, Florida Statutes.²³

2. General Standards of Review

Once Coastal Construction Control Lines are established, Chapter 161 stipulates that all construction and excavation activity straddling or seaward of the line obtain a permit from DNR, following special design and siting criteria established in Section 161.053, Florida Statutes, and Chapter 16B-33, FAC. If accepted by DNR as being adequate to protect the shoreline and safeguard adjacent structures, coastal construction zoning and building codes of a county or municipality may be established in lieu of the state requirements. DNR makes its determination based on the adequacy of local regulations to protect the coastline, and the adequacy of local funds and personnel to administer the **program.**²⁴

All coastal counties and municipalities must notify the Department within five days after the receipt of an application

22 FLA. STAT. § 120.54(17) (1987).

23 FLA. STAT. § 161.053(2) (1987).

24 FLA. STAT. § 161.053(4) (1987): regulations for the delegation and administration of the CCCL program to counties and municipalities are contained in FLA. ADMIN. CODE Rules 16B-33.022 and 16B-33.0225 (1987).

for construction or excavation seaward of the Coastal Construction Control **Line,**²⁵ and must notify the applicant of the need for state permits within that same **period.**²⁶ In evaluating permits, the Department will consider the location of proposed construction by reference to local zoning and building codes providing for setback and other requirements that are more stringent than the **Department's,**²⁷ however it does not consider itself bound by any such standards, or property covenants or deed restrictions which are contrary to the purposes of Chapter 161, Florida **Statutes.**²⁸

DNR's review of permits for activities seaward of a Coastal Construction Control Line is based on consideration of adequate engineering data concerning shoreline stability and storm tides related to shoreline topography: design features of the proposed structure or activity: and potential impacts of the location of the structure or activity, including cumulative effects on the beach-dune **system.**²⁹ Final evaluation of the project must, in the opinion of DNR, "clearly justify such a **permit.**"³⁰ To

25 FLA. ADMIN. CODE Rule 16B-33.023(1) (1987).

26 FLA. ADMIN. CODE Rule 16B-33.023(2) (1987); permit application requirements and procedures are contained in FLA. ADMIN. CODE Rule 16B-33.008 (1987).

27 FLA. ADMIN. CODE Rule 16B-33.005(6) (1987).

28 **Id.**

29 FLA. STAT. § 161.053(5)(a) (1987); permit requirements and procedures at FLA. ADMIN. CODE Rule 16B-33.008 (1987).

30 **Id.**

evaluate whether a permit is clearly justified, the Department considers several factors involving: the purpose of the construction; the relationship between the purposes of proposed and existing structures; the location of the property in relation to the Coastal Construction Control Line: existing county and municipal regulations: the topography of the property: the existence of any continuous and uniform line of construction closer to the line of mean high water than is the Coastal Construction Control Line; any alternatives available to the applicant; and any other site-specific considerations.³¹

3. Siting and Standards

At the discretion of the Department, permits may be granted to an otherwise approved structure if in adjacent, contiguous areas, existing structures have created a "reasonably continuous and uniform construction line closer to the line of mean high water than (the Coastal Construction Control Line)"³² and have not been unduly affected by erosion. DNR is not allowed to violate local government setback requirements, zoning or building codes which are equal to or stricter than those of Florida Statute §161.053 (1986).³³ If the property is in a relatively undeveloped area, or if any existing structures are threatened by erosion, the Department must require all proposed construction to

³¹ FLA. ADMIN. CODE Rule 16B-33.007(7) (1987).

³² FLA. STAT. § 161.053(5)(b) (1987).

³³ Id.; See also FLA. ADMIN. CODE Rule 16B-33.006(6) (1987).

be located as far landward as possible.³⁴

Basically, all permitted structures seaward of a Coastal Construction Control Line must be designed so as to minimize any expected adverse impact on the beach-dune system or adjacent properties and structures.³⁵ Habitable major structures must be designed to withstand the predicted impacts of a 100-year storm event,³⁶ and constructed according to the minimum building code adopted for the area under the Florida Building Codes Act.³⁷ Any conflict between the requirements of that building code, the Coastal Construction Control Line program requirements and those of any other federal or state law are to be resolved in favor of the more restrictive standards.³⁸ Habitable major structures must be designed and constructed to withstand a wind load of 140 mph.³⁹ The building support structure must be elevated above the projected height of a breaking wave on top of the 100-year storm surge,⁴⁰ and be securely anchored to a pile foundation that is designed to withstand the erosion, scour, wind, wave, hydrostatic

34 FLA. ADMIN. CODE Rule 16B-33.006(3) (1987).

35 FLA. ADMIN. CODE Rule 16B-33.007(2) (1987).

36 FLA. ADMIN. CODE Rule 16B-33.007(3) (1987).

37 FLA. STAT. §§ 553.70-553.895 (1987).

38 FLA. ADMIN. CODE Rule 16B-33.007(4) (1987).

39 FLA. ADMIN. CODE Rule 16B-33.007(4)(b) (1987).

40 FLA. ADMIN. CODE Rule 16B-33.007(4)(c) (1987).

and hydrodynamic forces of a 100-year **storm**.⁴¹ No substantial walls or partitions are allowed below the level of the first finished floor of habitable major **structures**.⁴²

The construction or extension of piers, and pipelines or ocean outfalls crossing the beach must be designed to withstand the erosion, scour, and other loads associated with a 20-year storm **event**.⁴³ Swimming pools and water retention structures need not be designed to withstand the 100-year storm, but must be sited so that their failure would not jeopardize an adjoining major structure or shore protection **structure**.⁴⁴ If safe siting is not possible, a pool or water retention structure must be designed with a pile foundation to withstand the 100-year storm, and be elevated either partially or totally above the original grade to minimize **excavation**.⁴⁵ Minor structures are not required to meet structural requirements for wind and wave forces, but must be designed to produce minimum adverse impact on the beach and dune system and adjacent properties, and to reduce the potential for wind- or wave-generated **missiles**.⁴⁶

After a storm, DNR has the discretion to permit the repair

⁴¹ FLA. ADMIN. CODE Rule 16B-33.007(4)(d) (1987).

⁴² FLA. ADMIN. CODE Rule 16B-33.007(4)(f) (1987).

⁴³ **FLA.** ADMIN. CODE Rule 16B-33.007(4)(j), 16B-33.007(4)(k) (1987).

⁴⁴ FLA. ADMIN. CODE Rule 16B-33.007(4)(l) (1987).

⁴⁵ **Id.**

⁴⁶ FLA. ADMIN. CODE Rule B-33.007(5) (1987).

or rebuilding of a major structure within the confines of the original foundation, or in a more landward location if this would not further damage the beach-dune system.⁴⁷ Changes in the shoreline will be an important consideration. In no case may the repair or rebuilding be conducted seaward of the 30-year erosion line.⁴⁸ Permits issued under this section are not considered precedential for the issuance of subsequent permits,⁴⁹ and will not be issued for the rebuilding of any rigid shore protection structure, or for any additions or enclosures below the first floor or lowest deck of any other existing structure.⁵⁰

Rigid coastal or shore protection structures, such as seawalls, bulkheads, revetments and groins, designed to protect minor structures or nonhabitable major structures will not be permitted by DNR.⁵¹ The restriction does not apply to rigid shore protection structures designed to protect major public roads, highways, water or sewage treatment plants, or public power facilities.⁵² Where a seawall is the only feasible protection for habitable major structures and major public

⁴⁷ FLA. STAT. § 161.053(12) (1987).

⁴⁸ FLA. ADMIN. CODE Rule 16B-33.006(4) (1987).

⁴⁹ Id.

⁵⁰ FLA. STAT. § 161.053(12) (1987).

⁵¹ FLA. ADMIN. CODE Rule 16B-33.005(3)(b) (1987).

⁵² Id.

utilities, it must be located as far landward as **possible**.⁵³ Any proposed shore protection structure must be designed to minimize erosive and scour **effects**.⁵⁴ The Department encourages flexible shore protection approaches such as beach nourishment, dune construction and stabilization, and sand fencing,⁵⁵ and promotes the use of elevated dune walkover structures designed to protect dunes and their vegetation from pedestrian **traffic**.⁵⁶ Policy guidelines also consider the cumulative effects of construction on the beach or dune system and its ability to recover from a major storm **event**.⁵⁷ Special conditions may be placed on permitted activities to limit the nature, timing and sequence of construction, so as to protect native vegetation and plant **communities**,⁵⁸ and nesting sea turtles, their hatchlings and their **habitat**.⁵⁹

B. THIRTY-YEAR EROSION LINE

In 1985, the Florida Legislature added Section 161.053(6) to the Beach and Shore Preservation Act, prohibiting DNR from

⁵³ FLA. ADMIN. CODE Rule 16B-33.005(3)(c) (1987).

⁵⁴ FLA. ADMIN. CODE Rule 16B-33.005(3) (g) (1987).

⁵⁵ FLA. ADMIN. CODE Rule 16B-33.005(3) (1987).

⁵⁶ **FLA.** ADMIN. CODE Rule 16B-33.005(4) (1987).

⁵⁷ FLA. ADMIN. CODE Rule 16B-33.005(7) (1987).

⁵⁸ FLA. ADMIN. CODE Rule 16B-33.005(8) (1987).

⁵⁹ FLA. ADMIN. CODE Rule 16B-33.005(9) (1987).

issuing permits for most construction activity proposed in any area which, based on the Department's erosion projections, will be seaward of the seasonal high water line within 30 years of the date of the application.⁶⁰ Detailed procedures for determining the 30-year erosion line are contained in 16B-33.024, FAC.

The line is evaluated on a site-specific basis, projecting the erosion rate from the date of the field work for the topographic survey submitted as part of the permit application.⁶¹ Historical shoreline erosion measurements are researched for an alongshore segment approximately 3,000 feet on either side of the center line of the project site.⁶² The effects of existing rigid coastal and shore protection structures,⁶³ existing and permitted beach renourishment projects,⁶⁴ and the movement of coastal barrier inlets⁶⁵ must be considered in making 30-year erosion projections. In determining which area will be seaward of the 30-year erosion line, DNR does not include areas landward of the

60 FLA. STAT. § 161.053(6)(b) (1987); the "seasonal high-water line" is defined as the line formed by the intersection of the rising shore and the elevation of 150 percent of the local mean tidal range above local mean high water (FLA. STAT. § 161.053(6)(a)2. (1987)); procedures for determining local mean high water are contained in FLA. STAT. Chapter 177.

61 FLA. ADMIN. CODE Rule 16B-33.024(1) (1987).

62 FLA. ADMIN. CODE Rule 16B-33.024(3)(g) (1987).

63 FLA. ADMIN. CODE Rule 16B-33.024(3)(d) (1987).

64 FLA. STAT. § 161.053(6)(d) (1987); see also FLA. ADMIN. CODE Rule 16B-33.024(3)(e) (1987).

65 FLA. ADMIN. CODE Rule 16B-33.024(3)(f) (1987).

Coastal Construction Control **Line;**⁶⁶ the restrictions of the section may only be applied as far landward as the Coastal Construction Control Line.

Once the 30-year erosion line is established, no permit may be issued for any structure which will be seaward of the seasonal high-water line within 30 years of the date of the application, other than coastal and shore protection structures, minor structures, piers, or power plant intake and discharge structures for a facility sited pursuant to Chapter 403, Florida **Statutes.**⁶⁷ Where this restriction would preclude any construction, DNR may permit a single-family dwelling if the parcel was platted or subdivided by metes and bounds before October 1, 1985; the owner of the parcel does not own another parcel immediately adjacent to and landward of the restricted parcel; and the proposed single-family dwelling is located as far landward on its parcel as is practicable without being seaward of or on the frontal dune **structure.**⁶⁸ The dwelling will also be subject to the siting, design, and construction standards of the Coastal Construction Control Line program and the coastal building zone.

Violators of the Coastal Construction Control Line or 30-year erosion line program restrictions may be guilty of first or

⁶⁶ FLA. STAT. § 161.053(6)(b) (1987); see also FLA. ADMIN. CODE Rule 16B-33.024(3)(i)3 (1987).

⁶⁷ FLA. STAT. § 161.053(6)(b) (1987).

⁶⁸ FLA. STAT. § 161.053(6)(c) (1987); See also FLA. ADMIN. CODE Rule 16B-33.006 (3) (1987).

second degree misdemeanors for each day during which any portion of any violation is committed.⁶⁹ After a notice of violation or cease and desist order is issued, if the violator does not voluntarily consent to removing the structure and restoring the area, the Department may order the owner to restore the area, or may do the work itself and impose a lien on the property, or may refer the violation to the Attorney General or other appropriate law enforcement officials.⁷⁰ Civil penalties of up to \$10,000 for each offense may also be imposed for willful violations of these programs, with each day of noncompliance constituting a separate violation.⁷¹ Where sovereignty lands or any part of a beach-dune ecosystem is damaged as a result of knowing violations of these laws, the violator(s) will be held jointly and severally liable for the damage, unless liability for the damage can be apportioned.⁷²

C. COASTAL BUILDING ZONE

The Coastal Zone Protection Act of 1985⁷³ creates a protected coastal building zone in which structural standards are imposed on most construction. In mainland coastal areas, the

⁶⁹ FLA. ADMIN. CODE Rule 16B-33.020 (1987).

⁷⁰ FLA. ADMIN. CODE Rule 16B-020(5) (1987).

⁷¹ FLA. ADMIN. CODE Rule 16B-33.021(1) (1987).

⁷² FLA. ADMIN. CODE Rule 16B-33.021(2) (1987).

⁷³ FLA. STAT. § 161.52-161.58 (1987).

zone extends from the seasonal high-water **line**⁷⁴ landward to a line 1,500 feet landward of the Coastal Construction Control Line, established pursuant to Section 161.054, Florida Statutes.⁷⁵ For mainland coastal areas in which Coastal Construction Control Lines are not applicable, the coastal building zone includes the land area seaward of the most landward velocity zone (V-zone) line shown on FEMA flood insurance rate **maps**.⁷⁶ On coastal barrier **islands**,⁷⁷ the coastal building zone includes the land area from the seasonal high-water line to a line 5,000 feet landward from the Coastal Construction Control Line, or the entire island, whichever is **less**.⁷⁸ On coastal barrier islands for which Coastal Construction Control Lines have not been established, the coastal building zone is the land area seaward of the most landward velocity zone (V-zone) boundary

⁷⁴ Defined as "the line formed by the intersection of the rising shore and the elevation of 150 percent of the local mean tidal range above local mean high water." FLA. STAT. § 161.053 (6) (a) (2) (1987).

⁷⁵ FLA. STAT. § 161.54(1) (1987).

⁷⁶ **Id.**

⁷⁷ Defined as geological features completely surrounded by marine waters and composed of quartz sands, clays, limestone, oolites, rock, coral, coquina, sediment, or other material, including spoil disposal, which features lie above the line of mean high water. Mainland areas which were separated from the mainland by artificial channelization for the purpose of assisting marine commerce are not included within the definition, FLA. STAT. § 61.54(2) (1987). The definition suggests that islands formed from dredge material not related to channelization projects will be considered as coastal barriers.

⁷⁸ FLA. STAT. § 161.55(5) (1987).

line.⁷⁹ All of the Florida Keys within Monroe County are included within the coastal building zone.⁸⁰

On barrier islands between Sebastian Inlet and Fort Pierce Inlet the coastal building zone may be reduced in size on approval of the Land and Water Adjudicatory Commission, if it determines that the local government has provided adequate protection by adopting the 1986 Standard Building Code for the entire island. In no case may the coastal building zone be reduced to an area less than 2,500 feet landward of the Coastal Construction Control Line on a barrier island. The Commission must withdraw its approval for reduced building zones if the island's local government has not adopted the coastal management element of a required local comprehensive plan within six months after the comprehensive plan is due for submission to the Department of Community Affairs (DCA) under Section 163.3167, Florida Statutes.⁸¹

1. Structural Requirements

The Act imposes structural requirements on several types of construction within the coastal building zone, but does not address the siting policies or site coverage concerns of other similar Florida programs. Each local government required to adopt a building code by Section 553.73, Florida Statutes and

⁷⁹ Id.

⁸⁰ Id.

⁸¹ Id.

which has all or part of a coastal building zone within its jurisdiction, is required to adopt and enforce the structural requirements of Section 161.55 of the Coastal Zone Protection Act as part of its building **code**.⁸²

Major structures, including all types of residential, commercial, or public buildings and other construction with the potential for substantial impact on coastal **zones**,⁸³ must conform to the state minimum building code in effect in the particular jurisdiction: must be designed, constructed and located in compliance with NFIP regulations (44 C.F.R. Parts 59 and 60), or the local flood damage prevention ordinance, whichever is more restrictive; and must meet the standards of Section 1205 of the 1986 revisions to the 1985 Standard Building Code using a wind velocity of 110 mph (115 mph in the Florida **Keys**).⁸⁴ The foundation design and construction must consider all anticipated loads of a 100-year storm event, including localized erosion and scour due to the hydrodynamic effects of structural components. These erosion computations are not required landward of a Coastal Construction Control Line which has been updated since June 30, **1980**.⁸⁵ Mobile homes must conform to one of two nationally

⁸² FLA. STAT. § 161.56(1) (1987) **See** "Model Coastal Construction Code" (available from the Florida Department of Community Affairs) for regulations meeting the requirements of FLA. STAT. § 161.55.

⁸³ FLA. STAT. § 161.54(6)(a) (1987).

⁸⁴ FLA. STAT. § 161.55(1) (1987).

⁸⁵ FLA. STAT. § 161.55(1)(e) (1987).

recognized uniform construction standards, and must also comply with NFIP regulations contained in 44 C.F.R. Parts 59 and 60.⁸⁶

Nonhabitable major structures are defined to include swimming pools, parking garages, piers, all types of canals and water retention and drainage structures, lakes, water and sewage treatment plants, electrical power plants and all related facilities, transportation facilities and bridges, underground storage tanks, and any other structure with similar engineering considerations.⁸⁷ These structures must meet the requirements of 44 C.F.R. Parts 59 and 60, and the applicable provisions of the state minimum building code in effect in that jurisdiction, and produce minimal adverse impacts on the beach-dune system.⁸⁸

Sewage treatment and public water supply systems must be floodproofed to prevent infiltration of surface water from the 100-year storm. Underground utilities must prevent infiltration from the 100-year storm, or be otherwise designed to function when submerged.⁸⁹

Minor structures include pile-supported, elevated dune and beach walkover structures, beach access walkways, stairways and ramps, pile-supported, elevated viewing platforms, gazebos and boardwalks, lifeguard stands, bathhouses, sidewalks, parking

^{a6} FLA. STAT. § 161.55(1)(b) (1987); see also FLA. STAT. § 320.823 (1987).

⁸⁷ FLA. STAT. § 161.54(6)(c) (1987).

⁸⁸ FLA. STAT. § 161.55(3) (1987).

⁸⁹ Id.

areas and most types of uncovered paved areas, earth retaining walls and related types of minor fences, and other types of structures considered expendable under design wind, wave and storm **forces.**⁹⁰ These must meet the NFIP standards, appropriate provisions of the applicable state minimum building code, and must be designed to produce minimal adverse impacts on the beach-dune system and adjacent properties, including those from water or wind blown material.⁹¹

All construction, except for most minor structures and certain coastal or shore protection structures, must be located sufficiently landward to allow natural shoreline fluctuations and to preserve dune stability.⁹² In cases where public accessways have been established across private land to areas seaward of the mean high tide or water line, by prescriptive easement or any other legal means, the permitted construction must not interfere with the accessway unless a comparable alternative accessway is **provided.**⁹³

Unauthorized vehicular traffic of any type on dunes or native stabilizing vegetation is classed as a second degree misdemeanor.⁹⁴ Vehicular traffic, except that necessary for

⁹⁰ FLA. STAT. § 161.55(6)(b) (1987).

⁹¹ **FLA. STAT. § 161.55(2)** (1987).

⁹² FLA. STAT. § **161.55(4)** (1987).

⁹³ FLA. STAT. § **161.55(6)** (1987).

⁹⁴ **FLA. STAT. § 161.58(1)** (1987).

cleanup, repair, or public safety is prohibited on coastal beaches. Local governments with jurisdiction over any or all of a coastal beach may authorize traffic on any part of the beach, and may charge a reasonable fee for that traffic, but collected revenues must be used only for beach maintenance, beach-related traffic management, law enforcement and liability insurance, or beach-related sanitation, lifeguard or other staff purposes. Unauthorized driving on the beach is also classified as a second degree misdemeanor.⁹⁵

The Act requires a disclosure statement to ensure that all purchasers of interests in real property located partially or totally seaward of the Coastal Construction Control Line are fully notified of the regulation of the property and the potential for storm damage. At or prior to closing, the seller of such property must provide an affidavit or survey delineating the location of the Coastal Construction Control Line on the property.⁹⁶

D. LOCAL GOVERNMENT COMPREHENSIVE PLAN

The Local Government Comprehensive Planning and Land Development Regulation Act⁹⁷ was passed in 1985, expanding the

⁹⁵ FLA. STAT. § 161.58(2) (1987).

⁹⁶ FLA. STAT. § 161.57 (1987).

⁹⁷ FLA. STAT. §§ 163.3167-163.3243 (1987).

scope of earlier planning laws and mandating that local governments prepare or amend comprehensive plans which address a number of elements related to the orderly growth of an area.⁹⁸ A local plan must be consistent with the State Comprehensive Plan⁹⁹ and the applicable comprehensive regional policy plan,¹⁰⁰

⁹⁸ See generally Pelham, Hyde & Banks, Managing Florida's Growth: Toward an Integrated State, Regional, and Local Comprehensive Planning Process, 13 Fla. St. U.L. Rev. 515 (1985); Orshefsky, Gallop & Knox, Local Government Comprehensive Planning Florida Environmental and Land Use Law (Vol. II) Environmental and Land Use Law Section, The Florida Bar (1987); Christie, Growth Management in Florida: Focus on the Coast, 3 J. Land Use & Envtl. L. 33 (1987).

⁹⁹ FLA. STAT. §§ 187.101-187.201, (1987). Among the policies enumerated in the Coastal and Marine Resources element of the State Comprehensive Plan are several with mitigative effects, including:

1. Accelerate public acquisition of coastal and beachfront land where necessary to protect coastal and marine resources or to meet projected public demand;

2. Avoid the expenditure of state funds that subsidize development in high hazard coastal areas;

3. Protect coastal resources, marine resources and dune systems from the adverse effects of development;

4. Develop and implement a comprehensive system of coordinated planning, management, and land acquisition to ensure the integrity and continued attractive image of coastal areas;

5. Encourage land and water uses which are compatible with the protection of sensitive coastal resources;

6. Protect and restore long-term productivity of marine fisheries habitat and other aquatic resources;

7. Avoid the exploration and development of mineral resources which threaten marine, aquatic, and estuarine resources;

8. Prohibit development and other activities which disturb coastal dune systems, and ensure and promote the restoration of coastal dune systems that are damaged;

9. Give priority in marine development to water-dependent uses over other uses.

¹⁰⁰ FLA. STAT. § 163.3177(4)(a) (1987); see FLA. STAT. §§ 186.507-186.508 (1987) for description and authorization of comprehensive regional policy plans.

as well as having internal consistency among its own elements.¹⁰¹ Local governments must also adopt or amend, and enforce land development regulations that are consistent with and implement their comprehensive plans.¹⁰²

The DCA and the Regional Planning Councils (RPCs) provide assistance to local governments for background data and the preparation of comprehensive **plans**.¹⁰³ Financial assistance to offset the cost of public notice and planning requirements is available under the provisions of Chapter 9J-16, FAC, the Local Government Comprehensive Planning Assistance Program. The local planning agency is required to evaluate, appraise and update the local comprehensive plan at least once every five years, in a report to the local governing body and **DCA**.¹⁰⁴

1. ~~Local Plan Requirements~~

¹⁰¹ FLA. STAT. § 163.3177(2) (1987); See also FLA. ADMIN. CODE Rule 9J-5.021 (1987). Amendments to the local comprehensive plan must also preserve internal consistency. FLA. STAT. § 163.3187(2) (1987).

¹⁰² FLA. STAT. § 163.3202(1) (1987).

¹⁰³ FLA. STAT. § 163.3204 (1987). As an aid to preparation of local comprehensive plans, the Florida Department of Community Affairs, Bureau of Local Resource Planning has published a set of 11 model comprehensive plan elements, satisfying the requirements of the 11 potentially required elements of a local comprehensive plan. The model elements meet the criteria imposed by Chapter 163, FLA. STAT., and Chapter 9J-5, F.A.C., but are based on specific places and conditions. Model optional elements have not been prepared. The DCA also encourages the use of "A Guide to Local Government Planning Data Sources" (Nov. 1986) and "Preparing a Comprehensive Plan" (May 1987), both available from the Department of Community Affairs.

¹⁰⁴ FLA. STAT. § 163.3191 (1987).

Sections 163.3177 and 163.3178, Florida Statutes contain the minimum required elements for the comprehensive plan of a coastal local government. DCA's rules establishing minimum criteria for the review of local plans¹⁰⁵ have emphasized that the Act establishes minimum thresholds for acceptance of a local plan. As long as a plan is found to be in compliance with Chapter 163, Part II and DCA's rules, it may be as broad, specific, detailed, or strict as the local government wishes.¹⁰⁶ Required elements must address: capital improvements: future land use; traffic circulation: sanitary sewer, solid waste, drainage, potable water and natural groundwater aquifer recharge: conservation, use and protection of natural resources, including estuarine marshes, beaches, shores, floodplains, bays and marine habitat; recreation and open space; housing: and intergovernmental coordination.¹⁰⁷

There are also several optional elements, which are required elements for local governments with populations over 50,000.¹⁰⁸ These include elements for the protection of residents and property from fire, hurricane and other catastrophes, including evacuation routes, water supply requirements, minimum road widths, clearances around and elevations of structures, and related matters: mass transit: port, aviation, and related

¹⁰⁵ FLA. ADMIN. CODE Rule 9J-5 (1987).

¹⁰⁶ FLA. ADMIN. CODE Rule 95-5.001 (1987).

¹⁰⁷ FLA. STAT. §§ 163.3177(3), 163,3177(6)(a)-(h) (1987).

¹⁰⁸ FLA. STAT. § 163.3177(6)(i) (1987); see FLA. STAT. § 86.901 (1987), for population census determination.

facilities: circulation of recreational traffic; offstreet parking facilities: public buildings and related facilities; recommended community design: general area redevelopment: historical and scenic preservation; and economic **development.**¹⁰⁹

2. Coastal Management Element

Counties and municipalities abutting the Gulf of Mexico or the Atlantic Ocean, or which front on waters of the state where marine species of vegetation predominate¹¹⁰ are also required to adopt a coastal management element, appropriately related to the conservation and recreation and open space elements.¹¹¹ The coastal management element must include policies for the implementation of the following objectives:

1. Maintenance, restoration, and enhancement of the overall quality of the coastal zone environment.
2. Continued existence of viable populations of all species of wildlife and marine life.
3. Orderly and balanced utilization and preservation, consistent with sound conservation principles, of all living and nonliving coastal zone resources.
4. Avoidance of irreversible and irretrievable loss of

¹⁰⁹ FLA. STAT. § 163.3177(7)(a)-(k) (1987).

¹¹⁰ Local governments required by law to prepare coastal management elements are listed in the document, "Local Governments Required to Include Coastal Management Elements in their Comprehensive Plans," dated July 1, 1986, and available from the DCA on request. **FLA. ADMIN. CODE** Rule 9J-5.012 (1987).

¹¹¹ **FLA. STAT.** § 163.3177(6)(g) (1987).

coastal zone resources.

5. Ecological planning principles and assumptions to be used in the determination of suitability and extent of permitted development.
6. Proposed management and regulatory techniques.
7. Limitation of public expenditures that subsidize development in high-hazard coastal areas.
8. Protection of human life against the effects of natural disasters.
9. The orderly development and use of ports to facilitate deepwater commercial navigation and related activities.¹¹²
10. Preservation, including sensitive adaptive use of historic and archaeological **resources**.¹¹³

Section 163.3178 of the Act is specifically directed to coastal management, with a legislative intent "that local government comprehensive plans restrict development activities where such activities would damage or destroy coastal resources, and that such plans protect human life and limit public expenditures in areas that are subject to destruction by natural **disaster**."¹¹⁴ The section adds specific components to be

¹¹² At present, the designated ports include: Jacksonville, Tampa, Port Everglades, Miami, Port Canaveral, Ft. Pierce, Palm Beach, Port Manatee, Port St. Joe, Panama City, St. Petersburg, and Pensacola. FLA. STAT. § 403.021(9) (1987).

¹¹³ FLA. STAT. § 163.3177(6)(g) (1987).

¹¹⁴ FLA. STAT. § 163.3178(1) (1987).

addressed by the coastal management element of a local comprehensive plan, and directs that the element be based on verifiable studies, surveys and data.¹¹⁵

Each coastal element must contain a land use and inventory map of coastal uses, wildlife habitat, wetland and other vegetative communities, undeveloped areas, areas subject to coastal flooding, public access routes, historic preservation areas, and other areas of special **concern.**¹¹⁶ It must contain an analysis of the environmental, socioeconomic, and fiscal impact of development, redevelopment and associated infrastructure proposed in the future land use plan, as it relates to natural and historical resources of the **coast.**¹¹⁷ The element also requires plans and principles to control development and redevelopment, to eliminate or mitigate adverse impacts on every part of the coastal ecosystem.¹¹⁸ Existing drainage systems, and point and nonpoint source pollution must also be analyzed for their effects on estuarine water quality, and plans created for the maintenance or upgrading of water quality and **quantity.**¹¹⁹

Several required components of the coastal element address mitigation concerns. The most specific calls for an outline of

¹¹⁵ FLA. STAT. § 163.3178(2) (1987).

¹¹⁶ FLA. STAT. § 163.3178(2)(a) (1987).

¹¹⁷ FLA. STAT. § 163.3178(2)(b) (1987).

¹¹⁸ FLA. STAT. § 163.3178(2)(b) (1987).

¹¹⁹ FLA. STAT. § 163.3178(2)(c) (1987).

the principles for hazard mitigation and protection of human life against the effects of natural disaster, including population evacuation, taking into account projected population densities in the future land use plan **element**.¹²⁰ Regulatory and management techniques must be identified to mitigate such threats to human life, and to control proposed development or redevelopment in order to protect the coastal **environment**.¹²¹ A redevelopment component must include principles to be used to eliminate inappropriate and unsafe development in the coastal area after **storm damage**.¹²² Local governments in coastal areas must also designate high-hazard areas, subject to destruction or severe damage by natural disasters, which will not receive state funds to increase infrastructure capacity.¹²³

A related component requires principles for protecting beach and dune systems from artificially-induced erosion and for restoring altered **systems**.¹²⁴ The need for public access, and water-dependent and water-related facilities must also be **addressed**,¹²⁵ and financial assurances made to phase-in required public facilities on schedule with any development or

¹²⁰ FLA. STAT. § 163.3178(2)(d) (1987).

¹²¹ FLA. STAT. § 163.3178(2)(j) (1987).

¹²² FLA. STAT. § 163.3178(2)(f) (1987).

¹²³ FLA. STAT. § 163.3178(2)(h) (1987).

¹²⁴ FLA. STAT. § 163.3178(2)(e) (1987).

¹²⁵ FLA. STAT. § 163.3178(2)(g) (1987).

redevelopment.¹²⁶ Any local government with one of the deepwater ports listed in Section 403.021(9), Florida **Statutes**¹²⁷ must include the comprehensive master plan of that **port.**¹²⁸

3. Minimum Criteria: Inventories and Analysis

Chapter 9J-5, FAC, contains detailed minimum criteria used by DCA for review of local comprehensive plans, and for determining whether the plans are in compliance with the state plan and comprehensive regional policy **plan.**¹²⁹ The coastal management element of a comprehensive plan must be based on the inventory and analysis of several aspects of the coastal area. Existing land uses must be inventoried, including a map of land uses and water-dependent uses, with an analysis of conflicts among shoreline uses and the need for water-dependent development **sites.**¹³⁰ Inventories, maps and analyses must be made of the effect of future land uses on coastal natural resources, including wetlands, coastal floodprone areas, wildlife habitats, and living marine **resources.**¹³¹ Known point and non-point source

¹²⁶ FLA. STAT. § 163.3178(2)(i) (1987).

¹²⁷ **See** note for listing of designated deepwater ports.

¹²⁸ FLA. STAT. § 163.3178(2)(k) (1987).

¹²⁹ FLA. ADMIN. CODE Rule 9J-5.001 (1987): **see** FLA. ADMIN. CODE Rule 9-10 (1987) for the procedures used by the DCA and RPC's in reviewing and adopting the comprehensive regional policy plans.

¹³⁰ **FLA.** ADMIN. CODE Rule 9J-5.012(2)(a) (1987).

¹³¹ **FLA.** ADMIN. CODE Rule 9J-5.012(2)(b) (1987).

pollution in estuaries must be assessed, as well as the impacts of proposed facilities in several plan elements on water quality, circulation patterns, and contaminants in sediments.¹³² Beach and dune systems, including erosion and accretion trends, the effects of shore protection structures and existing and potential beach renourishment areas must also be inventoried and analyzed.¹³³

Natural disaster planning concerns include all aspects of hurricane evacuation planning, and must take into account the projected impact of anticipated population densities proposed in the future land use element, including measures the local government could adopt to maintain or reduce evacuation times.¹³⁴ Post-disaster redevelopment must address: existing and proposed land use in coastal high-hazard areas; structures that have been repeatedly damaged in coastal storms: coastal or shore protection structures: infrastructure in high-hazard areas; and beach/dune conditions. Measures to reduce exposure to hazards must be analyzed, including relocation, structural modification, and public acquisition of property.¹³⁵ Coastal high-hazard areas and their infrastructure must also be identified, and the potential

¹³² FLA. ADMIN. CODE Rule 9J-5.012(2)(d) (1987).

¹³³ FLA. ADMIN. CODE Rule 9J-5.012(2)(f) (1987).

¹³⁴ FLA. ADMIN. CODE Rule 9J-5.012(2)(e)1. (1987); See "Recommended Guidelines for Coastal Area Natural Disaster Planning," 8pp. (available from the DCA's Division of Emergency Management).

¹³⁵ FLA. ADMIN. CODE Rule 9J-5.012(2)(e)2. (1987).

for relocating threatened infrastructure be analyzed.¹³⁶

Finally, existing infrastructure in the coastal area must be inventoried, including roads, bridges, public utilities, public shore protection structures, and renourishment projects. The demands upon, and capacity of existing infrastructure must be analyzed, taking into account estimated future needs and the estimated costs, funding sources and phasing of any needed **improvements.**¹³⁷ The present capacity of and projected need for public access facilities, including coastal roads, parking facilities, access points, boat launching facilities, and piers must also be analyzed, and coordinated with the recreation and open space **element.**¹³⁸ The impacts of proposed development and redevelopment on historic resources must be **analyzed.**¹³⁹

4. Minimum Criteria: Goals, Objectives, Policies

The coastal management element must use the above inventories and analyses to set long-term goals, specific objectives, and policies, including regulatory or management techniques for implementing the plan.¹⁴⁰ Goal statements must reflect the legislative intent of the Act, which is to restrict development activities that would damage or destroy coastal

¹³⁶ FLA. ADMIN. CODE Rule 9J-5.012(2)(e)3. (1987).

¹³⁷ FLA. ADMIN. CODE Rule 9J-5.012(2)(h) (1987).

¹³⁸ FLA. ADMIN. CODE Rule 9J-5.012(2)(g) (1987).

¹³⁹ FLA. ADMIN. CODE Rule 9J-5.012(2)(c) (1987).

¹⁴⁰ FLA. ADMIN. CODE Rule 9J-5.012(3) (1987).

resources, protect human life, and limit public expenditures in areas subject to destruction by natural disasters.¹⁴¹ One or more specific objectives must be prepared for each goal statement, which address the Act's requirements for coastal elements and which:

1. Protect, conserve or enhance remaining coastal wetlands, living marine resources, coastal barriers, and habitat.
2. Maintain or improve estuarine environmental quality.
3. Protect beaches or dunes, establish construction standards which minimize impacts of manmade structures, and restore altered beaches or dunes.
4. Limit public expenditures that subsidize development permitted in coastal high-hazard areas, except for the restoration or enhancement of natural resources.
5. Direct population concentrations away from known or predicted coastal high-hazard areas.
6. Maintain or reduce hurricane evacuation times.
7. Prepare post-disaster redevelopment plans which will reduce or eliminate the exposure of human life and public and private property to natural hazards.
8. Provide criteria or standards for prioritizing shoreline uses, giving priority to water-dependent uses.
9. Increase public access, consistent with projected needs.
10. Provide for protection, preservation or sensitive reuse

¹⁴¹ FLA. ADMIN. CODE Rule 9J-5.012(3)(a) (1987).

of historical resources.

11. Establish level of service standards, areas of service, and phasing of infrastructure in the coastal area.¹⁴²

The coastal management element must also contain one or more policies for each stated objective, and must include regulatory or management techniques for the implementation of the policies.¹⁴³ These must be aimed at:

1. Limiting the specific and cumulative impacts of development or redevelopment on wetlands, water quality or quantity, wildlife habitat, living marine resources, and beach dune systems.
2. Restoring or enhancing disturbed or degraded natural resources, including beaches, dunes, estuaries, wetlands, and drainage systems, with programs to mitigate future disruptions or degradations.
3. General hazard mitigation, such as regulation of building practices, floodplains, beach and dune alteration, stormwater management, and land use to reduce exposure to natural hazards; incorporating recommendations of the hazard mitigation reports.
4. Relieving any deficiencies in hurricane evacuation.
5. Post-disaster redevelopment policies to: distinguish between immediate action for the public health and

¹⁴² FLA. ADMIN. CODE Rule 9J-5.012(3)(b) (1987).

¹⁴³ FLA. ADMIN. CODE Rule 9J-5.012(3)(c) (1987).

safety, and long-term repair and redevelopment action: remove, relocate or modify damaged infrastructure and structures: limit redevelopment in repeatedly damaged areas: and incorporate recommendations of the hazard mitigation reports into the local comprehensive plan.

6. Identifying areas needing redevelopment and eliminating unsafe conditions and inappropriate uses as the opportunities arise.
7. Designating coastal high-hazard areas, limiting development in these areas, and relocating or replacing infrastructure away from these areas.
8. Establishing priorities for shoreline land uses, providing for siting water-dependent uses, establishing standards for shoreline development, and criteria for marina siting.
9. Providing ongoing public access to beaches, including transportation or parking facilities.
10. Protecting historic resources.
11. Orderly development of deepwater ports, including concerns with land use, natural hazards, and protection of natural resources.
12. Ensuring that infrastructure will be available to serve development or redevelopment at densities proposed in the future land use plan, consistent with resource protection and safe evacuation, by assuring that necessary funding for infrastructure will coincide

with the demands generated by the development.

13. Providing for intergovernmental protection of estuaries.

14. Coordinating with other resource protection **plans.**¹⁴⁴

Deepwater ports are also required to prepare a port master plan, coordinating the activities of the port with the plans of the appropriate local government. The plan must be submitted to the local government at least six months prior to the date the local government must submit its plan to DCA, and is incorporated into the coastal management element of the local **plan.**¹⁴⁵ The plan must be supported by data and analyses: must develop goals, objectives and policies to address the applicable issues listed in the Act and associated administrative rules; and must set forth the port's expansion and maintenance plans, including impact on wetlands, beaches and dunes, submerged lands, floodplains, wildlife habitat, living marine resources, water quality and quantity, public access, historic resources, and the land use and infrastructure of adjacent **areas.**¹⁴⁶

5. Plan Submittal and Review

Local governments with required coastal management elements must submit proposed comprehensive plans to DCA between July 1, 1988 and July 1, 1990, though DCA may permit earlier

¹⁴⁴ FLA. ADMIN. CODE Rule 9J-5.012(3)(c) (1987).

¹⁴⁵ FLA. ADMIN. CODE Rule 9J-5.012(4)(a) (1987).

¹⁴⁶ FLA. ADMIN. CODE Rule 9J-5.012(4)(d) (1987).

submissions.¹⁴⁷ All other local governments must submit their proposed plans between July 1, 1989 and July 1, 1990. DCA may establish later deadlines for the submission of proposed comprehensive plans for a local government which has all or a part of a designated Area of Critical State Concern¹⁴⁸ within its borders, but the deadline may extend no later than July 1, 1990.¹⁴⁹

A local government that misses the date scheduled for submission of its comprehensive plan by more than 90 days will be subject to sanctions imposed by the Administration Commission under Section 163.3184(11)(a), Florida Statutes.¹⁵⁰ These can include loss of state funds to increase the capacity of roads, bridges, or water and sewer systems; loss of eligibility for Community Development Block Grants; loss of eligibility for the Florida Recreation Development Assistance Program; and loss of revenue sharing funds.¹⁵¹ If the local government is required to have a coastal management element, the sanction may also include

¹⁴⁷ FLA. STAT. § 163.3167(2)(a) (1987). FLA. ADMIN. CODE Rule 9J-12, (1987) contains the full schedule for submission of local government comprehensive plans, and establishes procedures to request earlier submission dates.

¹⁴⁸ See FLA. STAT. § 380.05 (1987).

¹⁴⁹ FLA. STAT. § 163.3167(2) (1987); see FLA. ADMIN. CODE Rule 9B-27 (1987) for the DCA's procedures for the review and approval, or disapproval of development regulations and local comprehensive plans that apply to Areas of Critical State Concern.

¹⁵⁰ FLA. STAT. § 16.3167(2) (1987).

¹⁵¹ FLA. STAT. § 163,3184(11)(a). (1987).

loss of eligibility for Erosion Control Trust Fund monies under Section 161.091, Florida **Statutes**.¹⁵²

In the absence of local government efforts, the appropriate RPC may prepare a comprehensive plan for the local government and require it to compensate the **RPC**.¹⁵³ The failure of a deepwater port which is an agency of a local government to prepare a master plan may also result in the imposition of sanctions, and the preparation of the master plan by the RPC, but not if the port is found to be an independent **entity**.¹⁵⁴

After submission of a proposed comprehensive plan, DCA initiates an extensive review and evaluation process that includes input from the Department of Environmental Regulation (DER), DNR, Department of Transportation (DOT), the appropriate water management district and RPC, and for municipalities, the county planning agency.¹⁵⁵ If after the review process, DCA issues a notice of intent to find a particular local comprehensive plan "in **compliance**"¹⁵⁶ with the Act, "any affected

¹⁵² FLA. STAT. § 163.3184(11)(b). (1987).

¹⁵³ FLA. STAT. § 163.3167(6) (1987).

¹⁵⁴ FLA. ADMIN. CODE Rule 9J-5.012(4)(a) (1987).

¹⁵⁵ FLA. STAT. § 163.3184 (1987).

¹⁵⁶ Defined as "consistent with the requirements of sections 163.3177, 163.3178, and 163.3191, the state comprehensive plan, the appropriate regional policy plan, and Rule 9J-5, F.A.C., where such rule is not inconsistent with Chapter 163, Part II." FLA. STAT. § 163.3184(1)(b) (1987).

person¹⁵⁷ may file a petition for a hearing pursuant to Section 120.57, Florida Statutes.¹⁵⁸ If the notice of intent is to find the plan not in compliance, a Section 120.57 hearing must be held in the affected local jurisdiction.¹⁵⁹ If after either of the above types of hearings, the Administration Commission finds a proposed comprehensive plan or amendment not in compliance, it must specify remedial actions that would bring the plan into compliance. Sanctions may include loss of eligibility for any of several types of state grants or other financial assistance.¹⁶⁰

6. Adoption of Land Development Regulations

Within one year of the date it submits its comprehensive plan for review by DCA, a local government must adopt or amend and enforce land development regulations¹⁶¹ that are consistent

¹⁵⁷ Defined as including "the affected local government; persons owning property, residing, or owning or operating a business within the boundaries of the local government whose plan is the subject of the review; and adjoining local governments that can demonstrate that adoption of the plan as proposed would produce substantial impacts on the increased need for publicly funded infrastructure or substantial impacts on areas designated for protection or special treatment within their jurisdiction. Each person, other than an adjoining local government, in order to qualify under this definition, shall also have submitted oral or written objections during the local government review and adoption proceedings." FLA. STAT. § 163.3184(1)(a) (1987).

¹⁵⁸ FLA. STAT. § 163.3184 (9) (1987).

¹⁵⁹ FLA. STAT. § 163.3184(10) (1987).

¹⁶⁰ FLA. STAT. § 163.3184(11) (1987).

¹⁶¹ FLA. STAT. § 163.3202(1) (1987); "land development regulations" are defined as ordinances enacted by a local governing body for the regulation of any aspect of development, including a subdivision, building construction, landscaping, tree protection, or sign regulation or any other regulation concerning the development of land. This term shall include a general

with¹⁶² and implement the comprehensive **plan**.¹⁶³ Any existing development regulation which is not consistent with the plan must be amended so as to be **consistent**.¹⁶⁴ During any interim period, in which unamended regulations remain inconsistent with the adopted comprehensive plan, the plan itself will govern any action taken in regard to an application for a development **order**.¹⁶⁵ The regulations must be specific, and at a minimum must:

1. Regulate the subdivision of land.
2. Regulate use of land and water for those categories of land use included in the land use element: ensure compatibility of adjacent uses: and provide open space.
3. Protect potable water wellfields.
4. Regulate areas subject to seasonal and periodic flooding, and provide for drainage and stormwater

zoning code, but shall not include a zoning map, an action which results in zoning or rezoning of land, or any building construction standard adopted pursuant to and in compliance with the provisions of Chapter 553." FLA. STAT. § 163.3213(2)(b) (1987).

¹⁶² Land development regulations are considered consistent with the comprehensive plan "if the land uses, densities or intensities, and other aspects of the development permitted by such...regulation are compatible with and further the objectives, policies, land uses, and densities or intensities in the comprehensive plan and if it meets all other criteria enumerated by the local government." FLA. STAT. § 163.3194(3)(a) (1987).

¹⁶³ FLA. STAT. § 163.3202(1) (1987).

¹⁶⁴ FLA. STAT. § 163.3194(1)(b) (1987).

¹⁶⁵ FLA. STAT. § 163.3194(1)(b) (1987).

management.

5. Ensure protection of environmentally sensitive lands designated in the comprehensive plan.
6. Regulate signage.
7. Ensure safe traffic flow, considering needed parking.
8. Provide that public facilities and services meet the standards of the capital improvements element and are available when needed, or that development orders and permits are conditioned on the availability of facilities to serve the proposed development. Local governments are not allowed to issue a development order or permit which results in a reduction in the level of services for the affected public facilities below the level of services provided in the local comprehensive **plan**.¹⁶⁶

After its review and consultation process, if DCA determines that the local government has not adopted the required regulations, it may file suit in circuit court to require adoption of the regulations.¹⁶⁷ Within 12 months after final adoption of the required land development regulations, any "substantially affected **person**"¹⁶⁸ may challenge a regulation as being inconsistent with the local comprehensive plan, by first

¹⁶⁶ FLA. STAT. § 163.3202(2) (1987).

¹⁶⁷ FLA. STAT. § 163.3202(4) (1987).

¹⁶⁸ FLA. STAT. § 163.3213(2)(a) (1987).

filing a petition with the local government outlining the facts of the petition and the reasons the regulation is considered to be inconsistent.¹⁶⁹ The local government has 30 days to respond. The substantially affected person must then petition DCA, within 30 days of the local government's response, or 30 days of the expiration of the local government's 30-day period.¹⁷⁰

An informal proceeding is held between 30 and 60 days after DCA receives the petition. If DCA determines the regulation is consistent, the substantially affected person may request a formal hearing before a hearing officer under Section 120.57(1), Florida Statutes, with the resulting final order subject to judicial review.¹⁷¹ If DCA determines the regulation is inconsistent, DCA must request a formal hearing under Section 120.57(1).¹⁷² If the hearing officer finds the land development regulation to be inconsistent in either hearing, before an appeal for judicial review may be filed, the final order will be submitted to the Administration Commission for a hearing on which sanctions are to be applied under Section 163.3184(11), Florida Statutes, related to the loss of several forms of state funding.¹⁷³

¹⁶⁹ FLA. STAT. § 163.3213(3) (1987).

¹⁷⁰ *Id.*

¹⁷¹ FLA. STAT. § 163.3213(5) (a) (1987).

¹⁷² FLA. STAT. § 163.3213(5)(b) (1987).

¹⁷³ FLA. STAT. § 163.3213(6) (1987).

Within 30 days after the issuance of a development **order**,¹⁷⁴ any "aggrieved or adversely affected **party**"¹⁷⁵ may maintain an action for injunctive or other relief against a local government, if the order materially alters the use or density or intensity of use on a particular piece of property that is not consistent with the comprehensive **plan**.¹⁷⁶ The complaining party must first file a complaint with the local government, setting forth the facts and the relief sought. The local government has 30 days to respond. The complaining party must institute the action within 30 days after the expiration of the local government's 30-day response **period**.¹⁷⁷ No suit may be maintained under these provisions challenging the approval or denial of a development order granted prior to October 1, 1985, or applied for prior to July 1, **1985**.¹⁷⁸ No settlement may be entered into by the local

¹⁷⁴ Defined as "any order granting, denying, or granting with conditions an application for a development permit." FLA. STAT. § 163.3164(6) (1987).

¹⁷⁵ Defined as a "person or local government which will suffer an adverse effect to an interest protected or furthered by the local government comprehensive plan, including interests related to health and safety, police and fire protection service systems, densities or intensities of development, transportation facilities, health care facilities, equipment or services, or environmental or natural resources. The alleged adverse interest may be shared in common with other members of the community at large, but shall exceed in degree the general interest in community good shared by all persons." FLA. STAT. § 163.3215(2) (1987).

¹⁷⁶ FLA. STAT. § 163.3215(1) (1987).

¹⁷⁷ FLA. STAT. § 163.3215(4) (1987).

¹⁷⁸ FLA. STAT. § 163.3215(3)(a) (1987).

government in such an action unless the terms of the settlement have been the subject of a public hearing after notice as required under the Act.¹⁷⁹

E. STATE EMERGENCY MANAGEMENT ACT

The State Emergency Management Act¹⁸⁰ was enacted to help the state plan for, mitigate and recover from large scale emergencies resulting from natural or manmade causes. The Governor, DCA, Division of Emergency Management, and political subdivisions of the state are given responsibility and authority to establish organizational structures and plans for protecting lives and property during emergencies,¹⁸¹ including the authority to make and amend the rules and regulations necessary for emergency management purposes.¹⁸² "Emergency management" is defined as the preparation for and carrying out of all responsibilities and functions "to prevent, mitigate, or repair injury and damages resulting from the occurrence of imminent threat of widespread or severe damages, or loss of life or property resulting from emergencies."¹⁸³ These responsibilities

¹⁷⁹ FLA. STAT. § 163.3215(7) (1987).

¹⁸⁰ FLA. STAT. Chapter 252 (1987).

¹⁸¹ FLA. STAT. § 252.32 (1987).

¹⁸² FLA. STAT. § 252.46 (1987).

¹⁸³ FLA. STAT. § 252.34(3) (1986).

include:¹⁸⁴

1. Reduction of the vulnerability of people and communities to damage, injury, and loss of life and property from catastrophes.
2. Preparing for prompt rescue and treatment of victims.
3. Providing a setting conducive to the rapid and orderly restoration and rehabilitation of persons and property.
4. Providing an emergency management system embodying all aspects of pre-emergency preparedness and post-emergency response.
5. Assisting in the anticipation, recognition, appraisal, prevention and mitigation of emergencies which may be caused by or aggravated by inadequate planning for, and regulation of public and private facilities and land use.

The Governor has broad authority to assume direct control over any part of emergency management functions in the event of an emergency, including the direction of evacuations, deployment of organized and volunteer militia, and control of pedestrian and vehicular traffic.¹⁸⁵ In addition to these direct powers, the Governor is required to regularly consider any steps that can be taken to mitigate damage and harm from emergencies, and to make recommendations to the legislature, local governments, and other

¹⁸⁴ **Id.**

¹⁸⁵ FLA. STAT. § 252.36 (1987).

public and private entities as necessary for mitigation of disaster harm.¹⁸⁶ At the Governor's direction, state agencies responsible for floodplain management, stream encroachment and flow regulation, weather modification, fire prevention, air quality, public works, land use and land use planning, and construction standards are required to make studies of emergency mitigation-related matters.¹⁸⁷

If the Division of Emergency Management (Division) determines that building standards, land use regulations, or zoning in a particular area are inadequate to protect that area in the event of an emergency, it must specify needed changes to the Governor. After public hearings, if the Governor also determines changes are necessary, he is required to recommend the changes to the agencies or political subdivisions with jurisdiction over the area and subject matter. If the local agency or political subdivision does not take adequate steps within the time the Governor specifies, he must request the legislature to enact appropriate legislation to mitigate the impacts of a potential emergency in that area.¹⁸⁸

¹⁸⁶ FLA. STAT. § 252.44 (1987).

¹⁸⁷ FLA. STAT. § 252.44(1) (1987).

¹⁸⁸ FLA. STAT. § 252.44(3) (1987).

The Division is authorized to prepare a comprehensive state emergency management **plan;**¹⁸⁹ ascertain and procure state and county requirements for equipment and supplies; and to cooperate with federal and other states' agencies in the direction of emergency management exercises.¹⁹⁰ The Division has jurisdiction over and serves each county in the **state,**¹⁹¹ and is authorized to give assistance to political subdivisions and promulgate standards for preparation of emergency management plans; make and amend rules, programs and plans to carry out its responsibilities; and coordinate federal, state, and local emergency management **activities.**¹⁹²

Each county must establish and maintain a local emergency management agency in support of the state comprehensive emergency management **plan.**¹⁹³ Municipalities are authorized and encouraged to create emergency management agencies and coordinate their activities with those of the county **agency.**¹⁹⁴ County emergency management agencies are also required to develop plans and programs in accordance with the policies and plans set by federal

¹⁸⁹ A copy of the Comprehensive Emergency Management Plan of the State of Florida is incorporated by reference in FLA. ADMIN. CODE Rule 9G-2, and is on file at the Division of Emergency Management offices in Tallahassee and its area offices.

¹⁹⁰ FLA. STAT. § 252.35 (1987).

¹⁹¹ FLA. STAT. § 252.38 (1987).

¹⁹² FLA. STAT. § 252.35(2) (1987).

¹⁹³ FLA. STAT. § 252.38(2) (1987).

¹⁹⁴ FLA. STAT. § 252.38(3) (1987).

and state agencies.¹⁹⁵ An interjurisdictional, joint emergency plan may be established for two or more political subdivisions on a finding by the Governor that emergency prevention, mitigation, preparedness, response, and recovery would be more efficient and effective under the plan.¹⁹⁶

The procedures and requirements for the submittal, adoption and implementation of local emergency plans are contained in Chapter 9G-6, FAC.¹⁹⁷ The content and format of the plans are reviewed under standards contained in Chapter 9G-7, FAC.¹⁹⁸ Each plan must contain three elements: the Peacetime Emergency Plan, the Nuclear Civil Protection Plan, and the Radiological Emergency Plan.¹⁹⁹ The plan must be specific, and clearly indicate the positions or agencies responsible for particular functions under given circumstances. Responsibilities and specific duties must be assigned by job title or agency name. Checklists, maps, diagrams and other visual aids should be included where appropriate.²⁰⁰ Each element is to be divided into two components: the basic plan, which is a general narrative description of responsibilities; and a set of annexes containing

¹⁹⁵ FLA. STAT. § 252.38(6) (1987).

¹⁹⁶ FLA. STAT. § 252.38(7) (1987).

¹⁹⁷ FLA. ADMIN. CODE Rule 9G-6 (1987).

¹⁹⁸ FLA. ADMIN. CODE Rule 9G-7 (1987).

¹⁹⁹ FLA. ADMIN. CODE Rule 9G-7.003 (1987).

²⁰⁰ FLA. ADMIN. CODE Rule 9G-7.004(1) (1987).

details of procedures for conducting emergency **activities.**²⁰¹

The Local Peacetime Emergency Plan is addressed to natural and manmade emergencies, including but not limited to hurricanes, windstorms, tornadoes, flooding, hazardous material spills and civil **disturbances.**²⁰² Specific sections for major hazards are recommended, with all jurisdictions required to include a hazardous material annex, and coastal counties required to include a hurricane evacuation **plan.**²⁰³ The Division has adopted and incorporated by reference "Peacetime Emergency Preparedness Planning: A Guide for Local Governments" as part of Chapter 9G-7, FAC, and uses it in the development and review of local peacetime emergency plan **elements.**²⁰⁴ The plans undergo review by the Division and the applicable RPC, and must be adopted by resolution by the county. The plans must be updated and revised every three years.²⁰⁵

F. COASTAL INFRASTRUCTURE POLICY

²⁰¹ FLA. ADMIN. CODE Rule 9G-7.004(2) (1987).

²⁰² FLA. ADMIN. CODE Rule 9G-7.005(1) (1987).

²⁰³ FLA. ADMIN. CODE Rule 9G-7.005(2) (1987). Rule 9G-7 is currently undergoing revision, to delete the "hazardous materials annex" requirement from the Peacetime Emergency Plan, and add a new fourth element to the local Comprehensive Emergency Management Plan which will deal with hazardous materials.

²⁰⁴ FLA. ADMIN. CODE Rule 9G-7.005(2) (1987).

²⁰⁵ FLA. ADMIN. CODE Rule 9G-6 (1987).

As part of the growth management legislation passed by the Florida Legislature in 1985, and in partial response to an Executive Order issued by Governor Bob Graham in 1981, Section 380.27, Florida Statutes was enacted, establishing Florida's coastal infrastructure policy.

The policy states that no state funds are to be used to construct bridges or causeways to coastal barrier islands, as defined in Section 161.54(2), which were not already accessible by bridge or causeway on October 1, **1985.**²⁰⁶ After a local government has an approved coastal management element pursuant to Section 163.3178 of the Local Government Comprehensive Planning and Land Development Regulation Act, no state funds which are unobligated at the time the element is approved may be expended to plan, design, excavate for, prepare foundations for, or construct projects which increase the capacity of infrastructure unless the expenditure is consistent with the approved coastal management **element.**²⁰⁷

DCA must review the effect of the policy on growth and development in a report that must be prepared and transmitted to the Governor, the President of the Senate, and the Speaker of the House of Representatives by March 1 of each **year.**²⁰⁸ Though no direct requirements are imposed on local governments by this

206 FLA STAT. § 380.27 (1987).

207 FLA. STAT. § 380.27(2) (1987).

208 FLA. STAT. § 380.27(3) (1987).

policy statement, it has implications for the development of coastal areas that a local government must evaluate in complying with other state and federal laws relating to hazard mitigation.

G. EXECUTIVE ORDER 81-105--COASTAL BARRIERS POLICY

Executive Order 81-105 was issued by former Governor Graham in response to growing concerns within the state over the vulnerability and rates of growth of coastal barriers. The September 4, 1981 order is aimed at reducing state investment in infrastructure that is highly susceptible to repeated damage, and precluding further subsidy of private and public development on hazardous coastal barriers.

The Executive Order: (1) gives coastal barriers (defined as barrier islands, beaches and related lands) high priority in state land acquisition programs; (2) encourages appropriate growth management to maintain population levels within evacuation capabilities and hazard mitigation standards; and (3) directs state funds and federal grants for coastal barrier projects only to those areas which can accommodate growth, where there is need and desire for economic development, or where potential danger to human life and property from natural hazards is minimal. Such funds are not to be used to subsidize growth or post disaster redevelopment in hazardous coastal barrier areas. Specific consideration must be given to the impacts of proposed development or redevelopment with respect to hazard

mitigation.²⁰⁹

The Executive Order is directed to the Florida Department of Commerce, DER, HRS DOT, DCA, and the Governor's Office of Planning and **Budget.**²¹⁰ DNR, though not specifically addressed by the order, has purchased many coastal barrier areas in the past six years and generally abides by the provisions of the order. An Interagency Management Steering Committee was formed in October, 1983 to prepare draft recommendations to implement the **order,**²¹¹ and on April 2, 1984, the recommendations were adopted by the full Interagency Management Committee (IMC) in final **form.**²¹²

Four major recommendations were made: (1) the Executive Order would be implemented unamended; (2) the Executive Order did not convey any independent implementation authority to state agencies, and the individual agencies would implement the Executive Order to the extent of their current statutory authority; (3) the Interagency Management Committee, with DCA acting as lead agency, would provide guidance to state agencies by adopting a common set of maps identifying coastal barrier areas affected by the order: (4) special state guidelines, to be

²⁰⁹ Executive Order Number 81-105, Office of the Governor, State of Florida, September 1, 1981.

²¹⁰ **Id.**

²¹¹ Murley, J., "Memorandum: Status of Implementation of Executive Order 81-105," Florida Dept. of Community Affairs, at 2 (July 30, 1984).

²¹² **Id.**

prepared by DCA, would apply to post-disaster situations.²¹³

The acquisition and hazard mitigation elements of the Executive Order have met with little or no resistance, but the subsidy limitation element generated numerous controversies. Under its Chapter 252 authority to coordinate emergency management activities,²¹⁴ DCA has developed several forms of a draft post-disaster redevelopment rule, each one meeting with extensive criticism during periods of public comment and review. The first of these was prepared in July, 1984, defining coastal barrier areas as including barrier islands, barrier spits, barrier peninsulas, and mainland coastal areas not fronted by barrier island, spits or peninsulas.²¹⁵ The inland boundary of the coastal barrier area was defined as the "inland limit of the V-zone on FEMA rate maps or the Coastal Construction Control Line established by DNR, whichever is furthest inland."²¹⁶

The draft rule also defined three subcategories of development (developed, partially developed and undeveloped) and made recommendations to state agencies for the drafting or modifying of rules regulating expenditure of state funds for capital facilities, economic development, and post-disaster

²¹³ *Id.* at 3.

²¹⁴ FLA. STAT. § 252.35 (1987).

²¹⁵ Murley, J., "Memorandum: Status of Implementation of Executive Order 81-105," Florida Dept. of Community Affairs, at 12 (July 30, 1984).

²¹⁶ *Id.* at 13.

redevelopment. State subsidies for development and redevelopment were to be based on the degree of development already present in the coastal barrier area.²¹⁷ During the public comment period, significant concern was expressed over various provisions of the draft rule,²¹⁸ and it began an extended process of internal review and revision.

In April, 1986, DCA adopted Chapter 9G-13, FAC, titled "Post-Disaster Redevelopment Rule," and amended it in January, 1987; The rule required any coastal county or municipality to adopt certain preventive components of a post-disaster redevelopment plan before it would be included on the state's application for public disaster assistance after a natural disaster.²¹⁹ The rule was intended to apply to coastal counties and municipalities required to prepare coastal management elements for their comprehensive plans, only until the plans were determined to be in compliance pursuant to Chapter 163, Part II, Florida Statutes. During the summer of 1987, the Joint Administrative Procedures Committee raised questions regarding DCA's statutory authority to adopt the rule, and recommended it be repealed. On October 19, 1987, DCA repealed the rule.

²¹⁷ Id. at 7.

²¹⁸ Telephone interview with Dean Alexander, Florida Dept. of Community Affairs (Jan. 1985).

²¹⁹ FLA. ADMIN. CODE Rule 9G-13 (1987).

Executive Order 81-105 is still in effect, operating as a policy directive to the applicable state agencies.²²⁰ In a letter dated August 8, 1986, former Governor Graham updated the Executive Order, referring to the state Coastal Zone Protection Act and Local Government Comprehensive Planning and Land Development Regulation Act. For the phase-in period during which local governments will be preparing and submitting comprehensive plans for review and adoption, the letter indicated the following measures were necessary:

1. State funds for infrastructure and economic development should be denied for any barrier island without a bridge or causeway. State law prohibits building bridges and causeways to these islands and the state should not encourage development on islands with severe evacuation difficulties.

2. The State should not pay to expand infrastructure or economic development in any designated unit of the federal Coastal Barrier Resources System.

3. To ensure the maximum coordination with local plans, prevent unwise expenditure of funds or poor siting of facilities, and forestall increased building in coastal high hazard areas, agency heads shall not permit payment by the state for new or expanded infrastructure projects seaward of Coastal Construction Control Lines, in FEMA designated V-zones, in areas damaged or undermined by coastal storms, or at inlets without

²²⁰ Pelham, T., "Coastal Infrastructure Policy, Report No. Two," Florida Dept. of Community Affairs (March 1, 1987).

structural controls. After alternatives including relocation have been evaluated, exceptions can be made where a crucial need is found to alleviate dangerously overcrowded roads or replace defective waste water facilities violating water quality standards. Agency heads may authorize payment for projects within the Coastal Building Zone as defined in Sections 161.54(1) and 161.55(5), Florida Statutes, that are not included in the areas described above only if the potential danger to human life and property from natural hazards is minimal and consideration has been given to hazard mitigation standards, including flood-proofing and evacuation.

4. State funds can be made available to repair or replace storm-damaged facilities in hazardous coastal areas if such action is in the overall long-term public interest and hazard mitigation, including relocation alternatives, is fully evaluated. If justified, the replacement must be at the same or less capacity than the original facility.

5. State funds may be expended in coastal areas if consistent with approved resource planning and management plans pursuant to Section 380.045, Florida Statutes and comprehensive plans approved pursuant to Section 380.05, Florida **Statutes.**²²¹

The policies are intended to remain in effect until local governments implement plans, programs and regulations that

²²¹ Gov. Bob Graham, Letter to Tom Lewis, Jr., Secretary, Florida Dept. of Community Affairs (August 8, 1986).

conform with or exceed the above measures.²²²

H. HURRICANE PREPAREDNESS POLICY AND SPECIAL HURRICANE
PREPAREDNESS DISTRICTS

DCA has adopted two rules applying to the Department's review and analysis of Developments of Regional Impact (**DRIs**).²²³ Rule 9J-2.0256, FAC, is entitled "Hurricane Preparedness Policy Rule," and determines how DCA evaluates the impacts of proposed development on hurricane preparedness in the review of applications for a binding letter of interpretation of DRI status, in the review of proposed DRI development agreements, in the review of conditions in DRI development orders, and in the review of applications for development **approval**.²²⁴ The rule applies to all proposed mobile home developments, proposed residential developments in hurricane vulnerability zones, and proposed recreational vehicle/travel trailer and hotel/motel developments located in high hazard hurricane evacuation areas.²²⁵

²²² **Id.**

²²³ See FLA. STAT. § 380.06 (1987) for explanation of DRIs. A DRI is any development which, because of its character, magnitude, or location, would have a substantial effect upon the health, safety, or welfare of citizens of more than one county. *Id.*

²²⁴ FLA. ADMIN. CODE Rule 9J-2.0256 (1) (1988).

²²⁵ FLA. ADMIN. CODE Rule 9J-2.0256 (3) (1988).

A proposed development will be determined to have a significant regional impact **on** public hurricane shelter space availability:

(1) When a development is proposed in a county where a public hurricane shelter space deficit is shown to exist by any of the most recent studies addressing this criterion, and the proposed development's anticipated public hurricane shelter space demand will require at least 200 additional spaces or five percent of the county's shelter **space;**²²⁶ and

(2) When a development is proposed in a county where a public hurricane shelter space surplus is shown to exist by any of the most recent relevant studies, and the proposed development's anticipated demand is projected to move the county into a deficit situation of 200 or more **spaces.**²²⁷

When a development is proposed in a hurricane vulnerability zone and its anticipated evacuation traffic will utilize 25 percent or more of an identified hurricane evacuation route's level of service (LOS) E hourly directional maximum service volume, the proposed development will be determined to have a significant regional impact on hurricane **evacuation.**²²⁸

Section 380.06 (15)(e)2, Florida Statutes, requires a local government to make adequate provisions for the public facilities

226 FLA. ADMIN. CODE Rule 9J-2.0256 (4) (a) (1988).

227 FLA. ADMIN. CODE Rule 9J-2.0256 (4) (b) (1988).

228 FLA. ADMIN. CODE Rule 9J-2.0256 (4) (c) (1988).

needed to accommodate the impacts of any proposed DRI development before issuing a development order. The Hurricane Preparedness Policy Rule lists several measures which may be used singly or in concert to mitigate the projected impacts of a DRI. To mitigate regional impacts on hurricane shelter space availability, these techniques include:

1. Donation of land for public facilities or donation of the use of private structures to be used as primary public hurricane shelters. These donations must be located outside of identified high hazard hurricane evacuation areas.

2. Provision of payments in lieu of donation of land for upgrading existing primary and secondary hurricane shelters located outside the hurricane vulnerability zones, to increase the county's primary public hurricane shelter space availability equal to the proposed development's anticipated public hurricane shelter space demand.

3. Provision of onsite shelter where the proposed shelter would be located outside of the hurricane vulnerability zone and the project includes a community center or other facility suitable for use as a hurricane shelter and provides, at a minimum, shelter space available and equal to the proposed development's projected shelter space demand.

4. Provision of funds to be used for the purpose of training public hurricane shelter managers. The developer must provide reasonable assurance from local officials regarding the provision's ability to reduce the development's hurricane shelter

impacts.

5. Provision for the limitation of development to a density that does not cause substantial impact on regional hurricane preparedness.²²⁹

To mitigate a proposed development's regional impacts on hurricane evacuation, the suggested techniques include:

1. Provision for the establishment and maintenance of a public information program within an existing homeowners association for the purpose of educating the development's residents on the potential hurricane threat, the need for timely evacuation, availability and location of hurricane shelters, and identification of steps to minimize property damage and protect human life. This option must include development of a continuing hurricane awareness program and a hurricane evacuation plan.

2. Provision for the elevation of all roads within the proposed development above the anticipated category three hurricane flood levels when these roadways are anticipated to flood during the category three hurricane event.

3. Provision of roadway capacity improvements committed to by the developer beyond those required by Rule 9J-2.0255, FAC, when those regional roadways anticipated to be impacted by the proposed development are also identified hurricane evacuation routes.

229 FLA. ADMIN. CODE Rule 9J-2.0256 (5) (a) (1988).

4. Provision of funds to be used to procure communications equipment which would upgrade the existing warning and notification capability of local emergency management officials.

5. Provision for the limitation of development to a density that does not cause substantial impact on regional hurricane preparedness.²³⁰

Other mitigative techniques may be employed, but the developer must demonstrate they are appropriate and ensure that projected impacts will be mitigated.²³¹ Vertical evacuation is not acceptable mitigation unless it has been deemed an appropriate mitigation alternative in a designated special hurricane preparedness district pursuant to Rule 9J-2.0257, FAC.²³²

Rule 9J-2.0257, FAC, is entitled, "Special Hurricane Preparedness Districts for Developments of Regional Impact," and allows a county or region to petition DCA to be considered for designation as a special hurricane preparedness district. The designation allows the county or region to implement hurricane preparedness mitigation strategies for DRIs which may not be considered appropriate under Subsection (5) of Rule 9J-2.0256, FAC.²³³ This includes employment of vertical evacuation if such

²³⁰ FLA. ADMIN. CODE Rule 9J-2.0256 (5) (b) (1988).

²³¹ FLA. ADMIN. CODE Rule 9J-2.0256 (5) (c) (1988).

²³² FLA. ADMIN. CODE Rule 9J-2.0256 (6) (1988).

²³³ FLA. ADMIN. CODE Rule 9J-2.0257 (1) (1988).

a strategy has been identified as an acceptable alternative in the petition. The designation may not be made for an individual project or for a municipal government.

The written petition must identify why the county or region should be designated and establish what types of hurricane preparedness mitigation measures will be applied to DRIs within the district. It must be based on unique regional hurricane preparedness considerations which have been identified as a major regional issue and addressed with appropriate policies.²³⁴ The petition must be based on such considerations as:

1. The overall land elevation and amount of anticipated flood area during a hurricane event:

2. The transportation system and its ability to transport residents to safe areas within a reasonable time:

3. Less than 20 percent of a county's or region's hurricane shelters are available to the population during a 100-year or category three hurricane event;

4. The percentage of the total population anticipated to evacuate.²³⁵

Forty-five days after receipt of a complete petition, DCA must notify the county or region of its acceptance or non-acceptance and must identify the hurricane preparedness mitigation alternatives that are deemed appropriate within that

²³⁴ FLA. ADMIN. CODE Rule 9J-2.0257 (3) (1988).

²³⁵ FLA. ADMIN. CODE Rule 9J-2.0257 (3) (1988).

district. In counties or regions that have been designated as special hurricane preparedness districts, a DRI developer has the option of mitigating regional hurricane preparedness impacts using alternatives in Rule 9J-2.0256, FAC, or by using the alternatives identified in the special hurricane preparedness district designation. The DRI development order must include a provision that requires all deeds to property within the DRI to include a disclosure statement in the form of a covenant stating that the property is located in a hurricane vulnerability zone and that the evacuation clearance time for the county or region is high and/or the shelter spaces are limited.²³⁶

²³⁶ FLA. ADMIN. CODE Rule 9J-2.0257 (4) (1988).

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IV. HURRICANE LOSS MITIGATION: REPRESENTATIVE STRATEGIES

FROM FLORIDA

Local governments in Florida have addressed coastal management issues in several formats, including comprehensive plans, emergency response and hazard mitigation studies, and land development regulations. Comprehensive plans contain general themes and policies, and sketch a picture of the community's approach to hurricane disaster mitigation and reconstruction in the coastal zone. Emergency response and hazard mitigation studies focus on emergency management plans, with some attention given to post-disaster reconstruction. Land development regulations control the location, density and standards of development, and have specific effects on both emergency response capabilities, and on the development and post-disaster redevelopment of the coastal zone. Emergency response is the more common approach to the post-disaster issues raised by development in coastal areas. Until recently, controlling development and redevelopment had not been widely addressed in comprehensive plans or development regulations.

Comparison of plans and regulations from various local governments yields a clearer picture of the strengths and weaknesses in local management of hazardous coastal areas. The following plans, studies and ordinances represent some of the approaches taken in Florida, and suggest that although long-term redevelopment planning has begun to be incorporated into the

coastal management process, it has yet to achieve widespread implementation in this state.

A. SANIBEL, FLORIDA

Sanibel lies on a small, low barrier island off the southwest Florida coast, fronting Fort Myers. As such, it had been sensitized to the need for hurricane planning long before its incorporation in 1974. The city prepared a comprehensive plan in 1975, in response to Florida's Local Government Comprehensive Planning Act,¹ a forerunner of the Local Government Comprehensive Planning and Land Development Regulation Act of 1985.² The early plan recognized Sanibel's unique natural beauty and stressed the need to control projected urbanization of the island.³ In 1985, the plan was fully revised to reflect changes in the economy, recent development, and environmental concerns.⁴

The first substantive element of the 1985 revised plan addresses safety, specifically hurricanes,⁵ devoting 17 pages to explanations of the probabilities and effects of various hurricane scenarios within 75 miles of the island. The typical scenario for class 3 hurricanes includes early loss of evacuation

¹ FLA. STAT. §161.3161 et seq. (1985).

² **FLA. STAT. §161.3167 et seq.** (1986).

³ City of Sanibel, Comprehensive Land Use Plan 1 (adopted, July 19, 1976; extensively revised, November 27, 1985).

⁴ Id. at 3-36.

⁵ **Id. at 87.**

routes, island inundation of up to 12 feet, and widespread severe damage for structures not properly elevated or engineered.⁶

The safety element of the comprehensive plan also incorporates by reference a 1980 report entitled, "Hurricane Evacuation and Hazard Mitigation Study," funded in part by FEMA and the City of Sanibel, and prepared by private consulting firms.⁷ A summary of the major findings and recommendations includes four sections: hurricane warning, hurricane evacuation, damage reduction, and recovery. The "damage reduction" component of the study addresses reconstruction policy, and stresses the importance of protecting dune systems and vegetation for their roles in dissipating wave **forces.**⁸ Among the recommendations made by the study are that city building codes be revised to include standards reflecting the type of hazards on a barrier island. In 1983, a building code was adopted which requires all new construction to be designed and built to withstand wind speeds of 130 mph; with foundations deep enough to remain stable after maximum anticipated wave scour: and capable of withstanding batter forces associated with wave **action.**⁹

The study also recommended that:

⁶ **Id.** at 97.

⁷ **Id.** at 106-107.

⁸ **Id.** at 109.

⁹ **Id.**

1. Building components be of materials that will not weaken a structure by rotting, rusting or otherwise deteriorating from exposure.
2. Structures be elevated above the 100-year storm projected wave heights (as of 1985, the NFIP requires this standard in all V-zones: the wave height elevation is included in calculations of BFEs).
3. Codes be amended to protect utility systems.
4. Consideration be given to removing the floodproofing option that permits nonresidential structures to be built on grade, without elevation to BFE, particularly where human intervention (such as securing sealed panels) is necessary to achieve a watertight structure.
5. Consideration be given to removing the "wet floodproofing" option which permits floodwater entry without damage to the structural integrity of the building, since the quality of the required construction is so difficult to achieve and to monitor.
6. Fill not be used to elevate structures in areas susceptible to scour, even if in an A-zone.
7. Consideration be given to regulating the reconstruction of residential uses following damage or destruction on a dwelling unit, rather than structural basis, in order to increase the likelihood that damaged units will be rebuilt in conformance with current standards (no reference is made to nonresidential structures).

8. Dense vegetation be maintained as much as possible, to reduce wave heights and velocity; revegetation be required as opportunities arise.
9. Permitted densities be reduced as much as possible in undeveloped parts of V-zones and the most scour-prone areas of A-zones.¹⁰

Though Sanibel's 1985 comprehensive plan takes significant steps toward the careful management of the coastal zone, it is currently being revised to comply with the more specific requirements of the Local Government Comprehensive Planning and Land Development Regulation Act.¹¹

The NFIP model ordinance, available from FEMA, contains several recommended sections that slightly exceed the minimum criteria of the NFIP.¹²

¹⁰ Id. at 109-110.

¹¹ FLA. STAT. Ch. 163, Part II (1987).

¹² The NFIP recommended model ordinance exceeds the minimum requirements of the NFIP in three areas. First, the model ordinance includes consideration of cumulative improvements in determining whether substantial improvements have been made on a structure, requiring compliance with the substantive standards of the ordinance. Second, the ordinance only allows lattice work or screening below BFE on a structure, requiring that it break away under abnormally high tides or wave action, without damaging the structural integrity of the building. The NFIP minimum standards allow non-supporting solid breakaway walls below BFE, which in reality are often constructed or improved so as to be supporting walls enclosing habitable areas. Third, the model ordinance prohibits placement or replacement of manufactured homes in floodways and coastal high hazard zones except in existing manufactured home parks or subdivisions, and only if they meet the anchoring and elevation standards of the ordinance. The minimum standards of the NFIP allow the placement and replacement of manufactured homes anywhere within floodways and coastal high hazard zones so long as they meet the elevation and structural requirements of the ordinance. The minimum standards regarding location of manufactured homes have been suspended until October 1, 1988.

Sanibel's land development **code**¹³ generally restates the NFIP model ordinance, but substitutes several of the less strict minimum criteria sections included as options in the model ordinance. Among other differences, the Sanibel ordinance adopts the minimum criteria by allowing breakaway walls below **BFE**,¹⁴ where the recommended ordinance gives more direction for the use of open lattice work or screening, to avoid the possibility of non-breakaway walls being substituted for breakaway walls. The Sanibel ordinance also defines "substantial improvement" without regard to the cumulative cost of a combination of repairs, reconstruction, alterations and improvements to a building over its lifespan or over a certain period of **years**.¹⁵ The NFIP recommended ordinance requires the consideration of cumulative costs exceeding 50 percent of the value of the structure over its lifespan, in which case the structural standards of the ordinance become applicable. Recommendations in Sanibel's 1980 hurricane mitigation study related to removing the "wet floodproofing" option and the nonresidential structural floodproofing option have not been implemented.

The Sanibel ordinance however, does adopt stricter and more specific structural requirements for permitted manufactured homes

¹³ City of Sanibel, Land Development Code (adopted and effective, November 27, 1985).

¹⁴ Id. at 63-64.

¹⁵ Id. at 60.

in any part of the island, and prohibits them in V-zones.¹⁶ It also adopts a stricter policy in regards to development in V-zones, where no new construction or substantial improvements are allowed unless they are landward of mean high tide or the Coastal Construction Control Line, whichever is more landward.¹⁷ The ordinance stipulates that a nonconforming structure must comply with the land development requirements if after accidental damage, its repair or replacement cost is in excess of 50 percent of the greater of its fair market value or replacement cost (excluding fixtures).¹⁸

Relief from this requirement may be available upon consideration of: the extent of the loss and the extent to which it could have been insured; the extent to which damage exceeds 50 percent of the fair market value or replacement cost: the extent to which the nonconforming structure exceeded the requirements of the code prior to damage or destruction; the extent to which the structure could be brought into compliance with the code; the extent to which other structures onsite would be made unsightly, unsafe, or unusable if the structure is not reconstructed; the extent to which the nonconforming structure would be incompatible with or detrimental to surrounding lands and uses.¹⁹

¹⁶ Id. at 63-64.

¹⁷ Id. at 63.

¹⁸ Id. at 159.

¹⁹ Id. at 285.

Any relief granted may not be at the expense of the public health, safety or welfare, and any reconstruction must comply with the requirements of the code to the maximum extent possible and practicable.²⁰ The land development ordinance also supplies a variance procedure from the floodproofing requirements, identical to that of the recommended NFIP ordinance, with considerations related to the dangers and benefits of the proposed variance, its compliance with the comprehensive plan, and other standard requirements for variances. It adds the requirement that the applicant take all reasonable steps to mitigate or eliminate the requested variance by the acquisition of adjacent lands or the relocation or redesign of the structure.²¹

B. LEE COUNTY, FLORIDA

Lee County is located on the southwest Florida coast, with 590 miles of shoreline and over 50 miles of sandy beach.²² It is one of the fastest growing areas in the state, doubling in size from 1950 to 1980, with a projected growth rate of over 10,000 new residents per year.²³ Population levels are expected to reach 640,500 by the year 2010, with seasonal populations

²⁰ Id. at 285-286.

²¹ Id. at 276-277.

²² Lee County, Lee County Comprehensive Plan, IX-13 (adopted 1979, revised 1984).

²³ Id. at III-3.

increasing the figure to 757,400.²⁴ The 1989 Lee County comprehensive plan recognizes the pressures in the area in its introduction:

A central concept of this plan is to direct growth away from fragile natural resource areas and allow the conservation of coastal and fresh water wetlands and other valuable resource areas essential to the county's economy and its attractiveness as a work place and center for tourists and visitors.²⁵

The conservation and coastal management element contains 17 goals, each containing one or more objectives and corresponding policies.²⁶ Among these are several dealing with hazard mitigation and redevelopment control. Goal 71, Planning, Coordination and Implementation, has as its objective, the maintenance of a system that provides reasonable opportunity for protecting the population at risk to injury or death from natural and technological hazards.²⁷ This includes an educational program on the risks of hurricanes and other natural disasters, with necessary mitigative actions, and a program describing the facilities and sites designated to serve as local, state and federally sponsored emergency assistance locations.²⁸

Goal 74, Estuarine Resource Protection, involves protecting the natural resources of the coastal area from damage caused by

²⁴ Lee County, The Lee Plan I-1 (1989).

²⁵ Id. at I-2.

²⁶ See id. at VIII-1 to VIII-21.

²⁷ Id. at VIII-1.

²⁸ Id.

inappropriate **development.**²⁹ The objective under this goal states that by 1990, land within coastal area environmentally critical areas, including present Resource Protection **Areas,**³⁰ Transition **Zones,**³¹ and Rare and Unique upland **habitats,**³² must be regulated and managed to conserve and enhance the natural functions of these **areas.**³³ On developed coastal barriers, coastal sound islands, and mainland shorelines, these environmentally critical areas must be expanded to include natural resource systems necessary to the healthy functioning of estuarine **areas.**³⁴ Undeveloped barrier islands must be maintained predominantly in their natural state, with public expenditures for infrastructure in these areas limited to parks

²⁹ Id. at VIII-3.

³⁰ Defined as lands that exhibit soil types, hydrology, and vegetation characteristic of freshwater and saltwater wetlands. One of the stated reasons that these areas are unsuitable for all but extremely low-density development is that they prevent damage to property and loss of life due to flooding. Id. at II-7.

³¹ Defined as lands that may be seasonally inundated from one to three months as indicated by water marks, do not have depressional soils, and are characterized by a mixture of plant species typical of uplands and wetlands. These areas consist of important water resource areas such as seasonal wet prairies, ephemeral ponds, and/or natural flow-ways and are associated with freshwater and saltwater wetlands. Id. at II-8.

³² Defined as including but not limited to: sand scrub; coastal scrub; mature pine flatwoods without severe impacts due to logging, drainage, and exotic infestation: slash pine/midstory oak: tropical hardwood: live oak hammock: and cabbage palm hammock (as classified by the Florida Land Use Cover and Forms Classification System, Level III, Florida Department of Transportation, 1985). Id. at VIII-5.

³³ Id. at VIII-3.

³⁴ Id. at VIII-3.

and recreation.³⁵ A proposal for a land acquisition program using ad valorem taxes or other funds must be presented by the county for public discussion and official action.³⁶

Goal 75, Protection of Life and Property, includes a policy that development other than minor structures in V-zones must not be allowed seaward of the 1988 Coastal Construction Control Line.³⁷ Also included in the objective are requirements that new development on barrier islands be limited to densities that meet required evacuation standards: that new development requiring seawalls for protection must not be allowed; and that allowed densities for undeveloped areas within A-zones be considered for reduction.³⁸ Policies state that shoreline development in V-zones must be protected from coastal erosion, wave action and storms by vegetation, setbacks, and/or beach renourishment, rather than by seawalls or other hardened structures, which tend to hasten beach erosion.³⁹

Goal 76, Limitation of Public Expenditures in Hazard Areas, is to restrict public expenditures in areas particularly subject to repeated destruction by hurricanes, except to maintain required service levels, to protect existing residents, and to

³⁵ Id.

³⁶ Id.

³⁷ Id. at VIII-3.

³⁸ Id.

³⁹ Id.

provide for recreation and open space **uses.**⁴⁰ By 1990, these expenditures must be limited to necessary repairs, public safety needs, services to existing residents, and recreation and open space. No new causeways may be constructed to any island in the county, and no new bridges may be constructed to undeveloped barrier islands except as needed to achieve evacuation clearance time objectives on adjoining islands connected by existing **bridges.**⁴¹

Goal 77, Resource Protection, is to manage the county's wetland and upland ecosystems so as to maintain and enhance native habitats, floral and faunal species diversity, water quality, and natural surface water **characteristics.**⁴² The goal and its related objectives and policies contain several directives with effects on the county's hurricane mitigation capability. These include measures aimed at protecting animal and plant species and habitats, including important, representative plant communities: wildlife; endangered and threatened species in general; and loggerhead sea turtles, southern bald eagles, West Indian manatees, gopher tortoises, and red-cockaded woodpeckers, **specifically.**⁴³

⁴⁰ **Id.** at VIII-4.

⁴¹ **Id.**

⁴² **Id.**

⁴³ **Id.** at VIII-4 to VIII-9.

Goal 79, Evacuation and Shelter, is to provide evacuation and shelter capabilities adequate to safeguard the public against the effects of hurricanes and tropical storms.⁴⁴ One objective is to restore evacuation times to 1987 levels by 1995, and to reduce the clearance time portion of evacuation time to no more than 18 hours by the year 2010.⁴⁵ To achieve this objective, the county must assess the impact of all new residential development on the projected evacuation network and evacuation times, and must require mitigation through structural provisions or non-structural techniques. Critical roadway links causing congestion on evacuation routes for class 1-3 hurricanes must receive high priority for capital improvement expenditures, and any new or replacement bridges for evacuation routes crossing major or marked navigable waterways must not be drawbridges, except where a high span cannot physically be constructed.⁴⁶

A second objective for Goal 79 states that by 2010, adequate shelter space must be available for the population at risk in a class 3 hurricane vulnerability zone.⁴⁷ By 1990, onsite shelter facilities will be required for all existing residential developments inside classes 2 and 3 but outside class 1 hurricane vulnerability zones, unless an impact fee or in-lieu payment is

44 **Id.** at VIII-11.

45 **Id.**

46 **Id.**

47 **Id.**

made to the county for off-site shelter provision.⁴⁸ For mobile home and recreational vehicle developments located outside class 1 zones, onsite shelters, impact fees or in-lieu payments must also be made.⁴⁹ Onsite shelters must meet standards related to adequate space, windproofing, elevation above the class 3 storm surge level, and emergency power among others. Onsite shelters for the general public may not be built on barrier or coastal islands.⁵⁰

By 1990, all new residential, mobile home, and recreational vehicle developments inside class 1 zones shall be required to make an impact fee or in-lieu payment to the county for off-site shelter provision. By 1990, the county must also evaluate the feasibility of evacuating residents in class 1 zones to vertical shelters in class 2, 3, 4, and 5 hurricane vulnerability zones.⁵¹

Under Hazard Mitigation, Goal 80, the county is to provide through its plans, programs and regulations, the means to minimize future property losses from tropical storms and hurricanes. The objective is that by 1990, all development regulations be reviewed and revised to require future development in A-zones to be less vulnerable to hurricane forces.⁵² The

48 *Id.* at VIII-12.

49 *Id.*

50 *Id.*

51 *Id.*

regulations must be examined for additional setbacks in critical erosion areas, conservation and enhancement of dunes and vegetation, floodproofing of utilities, and appropriate requirements for structural wind resistance and floodplain management.⁵³ New or expanded mobile home or recreational vehicle development is not allowed on barrier islands or V-zones.⁵⁴ By 1990, all new residential developments of more than 50 units must establish a homeowners' association to provide continuing information on hurricane evacuation and shelters, while developments over 100 units must formulate emergency hurricane preparedness plans.⁵⁵

A second objective under Goal 80 is entitled Public Funds, and requires that by 1990, the county establish a funding source to provide funds for hazard mitigation and disaster recovery needs. The implementing policy requires the county to consider impact fees and/or a Hazard Mitigation Municipal Services Taxing Unit (MSTU) to cover the public costs of hazard mitigation, floodproofing, evacuation, search and rescue, acquisition of hazard-prone property, reconstruction of public facilities, construction of (or improvements to existing or proposed) shelters, and similar needs.⁵⁶

⁵² Id.

⁵³ Id. at VIII-13.

⁵⁴ Id.

⁵⁵ Id.

⁵⁶ Id.

Goal 81, Post-Disaster Redevelopment, provides for planning and decision-making to guide redevelopment following events such as tropical storms and hurricanes. One objective is that by 1990, the county have a Post-Disaster Strategic Plan, which formally establishes the post-disaster institutions and procedures to guide county actions following a natural or technological disaster.⁵⁷ This plan must:

1. Establish a Recovery Task Force to work with state and federal officials, assess damage, review emergency actions, prepare a redevelopment plan, and recommend needed changes;
2. Establish guidelines for determining priorities for the acquisition of storm-damaged property in hazard-prone areas; and
3. Establish principles for repairing, replacing, modifying, or relocating public facilities in hazard-prone areas.⁵⁸

A second objective is that by 1990, the county adopt an ordinance implementing the Post-Disaster Strategic Plan, and provide regulations that may be needed following a natural or technological disaster. The ordinance must provide for enactment of a temporary moratorium on rebuilding not immediately needed for the public health, safety and welfare.⁵⁹ It may include a redevelopment plan for hazard-prone areas where such a plan would

⁵⁷ **Id.**

⁵⁸ **Id.**

⁵⁹ **Id.** at VIII-14.

minimize repeated exposures to life-threatening situations.⁶⁰ To implement the county buildback policy, the ordinance must provide that:

1. Structures damaged less than 50 percent of their replacement cost at the time of damage can be rebuilt to their original conditions, subject to current building and life safety codes.

2. Structures damaged more than 50 percent of their replacement cost can be rebuilt to their original square footage and density, provided they comply with:

- a. federal requirements for elevation above the 100-year flood level;
- b. building code requirements for floodproofing;
- c. current building and life safety codes;
- d. state Coastal Construction Control Lines: and
- e. any required zoning or other development regulations (other than density or intensity), unless compliance with such regulations would preclude reconstruction otherwise intended by the buildback policy.⁶¹

3. The ordinance may establish blanket reductions in non-vital development regulations (buffering, open space, side setbacks, etc.) to minimize the need for individual variances or compliance determinations prior to reconstruction.

⁶⁰ Id.

⁶¹ Id.

4. The ordinance may establish procedures to document actual uses, densities, and intensities, and compliance with regulations in effect at the time of construction, through photographs, diagrams, plans, affidavits, permits, appraisals, tax records etc.

5. No provision is made to redevelop property containing damaged structures for a more intense use or at a density higher than the original lawful density except where such higher density is permitted under current regulations.⁶²

Other pertinent goals and policies include those that conserve and enhance the ecological functions of coastal areas,⁶³ those generally prohibiting hardened shoreline protection structures,⁶⁴ those protecting beach and dune systems,⁶⁵ and those providing for protective regulations for wetlands and transition zones.⁶⁶

⁶² **Id.** at VIII-14 to VIII-15.

⁶³ **See** Goal 83, Coastal Areas, and accompanying objectives and policies. **Id.** at VIII-15 to VIII-16.

⁶⁴ **See** Objective 83.2, Shoreline Stabilizing Systems. **Id.** at VIII-16 to VIII-17.

⁶⁵ **See** Objective 83.3, Beach and Dune Systems. **Id.** at VIII-17 to VIII-18.

⁶⁶ **See** Goal 84 Wetlands, and accompanying objectives and policies. **Id.** at VIII-18 to VIII-19.

Lee County's current floodplain management **ordinance**⁶⁷ tracks the NFIP recommended ordinance, with several weakening provisions. It does adopt the recommended definition of "substantial improvement" as including consideration of cumulative repair or alteration costs over the life of a **structure**.⁶⁸ It also adopts recommended provisions requiring electrical, heating, air conditioning and other service facilities in areas subject to flooding from the 100-year storm to be designed and/or located to prevent water from affecting components during flooding. However, it allows utility companies to exempt utility equipment from the requirement if the company accepts sole responsibility for any flood damages to the **equipment**.⁶⁹

On June 30, 1987, FEMA amended its regulations, suspending the requirement that manufactured homes in existing parks or subdivisions be elevated to or above **BFE**.⁷⁰ Lee County's

⁶⁷ Lee County, Florida, Ordinance 87-20 (September 8, 1987), amending Ordinance 84-17 (July 11, 1984). Lee County's recently approved comprehensive plan provides that by 1990, the county must review and revise its development regulations relating to hazard mitigation, and must adopt a new ordinance to implement its Post-Disaster Redevelopment Plan. See Lee County, The Lee Plan, VIII-12 to VIII-15 (1989).

⁶⁸ Lee County, Florida, Ordinance 87-20 (September 8, 1987), amending Ordinance 84-17 (July 11, 1984). *Id.* 2.

⁶⁹ *Id.* 3 [amending Lee County Ordinance 84-17 - 5A (5)]

⁷⁰ 52 Fed. reg. 24370 (1987) (codified at 44 C.F.R. Parts 59 and 60). The suspension was originally specified to be in effect until March 31, 1988, and has been extended until October 1, 1988. During the time the suspension is in effect, FEMA will be analyzing the impacts of applying the elevation requirement to manufactured homes placed or substantially improved in existing manufactured home parks and subdivisions.

ordinance reflects the changes, only requiring that manufactured homes to be placed or substantially improved in an expansion of a manufactured home park or subdivision in the 100-year floodplain must meet the standard. No mention is made of accessory structures.⁷¹ Manufactured homes and accessory structures to be placed or substantially improved in an existing manufactured home park are not required to be elevated "except where the repair, reconstruction, or improvement of the streets, utilities and pads equals or exceeds 50 percent of the value of the streets, utilities and pads before the repair, reconstruction or improvement has commenced."⁷²

The ordinance also allows water tight floodproofing of non-residential structures in 100-year flood areas;⁷³ "wet floodproofing" of new or substantially improved residential structures;⁷⁴ and "wet floodproofing" of new or substantially improved manufactured homes in existing parks.⁷⁵ New or replacement manufactured homes may be placed in existing manufactured home parks in high hazard floodways, with anchoring and elevation requirements, and "wet floodproofing" is allowed on those that utilize solid foundation perimeter walls to meet the

71 Id. [amending Lee County Ordinance 84-17 - 5B (1)].

72 Id. [amending Lee County Ordinance 84-17 - 5B (1) a].

73 Id. [amending Lee County Ordinance 84-17 - 5B (2)].

74 Id. [amending Lee County Ordinance 84-17 -- 5B(1), (3)]

75 Id.

elevation **standard.**⁷⁶

Accessory structures being placed or substantially improved in existing manufactured home parks are not required to meet the elevation standards, unless the cost of the required repair, reconstruction or improvement of streets, utilities and pads exceeds 50 percent of the value of the streets, utilities and pads before repair is **begun.**⁷⁷ Accessory structures may also be exempt from elevation requirements if the structure is anchored to resist flotation or lateral movement; the total cost does not exceed \$8,000; the structure is used only for non-habitable recreational, security and/or storage purposes; all electrical or heating equipment is elevated above BFE or floodproofed; and breakaway walls are used below BFE in **V-zones.**⁷⁸

In high hazard V-zones, manufactured homes are allowed in existing manufactured home parks if they meet elevation and anchoring requirements, except that fill and solid foundation walls may not be used to meet the elevation **standard.**⁷⁹ New construction and substantial improvements of any structure in a V-zone must be elevated to or above **BFE,**⁸⁰ however only new

76 **Id.** [amending Lee County Ordinance 84-17 - 5B(4)].

77 **Id.** [amending Lee County Ordinance 84-17 - 5B(5)].

78 **Id.**

79 **Id.** [amending Lee County Ordinance 84-17 - 5B(6)].

80 **Id.**

construction must be located landward of mean high tide.⁸¹ A mitigating requirement is that no alteration of sand dunes or mangroves is allowed which would increase potential flood damage.⁸²

The Lee County zoning ordinance allows nonconforming structures damaged by fire or natural forces to be reconstructed at, but not in excess of the density and/or intensity existing at the time of the damage, though the reconstruction must comply with federal, state and local regulations. A single-family residence or mobile home may be repaired or replaced so long as the new unit is no larger than the original.⁸³ No reference is made to the location of proposed reconstruction or to redevelopment polices in hazardous zones.

C. FRANKLIN COUNTY, FLORIDA

The jurisdiction of Franklin County takes in coastline on the eastern part of Florida's panhandle fronting the Gulf of Mexico, and including much of Apalachicola Bay. The bayside coastline and several barrier islands defining the bay have been subject to many hurricanes. In January, 1987, Franklin County enacted a "Critical Shoreline Ordinance," that regulates development on the bay side of the barrier islands. The high

⁸¹ Id.

⁸² Id.

⁸³ Lee County; Florida Zoning Ordinance Chapter VI § 603B.

energy, sand beaches on the Gulf side of the islands are regulated by DNR under the Coastal Construction Control Line program.

The Critical Shoreline Ordinance establishes a "critical habitat zone" around wetlands, freshwater habitats, estuarine and saltwater **habitats**.⁸⁴ The line is established 50 feet from the ordinary high water line in freshwater areas, and the mean high water line in tidal areas. Within this zone, the ordinance prohibits all development or disturbances of any kind. A secondary protective zone is established 150 feet from the critical habitats. Within this zone, the ordinance requires development to meet certain regulatory standards in order to mitigate impacts on the critical **areas**.⁸⁵

The requirements include stormwater management systems to insure that pre- and post-development runoff rates are equivalent. No more than 20 percent of the total square footage of the development may be covered by impervious surfaces. All construction must have the lowest horizontal supporting structural member elevated at least two feet above the base flood elevation. Conventional onsite septic systems are prohibited, although approved aerobic systems may be used. Any disturbance of vegetation must be **minimal**.⁸⁶

⁸⁴ Telephone interview with James Floyd, Planning Department, Franklin County, Florida (September 25, 1987).

⁸⁵ *Id.*

⁸⁶ *Id.*

D. **BREVARD COUNTY, FLORIDA**

1. Ordinance No. 85-17

Brevard County is located on Florida's central east coast, including about 70 miles of sand beaches fronting the Atlantic Ocean. Brevard County's entire coastline is protected by barrier peninsula or barrier islands, in which the Kennedy Space Center and Cocoa Beach are located among other population centers. Portions of the barrier areas are densely populated. Surveys by DNR also indicate that between June, 1983 and January, 1985, oceanfront property in unincorporated areas of Brevard County eroded an average of 25.83 **feet.**⁸⁷ In June, 1985, the board of county commissioners adopted Ordinance No. 85-17, establishing a coastal setback line for the county, reestablishing a Coastal Construction Control Line, and setting standards for construction in the coastal **areas.**⁸⁸

The ordinance's policy section includes a good summary of the importance of an undisturbed beach/dune system in the protection of inland **development.**⁸⁹ The section also recognizes the substantial dangers represented by rigid coastal and shore protection structures, dune excavation, impervious surfaces, and structures located on or near dunes. Conclusory findings and

⁸⁷ Brevard County, Florida, Ordinance 85-17, at 4 (June 4, 1985).

⁸⁸ Brevard County, Florida, Ordinance 85-17 (June 4, 1985).

⁸⁹ **Id.** § 1.

declarations are that it is in the public interest "to preserve and protect Brevard County's coastal barrier beach-dune system from imprudent construction, which would jeopardize the stability of the beach-dune system, accelerate erosion, provide inadequate protection to upland structures, and endanger adjacent properties."⁹⁰

The ordinance establishes a coastal setback line and reestablishes the Coastal Construction Control Line, with the Coastal Construction Control Line located seaward of the coastal setback line. The coastal setback line is indicated on maps, incorporated by reference, but the procedure for determining the line is not specified.⁹¹ Major structures, including all types of residential and nonresidential development, manufactured homes, accessory structures, infrastructure, utilities, septic tanks and pools are prohibited seaward of the coastal setback line.⁹² Minor structures seaward of the line must be pile-supported and elevated enough to permit maintenance of dune stabilizing vegetation growing beneath the structures,⁹³ and must meet all federal, state and county regulations.⁹⁴ Any excavation and dredging of soil, sand or vegetation is prohibited seaward of

⁹⁰ Id.

⁹¹ Id. § 4.

⁹² Id. § 5.

⁹³ Id.

⁹⁴ Id. § 6.

the **line.**⁹⁵ Water service laterals up to 3/4 inch in diameter, and basic 110 volt, 20 amp electrical service are not subject to the restrictions of the coastal setback **line.**⁹⁶

If a completed application was filed with the county on or before November, 1987, a variance procedure may be instituted, and a variance granted where the property experienced less than 25 feet of beach-dune erosion since September, 1972, and the granting of the variance is not injurious to adjacent properties or contrary to the public **interest.**⁹⁷ All other applicable federal, state and local requirements must be satisfied, and the county may attach reasonable conditions to the **variance.**⁹⁸ The maximum extent of the variance can be no more than the difference between 25 feet and the actual erosion experienced by the **property.**⁹⁹

The ordinance also establishes a Brevard County Coastal Construction Control Line for all property in the unincorporated areas of the county. The line is indicated on an aerial map made by DNR in March, 1985, and incorporated by reference.¹⁰⁰ Construction requirements for any structure to be sited seaward

⁹⁵ **Id.**

⁹⁶ **Id. § 7.**

⁹⁷ **Id. § 8.**

⁹⁸ **Id.**

⁹⁹ **Id.**

¹⁰⁰ **Id. § 9.**

of the Coastal Construction Control Line track those of the state Coastal Construction Control Line program. All major structures extending wholly or partially seaward of the line must be designed to withstand the combined forces of a 100-year hurricane. Habitable major structures must be able to resist wind forces of 140 mph, and must have the support structure elevated above a breaking wave riding the 100-year storm surge.¹⁰¹

Pile foundations for habitable major structures must withstand anticipated erosion, scour and loads resulting from the 100-year storm, and the structure must be anchored to the foundation so as to prevent flotation, collapse or lateral displacement.¹⁰² Swimming pools and water retention structures are not subject to the above requirements, if sited so their failure would not adversely affect an adjoining major structure, but must be designed to eliminate any excavation seaward of the Coastal Construction Control Line.¹⁰³ In cases where a pool must be sited near an existing major structure, the pool must be designed with a pile foundation capable of withstanding the forces of a 100-year storm. Minor structures are not subject to specific structural requirements, but must produce minimal adverse impact on the beach/dune system, and minimize the

101 *Id.* § 10.

102 *Id.*

103 *Id.*

potential for producing wind or water-driven **projectiles.**¹⁰⁴

Non-conforming structures seaward of the coastal setback line may be modified, maintained, or repaired, so long as the work does not expand the structure further seaward of the line; and the resulting structure is capable of withstanding a 140 mph wind load at 30 feet above the ground: and the work was not necessitated by erosion **damage.**¹⁰⁵ Interpretation of the section is difficult at best. Potentially, it allows undamaged structures, and structures which have experienced only wind damage to be expanded landward of the coastal setback line, despite the risk inherent in being very close to the shoreline. If erosion has caused the damage to a structure, it must meet the strict requirements of the coastal setback line provisions of the ordinance, but there is no reference made to damage caused by hurricane wave forces battering a structure which was inadequately elevated on a pile foundation that experienced no erosion damage. In this case, a strict reading of the section would allow a structure in a very high hazard area to rebuild and expand landward of the coastal setback line, so long as it was built to withstand a 140 mph wind.

The section makes no reference to the repair or modification of nonconforming structures seaward of the Coastal Construction Control Line, a zone taking in areas significantly impacted by

¹⁰⁴ **Id.**

¹⁰⁵ **Id. § 13.**

the 100-year storm event. Presumably, any reconstruction in that zone would be required to meet the requirements of the Coastal Construction Control Line provisions of the ordinance. The ordinance also fails to address the situation where reconstruction would be landward of the coastal setback line, but located in areas made hazardous by newly created conditions.

2. Comprehensive Plan. Coastal Management Element

Brevard County's recently approved comprehensive plan was the first submitted to DCA for review under the Local Government Comprehensive Planning and Land Development Regulation Act of 1985. The Coastal Management Element of the plan includes sections on land use and natural systems inventory and analysis; natural disaster planning inventory and analysis: coastal infrastructure; directives: goals, objectives and policies; implementation strategies; a bibliography: and various appendices. Its stated purposes are "to plan for appropriate development activities within the coastal zone, especially those which would damage or destroy coastal resources," and "to protect human life and limit public expenditures in areas that are subject to destruction by natural disasters, specifically the coastal high hazard area."¹⁰⁶

The section on natural disaster planning inventory and analysis includes subsections on: hurricane evacuation: roadway capacity: shelter capacity; redevelopment and relocation: coastal

¹⁰⁶ Brevard County, Florida, Comprehensive Plan. Coastal Management Element, at XII-1 (September 1988).

high hazard areas; beaches and dunes; oceanfront access; and riverfront demand. The hurricane evacuation and roadway capacity subsections sketch the known hurricane hazards and their application to conditions in Brevard County, including effects on evacuation routes and evacuation times. The discussion includes a detailed analysis of existing evacuation routes and their deficiencies, and several alternatives by which the deficiencies for each evacuation route might be mitigated. Shelter capacity and demand are also analyzed.¹⁰⁷

The redevelopment and relocation subsection defines the coastal high hazard area within Brevard County as including all NFIP V-zones and areas seaward of DNR's Coastal Construction Control Line. It locates the entire barrier island bounded by the Atlantic Ocean and the Indian River Lagoon system within the Coastal Building Zone of Chapter 161, Florida Statutes. The subsection also discusses the risks to development, public service facilities and shore protection structures in different areas of the coastal zone, including those seaward of Brevard County's Coastal Setback Line.¹⁰⁸

High risk vulnerability zones within the county are defined by reference to an East Central Florida Regional Planning Council (ECFRPC) Hurricane Evacuation Study. They are identified as those areas subject to hurricane force storm surges and are

¹⁰⁷ Id. at XII-31 to XII-58.

¹⁰⁸ Id. at XII-58 to XII-60.

divided into two subcategories according to the level of vulnerability: "A" areas are those at extremely high risk, vulnerable during a class 1-2 hurricane; "B" areas are somewhat less vulnerable, subject to inundation during class 3-5 hurricanes. The subsection also lists the numbers of different public service facilities located within the high risk vulnerability zones.¹⁰⁹

Relocation decisions for housing, primarily single family and manufactured housing, are to be based on the county's future land use plan element, with the most appropriate areas located in mainland areas. Possible future annexation areas which could serve as relocation areas are also indicated. The subsection discusses public service facilities in both the coastal high hazard area and the high risk vulnerability zones, and sets general policies for relocating the facilities.¹¹⁰

Citing the risks inherent in maintaining public expenditures in vulnerable areas, the subsection states that "the public should not subsidize additional growth which would cause evacuation times to be exceeded and knowingly put coastal residents at risk."¹¹¹ It also recognizes the area of the county designated as an undeveloped coastal barrier according to the Coastal Barrier Resources Act, and cites the limitations on

109 *Id.* at XII-61 to XII-62.

110 *Id.* at XII-58 to XII-60.

111 *Id.* at XII-65.

expenditures in that area based on the Coastal Barrier Resources Act and the Governor's Executive Order 81-105.¹¹² Finally, beach and dune resources are categorized, sea level and erosion analyses cited, and alternatives presented for the protection of beaches and shoreline. The subsection expresses a policy preference for retreat from eroding areas but suggests that in developed areas of the county, the alternative may not be implementable.¹¹³

Subsections on oceanfront access and riverfront demand attempt to specify the level of use, parking capacity and location, number of access points and parks, and the need for additional facilities serving the present and projected demand for access to beaches and rivers.¹¹⁴

The plan's next major section deals with coastal infrastructure. The commentary details existing resources under several categories: roadways, bridges and causeways sanitary sewer facilities, potable water facilities, drainage facilities, public shore protection structures, and beach renourishment projects. The section also supplies a short explanation of the Coastal Barrier Resources Act, its application to areas in Brevard County, and its implications for the extension and

¹¹² *Id.*

¹¹³ *Id.* at XII-65 to XII-67.

¹¹⁴ *Id.* at XII-68 to XII-74.

relocation of infrastructure in the county.¹¹⁵

The directives section of the plan defines directives as providing the "general philosophical outlook of Brevard County with regard to this element of the Comprehensive Plan" and specifies that "the level of significance given to directives is commensurate with that for the goals, objectives and policies" of the plan.¹¹⁶ Subsections of directives include: water-dependent land uses, submerged aquatic vegetation, fisheries, wildlife habitat, hurricane evacuation, post-disaster redevelopment, high hazard areas, beaches and dunes, public access, and infrastructure. Each subsection contains from five to 15 statements providing the-general guidelines to be followed by the county in that area of coastal management.

Under the county's hurricane evacuation directives are included statements of the reasons for hurricane evacuation deficiencies, alternatives for possible new bridge locations, the need to reduce evacuation times through intergovernmental cooperation with state, regional and local entities, and the need for phone book publishers to include hurricane evacuation information in their **publications.**¹¹⁷

The post-disaster redevelopment directive subsection begins with a listing of categories of structures at risk, based on

115 *Id.* at XII-74 to XII-83.

114 *Id.* at XII-84.

117 *Id.* at XII-87 to XII-88.

location and the standards to which they were constructed. Several specific directives follow, although few carry the force of a "shall" or "will." Public infrastructure "should not" be reconstructed after a storm event unless the development which the infrastructure serves is also reconstructed. Such reconstruction "should be in conjunction with the development reconstruction or essential to performance of an overall infrastructure network."¹¹⁸ The county "shall not" accept maintenance of private infrastructure which has been reconstructed after a storm event.¹¹⁹ Segments of major roadways presently located seaward of the Coastal Construction Control Line "may" be repaired or reconstructed in their present locations if there is no cost-feasible alternative. Relocation must be considered if the segment is within the projected 30-year erosion line.¹²⁰

Any relocation of utility lines, including but not limited to sewer, water, gas, electric and cable must be placed landward of the Coastal Construction Control Line. Similarly, potential relocation or location sites for public facilities, such as water and wastewater facilities, health care facilities, fire and police stations must be landward of the "CCCL coastal high hazard

118 *Id.* at XII-88.

119 *Id.*

120 *Id.*

zone."¹²¹ The subsection states that the county "should" develop a program for the possible relocation of residential housing, if required after a natural disaster. Relocation of residential single family and manufactured housing "should" be directed to areas out of the coastal zone "if feasible." Priority must be given to post-storm relocation of private and public facilities outside of the coastal zone, "except when such a location is required by the function of the service."¹²² Relocation sites must be consistent with the comprehensive plan, should have similar services to those available at the original location, and "be environmentally and socially acceptable to both the government and the relocated populace."¹²³

The directives subsection dealing with high hazard areas states that public facilities or services needed to meet existing deficiencies should be located within less vulnerable areas, preferably "B" vulnerability zones.¹²⁴ Public facilities such as hospitals, wastewater treatment plants or fire stations, must not be located on causeways. They must be located as close as possible to the coastal population they serve, on one of three more protected areas. The plan encourages public acquisition of recreational or conservation lands in coastal high hazard areas,

121 **Id.**

122 **Id.** at 89.

123 **Id.**

124 **Id.**

since they are not to be considered as subsidizing growth. The existence of sewer, water, roadways or other public infrastructure is also not to be considered adequate rationale for increasing densities within coastal high hazard areas. Any structures built on recreational lands developed or accepted by the county for operation and maintenance, within coastal high hazard areas, should be designed and built to minimize impacts from storm surges.¹²⁵

The beaches and dunes subsection contains approximately 15 directives for management of these resources. Several have important implications for protection of the beach and dune ecosystem. Perhaps the most important is that "natural processes inherent to coastal sand beaches fronting the Atlantic Ocean shall be allowed to proceed uninterrupted by human activities."¹²⁶ Development must not be located or constructed in a manner which precludes primary dune development or maintenance, or interrupts littoral drift. To protect life and property, the preservation and management of the beach and dune system shall be given the highest priority in the location, construction and maintenance of development within the coastal zone.¹²⁷ Vegetated dune areas along both public beachfront areas shall be maintained or re-established, as appropriate. The

¹²⁵ **Id.**

¹²⁶ **Id.**

¹²⁷ **Id.** at XII-90.

county "encourages" re-establishment of dune areas on private property, as well as non-structural methods of beach erosion control such as planting natural dune **vegetation.**¹²⁸ Single-family detached housing "should" be given preference over multi-family housing seaward of the Coastal Construction Control Line, though tennis courts and pools are "discouraged" seaward of the Coastal Construction Control **Line.**¹²⁹ Beach and riverfront acquisitions "should be considered" to capture areas anticipated to be impacted by sea level rise, or considered to be most environmentally **significant.**¹³⁰

The next major section of the plan contains goals, objectives and policies for the various categories of concern, beginning each category with an objective, followed by several policies and more specific criteria by which the objectives are to be implemented. The stated categories include estuarine pollution, water quality/seagrasses, fisheries, beaches and dunes, water-dependent land uses, coastal high hazard, hurricane evacuation, hurricane shelters, post-disaster redevelopment, coastal access, infrastructure, historic resources, and wildlife habitat.

Under beaches and dunes, the pertinent policies and criteria require the county to "develop and implement a comprehensive

¹²⁸ Id.

¹²⁹ Id.

¹³⁰ **Id.**

beach and dune management program which protects, enhances and restores a naturally functioning beach system."¹³¹ The land development code must include regulations governing the location, construction and maintenance of development adjacent to the Atlantic shoreline. Seaward of the Coastal Construction Control Line, development must be governed by the following minimum conditions:

- 1.) At least 50 percent of the existing vegetation shall be preserved.
- 2.) The maximum amount of impervious surface permitted is 45 percent.
- 3.) No new shore hardening structures shall be permitted.
- 4.) Reconstruction of existing hard erosion control structures which are more than 50 percent destroyed shall be prohibited, except for maintenance of existing public navigational projects.
- 5.) Setbacks or other non-structural methods of shoreline protection shall be given highest priority.
- 6.) "Soft" shoreline protection devices may be accepted when it can be demonstrated through competent engineering studies that they will exert minimum effects on shoreline functions or dynamics as well as adjacent properties. They must not impede public

131 *Id.* at XII-96.

access to or along the shore.

7.) All construction seaward of the Coastal Construction Control Line must be constructed to withstand the wind and water forces from a 100-year storm event.

8.) Underground storage tanks are not permitted.

9.) Septic tank and drainfields are not permitted seaward of the Coastal Setback Line. Septic tanks must be located landward of the most seaward portion of the habitable structure.¹³²

Other policies and directives in this subsection require the county to adopt standards for maintenance or re-establishment of dune areas: maintain native dune vegetation on site; develop a handbook with guidelines for dune maintenance and revegetation; prohibit motorized vehicles on the dune and beach system, except those for necessary governmental, rescue and maintenance operations; develop a plan for the long-term response to sea level rise.¹³³

Under the coastal high hazard objectives and policies, the county is to limit future public expenditures for infrastructure and service facilities which subsidize growth within the coastal high hazard areas and high risk vulnerability zones, except those expenditures for public land acquisition or enhancement of

¹³² **Id.** at XII-97:

¹³³ **Id.** at XII-97 to X11-100.

natural resources.¹³⁴ The coastal high hazard areas are designated as those within FEMA V-zones and areas seaward of DNR's Coastal Construction Control Line. The county must not support or finance new local transportation corridors within the coastal high hazard zone. Any widening of particular existing corridor segments shall occur only to the west (landward). Similarly, the county may not accept responsibility for operating or maintaining improved roadways within coastal high hazard areas.¹³⁵

Sewer and water transmission lines "should not" be located in the high hazard zone, "except when there is no cost-feasible alternative." Any relocation of county utility lines should be outside of the high hazard zone, except when there is no cost-feasible alternative. Public facilities, except for recreational facilities, must not be located within the high hazard zone. Generally, the county must limit densities within the coastal high hazard zone and direct development outside of this area.¹³⁶ It must limit densities within the zone to no more than six dwelling units per acre north of Crystal Lakes, and to no more than four dwelling units per acre in that area and south of that area. It must also implement a program for transferring development rights from transfer districts within the high hazard

134 *Id.* at XII-107.

135 *Id.* at XII-108.

136 *Id.* at XII-109.

area to receiving districts outside of the area. An existing program of land acquisition and management for recreation and preservation must be continued, contingent on availability of **funding.**¹³⁷

The hurricane evacuation segment establishes 18.5 hours as the acceptable hurricane evacuation time, based on a seven-hour behavioral response time, added to the approximate 11.5 hours prior to hurricane landfall that vulnerable areas must be evacuated in order to avoid gale force **winds.**¹³⁸ One of the most important policies under this segment requires the county to issue development orders conditioned on the hurricane evacuation time meeting the acceptable **standard.**¹³⁹ If the standard is exceeded, a conditional development order may be considered if improvements for the roadway are programmed utilizing a methodology established in the traffic circulation element of the plan. The capacity improvement must be sufficient to reduce the evacuation time to the acceptable standard prior to the issuance of development orders or permits. The cumulative impacts of the development orders or permits may not exceed the acceptable evacuation **standard.**¹⁴⁰

¹³⁷ **Id.**

¹³⁸ **Id.** at XII-110.

¹³⁹ **Id.** at XII-112.

¹⁴⁰ **Id.**

Post-disaster redevelopment is addressed by an objective to "expedite post-disaster recovery and reduce or eliminate the future risk to human life, and public and private property from natural hazards via recovery and re-development **strategies.**"¹⁴¹ The segment includes a large number of policies and criteria. The county must designate a Recovery Task Force to hear preliminary damage assessments and direct post-disaster recovery and redevelopment activities. Members include the directors of emergency management, planning and development services, public works, utility services, community services, and office of natural resources; the county attorney; property appraiser; and other members appointed by the county commission. Staff of the member departments may also serve as **necessary.**¹⁴² By 1991, the Task Force must develop an outline of procedures, data needs and support personnel requirements to fulfill the following minimum responsibilities:

- 1.) Hear preliminary damage reports.
- 2.) Take necessary steps to seek financial assistance from the appropriate state and federal agencies.
- 3.) Authorize immediate clean-up and repairs necessary to protect the public health, safety and welfare.
- 4.) Recommend to the county commission temporary building moratoria for building activities not

¹⁴¹ Id. at XII-114.

¹⁴² **Id.**

essential to protect health, safety and welfare.

5.) Recommend to the county commission temporary building setbacks, or re-establishment of a Coastal Setback or Brevard County Coastal Construction Control Line, as established in County Ordinance 85-17.

6.) Make a report evaluating post-disaster redevelopment response and make recommendations for necessary changes to the Peacetime Emergency Plan and Comprehensive Plan.

7.) Review hazard mitigation reports from other agencies and incorporate their recommendations for necessary changes to the Peacetime Emergency Plan and Comprehensive **Plan.**¹⁴³

By 1991, the county must also adopt a post-disaster permitting procedure which will expedite permitting. It must include development plans review, engineering approval, septic tank permitting and building permitting, and must provide that all permitting is consistent with the policies and directives of the comprehensive plan. It must also provide for coordination with the Florida DNR and the St. Johns River Water Management District **(SJRWD).**¹⁴⁴ The county's development plans division, building division and engineering division must review all non-emergency and long-term redevelopment proposals utilizing the

¹⁴³ Id. at XII-115.

¹⁴⁴ Id.

following criteria:

- 1.) If the cost of reconstruction or repair of any structure seaward of the Coastal Construction Control Line is greater than 50 percent of assessed value, it must be reconstructed to coastal zone construction requirements.
- 2.) If utility lines must be relocated after a storm event, they "should" be permanently located landward of the Coastal Construction Control Line. Temporary repairs to protect health and safety are permitted in existing locations.
- 3.) Underground storage tanks located seaward of the Coastal Setback Line must be relocated landward of the Coastal Construction Control Line.
- 4.) Biohazardous incinerators or businesses utilizing or generating large quantities of hazardous materials (as defined in the solid waste and hazardous materials element) must be relocated landward of the Coastal Construction Control Line.
- 5.) Water-dependent commercial uses seaward of the Coastal Construction Control Line which are damaged by more than 50 percent of assessed value may be reconstructed seaward of the Coastal Construction Control Line consistent with coastal zone construction requirements.
- 6.) Water-related commercial uses seaward of the

Coastal Construction Control Line which are damaged by more than 50 percent of assessed value "should" be relocated landward of the Coastal Construction Control Line unless the project has no feasible alternative and is found to be in the public interest.

7.) Water-enhanced commercial uses seaward of the Coastal Construction Control Line which are damaged by more than 50 percent of assessed value "should" be relocated landward of the Coastal Construction Control Line.

8.) If a non-habitable minor structure damaged by more than 50 percent assessed value is reconstructed, it must be relocated and constructed in compliance with the coastal zone construction requirements.¹⁴⁵

By 1990, the county must analyze public structures within the coastal zone which are most likely to be damaged or destroyed during a hurricane. The analysis must include the following minimum criteria:

1.) The cost effectiveness of relocations versus repair must be analyzed.

2.) Alternatives must be considered in regards to mitigative impacts, growth management consistency, impacts to the public, timeliness, legal issues, environmental impacts and cost.

¹⁴⁵ *Id.* at XII-116.

- 3.) Minimum alternatives to be considered:
 - a. Repair of the structure to pre-disaster condition.
 - b. Repair of the structure to pre-disaster condition, with protective structures such as seawalls or revetments.
 - c. Vertical relocation of the structure (e.g., elevating roadways with bridges).
 - d. Relocation further inland.
- 4.) Reconstruction or relocation of SR A1A and other roadway segments within the coastal high hazard area must be included within the study.
- 5.) Analysis of the county service center and other facilities must be in conjunction with the county's space/needs assessment.
- 6.) Specific structures within the high risk vulnerability zone that are to be analyzed are listed.
- 7.) The study must be consistent with the ECFRPC hurricane scenarios, loss estimates must be consistent with the Council's hurricane loss study, and must be coordinated with other appropriate agencies.
- 8.) The impact of sea level rise and the projected 30-year erosion line must be analyzed.¹⁴⁶

¹⁴⁶ *Id.* at XII-117.

Among other policies related to this topic, the subsection states that the county's property appraiser should conduct a post-disaster evaluation exercise to assess property damages necessary for disaster relief and post-disaster redevelopment funds. There should be available a listing of property values coordinated with land use maps to facilitate such property assessment procedures. Finally, the subsection requires the county to pursue funding to continue its dune restoration and revegetation **projects.**¹⁴⁷

The infrastructure segment makes few direct references to the restriction of infrastructure in the coastal zone. The stated objective is to "establish levels of service, service areas and phasing of improvements for the coastal zone consistent with the infrastructure element of this plan, and the unique character of the coastal **zone.**"¹⁴⁸ Policies related to this objective generally require levels of service, service areas and phasing of improvements for different types of infrastructure to be consistent with other elements of the plan. The segment does require the county to limit sanitary sewer service areas within the coastal zone by not permitting the connection to federally subsidized sanitary sewer facilities within Coastal Barrier Resources System **units.**¹⁴⁹

147 Id. at XII-118.

148 Id. at XII-120.

149 Id. at XII-121.

The section of the coastal management element dealing with implementation strategies assigns each program or responsibility to appropriate offices or divisions within county government, provides for intergovernmental coordination where necessary, and occasionally supplies short, general goals and guidelines for the conduct of the program.¹⁵⁰

¹⁵⁰ Id. at XII-128 to XII-132.

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V. RECOMMENDATIONS FOR POST-HURRICANE REDEVELOPMENT PLANNING

A. INTRODUCTION

The local government's primary disaster mitigation functions include emergency management and development management.¹ Emergency management involves activities just prior to, during and after a hurricane disaster, and focuses on improving operations by providing a framework for effective decision making under emergency **conditions**.² Development management involves activities that address the long-term, more general concern for avoiding future disaster damages. It focuses on improving conditions by providing guidelines for the location, character and timing of development, to maintain or improve economic health, protect lives and property, and preserve environmental **integrity**.³

The following recommendations include those concerning emergency management, but are more oriented to the need for and implementation of development management. Florida's experience in planning for and managing emergency response efforts has

¹ See generally J. Salmon & D. Henningson, Prior Planning for Post-hurricane Reconstruction Florida Sea Grant College Report No. 88 (1986); J. Kusler (ed.), Post Disaster Response and Mitigation of Future Losses (1985); National Science Foundation, A Report on Flood Hazard Mitigation (1980); McElyea, Brower and Godschalk, Before the Storm: Managing Development to Reduce Hurricane Damages, at 2-6, Ocean and Coastal Policy Program, Center for Urban and Regional Studies, University of North Carolina at Chapel Hill (August 1984).

² McElyea, Brower and Godschalk, *Id.* at 3-2.

³ *Id.*

generated several sets of policies and standards to guide local governments in the creation of emergency management plans. Development management is based on the generally accepted premise that long-term and reliable reduction in the loss of lives and property to hurricanes will come about only as populations and development are pulled back from high-hazard areas. Where such areas have already been developed, post-disaster reconstruction policies are important in reducing risk levels, and enhancing the viability of barrier ecosystems that buffer hurricane impacts.

Pre-disaster and post-disaster hazard mitigation policies should be considered as interrelated. Pre-disaster plans and objectives will influence the quality and location of construction in hazardous areas, as well as the required approach to post-disaster reconstruction. Post-disaster reconstruction policies are in effect, a beginning point for the development of pre-disaster policies for the next major hurricane. The overall effort should be toward limiting any development or infrastructure to areas that can withstand hurricane forces over time, maintaining the geological and ecological stability of the beach/dune system, enforcing construction standards that insure the survivability of any allowed development, and maintaining or lowering evacuation times in coastal areas.

The advantage of pre-disaster planning is that carefully considered policies and regulations can be adopted allowing a community to deal effectively with post-disaster situations, without the emotional and political pressure to allow

unrestrained reconstruction. Without such planning, in the aftermath of a hurricane disaster, attempts to normalize the community living environment may lead to poorly considered permits, allowing redevelopment in areas that may be devastated by the next major storm. In the calm atmosphere of pre-disaster planning workshops and hearings, consensus can be reached on various aspects of post-disaster response for areas that will require future protection. The importance of an intact tax base to timely post-disaster community redevelopment should be stressed. Emergency/land use planners can use the community-based forum to educate the public and to express the need for retreat from high-hazard areas; potentially affected landowners can be given the opportunity to air their concerns and needs. The resulting goals and policies will more closely reflect the community's long-term interests, and will stand a much better chance of being implemented in the post-disaster **environment.**⁴

Some of the following suggested recommendations are administrative in nature and some are substantive; they build on

⁴ Studies involving natural hazard policy development have identified six conditions influencing development and enactment of hazard reduction policies: 1) recognition of a problem by participants in the policy-making arena, 2) presence of a policy solution that is both technically and politically feasible, 3) frequent and sustained interaction among participants, 4).presence of advocates in a politically supportive environment, 5) occurrence of a window of opportunity, and 6) linkage of hazard policy issues to conventional ones: **see** Berke, Hurricane Vertical Shelter Policy. The Experience of Two States, 17 Coastal Management 193, 196 (1989). See also, Berke, Hurricane Vertical Shelter Policy: The Experience of Florida and Texas-Final Report Hazard Reduction and Recovery Center, Texas A & M University (1988).

and enhance federal/state standards for hazard mitigation plans that will effectively reduce risk to lives and property. The local government hazard mitigation and reconstruction plan should identify existing hazards and potential high-damage areas, based on careful studies of the protective features of the coastal zone, and the hazards represented by existing development patterns. The planning studies should be used to create policies guiding repairs, reconstruction and new development after a hurricane, including the relocation of structures and infrastructure. Land development regulations and policies should be adopted to implement the plan, and should be in place before a hurricane event.⁵ The plan should also clearly indicate the responsible local agencies and personnel, the processes by which damages will be assessed, and the bases for all decisions concerning repairs and reconstruction.

B. RECOMMENDATIONS

1. ~~Gather information from as many sources as possible concerning pre-existing hazards within the coastal zone, including studies of specific coastal areas that have experienced~~

⁵ For an expanded discussion of the techniques available for a local government's development management program, see Beatley, Development Management to Reduce Coastal Storm Hazards: Policies and Processes, Center for Urban and Regional Studies, University of North Carolina at Chapel Hill (June 1985). For a discussion of legal constraints on the use of development management techniques to reduce hurricane hazards, see Propst, Examination of Constitutional and Statutory Constraints on the Use of Development Management to Reduce Hurricane and Coastal Storm Hazards, Ocean and Coastal Policy Program, Center for Urban and Regional Studies, University of North Carolina at Chapel Hill (1985).

storm damage or are most likely to be damaged in future storms.

Identify existing and projected development in coastal hazard areas, including land use types, densities, infrastructure, elevations and degree of floodproofing if available. Catalog all other coastal resources at risk from hurricane forces. Classify each area according to the types of storm forces it is most likely to **experience.**⁶ Accurate information is crucial to good planning, and if disseminated properly, will increase public acceptance of redevelopment plans. The reconstruction policies adopted in response to this information will be based on the specific threats being faced by each type of coastal resource.⁷

For emergency management purposes, data can be derived from several sources, including RPCs' hurricane evacuation, inland shelter and loss studies: existing county emergency plans: the State Peacetime Emergency Plan: hazard mitigation plans prepared by DCA under Section 406 of the federal Disaster Relief Act: and population inventories and analyses required by Chapter 9J-5, FAC. For development management purposes, in addition to the above, data sources include water management district studies, FEMA Flood Insurance Rate Maps, 30-year erosion line studies and

⁶ **See** Wilson, Trescott, Fifield & Hayes, Hurricane Hazard Mitigation at the focal Government Level. The Roles of the Building Code and Other Development Management Strategies, 77-78, Florida Department of Community Affairs, Division of Public Safety Planning and Assistance (1980).

⁷ **See generally,** Godschalk, Brower & Beatley, Catastrophic Coastal Storms: Hazard Mitigation and Development Management, Duke University Press (1989).

Coastal Construction Control Line studies by DNR, maps of the federal Coastal Barrier Resources System, the Florida Coastal Atlas, the Florida Natural Areas Inventory (FNAI), and the Florida Land Use and Cover Classification System (FLUCCS).

2. Appoint special work groups or committees with broad community representation to aid the local government in developing redevelopment policies and procedures; incorporate state, regional and local planners, as well as conservationists and engineers into the reconstruction planning process. Input from a broad cross-section of the community will assure support for the adopted redevelopment policies. The training and experience of planners and engineers will help bridge the gap between the theory and practice of disaster mitigation.⁸

3. Adopt clear policies for the public/private use of coastal areas. Include development management goals in a program which recognizes that several objectives can be furthered under a single action.⁹ To increase public acceptance, policies should be based on as broad a range of objectives as possible, including economic, environmental, social and recreational objectives, in addition to those involving reduction of flood losses.

⁸ See Kusler, Regulation of Flood Hazard Areas to Reduce Flood Losses: Volume 3 at 174, U.S. Water Resources Council (1982); Coastal Resources Interagency Planning Committee, Report to the Governor 28-29, Florida Department of Community Affairs (March 24, 1986).

⁹ Kusler, Id. See also, Godschalk, Brower & Beatley, Catastrophic Coastal Storms: Hazard Mitigation and Development Management, at 236 (1989).

Redevelopment objectives should focus on reducing development and infrastructure in the identified hazardous areas; strengthening construction standards for permitted development; acquiring open space in hazard zones; and enhancing the geological and ecological stability of coastal barriers.¹⁰ In many cases, goals which advance these objectives have the potential to advance other important local objectives as well.¹¹ Policies for the relocation of public infrastructure and the timing of its repair in the wake of a storm are also important, since private repairs uncoordinated with public priorities may cause delays in the redevelopment of an area.

4. Designate a reconstruction task force, activated in the event of a hurricane or major storm, to implement redevelopment policies and work with federal/state hazard mitigation teams.

The task force might also work jointly with the redevelopment policy committee in establishing procedures and standards by which post-disaster redevelopment policies will be implemented for public and private reconstruction in hurricane-damaged areas.¹² These would include identifying the procedures by which the value of structures and the value of repairs are assessed

¹⁰ Cf. Kusler, Regulation of Flood Hazard Areas to Reduce Flood Losses: Volume 3, at 170 (1982).

¹¹ Godschalk, Brower & Beatley, Catastrophic Coastal Storms: Hazard Mitigation and Development Management, at 236-237 (1989).

¹² Coastal Resources Interagency Planning Committee, Report to the Governor 49, Florida Department of Community Affairs (March 24, 1986).

after a hurricane, and the levels of damage at which structures would be required to conform with redevelopment location and construction standards. One approach is to establish criteria for distinguishing between minor damage, moderate damage and major damage. Structures would be required to meet different redevelopment standards, based on the location and level of damage. The NFIP and many local governments utilize a 50 percent of pre-disaster valuation standard as representing major damage, though standards setting a lower percentage of damage should be considered for higher-hazard areas. The reconstruction task force should designate and, if necessary, arrange for the training of damage assessment teams. Contracts with private insurance adjusters also have the potential to speed damage assessments after hurricanes, but should provide for workshops to standardize the evaluation criteria.¹³

5. In accord with the comprehensive development management plan, establish clear policies allowing reconstruction of damaged public infrastructure only in areas where absolutely necessary, and only to the pre-disaster capacity. Capital improvements policies before and after hurricane events can be very effective

¹³ For discussion of damage assessment teams and procedures, see McElyea, Brower and Godschalk, Before the Storm: Managing Development to Reduce Hurricane Damages, 7-30 to 7-34, Center for Urban and Regional Studies, University of North Carolina at Chapel Hill (1984).

in limiting and reducing the amount of development at **risk**.¹⁴ Consider the feasibility of eliminating, relocating or structurally modifying public infrastructure in high-hazard areas which has suffered storm damage.¹⁵ Projected redevelopment from such policies should not destabilize beach/dune systems, increase evacuation or public safety concerns, or be subject to damage from the 100-year storm.

6. Adopt regulations which place a temporary moratorium on repairs, construction or reconstruction in hazardous coastal areas after a hurricane disaster. The moratorium should be activated by a Presidential declaration under the Disaster Relief Act, or by resolution of the local governing board, and should remain in effect until full damage assessments have been completed. Repair of minor damage might be exempted from the moratorium, though a clear definition of what constitutes minor damage will be necessary. After full damage assessments are completed, the moratorium might be continued for new development, and for properties with major damage, until reconstruction

¹⁴ See, e.g., Brower, Carraway and Pollard, Developing a Growth Management System for Rural Coastal Communities, 64-71 Center for Urban and Regional Studies, University of North Carolina at Chapel Hill (1981).

¹⁵ Coastal Resources Interagency Planning Committee, Report to the Governor, 50-51, Florida Department of Community Affairs (March 24, 1986).

policies and objectives are reviewed.¹⁶

7. In addition to area-wide redevelopment policies, consider adopting special redevelopment policies for specified "restricted redevelopment zones."

-- One approach to designating such zones would establish them around particularly hazardous and sensitive areas such as certain beach/dune systems, overwash zones, inlets, mangrove stands, wetlands, and highly impacted V-zones.

-- An alternative approach to establishing "restricted redevelopment zones" involves assessing the average percentage of damages experienced in storm-affected areas. Zones in which the average percentage of damage was over 50 percent of pre-disaster fair market value, for example, would be considered "restricted redevelopment zones."

-- Within such zones, reconstruction of structures with major damage could be prohibited or required to be relocated. During the post-storm moratorium, structures in these zones experiencing a moderate level of damage would be subject to an extended review process, to determine how implementation of reconstruction policies should affect each structure. Minor damage in these areas could be repaired with little or no

¹⁶ See, e.g., McElyea, Brower & Godschalk, Before the Storm: Managing Development to Reduce Hurricane Damages, 4-51, Center for Urban and Regional Studies, University of North Carolina at Chapel Hill (1984).

permitting.¹⁷

-- If outside of a "restricted redevelopment zone," a structure suffering moderate or major damage would be required to meet the community's area-wide redevelopment standards, or the construction standards of the NFIP and Coastal Construction Control Line programs, at a minimum.

8. Any structure, regardless of damage, that under post-storm conditions is located on or seaward of an existing or incipient dune system, inlet area or overwash zone should be required to relocate to a protected and less sensitive area. Protection of the beach/dune system and the public safety in these circumstances is paramount. Any new construction, reconstruction, or substantial improvements would be located landward and away from these areas. For situations in which the practical effect of the line would be to preclude any reconstruction, establish a variance procedure that gives significant weight to the need for retreat from hazardous areas, but that under appropriate conditions, would allow, for example, a single-family structure. Coordinate this regulatory approach with policies that encourage public acquisition of these areas.

9. Adopt policies and regulations that prohibit construction and reconstruction of seawalls and other rigid shore protection structures. Shoreline armoring contributes to loss of beach/dune

17 For a similar suggested approach, see Beatley, Development Management to Reduce Coastal Storm Hazards: Policies and Processes 82-83 Center for Urban and Regional Studies, University of North Carolina at Chapel Hill (June 1985).

systems and increases beach erosion rates.¹⁸ A more reasonable long-term solution to problems of shoreline movement is to have in place procedures by which development moves as the beach moves.¹⁹ Variance procedures emphasizing the need for reducing development in hazardous areas should be adopted for situations where reconstruction might be appropriate.

10. Where appropriate, consider adopting land development regulations that allow only low density uses in high-hazard areas subject to 100-year storm forces. Normally this will be feasible only in relatively undeveloped areas, or in areas devastated by hurricane forces.²⁰ Increase minimum lot sizes, and if possible, have them configured so as to allow storm-damaged structures the space to relocate on the lot, away from high-hazard areas and dune systems. New development should not be allowed to increase population levels beyond evacuation capabilities.

11. Adopt construction standards, including those for manufactured homes that, at a minimum, meet the requirements of the NFIP and Control Construction Control Line programs for development within the 100-year floodplain. Any new development

¹⁸ Pilkey, Sharma, Wanless, Doyle, Pilkey, Neal & Gruver, Living with the East Florida Shore 46-50, Duke University Press (1984).

¹⁹ See generally, Second Skidaway Institute of Oceanography Conference on America's Eroding Shoreline, National Strategy for Beach Preservation 2-6 (June 1985).

²⁰ See Beatley, Development Management to Reduce Coastal Storm Hazards: Policies and Processes 21-25, Center for Urban and Regional Studies, University of North Carolina at Chapel Hill (June 1985).

and substantial improvements allowed must be capable of weathering the impacts of a 100-year hurricane.

-- Consider raising the minimum required elevation and the maximum wind speed which permitted structures must be capable of withstanding, particularly in V-zones and in areas more likely to be subject to hurricane winds. These requirements should be based on detailed studies supporting the need for stricter **standards.**²¹

-- Do not allow solid foundation walls to be used to meet the elevation requirements for any structure in a V-zone. Consider prohibiting this option in all flood hazard areas, particularly for manufactured homes. Do not allow manufactured homes to utilize fill to meet elevation requirements in any flood hazard area.

-- Consider deleting the NFIP option that allows non-residential structures to be floodproofed below base flood elevation, particularly where human intervention is necessary to achieve the floodproofing.

-- Where applicable, consider deleting the NFIP "wet floodproofing" option that allows free flow of floodwater into a structure below base flood elevation.

²¹ Wilson, Trescott, Fifield & Hayes, Hurricane Hazard Mitigation at the Local Government Level: The Roles of the Building Code and Other Development Management Strategies 94-98, Florida Department of Community Affairs, Division of Public Safety Planning and Assistance (1980).

vegetative communities.

14. Adopt policies aimed at acquiring the fee or lesser interests in coastal areas such as beach/dune svstems. floodplains, barrier svstems, mangrove stands, wetlands, estuaries, and wildlife habitats. Include economic, social environmental and recreational objectives as part of the acquisition policy. Identify high hazard and other sensitive areas for acquisition in the case of hurricane damage. Establish funding sources, and identify federal/state programs that may be used to leverage local government funds in the acquisition of such **areas.**²³

²³ See, e.g., Godschalk, Brower & Beatley, **Catastrophic Coastal Storms: Hazard Mitigation and Develonment Management** 171-173, Duke University Press (1989).