

**ADMINISTRATIVE CODE
BOARD OF COUNTY COMMISSIONERS**

CATEGORY:	CODE NUMBER: AC-7-9
TITLE: Implementation of Florida Administrative Code, Rules 9J-2.0256 & 2.0257; Policy and Rules relating to Hurricane Preparedness - Mitigation Techniques for Developments of Regional Impact (DRI's)	ADOPTED: 3/30/99
	AMENDED:
	ORIGINATING DEPARTMENT: Public Safety

PURPOSE/SCOPE:

This code implements hurricane preparedness mitigation techniques for developments of regional impact (DRI) set forth in Florida Administrative Code (FAC) Rule 9J-2.0256, et seq. (Rule). The code's purpose is to provide staff and developers with a consistent and predictable means of implementing the mitigation methods set forth in the Rule to protect the public from severe weather, hurricanes, and other hazards.

POLICY/PROCEDURE:

A. Introduction & background-

Terms defined in Rule 9J-2.0256(2) have their same meaning in this code. All proposals for hurricane preparedness mitigation must be provided to the Emergency Management Program office for consideration. Prior to implementation, mitigation proposals must be approved by the Public Safety Director, or designee.

To provide consistent application when determining DRI development impacts, calculations of shelter impacts are made which account for proposed units (by type of unit), occupancy rates, and behavior (shelter-seeking) rates. Formulas used in these calculations are applied consistently between proposed developments. The intent of this code is to apply these impact calculations to a developer's shelter and/or evacuation mitigation efforts by determining the dollar value of the impacts of a development, and thereby, as set forth in the Rule, provide options for mitigating the shelter impact value.

For example, if a DRI development generates a shelter impact of 50 spaces, and each space is determined to be valued at \$75.00, the total impact value would be \$3,750. The total value could be mitigated by payments-in-lieu, or could be applied to alternative mitigation options such as on-site sheltering, etc. All applications for DRI's will be required to establish a public information program and develop an emergency plan (see number 1. under Evacuation Mitigation Techniques below).

Approval will not be granted for mitigation efforts that only provide a fraction of a shelter. For instance, a developer may propose to use their 2,000 square foot clubhouse as an on-site shelter in a Category Three zone. Assume that the development generates an impact of 50

shelter spaces, and the total cost to provide those spaces is \$3,750., as in the example above. However, because of the size of the clubhouse, the cost to provide the shelter exceeds the \$3,750. Providing shutters for only a portion of the clubhouse would not be approved.

Several options are available to a developer in this case. One option would be to construct the entire building as a shelter. A second option would be to construct a portion of the building as a "safe room" (see "6. Other Mitigation Techniques," below). Other options include payment in lieu, shelter manager training or a combination of options.

Lastly, this code is not intended to restrain a developer's use of a particular mitigation technique or combination of techniques provided for in the Rule, even if that technique has not been approved or implemented in Lee County in the past.

B. Rule and policy statements-

The bold text below is quoted from the Hurricane Preparedness Policy Rule. Following each quotation is a statement of County policy on implementing that mitigation option.

Hurricane Shelter Availability Mitigation - Techniques and Their Implementation:

1. ***Donation of land for public facilities or donation of the use of private structures to be used as primary public hurricane shelters; however, the site or private structure shall be located in an area outside of the identified high hazard hurricane evacuation area. The facility shall be constructed in such a way as to insure its usefulness and use as a primary public hurricane shelter to offset, at a minimum, the impacts of the approved DRI development. In order to use this mitigation option, the developer must provide reasonable assurance from the local political subdivision and from local emergency management officials regarding the ability of the donation to reduce hurricane shelter impacts.***

Land Donation: The County does not intend to accept land donated solely for the purpose of constructing hurricane shelters. However, the donation of land will be considered if the land is donated to the County for another purpose, such as construction of a recreation building, and an agreement can be reached for the building to also serve as a primary or secondary public hurricane shelter with a capacity at least large enough to serve the development's shelter-seeking residents/visitors(hotel/motel occupants). The land donated must be located in a Category Two or higher storm surge zone¹. The shelter must be constructed to comply with the criteria in 9J-2.0257(6)(e), FAC.

Use of Private Structures: Must be located in a Category Two or higher storm surge

¹ Lee County Board of County Commissioners, *The 1994 Lee Plan 1996 Codification, Policy 79.2.2, p. VIII-17.*

zone². Must be constructed to comply with the criteria in 9J-2.0257(6)(e), FAC.

- 2) ***Provision of payments in lieu of donation of land for the upgrading of existing primary and secondary hurricane shelters located outside the identified hurricane vulnerability zone so as to increase the county's primary public hurricane shelter space availability equal to the proposed development's anticipated public hurricane shelter space demand. Upgrading for purposes of this rule shall include the addition of hurricane storm shutters to facilities, provision of electric generators, provision of potable water storage capability, and other items which may be appropriate for a public hurricane shelter. In order to use this mitigation option, the developer must provide reasonable assurance from the local political subdivision and from local emergency management officials regarding the provision's ability to reduce the development's hurricane shelter impacts.***

Payments in lieu will be considered an acceptable mitigation technique. The amount of a payment in lieu will be calculated using the following methodology:

Step One - Calculation of Shelter Space Impacts:

Residential Units: $U \times P = N$
 (single family and multi-family) $N \times O^3 = R$
 $R \times .21$ (shelter seeking rate)⁴ = Sp(r)
 $Sp(r) \times 20 = Sq(r)$

Hotel/Motel Units: $Hu \times O = R$
 $R \times .21 = Sp(hu)$
 $Sp(hu) \times 20 = Sq(hu)$

Total: $Sq(r) + Sq(hu) = Sq$ (Total Square Feet)
 $Sp(r) + Sp(hu) = Sp$ (Total Spaces)

Sp(r) = Shelter Spaces Needed by Development's residential units
 Sp(hu) = Shelter Spaces Needed by Development's Hotel/Motel units
 Sq(r) = Square feet of shelter space required by a development's residential units
 Sq(hu) = Square feet of shelter space required by a development's hotel/motel units
 where R = Residents - in -residence
 O = Occupancy Rate
 N = Number of Residents in Development
 U = Number of residential units

² Ibid.

³ Ibid., p. II-B-10.

⁴ Lee County Board of County Commissioners, *The 1994 Lee Plan 1996 Codification, Policy 79.2.1*, p. VIII-17.

Hu = Number of Hotel/motel units

P = Persons Per Household - This figure is derived from the Lee Plan Evaluation and Appraisal Report, 1994, and changes over time, as follows: if a development's residential unit buildout will occur closest to the year 2000, then a figure of 2.25 is used; if buildout is closest to 2010, then 2.17 will be used; if buildout is closest to 2020, then 2.09 will be used. At the discretion of the Director of Public Safety, or designee, the applicant may be permitted to use an alternative Persons Per Household (P) figure. If an alternative figure is to be considered, it must have a valid source with sufficient supporting evidence.

Step Two - Calculation of Costs for Shelter Improvements

\$1.34 per square foot of shelter space for increased essential facility wind speed standards
 + 5.32 increase for elevation of a square foot of shelter space above storm surge for a Category 3 hurricane; equals
 \$6.66 per square foot

\$6.66 X Sq = \$ for increased wind speed standards and elevation.
 where Sq = Total Square Feet from Step One, above.

Step Three - Emergency Power Costs

$\frac{LPC \times SF \times PD}{1000} \times \200.00

$\frac{5 \times 20 \times 1 \text{ (representing one person)}}{1000} \times \$200.00 = \$20.00$
 Per person

where LPC = number of watts per square foot for load and power consumption of typical uses

SF = 20 sq. feet, the minimum hurricane shelter space area per person, see 9J-2.0256(1)(f), FAC

PD = number of people in dwelling unit; 1 is used to calculate a per person cost

Step Four - Total Costs from Step Two for sheltering and Step Three for emergency power (not including shuttering)

(\$6.66 X Sq) \$ for increased wind speed standards and elevation
 Plus

\$20.00 per person;
 where Sq = Total Square Feet from Step One, above.

Figures for fixed variables included in these formulas will be updated biannually

in order to provide an accurate and up-to-date assessment of impacts.

Appendix A provides an example of how these steps would apply to calculate the payment required in lieu of other mitigation options.

If the payment-in-lieu option is approved, payments may be made up-front (with a 5% discount), or phased with the development order approvals (first phase will be paid as a percentage of the approved total, phase units/ total units; remaining phase sums will be calculated the same way, but a 5% fee will be added to all phases except the initial phase.) The discount is intended to encourage payment up-front to reduce administrative costs for the Emergency Management Program.

As an aid to spreading out the initial cost of development, the developer may opt to make partial phase lump sum payments so long as each partial payment includes a 5% fee. Because of the difficulty and costs associated with tracking fees paid at the time of building permit issuance, partial lump sum payments for an approved development order phase must be made annually. Partial phase lump sum payments are based upon the number of units in a development projected for construction during the following year in comparison to the number of units approved for that phase considered as a proportion of that phase's total impact cost (see example below). Any surplus or deficit resulting from the difference between projected and actual units constructed will be adjusted in the next annual payment cycle, until the subject phase is completed.

For example, Total Project Shelter Impact Value for an approved 1000 unit DRI is determined to be \$10,000. There are three phases of development. The first phase development order approves 400 units. $400/1000 \times \$10,000 = \$4,000$; developer projects construction of 100 units in the first year of the first phase, thus, $100/400 \times \$4,000 = \$1,000$ plus 5% fee, for a total partial lump sum payment of \$1,050. Developer actually builds 80 units instead of the 100 paid for, and projects to build 120 in the second year of phase one. Thus, there is a credit of 20 units (100 units projected minus 80 units actual) deducted from the projected 120 leaving a partial lump sum payment of $100/400 \times \$4,000 = \$1,000$ plus 5%, for another partial lump sum payment of \$1,050. This process is repeated until the first phase is completed, then the next phase is calculated based upon the number of units approved for the second phase, and then so on throughout the third phase, until the project is completed. If there is any surplus at the end of a project, the developer must make a written request for those mitigation monies. The request may be granted by the Director of Public Safety based upon the type of mitigation implemented and the actual amount of mitigation monies already expended or committed for mitigation of the project's impacts.

Mitigation monies will be deposited in an interest bearing account specifically dedicated to mitigation purposes. At the discretion of the Director of Public Safety more than one district may be created to track and utilize mitigation monies within each district.

3) Provision of onsite shelter where the proposed shelter would be located outside of the identified 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 anticipated hurricane shelter space demand. Examples of community facilities include, but would not be limited to, clubhouses and recreation centers. All community facilities that are to be used as hurricane shelters under this mitigation option must be equipped with appropriate items as identified in Subsection (2) above, and must be approved by local emergency management officials.

On-site shelters are a viable mitigation option, so long as they are constructed in accordance with 9J-2.0257(6)(e), FAC.

- 4) Provision of funds to be used for the purpose of training public hurricane shelter managers through a program provided by the local chapter of the American Red Cross, local emergency management officials, or the Department. In order to use this mitigation option, the developer must provide reasonable assurance from local emergency management officials and the local chapter of the American Red Cross regarding the provision's ability to reduce the development's hurricane shelter impacts.**

The American Red Cross (ARC) and Lee County Emergency Management will coordinate to train shelter managers.

If a suitable number of volunteers are available through the ARC who are willing to serve as shelter managers (and who need training) or if monies could be used to help recruit volunteers for managing shelters, the County will consider this mitigation technique.

- 5) Provision for the limitation of development to a density that does not cause substantial impact on regional hurricane preparedness as identified in Subsection (4), paragraphs (a) and (b) of 9J-2.0256.**

If the proposed development falls below the Rule's 200 unit threshold, and below the 5% shelter capacity threshold, the county will not require any shelter impact mitigation pursuant to Rule 9J-2, FAC; however, the Lee Plan and Land Development Code do contain policies requiring mitigation under certain circumstances. These policies are implemented when appropriate.

Evacuation Impacts Mitigation Techniques:

- 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 regarding the potential hurricane threat; the need for timely evacuation in the event of an impending hurricane;**

the availability and location of hurricane shelters; and the identification of steps to minimize property damage and to protect human life.” Both a continuing hurricane awareness program and an evacuation plan must be established.

This technique will be required by the County for all DRI's meeting the Rule's threshold(s). The intent is for the development to provide a location for an annual hurricane seminar for residents, as well as input during the seminar by the developer or homeowner's association regarding the development-specific evacuation plan (written by the developer or homeowner's association). Lee County Emergency Management will provide information for the seminar and participate in the seminar if staffing levels permit. Responsibility for providing seminars remains with the developer or property owner association.

- 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, therefore making evacuation impossible. This provision could also include the requirement of special drainage treatment for low-lying flood prone roads, elevation of roads leading to hurricane shelters which would be utilized by the development's residents, or elevation of off-site roads which are low-lying and flood prone and which would serve as the only evacuation route for the development's residents during a hurricane event.***

Lee Plan Policy 38.3.1.A. addresses evacuation routes related to flooding issues, and will be used in the future in conjunction with this technique to protect evacuation routes from flooding where appropriate.

- 3) ***Provision of roadway capacity improvements committed to by the developer above and beyond the improvements 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. Such provisions shall be consistent with adopted state, regional, and local infrastructure policies.***

If a developer provides sufficient methodology and information to implement this technique, the Director will consider approval of this mitigation technique.

- 4) ***Provision of funds to be used for the purpose of procuring communications equipment which would upgrade the existing warning and notification capability of local emergency management officials. In order to use this mitigation option, the developer must provide reasonable assurance from local emergency management officials regarding the provisions ability to reduce the development's hurricane evacuation impacts.***

If there is an existing or anticipated need for communications equipment for warning or notification capabilities, the Director will consider approval of this mitigation

technique.

- 5) ***Provision for the limitation of development to a density that does not cause substantial impact on regional hurricane preparedness as identified in Subsection (4), Paragraph (c) above.***

If the proposed development falls below the 200 unit threshold, and below the 5% shelter capacity threshold, the county will not require any shelter impact mitigation pursuant to Rule 9J-2; however, the Lee Plan and Land Development Code contain policies requiring mitigation under certain circumstances. These policies are implemented when appropriate.

- 6) ***Other mitigation techniques.***

Lee County will consider other mitigation techniques suggested by the developer. The value of these other techniques must be equal to the mitigation that would be required of the development for fee-in-lieu mitigation of shelter impacts.

One example of "other techniques" is a safe-room concept. This concept provides a room in a building (could be any type of building; private residence, apartment building, etc.) constructed to withstand a hurricane. Because only one portion of the building, instead of the entire building, is constructed to withstand hurricanes, the cost of constructing adequate shelter may be reduced.

- 7) ***Vertical Evacuation***

If a developer proposes to use this mitigation technique, it will be considered under the following circumstances:

- a. The structure must be elevated above Category Three landfalling hurricane storm surge, and must be able to withstand wind speeds of at least 120 m.p.h. (the midpoint of the windspeeds of a Category Three landfalling hurricane).
- b. The structure must be located in a Category Two zone or higher.

C. **Special Hurricane Preparedness District Rule and Policy statements-**

Lee County has been designated a Special Hurricane Preparedness District. If a developer wishes to use the special District's options, a disclosure statement must be included in all deeds conveying lots to a property owner in the development. The disclosure must state that the property is located in a hurricane vulnerability zone and that the hurricane evacuation clearance time for the county or region is high and hurricane shelter spaces are limited.

The bold text below is quoted from the Rule in 9J-2.0257(6), FAC. Following each quotation is a statement of County policy on implementing that mitigation option. According to the

Rule, in addition to the seven techniques above, the following options are available.

- 1) ***The first finished floor of all residential units shall be elevated above the anticipated category three flood level as identified by the regional hurricane evacuation study or all residential development with finished first floor levels below the anticipated category three flood level shall provide onsite shelter facilities where it is determined that the necessary evacuation roadway or public hurricane shelter capacity is not available or inadequate according to the regional hurricane evacuation study.***

If the developer pursues this option, the elevated on-site shelters must be constructed to withstand windspeeds of 120 m.p.h., and have glass/window protection.

In addition to elevation and wind protection, community buildings used to meet on-site shelter requirements under this option must provide connections for emergency power use, emergency potable water supply, adequate ventilation, sanitary facilities and a first aid kit. See Option 4), below.

- 2) ***All residential development shall provide shelter space in a ratio consistent with Rule 9J-2.0256, FAC, in common areas or other shelter areas.***

Shelter space is defined in the Rule as a minimum of twenty (20) square feet per person. This ratio will be used by the County in calculating shelter space requirements.

- 3) ***Mobile home developments shall have onsite storm evacuation centers with sufficient structural characteristics, warning systems, and evacuation procedures consistent with the requirements identified in Subparagraph 9J-2.0256(5)(b)1., FAC, for the resident population in the event of a hurricane.***

Lee County requires new mobile home communities and R.V. parks outside the tropical storm, Category One, and Category Two Storm surge zones to provide on-site shelters for their residents. These shelters must provide emergency power connections, structural wind protection, glass/window protection, emergency potable water, sanitary facilities, and a first aid kit.

- 4) ***All onsite shelters within the category three hurricane evacuation zone shall be elevated to the anticipated category three flood level, be constructed to withstand winds of at least 120 miles per hour, be equipped with emergency power and potable water supplies, be constructed with a minimum of exterior glass, while providing adequate protection by shutters or boards for any glass used, and, have adequate ventilation, sanitary facilities, and first-aid equipment.***

Lee County endorses this criteria for on-site shelters. However, the County requires emergency power connections not the actual installation of a generator.

Appendix A

Example Calculation for Payment-in- Lieu Option

Assumed DRI Proposal:

1000 Single Family Residential Units
1500 Multi-Family Residential Units

Single Family Calculation:

1,000 SF units X 2.35 Persons Per Household = 2,350 residents in development

2,350 residents in development X .97 SF occupancy rate for month of November = 2,279.50 residents occupying units

2,279.50 residents occupying units X .21 shelter seeking rate = 479 spaces needed

479 spaces needed X 20 sq. ft. per shelter space = 9,574 total sq. ft. of shelter space

Multi-Family Calculation:

1,500 MF units X 2.35 Persons Per Household = 3,525 residents in development

3,525 residents in development X .71 MF occupancy rate for month of November = 2,502.75 residents occupying units

2,502.75 residents occupying units X .21 shelter seeking rate = 526 spaces needed

526 spaces needed X 20 sq. ft. per shelter space = 10,512 total sq. ft. of shelter space

479 spaces (SF)	9,574 square feet (SF)
<u>+526 spaces (MF)</u>	<u>+10,512 square feet (MF)</u>
1,005 spaces total	20,086 square feet total

\$6.66 per sq. ft. For increased wind speed standards and elevation X 20,086 square feet = \$133,772.76

\$20.00 per person for emergency power costs X 1,005 spaces = \$20,100.00

	\$133,772.76
	<u>+ 20,100.00</u>
Total <u>if using fee-in-lieu option</u>	\$153,872.76

Fee-in-lieu is not the only option, as stated in the text of the Code. It may be used solely, in combination with other alternatives, or not at all, depending on the proposal.